

Rcpp Version 0.12.7

Generated by Doxygen 1.8.11



# Contents



# Chapter 1

## Namespace Index

### 1.1 Namespace List

Here is a list of all namespaces with brief descriptions:

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Rcpp API	??
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Rcpp::algorithm::helpers	??
Rcpp::attributes	??
Rcpp::internal	
Internal implementation details	??
Rcpp::InternalFunctionWithStdFunction	??
Rcpp::stats	??
Rcpp::sugar	??
Rcpp::sugar::cbind_impl	??
Rcpp::sugar::cbind_impl::detail	??
Rcpp::sugar::detail	??
Rcpp::sugar::median_detail	??
Rcpp::traits	
Traits used to dispatch wrap	??
std	??
tinyformat	??
tinyformat::detail	??



## Chapter 2

# Hierarchical Index

### 2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Rcpp::traits::_sfinae_types . . . . .	??
Rcpp::traits::_has_iterator_helper< T > . . . . .	??
Rcpp::traits::_has_matrix_interface_helper< T > . . . . .	??
Rcpp::traits::_has_rtype_helper< T > . . . . .	??
Rcpp::traits::_is_eigen_helper< T > . . . . .	??
Rcpp::traits::_is_exporter_helper< T > . . . . .	??
Rcpp::traits::_is_generator_helper< T > . . . . .	??
Rcpp::traits::_is_importer_helper< T > . . . . .	??
Rcpp::traits::_is_sugar_expression_helper< T > . . . . .	??
Rcpp::traits::_sfinae_types::_two . . . . .	??
Rcpp::traits::_has_iterator_helper< T >::_Wrap_type< U > . . . . .	??
Rcpp::traits::_is_importer_helper< T >::_Wrap_type< U > . . . . .	??
Rcpp::traits::_is_generator_helper< T >::_Wrap_type< U > . . . . .	??
Rcpp::traits::_is_exporter_helper< T >::_Wrap_type< U > . . . . .	??
Rcpp::traits::_is_eigen_helper< T >::_Wrap_type< U > . . . . .	??
Rcpp::traits::_is_sugar_expression_helper< T >::_Wrap_type< U > . . . . .	??
Rcpp::traits::_has_matrix_interface_helper< T >::_Wrap_type< U > . . . . .	??
Rcpp::traits::_has_rtype_helper< T >::_Wrap_type< U > . . . . .	??
Rcpp::attributes::Argument . . . . .	??
Rcpp::Argument . . . . .	??
Rcpp::Armor< T > . . . . .	??
Rcpp::attributes::Attribute . . . . .	??
Rcpp::AttributeProxyPolicy< CLASS > . . . . .	??
Rcpp::AttributeProxyPolicy< T > . . . . .	??
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Rcpp::AttributeProxyPolicy< Vector< RTYPE, PreserveStorage > > . . . . .	??
Rcpp::Vector< INTSXP > . . . . .	??
Rcpp::Vector< RTYPE > . . . . .	??
Rcpp::Vector< STRSXP > . . . . .	??
Rcpp::Vector< VECSXP > . . . . .	??

Rcpp::AttributeProxyPolicy< Vector< RTYPE, StoragePolicy > > . . . . .	??
Rcpp::Vector< RTYPE, StoragePolicy > . . . . .	??
Rcpp::Matrix< RTYPE, StoragePolicy > . . . . .	??
Rcpp::Vector< VECSXP, StoragePolicy > . . . . .	??
Rcpp::DataFrame_Impl< StoragePolicy > . . . . .	??
Rcpp::AttributeProxyPolicy< XPtr< T, StoragePolicy, Finalizer > > . . . . .	??
Rcpp::XPtr< T, StoragePolicy, Finalizer > . . . . .	??
Rcpp::traits::is_convertible< T, U >::Big . . . . .	??
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Rcpp::binary_call< T1, T2, RESULT_TYPE > . . . . .	??
Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, E > . . . . .	??
Rcpp::sugar::cbind_impl::BindableExpression< cbind_sexptype_traits< T >::rtype, ScalarBindable< T > > . . . . .	??
Rcpp::sugar::cbind_impl::ScalarBindable< T > . . . . .	??
Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, ContainerBindable< RTYPE, T > > . . . . .	??
Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T > . . . . .	??
Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, JoinOp< RTYPE, E1, E2 > > . . . . .	??
Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 > . . . . .	??
Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, JoinOp< RTYPE, E1, ScalarBindable< scalar< R← TYPE >::type > > > . . . . .	??
Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > > . . . . .	??
Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, JoinOp< RTYPE, ScalarBindable< scalar< RTYPE >::type >, E2 > > . . . . .	??
Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 > . . . . .	??
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Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > > . . . . .	??
Rcpp::BindingPolicy< EnvironmentClass > . . . . .	??
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Rcpp::sugar::cbind_impl::cbind_sexptype_traits< SEXP > . . . . .	??
Rcpp::sugar::cbind_impl::cbind_storage_type< LGLSXP > . . . . .	??
Rcpp::traits::char_type< T > . . . . .	??
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Rcpp::sugar::clamp_operator< RTYPE, NA > . . . . .	??
Rcpp::sugar::clamp_operator< REALSXP, true > . . . . .	??
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Rcpp::class_Base . . . . .	??
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Rcpp::ConstMatrixRow< RTYPE >::const_iterator . . . . .	??
Rcpp::internal::const_string_proxy< RTYPE > . . . . .	??
Rcpp::ConstInputParameter< T > . . . . .	??
Rcpp::ConstReferenceInputParameter< T > . . . . .	??
Rcpp::traits::container_exporter< Container, double > . . . . .	??
Rcpp::traits::container_exporter< Container, int > . . . . .	??
Rcpp::traits::ContainerExporter< ContainerTemplate, T > . . . . .	??
tinyformat::detail::convertToInt< T, convertible > . . . . .	??
tinyformat::detail::convertToInt< T, true > . . . . .	??
Rcpp::sugar::CountInserter< HASH, STORAGE > . . . . .	??
Rcpp::CppFinalizer< Class > . . . . .	??
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Rcpp::CppFunctionBase	??
Rcpp::CppFunction	??
Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< RESULT_TYPE, Args >	??
Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< void, Args... >	??
Rcpp::CppMethod< Class >	??
Rcpp::CpplInheritedMethod< Class, Parent >	??
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CppProperty_GetConstMethod< Class, PROP >	??
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CppProperty_GetMethod< Class, PROP >	??
CppProperty_GetMethod_SetMethod< Class, PROP >	??
CppProperty_GetMethod_SetPointer< Class, PROP >	??
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CppProperty_GetPointer_SetPointer< Class, PROP >	??
CppProperty_GetPointerMethod< Class, PROP >	??
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Rcpp::CppProperty< Class >	??
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Rcpp::algorithm::helpers::ctype< T >	??
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Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_CHAR) >	??
Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_DOUBLE) >	??
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Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_INT) >	??
Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_LONG) >	??
Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_LONG_DOUBLE) >	??
Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_SHORT) >	??
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Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_CHAR) >	??
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Rcpp::algorithm::helpers::CTYPE_UNSIGNED_CHAR	??
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Rcpp::Date	??
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Rcpp::algorithm::helpers::decays_to_ctype< T >	??
Rcpp::sugar::diag_result_type_trait< T >	??
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Rcpp::internal::DimNameProxy	??
Rcpp::DottedPairImpl< CLASS >	??
Rcpp::DottedPairProxyPolicy< CLASS >	??
Rcpp::internal::element_converter< RTYPE >	??
Rcpp::traits::enable_if< B, T >	??
Rcpp::traits::enable_if< true, T >	??
Rcpp::enum_< Enum, Parent >	??
exception	
interrupt_exception	??
Rcpp::exception	??
Rcpp::file_io_error	??
Rcpp::file_exists	??
Rcpp::file_not_found	??
Rcpp::no_such_env	??
Rcpp::algorithm::helpers::exp	??
Rcpp::traits::expands_to_logical__impl< RTYPE >	??
Rcpp::MatrixBase< INTSXP, false, Col< RTYPE, LHS_NA, LHS_T > >	??
Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >	??
Rcpp::MatrixBase< INTSXP, false, Row< RTYPE, LHS_NA, LHS_T > >	??
Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T >	??
Rcpp::MatrixBase< Rcpp::traits::r_sexptype_traits::Rcpp::traits::result_of< Function >::type >::rtype, true, Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function > >	??
Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >	??
Rcpp::MatrixBase< RTYPE, NA, Diag_Maker< RTYPE, NA, T > >	??
Rcpp::sugar::Diag_Maker< RTYPE, NA, T >	??
Rcpp::MatrixBase< RTYPE, NA, T >	??
Rcpp::MatrixBase< RTYPE, true, JoinOp< RTYPE, E1, E2 > >	??
Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >	??
Rcpp::MatrixBase< RTYPE, true, JoinOp< RTYPE, E1, ScalarBindable< scalar< RTYPE >::type > > >	??
Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >	??
Rcpp::MatrixBase< RTYPE, true, JoinOp< RTYPE, ScalarBindable< scalar< RTYPE >::type >, E2 > >	??
Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >	??
Rcpp::MatrixBase< RTYPE, true, JoinOp< RTYPE, ScalarBindable< scalar< RTYPE >::type >, ScalarBindable< scalar< RTYPE >::type > > >	??
Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >	??
Rcpp::MatrixBase< RTYPE, true, Matrix< RTYPE, StoragePolicy > >	??
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Rcpp::MatrixBase< RTYPE, true, SubMatrix< RTYPE > >	??
Rcpp::SubMatrix< RTYPE >	??
Rcpp::MatrixBase< RTYPE, na, MATRIX >	??
Rcpp::VectorBase< RTYPE, na, VECTOR >	??
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Rcpp::VectorBase< LGLSXP, false, And_LogicalExpression_LogicalExpression< false, LHS_T, false, R← HS_T > >	??

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Rcpp::sugar::IsFinite< RTYPE, NA, VEC_TYPE > . . . . .	??
Rcpp::VectorBase< LGLSXP, false, IsInfinite< RTYPE, NA, VEC_TYPE > > . . . . .	??
Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE > . . . . .	??
Rcpp::VectorBase< LGLSXP, false, IsNa< RTYPE, false, VEC_TYPE > > . . . . .	??
Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE > . . . . .	??
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Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE > . . . . .	??
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Rcpp::VectorBase< LGLSXP, false, IsNaN< RTYPE, NA, VEC_TYPE > > . . . . .	??
Rcpp::sugar::IsNaN< RTYPE, NA, VEC_TYPE > . . . . .	??
Rcpp::VectorBase< LGLSXP, false, LowerTri< RTYPE, LHS_NA, LHS_T > > . . . . .	??
Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T > . . . . .	??
Rcpp::VectorBase< LGLSXP, false, Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RH← S_T > > . . . . .	??
Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< LGLSXP, false, UpperTri< RTYPE, LHS_NA, LHS_T > > . . . . .	??
Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T > . . . . .	??
Rcpp::VectorBase< LGLSXP, NA, Not_Vector< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Not_Vector< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< LGLSXP, true, And_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T > > . . . . .	??
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Rcpp::VectorBase< LGLSXP, true, And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RH← S_NA, RHS_T > > . . . . .	??
Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< LGLSXP, true, Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< LGLSXP, true, Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< LGLSXP, true, Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< LGLSXP, true, Comparator_With_One_Value< RTYPE, Operator, NA, T > > . . . . .	??
Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T > . . . . .	??
Rcpp::VectorBase< LGLSXP, true, Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< LGLSXP, true, Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< LGLSXP, true, Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS← _NA, RHS_T > > . . . . .	??
Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< ::Rcpp::sugar::sapply_application_result_of< Func- tion, T >::type >::type, true, Sapply< RTYPE, NA, T, Function, NO_CONVERSION > > . . . . .	??

Rcpp::sugar::Supply< RTYPE, NA, T, Function, NO_CONVERSION > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< ::Rcpp::sugar::sapply_application_result_of< Function, T >::type >::rtype, true, Supply< RTYPE, NA, T, Function, true > > . . . . .	??
Rcpp::sugar::Supply< RTYPE, NA, T, Function, true > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< ::Rcpp::traits::result_of< Function >::type >::rtype, true, Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function > > . . . . .	??
Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< ::Rcpp::traits::result_of< Function >::type >::rtype, true, Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function > > . . . . .	??
Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< ::Rcpp::traits::result_of< Function >::type >::rtype, true, Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function > > . . . . .	??
Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< ::Rcpp::traits::result_of< Function >::type >::rtype, true, Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function > > . . . . .	??
Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, false, SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr > > . . . . .	??
Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, SugarBlock_1< NA, RESULT_TYPE, U1, T1 > > . . . . .	??
Rcpp::sugar::SugarBlock_1< NA, RESULT_TYPE, U1, T1 > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 > > . . . . .	??
Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, SugarBlock_2_PV< NA, RESULT_TYPE, U1, U2, T2 > > . . . . .	??
Rcpp::sugar::SugarBlock_2_PV< NA, RESULT_TYPE, U1, U2, T2 > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, SugarBlock_2_VP< NA, RESULT_TYPE, U1, T1, U2 > > . . . . .	??
Rcpp::sugar::SugarBlock_2_VP< NA, RESULT_TYPE, U1, T1, U2 > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 > > . . . . .	??
Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, SugarComplex< NA, RESULT_TYPE, T, FunPtr > > . . . . .	??
Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr > > . . . . .	??
Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr > > . . . . .	??
Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr > . . . . .	??
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< T >::rtype, true, Rep_Single< T > > . . . . .	??
Rcpp::sugar::Rep_Single< T > . . . . .	??
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Rcpp::VectorBase< REALSXP, false, Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T > > . . . . .	??
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Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT_TYPE > . . . . .	??
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Rcpp::sugar::Times_Vector_Primitive< REALSXP, false, T > . . . . .	??
Rcpp::VectorBase< REALSXP, false, Times_Vector_Primitive_nona< REALSXP, false, T > > . . . . .	??
Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, false, T > . . . . .	??
Rcpp::VectorBase< REALSXP, false, Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, false, Vectorized_INTSXP< Func, false, VEC > > . . . . .	??
Rcpp::sugar::Vectorized_INTSXP< Func, false, VEC > . . . . .	??
Rcpp::VectorBase< REALSXP, LHS_NA, Diff< REALSXP, LHS_NA, LHS_T > > . . . . .	??
Rcpp::sugar::Diff< REALSXP, LHS_NA, LHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, D0< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::D0< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, D1< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::D1< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, D2< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::D2< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, D3< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::D3< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, P0< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::P0< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, P1< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::P1< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, P2< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::P2< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, P3< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::P3< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, Pow< INTSXP, NA, T, EXPONENT_TYPE > > . . . . .	??
Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT_TYPE > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, Pow< RTYPE, NA, T, EXPONENT_TYPE > > . . . . .	??
Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, Q0< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::Q0< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, Q1< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::Q1< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, Q2< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::Q2< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, Q3< RTYPE, NA, T > > . . . . .	??
Rcpp::stats::Q3< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, Vectorized< Func, NA, VEC > > . . . . .	??
Rcpp::sugar::Vectorized< Func, NA, VEC > . . . . .	??
Rcpp::VectorBase< REALSXP, NA, Vectorized_INTSXP< Func, NA, VEC > > . . . . .	??
Rcpp::sugar::Vectorized_INTSXP< Func, NA, VEC > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Divides_Primitive_Vector< REALSXP, false, T > > . . . . .	??
Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T > . . . . .	??

Rcpp::VectorBase< REALSXP, true, Divides_Primitive_Vector< REALSXP, NA, T > > . . . . .	??
Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Divides_Vector_Primitive< REALSXP, false, T > > . . . . .	??
Rcpp::sugar::Divides_Vector_Primitive< REALSXP, false, T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Divides_Vector_Primitive< REALSXP, NA, T > > . . . . .	??
Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Minus_Primitive_Vector< REALSXP, false, T > > . . . . .	??
Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Minus_Primitive_Vector< REALSXP, NA, T > > . . . . .	??
Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Minus_Vector_Primitive< REALSXP, false, T > > . . . . .	??
Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Minus_Vector_Primitive< REALSXP, NA, T > > . . . . .	??
Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Plus_Vector_Primitive< REALSXP, NA, T > > . . . . .	??
Rcpp::sugar::Plus_Vector_Primitive< REALSXP, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Plus_Vector_Primitive_nona< REALSXP, NA, T > > . . . . .	??
Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Times_Vector_Primitive< REALSXP, NA, T > > . . . . .	??
Rcpp::sugar::Times_Vector_Primitive< REALSXP, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Times_Vector_Primitive_nona< REALSXP, NA, T > > . . . . .	??
Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, NA, T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T > . . . . .	??

Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< REALSXP, true, Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, R← HS_T > > . . . . .	??
Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, false, Diff< RTYPE, false, LHS_T > > . . . . .	??
Rcpp::sugar::Diff< RTYPE, false, LHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, false, Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, false, Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, false, Nona< RTYPE, NA, Rcpp::Vector< RTYPE > > > . . . . .	??
Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > > . . . . .	??
Rcpp::VectorBase< RTYPE, false, Nona< RTYPE, NA, VECTOR > > . . . . .	??
Rcpp::sugar::Nona< RTYPE, NA, VECTOR > . . . . .	??
Rcpp::VectorBase< RTYPE, false, Plus_Vector_Primitive< RTYPE, false, T > > . . . . .	??
Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T > . . . . .	??
Rcpp::VectorBase< RTYPE, false, Plus_Vector_Primitive_nona< RTYPE, false, T > > . . . . .	??
Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T > . . . . .	??
Rcpp::VectorBase< RTYPE, false, Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, false, Times_Vector_Primitive< RTYPE, false, T > > . . . . .	??
Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T > . . . . .	??
Rcpp::VectorBase< RTYPE, false, Times_Vector_Primitive_nona< RTYPE, false, T > > . . . . .	??
Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, false, T > . . . . .	??
Rcpp::VectorBase< RTYPE, false, Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, LHS_NA, Diff< RTYPE, LHS_NA, LHS_T > > . . . . .	??
Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, NA, Clamp_Primitive_Vector_Primitive< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Clamp_Primitive_Vector_Primitive< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, NA, Diag_Extractor< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Diag_Extractor< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, NA, Head< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Head< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, NA, RangeIndexer< RTYPE, NA, VECTOR > > . . . . .	??
Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR > . . . . .	??
Rcpp::VectorBase< RTYPE, NA, Rep< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Rep< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, NA, Rep_each< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Rep_each< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, NA, Rep_len< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Rep_len< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, NA, Rev< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Rev< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, NA, Tail< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Tail< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Comparator_With_One_Value< LGLSXP, Operator, false, T > > . . . . .	??
Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, ConstMatrixColumn< RTYPE > > . . . . .	??
Rcpp::ConstMatrixColumn< RTYPE > . . . . .	??
Rcpp::VectorBase< RTYPE, true, ConstMatrixRow< RTYPE > > . . . . .	??

Rcpp::ConstMatrixRow< RTYPE > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Divides_Primitive_Vector< RTYPE, false, T > > . . . . .	??
Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Divides_Primitive_Vector< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Divides_Vector_Primitive< RTYPE, false, T > > . . . . .	??
Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Divides_Vector_Primitive< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T > > .	??
Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T > > .	??
Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T	
> > . . . . .	??
Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T > > . . . . .	??
Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, IfElse_Primitive_Primitive< RTYPE, false, COND_T > > . . . . .	??
Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, R←	
HS_T > > . . . . .	??
Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T > > ??	
Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, L←	
HS_T > > . . . . .	??
Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T > > ??	
Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, MatrixColumn< RTYPE > > . . . . .	??
Rcpp::MatrixColumn< RTYPE > . . . . .	??
Rcpp::VectorBase< RTYPE, true, MatrixRow< RTYPE > > . . . . .	??
Rcpp::MatrixRow< RTYPE > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Minus_Primitive_Vector< RTYPE, false, T > > . . . . .	??
Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Minus_Primitive_Vector< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Minus_Vector_Primitive< RTYPE, false, T > > . . . . .	??
Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Minus_Vector_Primitive< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T > > .	??
Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T > > .	??
Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > > ??	
Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Plus_Vector_Primitive< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Plus_Vector_Primitive_nona< RTYPE, NA, T > > . . . . .	??



Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T > > . .	??
Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T > > . .	??
Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > >	??
Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T > > . . . . .	??
Rcpp::sugar::Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T > > . . . . .	??
Rcpp::sugar::Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Times_Vector_Primitive< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Times_Vector_Primitive< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Times_Vector_Primitive_nona< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T > > .	??
Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T > > .	??
Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > >	??
Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Vector< RTYPE, PreserveStorage > > . . . . .	??
Rcpp::Vector< INTSXP > . . . . .	??
Rcpp::Vector< RTYPE > . . . . .	??
Rcpp::Vector< STRSXP > . . . . .	??
Rcpp::Vector< VECSXP > . . . . .	??
Rcpp::VectorBase< RTYPE, true, Vector< RTYPE, StoragePolicy > > . . . . .	??
Rcpp::Vector< RTYPE, StoragePolicy > . . . . .	??
Rcpp::Vector< VECSXP, StoragePolicy > . . . . .	??
Rcpp::VectorBase< RTYPE,(COND_NA  LHS_NA  RHS_NA), IfElse< RTYPE, COND_NA, COND_T, L←	
HS_NA, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE,(LHS_NA  RHS_NA), IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, R←	
HS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE,(LHS_NA  RHS_NA), Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, R←	
HS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< RTYPE,(LHS_NA  RHS_NA), Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, R←	
HS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::VectorBase< unary_minus_result_type< RTYPE >::value, NA, UnaryMinus_Vector< unary_←	
minus_result_type< RTYPE >::value, NA, T > > . . . . .	??
Rcpp::sugar::UnaryMinus_Vector< RTYPE, NA, T > . . . . .	??
Rcpp::VectorBase< VECSXP, true, Lapply< RTYPE, NA, T, Function > > . . . . .	??
Rcpp::sugar::Lapply< RTYPE, NA, T, Function > . . . . .	??
Rcpp::traits::expands_to_logical_impl< LGLSXP > . . . . .	??
Rcpp::attributes::ExportsGenerator . . . . .	??
Rcpp::attributes::CppExportsGenerator . . . . .	??
Rcpp::attributes::CppExportsIncludeGenerator . . . . .	??
Rcpp::attributes::CppPackageIncludeGenerator . . . . .	??
Rcpp::attributes::REExportsGenerator . . . . .	??

Rcpp::attributes::ExportsGenerators	??
Rcpp::traits::Extractor< RTYPE, NA, VECTOR >	??
tinyformat::detail::is_convertible< T1, T2 >::fail	??
Rcpp::Fast< VECTOR >	??
Rcpp::FieldProxyPolicy< CLASS >	??
Rcpp::attributes::FileInfo	??
Rcpp::fixed_call< RESULT_TYPE >	??
Rcpp::sugar::forbidden_conversion< bool >	??
Rcpp::sugar::forbidden_conversion< true >	??
Rcpp::sugar::forbidden_conversion< x >	??
Rcpp::sugar::conversion_to_bool_is_forbidden< x >	??
tinyformat::detail::FormatArg	??
tinyformat::FormatList	??
tinyformat::detail::FormatListN< N >	??
tinyformat::detail::FormatListN< 0 >	??
tinyformat::detail::formatValueAsType< T, fmtT, convertible >	??
tinyformat::detail::formatValueAsType< T, fmtT, true >	??
Rcpp::attributes::Function	??
Rcpp::internal::generic_element_converter< RTYPE >	??
Rcpp::internal::generic_name_proxy< RTYPE >	??
Rcpp::GenericProxy< Proxy >	??
Rcpp::GenericProxy< AttributeProxy >	??
Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy	??
Rcpp::GenericProxy< Binding >	??
Rcpp::BindingPolicy< EnvironmentClass >::Binding	??
Rcpp::GenericProxy< const_AttributeProxy >	??
Rcpp::AttributeProxyPolicy< CLASS >::const_AttributeProxy	??
Rcpp::GenericProxy< const_Binding >	??
Rcpp::BindingPolicy< EnvironmentClass >::const_Binding	??
Rcpp::GenericProxy< const_DottedPairProxy >	??
Rcpp::DottedPairProxyPolicy< CLASS >::const_DottedPairProxy	??
Rcpp::GenericProxy< const_FieldProxy >	??
Rcpp::FieldProxyPolicy< CLASS >::const_FieldProxy	??
Rcpp::GenericProxy< const_generic_proxy< RTYPE > >	??
Rcpp::internal::const_generic_proxy< RTYPE >	??
Rcpp::GenericProxy< const_NamesProxy >	??
Rcpp::NamesProxyPolicy< CLASS >::const_NamesProxy	??
Rcpp::GenericProxy< const_ProtectedProxy >	??
Rcpp::ProtectedProxyPolicy< XPtrClass >::const_ProtectedProxy	??
Rcpp::GenericProxy< const_SlotProxy >	??
Rcpp::SlotProxyPolicy< CLASS >::const_SlotProxy	??
Rcpp::GenericProxy< const_TagProxy >	??
Rcpp::TagProxyPolicy< XPtrClass >::const_TagProxy	??
Rcpp::GenericProxy< DottedPairProxy >	??
Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy	??
Rcpp::GenericProxy< FieldProxy >	??
Rcpp::FieldProxyPolicy< CLASS >::FieldProxy	??
Rcpp::GenericProxy< generic_proxy< RTYPE > >	??
Rcpp::internal::generic_proxy< RTYPE >	??

Rcpp::GenericProxy< NamesProxy > . . . . .	??
Rcpp::NamesProxyPolicy< CLASS >::NamesProxy . . . . .	??
Rcpp::GenericProxy< ProtectedProxy > . . . . .	??
Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy . . . . .	??
Rcpp::GenericProxy< SlotProxy > . . . . .	??
Rcpp::SlotProxyPolicy< CLASS >::SlotProxy . . . . .	??
Rcpp::GenericProxy< TagProxy > . . . . .	??
Rcpp::TagProxyPolicy< XPtrClass >::TagProxy . . . . .	??
Rcpp::sugar::Grabber< HASH, RTYPE > . . . . .	??
GreedyVector	
Rcpp::DatetimeVector . . . . .	??
Rcpp::DateVector . . . . .	??
Rcpp::sugar::cbind_impl::detail::has_stored_type< T > . . . . .	??
Rcpp::traits::identity< T > . . . . .	??
Rcpp::traits::if_< COND, LHS, RHS > . . . . .	??
Rcpp::traits::if_< false, LHS, RHS > . . . . .	??
Rcpp::sugar::ln< RTYPE, TABLE_T > . . . . .	??
Rcpp::sugar::IndexHash< RTYPE > . . . . .	??
Rcpp::traits::init_type< RTYPE > . . . . .	??
Rcpp::traits::init_type< LGLSXP > . . . . .	??
Rcpp::traits::init_type< STRSXP > . . . . .	??
Rcpp::traits::input_parameter< T > . . . . .	??
Rcpp::traits::input_parameter< const T & > . . . . .	??
Rcpp::traits::input_parameter< const T > . . . . .	??
Rcpp::traits::input_parameter< T & > . . . . .	??
Rcpp::InputParameter< T > . . . . .	??
Rcpp::sugar::lnSet< HASH > . . . . .	??
Rcpp::traits::int2type< I > . . . . .	??
Rcpp::traits::integral_constant< _T, _V > . . . . .	??
Rcpp::Matrix< RTYPE, StoragePolicy >::can_have_na . . . . .	??
Rcpp::sugar::is_sugar_vector< T > . . . . .	??
Rcpp::sugar::is_sugar_vector< Rcpp::Vector< RTYPE > > . . . . .	??
Rcpp::traits::has_na< RTYPE > . . . . .	??
Rcpp::traits::has_na< CPLXSXP > . . . . .	??
Rcpp::traits::has_na< INTSXP > . . . . .	??
Rcpp::traits::has_na< LGLSXP > . . . . .	??
Rcpp::traits::has_na< REALSXP > . . . . .	??
Rcpp::traits::has_na< STRSXP > . . . . .	??
Rcpp::traits::is_arithmetic< typename > . . . . .	??
Rcpp::traits::is_arithmetic< const double > . . . . .	??
Rcpp::traits::is_arithmetic< const float > . . . . .	??
Rcpp::traits::is_arithmetic< const int > . . . . .	??
Rcpp::traits::is_arithmetic< const long > . . . . .	??
Rcpp::traits::is_arithmetic< const long double > . . . . .	??
Rcpp::traits::is_arithmetic< const short > . . . . .	??
Rcpp::traits::is_arithmetic< const unsigned int > . . . . .	??
Rcpp::traits::is_arithmetic< const unsigned long > . . . . .	??
Rcpp::traits::is_arithmetic< const unsigned short > . . . . .	??
Rcpp::traits::is_arithmetic< double > . . . . .	??
Rcpp::traits::is_arithmetic< float > . . . . .	??
Rcpp::traits::is_arithmetic< int > . . . . .	??
Rcpp::traits::is_arithmetic< long > . . . . .	??
Rcpp::traits::is_arithmetic< long double > . . . . .	??

Rcpp::traits::is_arithmetic< short > . . . . .	??
Rcpp::traits::is_arithmetic< unsigned int > . . . . .	??
Rcpp::traits::is_arithmetic< unsigned long > . . . . .	??
Rcpp::traits::is_arithmetic< unsigned short > . . . . .	??
Rcpp::traits::is_bool< typename > . . . . .	??
Rcpp::traits::is_bool< bool > . . . . .	??
Rcpp::traits::is_bool< const bool > . . . . .	??
Rcpp::traits::is_bool< volatile bool > . . . . .	??
Rcpp::traits::is_const< typename > . . . . .	??
Rcpp::traits::is_const< _Tp const > . . . . .	??
Rcpp::traits::is_named< T > . . . . .	??
Rcpp::traits::is_named< named_object< T > > . . . . .	??
Rcpp::traits::is_named< Rcpp::Argument > . . . . .	??
Rcpp::traits::is_pointer< T > . . . . .	??
Rcpp::traits::is_pointer< T * > . . . . .	??
Rcpp::traits::is_reference< typename > . . . . .	??
Rcpp::traits::is_reference< _Tp & > . . . . .	??
Rcpp::traits::is_trivial< RTYPE > . . . . .	??
Rcpp::traits::is_trivial< EXPRXP > . . . . .	??
Rcpp::traits::is_trivial< VECSXP > . . . . .	??
Rcpp::traits::is_wide_string< char > . . . . .	??
Rcpp::traits::is_wide_string< const char * > . . . . .	??
Rcpp::traits::is_wide_string< const wchar_t * > . . . . .	??
Rcpp::traits::is_wide_string< wchar_t > . . . . .	??
Rcpp::traits::needs_protection< T > . . . . .	??
Rcpp::traits::needs_protection< SEXP > . . . . .	??
Rcpp::traits::r_sexptype_needs_cscat< T > . . . . .	??
Rcpp::traits::r_sexptype_needs_cscat< double > . . . . .	??
Rcpp::traits::r_sexptype_needs_cscat< int > . . . . .	??
Rcpp::traits::r_sexptype_needs_cscat< Rbyte > . . . . .	??
Rcpp::traits::r_sexptype_needs_cscat< Rcomplex > . . . . .	??
Rcpp::traits::same_type< T, U > . . . . .	??
Rcpp::traits::same_type< T, T > . . . . .	??
Rcpp::traits::same_type< r_type_traits< T >::r_category, r_type_primitive_tag > . . . . .	??
Rcpp::traits::is_primitive< T > . . . . .	??
Rcpp::traits::same_type< T::value_type, wchar_t > . . . . .	??
Rcpp::traits::is_wide_string< T > . . . . .	??
Rcpp::traits::integral_constant< bool, _has_iterator_helper< T >::value > . . . . .	??
Rcpp::traits::has_iterator< T > . . . . .	??
Rcpp::traits::integral_constant< bool, _has_matrix_interface_helper< T >::value > . . . . .	??
Rcpp::traits::matrix_interface< T > . . . . .	??
Rcpp::traits::integral_constant< bool, _has_rtype_helper< T >::value > . . . . .	??
Rcpp::traits::expands_to_logical< T > . . . . .	??
Rcpp::traits::integral_constant< bool, _is_eigen_helper< T >::value > . . . . .	??
Rcpp::traits::is_eigen_base< T > . . . . .	??
Rcpp::traits::integral_constant< bool, _is_exporter_helper< T >::value > . . . . .	??
Rcpp::traits::is_exporter< T > . . . . .	??
Rcpp::traits::integral_constant< bool, _is_generator_helper< T >::value > . . . . .	??
Rcpp::traits::is_generator< T > . . . . .	??
Rcpp::traits::integral_constant< bool, _is_importer_helper< T >::value > . . . . .	??
Rcpp::traits::is_importer< T > . . . . .	??
Rcpp::traits::integral_constant< bool, _is_sugar_expression_helper< T >::value > . . . . .	??

Rcpp::traits::is_sugar_expression< T > . . . . .	??
Rcpp::traits::integral_constant< bool, na > . . . . .	??
Rcpp::MatrixBase< RTYPE, na, MATRIX >::can_have_na . . . . .	??
Rcpp::VectorBase< RTYPE, na, VECTOR >::can_have_na . . . . .	??
Rcpp::traits::integral_constant< bool, same_type< r_type_traits< T >::r_category, r_type_module_object_tag >::value  same_type< r_type_traits< T >::r_category, r_type_module_object_pointer_tag >::value  same_type< r_type_traits< T >::r_category, r_type_module_object_const_pointer_tag >::value  same_type< r_type_traits< T >::r_category, r_type_module_object_reference_tag >::value  same_type< r_type_traits< T >::r_category, r_type_module_object_const_reference_tag >::value > . . . . .	??
Rcpp::traits::is_module_object< T > . . . . .	??
Rcpp::traits::integral_constant< bool, T::value &&U::value > . . . . .	??
Rcpp::traits::both< T, U > . . . . .	??
Rcpp::traits::integral_constant< int, RTYPE > . . . . .	??
Rcpp::Matrix< RTYPE, StoragePolicy >::r_type . . . . .	??
Rcpp::MatrixBase< RTYPE, na, MATRIX >::r_type . . . . .	??
Rcpp::VectorBase< RTYPE, na, VECTOR >::r_type . . . . .	??
Rcpp::internal::InterruptedException . . . . .	??
Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::traits::is_convertible< T, U > . . . . .	??
tinyformat::detail::is_convertible< T1, T2 > . . . . .	??
tinyformat::detail::is_wchar< T > . . . . .	??
tinyformat::detail::is_wchar< const wchar_t * > . . . . .	??
tinyformat::detail::is_wchar< const wchar_t[n]> . . . . .	??
tinyformat::detail::is_wchar< wchar_t * > . . . . .	??
tinyformat::detail::is_wchar< wchar_t[n]> . . . . .	??
Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator . . . . .	??
Rcpp::MatrixRow< RTYPE >::iterator . . . . .	??
Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator . . . . .	??
Rcpp::sugar::Lazy< T, EXPR > . . . . .	??
Rcpp::sugar::Lazy< detail::ColMeansReturn< RTYPE >::type, ColMeansImpl< RTYPE, NA, T, NA_RM > > . . . . .	??
Rcpp::sugar::ColMeansImpl< RTYPE, false, T, false > . . . . .	??
Rcpp::sugar::ColMeansImpl< RTYPE, false, T, NA_RM > . . . . .	??
Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA_RM > . . . . .	??
Rcpp::sugar::Lazy< detail::ColMeansReturn< RTYPE >::type, ColMeansImpl< RTYPE, NA, T, true > > . . . . .	??
Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true > . . . . .	??
Rcpp::sugar::Lazy< detail::ColSumsReturn< RTYPE >::type, ColSumsImpl< RTYPE, NA, T, NA_RM > > . . . . .	??
Rcpp::sugar::ColSumsImpl< RTYPE, false, T, false > . . . . .	??
Rcpp::sugar::ColSumsImpl< RTYPE, false, T, NA_RM > . . . . .	??
Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA_RM > . . . . .	??
Rcpp::sugar::Lazy< detail::ColSumsReturn< RTYPE >::type, ColSumsImpl< RTYPE, NA, T, true > > . . . . .	??
Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true > . . . . .	??
Rcpp::sugar::Lazy< detail::RowMeansReturn< RTYPE >::type, RowMeansImpl< RTYPE, NA, T, NA_RM > > . . . . .	??
Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA_RM > . . . . .	??
Rcpp::sugar::RowMeansImpl< RTYPE, false, T, false > . . . . .	??
Rcpp::sugar::RowMeansImpl< RTYPE, false, T, NA_RM > . . . . .	??
Rcpp::sugar::Lazy< detail::RowMeansReturn< RTYPE >::type, RowMeansImpl< RTYPE, NA, T, true > > . . . . .	??
Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true > . . . . .	??
Rcpp::sugar::Lazy< detail::RowSumsReturn< RTYPE >::type, RowSumsImpl< RTYPE, NA, T, NA_RM > > . . . . .	??
Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA_RM > . . . . .	??
Rcpp::sugar::RowSumsImpl< RTYPE, false, T, false > . . . . .	??

Rcpp::sugar::RowSumsImpl< RTYPE, false, T, NA_RM > . . . . .	??
Rcpp::sugar::Lazy< detail::RowSumsReturn< RTYPE >::type, RowSumsImpl< RTYPE, NA, T, true > > . .	??
Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true > . . . . .	??
Rcpp::sugar::Lazy< double, Mean< INTSXP, NA, T > > . . . . .	??
Rcpp::sugar::Mean< INTSXP, NA, T > . . . . .	??
Rcpp::sugar::Lazy< double, Mean< LGLSXP, NA, T > > . . . . .	??
Rcpp::sugar::Mean< LGLSXP, NA, T > . . . . .	??
Rcpp::sugar::Lazy< double, Mean< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Mean< RTYPE, NA, T > . . . . .	??
Rcpp::sugar::Lazy< double, Sum< REALSXP, NA, T > > . . . . .	??
Rcpp::sugar::Sum< REALSXP, NA, T > . . . . .	??
Rcpp::sugar::Lazy< double, Var< CPLXSXP, NA, T > > . . . . .	??
Rcpp::sugar::Var< CPLXSXP, NA, T > . . . . .	??
Rcpp::sugar::Lazy< double, Var< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Var< RTYPE, NA, T > . . . . .	??
Rcpp::sugar::Lazy< Rcomplex, Mean< CPLXSXP, NA, T > > . . . . .	??
Rcpp::sugar::Mean< CPLXSXP, NA, T > . . . . .	??
Rcpp::sugar::Lazy< Rcpp::traits::storage_type< RTYPE >::type, Sd< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Sd< RTYPE, NA, T > . . . . .	??
Rcpp::sugar::Lazy< Rcpp::traits::storage_type< RTYPE >::type, Sum< RTYPE, false, T > > . . . . .	??
Rcpp::sugar::Sum< RTYPE, false, T > . . . . .	??
Rcpp::sugar::Lazy< Rcpp::traits::storage_type< RTYPE >::type, Sum< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Sum< RTYPE, NA, T > . . . . .	??
Rcpp::sugar::Lazy< Rcpp::Vector< RTYPE >, Cummax< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Cummax< RTYPE, NA, T > . . . . .	??
Rcpp::sugar::Lazy< Rcpp::Vector< RTYPE >, Cummin< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Cummin< RTYPE, NA, T > . . . . .	??
Rcpp::sugar::Lazy< Rcpp::Vector< RTYPE >, Cumprod< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Cumprod< RTYPE, NA, T > . . . . .	??
Rcpp::sugar::Lazy< Rcpp::Vector< RTYPE >, Cumsum< RTYPE, NA, T > > . . . . .	??
Rcpp::sugar::Cumsum< RTYPE, NA, T > . . . . .	??
Rcpp::internal::LazyVector< VECTOR > . . . . .	??
Rcpp::internal::LazyVector< LHS_TYPE > . . . . .	??
Rcpp::internal::LazyVector< Rcpp::Vector< RTYPE > > . . . . .	??
Rcpp::internal::LazyVector< RHS_TYPE > . . . . .	??
Rcpp::algorithm::helpers::log . . . . .	??
Rcpp::linfo . . . . .	??
Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, is_container > . . . . .	??
Rcpp::sugar::cbind_impl::detail::MakeBindableCall< Rcpp::Matrix< LGLSXP >, true > . . . . .	??
Rcpp::sugar::cbind_impl::detail::MakeBindableCall< Rcpp::Vector< LGLSXP >, true > . . . . .	??
Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, false > . . . . .	??
Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, true > . . . . .	??
Rcpp::sugar::cbind_impl::detail::matrix_return< T, is_container > . . . . .	??
Rcpp::sugar::cbind_impl::detail::matrix_return< bool, false > . . . . .	??
Rcpp::sugar::cbind_impl::detail::matrix_return< Rcpp::Matrix< LGLSXP >, true > . . . . .	??
Rcpp::sugar::cbind_impl::detail::matrix_return< Rcpp::Vector< LGLSXP >, true > . . . . .	??
Rcpp::sugar::cbind_impl::detail::matrix_return< T, B > . . . . .	??
Rcpp::sugar::cbind_impl::matrix_return< T, B > . . . . .	??
Rcpp::sugar::cbind_impl::detail::matrix_return< T, false > . . . . .	??

Rcpp::sugar::cbind_impl::matrix_return< T, false >	??
Rcpp::sugar::cbind_impl::detail::matrix_return< T, true >	??
Rcpp::sugar::Max< RTYPE, NA, T >	??
Rcpp::sugar::Max< RTYPE, false, T >	??
Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >	??
Rcpp::sugar::Median< RTYPE, false, T, NA_RM >	??
Rcpp::sugar::Median< RTYPE, NA, T, true >	??
Rcpp::sugar::Median< STRSXP, false, T, true >	??
Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >	??
Rcpp::sugar::Median< STRSXP, NA, T, true >	??
Rcpp::sugar::Min< RTYPE, NA, T >	??
Rcpp::sugar::Min< RTYPE, false, T >	??
Rcpp::Module	??
Rcpp::traits::module_wrap_traits< T >	??
Rcpp::traits::module_wrap_traits< T * >	??
Rcpp::traits::module_wrap_traits< void >	??
Rcpp::Na_Proxy	??
Rcpp::traits::named_object< T >	??
Rcpp::traits::named_object< SEXP >	??
Rcpp::internal::NamedPlaceholder	??
Rcpp::NamesProxyPolicy< CLASS >	??
Rcpp::NamesProxyPolicy< T >	??
Rcpp::ListOf< T >	??
Rcpp::NamesProxyPolicy< Vector< RTYPE, PreserveStorage > >	??
Rcpp::Vector< INTSXP >	??
Rcpp::Vector< RTYPE >	??
Rcpp::Vector< STRSXP >	??
Rcpp::Vector< VECSXP >	??
Rcpp::NamesProxyPolicy< Vector< RTYPE, StoragePolicy > >	??
Rcpp::Vector< RTYPE, StoragePolicy >	??
Rcpp::Vector< VECSXP, StoragePolicy >	??
Rcpp::sugar::negate< NA >	??
Rcpp::sugar::negate< false >	??
Rcpp::sugar::cbind_impl::detail::has_stored_type< T >::no	??
Rcpp::no_init_matrix	??
Rcpp::no_init_vector	??
Rcpp::sugar::NonaPrimitive< T >	??
Rcpp::NoProtectStorage< CLASS >	??
Rcpp::traits::normal_wrap_tag	??
Rcpp::sugar::not_< RTYPE, NA >	??
Rcpp::sugar::not_< CPLXSXP, false >	??
Rcpp::sugar::not_< CPLXSXP, NA >	??
Rcpp::sugar::not_< REALSXP, false >	??
Rcpp::sugar::not_< REALSXP, NA >	??
Rcpp::sugar::not_< RTYPE, false >	??
Rcpp::Nullable< T >	??
Rcpp::traits::num2type< N >	??
Rcpp::object< T >	??
ostream	
Rcpp::Rostream< OUTPUT >	??
Rcpp::attributes::Param	??
Rcpp::sugar::pmax_op< RTYPE, LHS_NA, RHS_NA >	??
Rcpp::sugar::pmax_op< INTSXP, LHS_NA, RHS_NA >	??

Rcpp::sugar::pmax_op< REALSXP, false, false > . . . . .	??
Rcpp::sugar::pmax_op< REALSXP, false, true > . . . . .	??
Rcpp::sugar::pmax_op< REALSXP, true, false > . . . . .	??
Rcpp::sugar::pmax_op< REALSXP, true, true > . . . . .	??
Rcpp::sugar::pmax_op_Vector_Primitive< RTYPE, NA > . . . . .	??
Rcpp::sugar::pmax_op_Vector_Primitive< REALSXP, true > . . . . .	??
Rcpp::sugar::pmax_op_Vector_Primitive< RTYPE, LHS_NA > . . . . .	??
Rcpp::sugar::pmin_op< RTYPE, LHS_NA, RHS_NA > . . . . .	??
Rcpp::sugar::pmin_op< INTSXP, LHS_NA, RHS_NA > . . . . .	??
Rcpp::sugar::pmin_op< REALSXP, false, false > . . . . .	??
Rcpp::sugar::pmin_op< REALSXP, false, true > . . . . .	??
Rcpp::sugar::pmin_op< REALSXP, true, false > . . . . .	??
Rcpp::sugar::pmin_op< REALSXP, true, true > . . . . .	??
Rcpp::sugar::pmin_op_Vector_Primitive< RTYPE, NA > . . . . .	??
Rcpp::sugar::pmin_op_Vector_Primitive< REALSXP, true > . . . . .	??
Rcpp::sugar::pmin_op_Vector_Primitive< RTYPE, LHS_NA > . . . . .	??
Rcpp::traits::pointer_wrap_tag . . . . .	??
Rcpp::PreserveStorage< CLASS > . . . . .	??
Rcpp::PreserveStorage< Vector< RTYPE, PreserveStorage > > . . . . .	??
Rcpp::Vector< INTSXP > . . . . .	??
Rcpp::Vector< RTYPE > . . . . .	??
Rcpp::Vector< STRSXP > . . . . .	??
Rcpp::Vector< VECSXP > . . . . .	??
Rcpp::ProtectedProxyPolicy< XPtrClass > . . . . .	??
Rcpp::ProtectedProxyPolicy< XPtr< T, StoragePolicy, Finalizer > > . . . . .	??
Rcpp::XPtr< T, StoragePolicy, Finalizer > . . . . .	??
Rcpp::traits::proxy_based_const_iterator< RTYPE > . . . . .	??
Rcpp::traits::proxy_based_const_iterator< EXPRSXP > . . . . .	??
Rcpp::traits::r_vector_const_iterator< EXPRSXP > . . . . .	??
Rcpp::traits::proxy_based_const_iterator< STRSXP > . . . . .	??
Rcpp::traits::r_vector_const_iterator< STRSXP > . . . . .	??
Rcpp::traits::proxy_based_const_iterator< VECSXP > . . . . .	??
Rcpp::traits::r_vector_const_iterator< VECSXP > . . . . .	??
Rcpp::traits::proxy_based_iterator< RTYPE > . . . . .	??
Rcpp::traits::proxy_based_iterator< EXPRSXP > . . . . .	??
Rcpp::traits::r_vector_iterator< EXPRSXP > . . . . .	??
Rcpp::traits::proxy_based_iterator< STRSXP > . . . . .	??
Rcpp::traits::r_vector_iterator< STRSXP > . . . . .	??
Rcpp::traits::proxy_based_iterator< VECSXP > . . . . .	??
Rcpp::traits::r_vector_iterator< VECSXP > . . . . .	??
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Rcpp::traits::expands_to_logical_impl< LGLSXP >::r_expands_to_logical . . . . .	??
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Rcpp::traits::r_sexptype_traits< T > . . . . .	??
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Rcpp::traits::r_sexptype_traits< const double > . . . . .	??
Rcpp::traits::r_sexptype_traits< const int > . . . . .	??
Rcpp::traits::r_sexptype_traits< double > . . . . .	??
Rcpp::traits::r_sexptype_traits< float > . . . . .	??
Rcpp::traits::r_sexptype_traits< int > . . . . .	??



Rcpp::traits::r_sexptype_traits< long > . . . . .	??
Rcpp::traits::r_sexptype_traits< long double > . . . . .	??
Rcpp::traits::r_sexptype_traits< Rbyte > . . . . .	??
Rcpp::traits::r_sexptype_traits< Rcomplex > . . . . .	??
Rcpp::traits::r_sexptype_traits< Rcpp::Date > . . . . .	??
Rcpp::traits::r_sexptype_traits< Rcpp::Datetime > . . . . .	??
Rcpp::traits::r_sexptype_traits< Rcpp::String > . . . . .	??
Rcpp::traits::r_sexptype_traits< short > . . . . .	??
Rcpp::traits::r_sexptype_traits< std::complex< double > > . . . . .	??
Rcpp::traits::r_sexptype_traits< std::complex< float > > . . . . .	??
Rcpp::traits::r_sexptype_traits< std::string > . . . . .	??
Rcpp::traits::r_sexptype_traits< unsigned int > . . . . .	??
Rcpp::traits::r_sexptype_traits< unsigned long > . . . . .	??
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Rcpp::traits::r_type_traits< const char * > . . . . .	??
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Rcpp::traits::r_type_traits< const int > . . . . .	??
Rcpp::traits::r_type_traits< const wchar_t * > . . . . .	??
Rcpp::traits::r_type_traits< double > . . . . .	??
Rcpp::traits::r_type_traits< float > . . . . .	??
Rcpp::traits::r_type_traits< int > . . . . .	??
Rcpp::traits::r_type_traits< long > . . . . .	??
Rcpp::traits::r_type_traits< long double > . . . . .	??
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Rcpp::traits::r_type_traits< std::pair< const std::string, bool > > . . . . .	??
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Rcpp::traits::r_type_traits< std::pair< const std::string, double > > . . . . .	??

Rcpp::traits::r_type_traits< std::pair< const std::string, float > > . . . . .	??
Rcpp::traits::r_type_traits< std::pair< const std::string, int > > . . . . .	??
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Rcpp::traits::r_type_traits< std::pair< const std::string, long double > > . . . . .	??
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Rcpp::traits::r_type_traits< std::pair< const std::string, Rcomplex > > . . . . .	??
Rcpp::traits::r_type_traits< std::pair< const std::string, Rcpp::Date > > . . . . .	??
Rcpp::traits::r_type_traits< std::pair< const std::string, Rcpp::Datetime > > . . . . .	??
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Rcpp::traits::r_type_traits< std::pair< const std::string, std::complex< double > > > . . . . .	??
Rcpp::traits::r_type_traits< std::pair< const std::string, std::complex< float > > > . . . . .	??
Rcpp::traits::r_type_traits< std::pair< const std::string, std::string > > . . . . .	??
Rcpp::traits::r_type_traits< std::pair< const std::string, std::wstring > > . . . . .	??
Rcpp::traits::r_type_traits< std::pair< const std::string, T > > . . . . .	??
Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned int > > . . . . .	??
Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned long > > . . . . .	??
Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned short > > . . . . .	??
Rcpp::traits::r_type_traits< std::pair< const std::string, wchar_t > > . . . . .	??
Rcpp::traits::r_type_traits< std::string > . . . . .	??
Rcpp::traits::r_type_traits< std::wstring > . . . . .	??
Rcpp::traits::r_type_traits< unsigned int > . . . . .	??
Rcpp::traits::r_type_traits< unsigned long > . . . . .	??
Rcpp::traits::r_type_traits< unsigned short > . . . . .	??
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Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy > . . . . .	??
Rcpp::traits::r_vector_cache_type< RTYPE, StoragePolicy > . . . . .	??
Rcpp::traits::r_vector_cache_type< EXPRXP, StoragePolicy > . . . . .	??
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Rcpp::traits::r_vector_cache_type< STRXP, StoragePolicy > . . . . .	??
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Rcpp::traits::r_vector_const_iterator< RTYPE > . . . . .	??
Rcpp::traits::r_vector_const_proxy< RTYPE > . . . . .	??
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Rcpp::traits::r_vector_const_proxy< STRXP > . . . . .	??
Rcpp::traits::r_vector_const_proxy< VECSXP > . . . . .	??
Rcpp::traits::r_vector_element_converter< RTYPE > . . . . .	??
Rcpp::traits::r_vector_element_converter< EXPRXP > . . . . .	??
Rcpp::traits::r_vector_element_converter< STRXP > . . . . .	??
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Rcpp::traits::r_vector_iterator< RTYPE > . . . . .	??
Rcpp::traits::r_vector_name_proxy< RTYPE > . . . . .	??
Rcpp::traits::r_vector_name_proxy< EXPRXP > . . . . .	??
Rcpp::traits::r_vector_name_proxy< STRXP > . . . . .	??
Rcpp::traits::r_vector_name_proxy< VECSXP > . . . . .	??
Rcpp::traits::r_vector_proxy< RTYPE > . . . . .	??
Rcpp::traits::r_vector_proxy< EXPRXP > . . . . .	??
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Rcpp::sugar::Range< RTYPE, NA, T > . . . . .	??
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Rcpp::traits::result_of< T > . . . . .	??
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Rcpp::stats::NormGenerator__mean0 . . . . .	??
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Rcpp::ROjectMethods< Class > . . . . .	??
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Rcpp::ROjectMethods< Vector< RTYPE, StoragePolicy > > . . . . .	??
Rcpp::Vector< RTYPE, StoragePolicy > . . . . .	??
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Rcpp::sugar::detail::RowMeansReturn< RTYPE > . . . . .	??
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Rcpp::sugar::detail::RowSumsReturn< RTYPE > . . . . .	??
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Rcpp::sugar::SetDiff< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
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Rcpp::sugar::SingleLogicalResult< NA, T > . . . . .	??
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Rcpp::sugar::SingleLogicalResult< (LHS_NA  RHS_NA), And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::sugar::SingleLogicalResult< (LHS_NA  RHS_NA), Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > > . . . . .	??
Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > . . . . .	??
Rcpp::sugar::SingleLogicalResult< false, All< false, T > > . . . . .	??
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Rcpp::sugar::SingleLogicalResult< false, And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T > . . . . .	??
Rcpp::sugar::SingleLogicalResult< false, Any< false, T > > . . . . .	??
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Rcpp::sugar::SingleLogicalResult< LHS_NA, And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T > > . . . . .	??
Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T > . . . . .	??
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Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T > . . . . .	??
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Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T > . . . . .	??
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Rcpp::SlotProxyPolicy< Vector< RTYPE, PreserveStorage > > . . . . .	??
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Rcpp::SlotProxyPolicy< Vector< RTYPE, StoragePolicy > > . . . . .	??
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Rcpp::sugar::unary_minus< RTYPE, NA > . . . . .	??
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# Chapter 3

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Rcpp::stats::LogisGenerator_0	??
Rcpp::stats::LogisGenerator_1	??
Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >	??
Rcpp::lsinfo	??
Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, is_container >	??
Rcpp::sugar::cbind_impl::detail::MakeBindableCall< Rcpp::Matrix< LGLSXP >, true >	??
Rcpp::sugar::cbind_impl::detail::MakeBindableCall< Rcpp::Vector< LGLSXP >, true >	??
Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, false >	??
Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, true >	??
Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >	??
Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >	??
Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >	??
Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >	??
Rcpp::Matrix< RTYPE, StoragePolicy >	??
Rcpp::traits::matrix_interface< T >	??
Rcpp::sugar::cbind_impl::detail::matrix_return< T, is_container >	??
Rcpp::sugar::cbind_impl::matrix_return< T, B >	??
Rcpp::sugar::cbind_impl::detail::matrix_return< bool, false >	??
Rcpp::sugar::cbind_impl::detail::matrix_return< Rcpp::Matrix< LGLSXP >, true >	??
Rcpp::sugar::cbind_impl::detail::matrix_return< Rcpp::Vector< LGLSXP >, true >	??
Rcpp::sugar::cbind_impl::detail::matrix_return< T, false >	??
Rcpp::sugar::cbind_impl::matrix_return< T, false >	??
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Rcpp::MatrixBase< RTYPE, na, MATRIX >	??
Rcpp::MatrixColumn< RTYPE >	??
Rcpp::MatrixRow< RTYPE >	??
Rcpp::sugar::Max< RTYPE, NA, T >	??
Rcpp::sugar::Max< RTYPE, false, T >	??
Rcpp::sugar::Mean< RTYPE, NA, T >	??
Rcpp::sugar::Mean< CPLXSXP, NA, T >	??
Rcpp::sugar::Mean< INTSXP, NA, T >	??
Rcpp::sugar::Mean< LGLSXP, NA, T >	??
Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >	??
Rcpp::sugar::Median< RTYPE, false, T, NA_RM >	??
Rcpp::sugar::Median< RTYPE, NA, T, true >	??
Rcpp::sugar::Median< STRSXP, false, T, true >	??
Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >	??
Rcpp::sugar::Median< STRSXP, NA, T, true >	??
Rcpp::sugar::Min< RTYPE, NA, T >	??
Rcpp::sugar::Min< RTYPE, false, T >	??
Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >	??
Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T >	??
Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T >	??
Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >	??
Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >	??
Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T >	??
Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >	??
Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >	??
Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >	??



Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >	??
Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >	??
Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >	??
Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >	??
Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >	??
Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >	??
Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >	??
Rcpp::Module	??
Rcpp::traits::module_wrap_traits< T >	??
Rcpp::traits::module_wrap_traits< T * >	??
Rcpp::traits::module_wrap_traits< void >	??
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Rcpp::internal::NamedPlaceholder	??
Rcpp::NamesProxyPolicy< CLASS >::NamesProxy	??
Rcpp::NamesProxyPolicy< CLASS >	??
Rcpp::stats::NBinomGenerator	??
Rcpp::stats::NBinomGenerator_Mu	??
Rcpp::stats::NChisqGenerator	??
Rcpp::traits::needs_protection< T >	??
Rcpp::traits::needs_protection< SEXP >	??
Rcpp::sugar::negate< NA >	??
Rcpp::sugar::negate< false >	??
Rcpp::sugar::Negate_SingleLogicalResult< NA, T >	??
Rcpp::sugar::cbind_impl::detail::has_stored_type< T >::no	??
Rcpp::no_init_matrix	??
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Rcpp::no_such_env	??
Rcpp::sugar::Nona< RTYPE, NA, VECTOR >	??
Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >	??
Rcpp::sugar::NonaPrimitive< T >	??
Rcpp::NoProtectStorage< CLASS >	??
Rcpp::traits::normal_wrap_tag	??
Rcpp::stats::NormGenerator	??
Rcpp::stats::NormGenerator__mean0	??
Rcpp::stats::NormGenerator__mean0__sd1	??
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Rcpp::sugar::not_< RTYPE, NA >	??
Rcpp::sugar::not_< CPLXSXP, false >	??
Rcpp::sugar::not_< CPLXSXP, NA >	??
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Rcpp::sugar::not_< RTYPE, false >	??
Rcpp::sugar::Not_Vector< RTYPE, NA, T >	??
Rcpp::Nullable< T >	??
Rcpp::traits::num2type< N >	??
Rcpp::object< T >	??
Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >	??
Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >	??
Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >	??
Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >	??
Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T >	??
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Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >	??
Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >	??
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Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >	??
Rcpp::stats::P0< RTYPE, NA, T >	??
Rcpp::stats::P1< RTYPE, NA, T >	??
Rcpp::stats::P2< RTYPE, NA, T >	??
Rcpp::stats::P3< RTYPE, NA, T >	??
Rcpp::attributes::Param	??
Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T >	??
Rcpp::sugar::Plus_Vector_Primitive< REALSXP, false, T >	??
Rcpp::sugar::Plus_Vector_Primitive< REALSXP, NA, T >	??
Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T >	??
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Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, false, T >	??
Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, NA, T >	??
Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T >	??
Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >	??
Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >	??
Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >	??
Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >	??
Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >	??
Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >	??
Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >	??
Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >	??
Rcpp::sugar::pmax_op< RTYPE, LHS_NA, RHS_NA >	??
Rcpp::sugar::pmax_op< INTSXP, LHS_NA, RHS_NA >	??
Rcpp::sugar::pmax_op< REALSXP, false, false >	??
Rcpp::sugar::pmax_op< REALSXP, false, true >	??
Rcpp::sugar::pmax_op< REALSXP, true, false >	??
Rcpp::sugar::pmax_op< REALSXP, true, true >	??
Rcpp::sugar::pmax_op_Vector_Primitive< RTYPE, NA >	??
Rcpp::sugar::pmax_op_Vector_Primitive< REALSXP, true >	??
Rcpp::sugar::Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T >	??
Rcpp::sugar::Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >	??
Rcpp::sugar::pmin_op< RTYPE, LHS_NA, RHS_NA >	??
Rcpp::sugar::pmin_op< INTSXP, LHS_NA, RHS_NA >	??
Rcpp::sugar::pmin_op< REALSXP, false, false >	??
Rcpp::sugar::pmin_op< REALSXP, false, true >	??
Rcpp::sugar::pmin_op< REALSXP, true, false >	??
Rcpp::sugar::pmin_op< REALSXP, true, true >	??
Rcpp::sugar::pmin_op_Vector_Primitive< RTYPE, NA >	??
Rcpp::sugar::pmin_op_Vector_Primitive< REALSXP, true >	??
Rcpp::sugar::Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T >	??
Rcpp::sugar::Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >	??
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Rcpp::stats::PoissonGenerator	??
Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >	??
Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT_TYPE >	??
Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT_TYPE >	??
Rcpp::PreserveStorage< CLASS >	??
Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy	??
Rcpp::ProtectedProxyPolicy< XPtrClass >	??
Rcpp::traits::proxy_based_const_iterator< RTYPE >	??

Rcpp::traits::proxy_based_iterator< RTYPE >	??
Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >	??
Rcpp::stats::Q0< RTYPE, NA, T >	??
Rcpp::stats::Q1< RTYPE, NA, T >	??
Rcpp::stats::Q2< RTYPE, NA, T >	??
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Rcpp::traits::expands_to_logical_impl< LGLSXP >::r_expands_to_logical	??
Rcpp::MatrixBase< RTYPE, na, MATRIX >::r_matrix_interface	??
Rcpp::traits::r_sexptype_needscastr< T >	??
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Rcpp::traits::r_sexptype_needscastr< int >	??
Rcpp::traits::r_sexptype_needscastr< Rbyte >	??
Rcpp::traits::r_sexptype_needscastr< Rcomplex >	??
Rcpp::traits::r_sexptype_traits< T >	??
Rcpp::traits::r_sexptype_traits< bool >	??
Rcpp::traits::r_sexptype_traits< const double >	??
Rcpp::traits::r_sexptype_traits< const int >	??
Rcpp::traits::r_sexptype_traits< double >	??
Rcpp::traits::r_sexptype_traits< float >	??
Rcpp::traits::r_sexptype_traits< int >	??
Rcpp::traits::r_sexptype_traits< long >	??
Rcpp::traits::r_sexptype_traits< long double >	??
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Rcpp::traits::r_sexptype_traits< Rcomplex >	??
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Rcpp::traits::r_sexptype_traits< Rcpp::String >	??
Rcpp::traits::r_sexptype_traits< short >	??
Rcpp::traits::r_sexptype_traits< std::complex< double > >	??
Rcpp::traits::r_sexptype_traits< std::complex< float > >	??
Rcpp::traits::r_sexptype_traits< std::string >	??
Rcpp::traits::r_sexptype_traits< unsigned int >	??
Rcpp::traits::r_sexptype_traits< unsigned long >	??
Rcpp::traits::r_sexptype_traits< unsigned short >	??
Rcpp::MatrixBase< RTYPE, na, MATRIX >::r_type	??
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Rcpp::traits::r_type_enum_tag	??
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Rcpp::traits::r_type_module_object_const_pointer_tag	??
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Rcpp::traits::r_type_pair_tag	??
Rcpp::traits::r_type_pairstring_generic_tag	??
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Rcpp::traits::r_type_traits< bool >	??
Rcpp::traits::r_type_traits< char >	??

Rcpp::traits::r_type_traits< const char * >	??
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Rcpp::traits::r_type_traits< const int >	??
Rcpp::traits::r_type_traits< const wchar_t * >	??
Rcpp::traits::r_type_traits< double >	??
Rcpp::traits::r_type_traits< float >	??
Rcpp::traits::r_type_traits< int >	??
Rcpp::traits::r_type_traits< long >	??
Rcpp::traits::r_type_traits< long double >	??
Rcpp::traits::r_type_traits< Rbyte >	??
Rcpp::traits::r_type_traits< Rcomplex >	??
Rcpp::traits::r_type_traits< Rcpp::Date >	??
Rcpp::traits::r_type_traits< Rcpp::Datetime >	??
Rcpp::traits::r_type_traits< Rcpp::object< T > >	??
Rcpp::traits::r_type_traits< Rcpp::String >	??
Rcpp::traits::r_type_traits< short >	??
Rcpp::traits::r_type_traits< std::complex< double > >	??
Rcpp::traits::r_type_traits< std::complex< float > >	??
Rcpp::traits::r_type_traits< std::pair< const KEY, VALUE > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, bool > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, char > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, const int > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, double > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, float > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, int > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, long > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, long double > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, Rbyte > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, Rcomplex > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, Rcpp::Date > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, Rcpp::Datetime > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, short > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, std::complex< double > > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, std::complex< float > > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, std::string > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, std::wstring > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, T > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned int > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned long > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned short > >	??
Rcpp::traits::r_type_traits< std::pair< const std::string, wchar_t > >	??
Rcpp::traits::r_type_traits< std::string >	??
Rcpp::traits::r_type_traits< std::wstring >	??
Rcpp::traits::r_type_traits< unsigned int >	??
Rcpp::traits::r_type_traits< unsigned long >	??
Rcpp::traits::r_type_traits< unsigned short >	??
Rcpp::traits::r_type_traits< wchar_t >	??
Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >	??
Rcpp::traits::r_vector_cache_type< RTYPE, StoragePolicy >	??
Rcpp::traits::r_vector_cache_type< EXPRXP, StoragePolicy >	??
Rcpp::traits::r_vector_cache_type< STRSXP, StoragePolicy >	??
Rcpp::traits::r_vector_cache_type< VECSXP, StoragePolicy >	??
Rcpp::traits::r_vector_const_iterator< RTYPE >	??
Rcpp::traits::r_vector_const_iterator< EXPRXP >	??

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Rcpp::traits::r_vector_const_iterator< VECSXP >	??
Rcpp::traits::r_vector_const_proxy< RTYPE >	??
Rcpp::traits::r_vector_const_proxy< EXPRSXP >	??
Rcpp::traits::r_vector_const_proxy< STRSXP >	??
Rcpp::traits::r_vector_const_proxy< VECSXP >	??
Rcpp::traits::r_vector_element_converter< RTYPE >	??
Rcpp::traits::r_vector_element_converter< EXPRSXP >	??
Rcpp::traits::r_vector_element_converter< STRSXP >	??
Rcpp::traits::r_vector_element_converter< VECSXP >	??
Rcpp::traits::r_vector_iterator< RTYPE >	??
Rcpp::traits::r_vector_iterator< EXPRSXP >	??
Rcpp::traits::r_vector_iterator< STRSXP >	??
Rcpp::traits::r_vector_iterator< VECSXP >	??
Rcpp::traits::r_vector_name_proxy< RTYPE >	??
Rcpp::traits::r_vector_name_proxy< EXPRSXP >	??
Rcpp::traits::r_vector_name_proxy< STRSXP >	??
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Rcpp::traits::r_vector_proxy< STRSXP >	??
Rcpp::traits::r_vector_proxy< VECSXP >	??
Rcpp::sugar::Range< RTYPE, NA, T >	??
Rcpp::Range	??
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Rcpp::ReferenceInputParameter< T >	??
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Rcpp::traits::remove_const< _Tp const >	??
Rcpp::traits::remove_const_and_reference< T >	??
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Rcpp::traits::remove_reference< _Tp & >	??
Rcpp::sugar::RemoveFromSet< SET >	??
Rcpp::sugar::Rep< RTYPE, NA, T >	??
Rcpp::sugar::Rep_each< RTYPE, NA, T >	??
Rcpp::sugar::Rep_len< RTYPE, NA, T >	??
Rcpp::sugar::Rep_Single< T >	??
Rcpp::result< T >	??
Rcpp::sugar::median_detail::result< RTYPE >	??
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Rcpp::traits::result_of< T >	??
Rcpp::traits::result_of< RESULT_TYPE*(INPUT_TYPE) >	??
Rcpp::traits::result_of< RESULT_TYPE*(U1, U2) >	??
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Rcpp::sugar::Rev< RTYPE, NA, T >	??
Rcpp::attributes::REExportsGenerator	??
Rcpp::RNGScope	??
Rcpp::RObjectMethods< Class >	??
Rcpp::Rostream< OUTPUT >	??
Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T >	??

Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA_RM >	??
Rcpp::sugar::RowMeansImpl< RTYPE, false, T, NA_RM >	??
Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >	??
Rcpp::sugar::detail::RowMeansReturn< RTYPE >	??
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Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA_RM >	??
Rcpp::sugar::RowSumsImpl< RTYPE, false, T, NA_RM >	??
Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >	??
Rcpp::sugar::detail::RowSumsReturn< RTYPE >	??
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Rcpp::rule	??
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Rcpp::traits::same_type< T, U >	??
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Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >	??
Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >	??
Rcpp::sugar::sapply_application_result_of< Function, SugarExpression >	??
Rcpp::sugar::cbind_impl::scalar< RTYPE >	??
Rcpp::sugar::cbind_impl::ScalarBindable< T >	??
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Rcpp::sugar::SelfHash< RTYPE >	??
Rcpp::sugar::SelfInserter< HASH, STORAGE >	??
Rcpp::sugar::SelfMatch< RTYPE, TABLE_T >	??
Rcpp::sugar::SeqLen	??
Rcpp::sugar::SetDiff< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >	??
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Rcpp::Shelter< T >	??
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Rcpp::sugar::Sign< RTYPE, NA, T >	??
Rcpp::sugar::sign_impl< NA, RTYPE >	??
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Rcpp::internal::simple_name_proxy< RTYPE >	??
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# Chapter 4

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inst/include/Rcpp/sugar/matrix/col.h	??
inst/include/Rcpp/sugar/matrix/diag.h	??
inst/include/Rcpp/sugar/matrix/lower_tri.h	??
inst/include/Rcpp/sugar/matrix/matrix_functions.h	??
inst/include/Rcpp/sugar/matrix/outer.h	??
inst/include/Rcpp/sugar/matrix/row.h	??
inst/include/Rcpp/sugar/matrix/tools.h	??
inst/include/Rcpp/sugar/matrix/upper_tri.h	??
inst/include/Rcpp/sugar/nona/nona.h	??
inst/include/Rcpp/sugar/operators/Comparator.h	??
inst/include/Rcpp/sugar/operators/Comparator_With_One_Value.h	??



inst/include/Rcpp/sugar/operators/divides.h	??
inst/include/Rcpp/sugar/operators/logical_operators__Vector__primitive.h	??
inst/include/Rcpp/sugar/operators/logical_operators__Vector__Vector.h	??
inst/include/Rcpp/sugar/operators/minus.h	??
inst/include/Rcpp/sugar/operators/not.h	??
inst/include/Rcpp/sugar/operators/operators.h	??
inst/include/Rcpp/sugar/operators/plus.h	??
inst/include/Rcpp/sugar/operators/r_binary_op.h	??
inst/include/Rcpp/sugar/operators/times.h	??
inst/include/Rcpp/sugar/operators/unary_minus.h	??
inst/include/Rcpp/sugar/tools/iterator.h	??
inst/include/Rcpp/traits/char_type.h	??
inst/include/Rcpp/traits/enable_if.h	??
inst/include/Rcpp/traits/expands_to_logical.h	??
inst/include/Rcpp/traits/get_na.h	??
inst/include/Rcpp/traits/has_iterator.h	??
inst/include/Rcpp/traits/has_na.h	??
inst/include/Rcpp/traits/if_.h	??
inst/include/Rcpp/traits/init_type.h	??
inst/include/Rcpp/traits/integral_constant.h	??
inst/include/Rcpp/traits/is_arithmetic.h	??
inst/include/Rcpp/traits/is_bool.h	??
inst/include/Rcpp/traits/is_const.h	??
inst/include/Rcpp/traits/is_convertible.h	??
inst/include/Rcpp/traits/is_eigen_base.h	??
inst/include/Rcpp/traits/is_finite.h	??
inst/include/Rcpp/traits/is_infinite.h	??
inst/include/Rcpp/traits/is_module_object.h	??
inst/include/Rcpp/traits/is_na.h	??
inst/include/Rcpp/traits/is_nan.h	??
inst/include/Rcpp/traits/is_pointer.h	??
inst/include/Rcpp/traits/is_primitive.h	??
inst/include/Rcpp/traits/is_reference.h	??
inst/include/Rcpp/traits/is_sugar_expression.h	??
inst/include/Rcpp/traits/is_trivial.h	??
inst/include/Rcpp/traits/is_wide_string.h	??
inst/include/Rcpp/traits/longlong.h	??
inst/include/Rcpp/traits/matrix_interface.h	??
inst/include/Rcpp/traits/module_wrap_traits.h	??
inst/include/Rcpp/traits/named_object.h	??
inst/include/Rcpp/traits/num2type.h	??
inst/include/Rcpp/traits/r_sexptype_traits.h	??
inst/include/Rcpp/traits/r_type_traits.h	??
inst/include/Rcpp/traits/remove_const.h	??
inst/include/Rcpp/traits/remove_const_and_reference.h	??
inst/include/Rcpp/traits/remove_reference.h	??
inst/include/Rcpp/traits/result_of.h	??
inst/include/Rcpp/traits/same_type.h	??
inst/include/Rcpp/traits/storage_type.h	??
inst/include/Rcpp/traits/traits.h	??
inst/include/Rcpp/traits/un_pointer.h	??
inst/include/Rcpp/traits/wrap_type_traits.h	??
inst/include/Rcpp/utils/tinyformat.h	??
inst/include/Rcpp/vector/00_forward_proxy.h	??

<a href="#">inst/include/Rcpp/vector/00_forward_Vector.h</a>	??
<a href="#">inst/include/Rcpp/vector/ChildVector.h</a>	??
<a href="#">inst/include/Rcpp/vector/const_generic_proxy.h</a>	??
<a href="#">inst/include/Rcpp/vector/const_string_proxy.h</a>	??
<a href="#">inst/include/Rcpp/vector/converter.h</a>	??
<a href="#">inst/include/Rcpp/vector/DimNameProxy.h</a>	??
<a href="#">inst/include/Rcpp/vector/generic_proxy.h</a>	??
<a href="#">inst/include/Rcpp/vector/instantiation.h</a>	??
<a href="#">inst/include/Rcpp/vector/LazyVector.h</a>	??
<a href="#">inst/include/Rcpp/vector/ListOf.h</a>	??
<a href="#">inst/include/Rcpp/vector/Matrix.h</a>	??
<a href="#">inst/include/Rcpp/vector/MatrixBase.h</a>	??
<a href="#">inst/include/Rcpp/vector/MatrixColumn.h</a>	??
<a href="#">inst/include/Rcpp/vector/MatrixRow.h</a>	??
<a href="#">inst/include/Rcpp/vector/no_init.h</a>	??
<a href="#">inst/include/Rcpp/vector/proxy.h</a>	??
<a href="#">inst/include/Rcpp/vector/RangeIndexer.h</a>	??
<a href="#">inst/include/Rcpp/vector/string_proxy.h</a>	??
<a href="#">inst/include/Rcpp/vector/SubMatrix.h</a>	??
<a href="#">inst/include/Rcpp/vector/Subsetter.h</a>	??
<a href="#">inst/include/Rcpp/vector/swap.h</a>	??
<a href="#">inst/include/Rcpp/vector/traits.h</a>	??
<a href="#">inst/include/Rcpp/vector/Vector.h</a>	??
<a href="#">inst/include/Rcpp/vector/vector_from_string.h</a>	??
<a href="#">inst/include/Rcpp/vector/VectorBase.h</a>	??
<a href="#">src/api.cpp</a>	??
<a href="#">src/attributes.cpp</a>	??
<a href="#">src/barrier.cpp</a>	??
<a href="#">src/Date.cpp</a>	??
<a href="#">src/internal.h</a>	??
<a href="#">src/Module.cpp</a>	??
<a href="#">src/Rcpp_init.cpp</a>	??

## Chapter 5

# Namespace Documentation

### 5.1 R Namespace Reference

#### Functions

- double [norm\\_rand](#) (void)
- double [unif\\_rand](#) (void)
- double [exp\\_rand](#) (void)
- double [dnorm](#) (double x, double mu, double sigma, int lg)
- double [pnorm](#) (double x, double mu, double sigma, int lt, int lg)
- double [qnorm](#) (double p, double mu, double sigma, int lt, int lg)
- double [rnorm](#) (double mu, double sigma)
- void [pnorm\\_both](#) (double x, double \*cum, double \*ccum, int lt, int lg)
- double [dunif](#) (double x, double a, double b, int lg)
- double [punif](#) (double x, double a, double b, int lt, int lg)
- double [qunif](#) (double p, double a, double b, int lt, int lg)
- double [runif](#) (double a, double b)
- double [dgamma](#) (double x, double shp, double scl, int lg)
- double [pgamma](#) (double x, double alp, double scl, int lt, int lg)
- double [qgamma](#) (double p, double alp, double scl, int lt, int lg)
- double [rgamma](#) (double a, double scl)
- double [log1pmx](#) (double x)
- double [log1pexp](#) (double x)
- double [lgamma1p](#) (double a)
- double [logspace\\_add](#) (double lx, double ly)
- double [logspace\\_sub](#) (double lx, double ly)
- double [dbeta](#) (double x, double a, double b, int lg)
- double [pbeta](#) (double x, double p, double q, int lt, int lg)
- double [qbeta](#) (double a, double p, double q, int lt, int lg)
- double [rbeta](#) (double a, double b)
- double [dnorm](#) (double x, double ml, double sl, int lg)
- double [pnorm](#) (double x, double ml, double sl, int lt, int lg)
- double [qnorm](#) (double p, double ml, double sl, int lt, int lg)
- double [rlnorm](#) (double ml, double sl)

- double [dchisq](#) (double x, double df, int lg)
- double [pchisq](#) (double x, double df, int lt, int lg)
- double [qchisq](#) (double p, double df, int lt, int lg)
- double [rchisq](#) (double df)
- double [dnchisq](#) (double x, double df, double ncp, int lg)
- double [pnchisq](#) (double x, double df, double ncp, int lt, int lg)
- double [qnchisq](#) (double p, double df, double ncp, int lt, int lg)
- double [rnchisq](#) (double df, double lb)
- double [df](#) (double x, double df1, double df2, int lg)
- double [pf](#) (double x, double df1, double df2, int lt, int lg)
- double [qf](#) (double p, double df1, double df2, int lt, int lg)
- double [rf](#) (double df1, double df2)
- double [dt](#) (double x, double n, int lg)
- double [pt](#) (double x, double n, int lt, int lg)
- double [qt](#) (double p, double n, int lt, int lg)
- double [rt](#) (double n)
- double [dbinom](#) (double x, double n, double p, int lg)
- double [pbinom](#) (double x, double n, double p, int lt, int lg)
- double [qbinom](#) (double p, double n, double m, int lt, int lg)
- double [rbinom](#) (double n, double p)
- void [rmultinom](#) (int n, double \*prob, int k, int \*rn)
- double [dcauchy](#) (double x, double lc, double sl, int lg)
- double [pcauchy](#) (double x, double lc, double sl, int lt, int lg)
- double [qcauchy](#) (double p, double lc, double sl, int lt, int lg)
- double [rcauchy](#) (double lc, double sl)
- double [dexp](#) (double x, double sl, int lg)
- double [pexp](#) (double x, double sl, int lt, int lg)
- double [qexp](#) (double p, double sl, int lt, int lg)
- double [rexp](#) (double sl)
- double [dgeom](#) (double x, double p, int lg)
- double [pgeom](#) (double x, double p, int lt, int lg)
- double [qgeom](#) (double p, double pb, int lt, int lg)
- double [rgeom](#) (double p)
- double [dhyper](#) (double x, double r, double b, double n, int lg)
- double [phyper](#) (double x, double r, double b, double n, int lt, int lg)
- double [qhyper](#) (double p, double r, double b, double n, int lt, int lg)
- double [rhyper](#) (double r, double b, double n)
- double [dnbinom](#) (double x, double sz, double pb, int lg)
- double [pnbinom](#) (double x, double sz, double pb, int lt, int lg)
- double [qnbinom](#) (double p, double sz, double pb, int lt, int lg)
- double [rnbinom](#) (double sz, double pb)
- double [dnbinom\\_mu](#) (double x, double sz, double mu, int lg)
- double [pnbinom\\_mu](#) (double x, double sz, double mu, int lt, int lg)
- double [qnbinom\\_mu](#) (double x, double sz, double mu, int lt, int lg)
- double [dpois](#) (double x, double lb, int lg)
- double [ppois](#) (double x, double lb, int lt, int lg)
- double [qpois](#) (double p, double lb, int lt, int lg)
- double [rpois](#) (double mu)
- double [dweibull](#) (double x, double sh, double sl, int lg)
- double [pweibull](#) (double x, double sh, double sl, int lt, int lg)
- double [qweibull](#) (double p, double sh, double sl, int lt, int lg)

- double [rweibull](#) (double sh, double sl)
- double [dlogis](#) (double x, double lc, double sl, int lg)
- double [plogis](#) (double x, double lc, double sl, int lt, int lg)
- double [qlogis](#) (double p, double lc, double sl, int lt, int lg)
- double [rlogis](#) (double lc, double sl)
- double [dnbeta](#) (double x, double a, double b, double ncp, int lg)
- double [pnbeta](#) (double x, double a, double b, double ncp, int lt, int lg)
- double [qnbeta](#) (double p, double a, double b, double ncp, int lt, int lg)
- double [rnbeta](#) (double a, double b, double np)
- double [dnf](#) (double x, double df1, double df2, double ncp, int lg)
- double [pnf](#) (double x, double df1, double df2, double ncp, int lt, int lg)
- double [qnf](#) (double p, double df1, double df2, double ncp, int lt, int lg)
- double [dnt](#) (double x, double df, double ncp, int lg)
- double [pnt](#) (double x, double df, double ncp, int lt, int lg)
- double [qnt](#) (double p, double df, double ncp, int lt, int lg)
- double [ptukey](#) (double q, double rr, double cc, double df, int lt, int lg)
- double [qtukey](#) (double p, double rr, double cc, double df, int lt, int lg)
- double [dwilcox](#) (double x, double m, double n, int lg)
- double [pwilcox](#) (double q, double m, double n, int lt, int lg)
- double [qwilcox](#) (double x, double m, double n, int lt, int lg)
- double [rwilcox](#) (double m, double n)
- double [dsignrank](#) (double x, double n, int lg)
- double [psignrank](#) (double x, double n, int lt, int lg)
- double [qsignrank](#) (double x, double n, int lt, int lg)
- double [rsignrank](#) (double n)
- double [gammafn](#) (double x)
- double [lgammafn](#) (double x)
- double [lgammafn\\_sign](#) (double x, int \*sgn)
- void [dpsifn](#) (double x, int n, int kode, int m, double \*ans, int \*nz, int \*ierr)
- double [psigamma](#) (double x, double deriv)
- double [digamma](#) (double x)
- double [trigamma](#) (double x)
- double [tetragamma](#) (double x)
- double [pentagamma](#) (double x)
- double [beta](#) (double a, double b)
- double [lbeta](#) (double a, double b)
- double [choose](#) (double n, double k)
- double [lchoose](#) (double n, double k)
- double [bessel\\_i](#) (double x, double al, double ex)
- double [bessel\\_j](#) (double x, double al)
- double [bessel\\_k](#) (double x, double al, double ex)
- double [bessel\\_y](#) (double x, double al)
- double [bessel\\_i\\_ex](#) (double x, double al, double ex, double \*bi)
- double [bessel\\_j\\_ex](#) (double x, double al, double \*bj)
- double [bessel\\_k\\_ex](#) (double x, double al, double ex, double \*bk)
- double [bessel\\_y\\_ex](#) (double x, double al, double \*by)
- double [hypot](#) (double a, double b)
- double [pythag](#) (double a, double b)
- double [expm1](#) (double x)
- double [log1p](#) (double x)
- int [imax2](#) (int x, int y)

- int `imin2` (int x, int y)
- double `fmax2` (double x, double y)
- double `fmin2` (double x, double y)
- double `sign` (double x)
- double `fprec` (double x, double dg)
- double `fround` (double x, double dg)
- double `fsign` (double x, double y)
- double `ftrunc` (double x)

### 5.1.1 Function Documentation

5.1.1.1 `double R::bessel_i( double x, double al, double ex )` [`inline`]

Definition at line 209 of file Rmath.h.

5.1.1.2 `double R::bessel_i_ex( double x, double al, double ex, double * bi )` [`inline`]

Definition at line 213 of file Rmath.h.

5.1.1.3 `double R::bessel_j( double x, double al )` [`inline`]

Definition at line 210 of file Rmath.h.

5.1.1.4 `double R::bessel_j_ex( double x, double al, double * bj )` [`inline`]

Definition at line 214 of file Rmath.h.

5.1.1.5 `double R::bessel_k( double x, double al, double ex )` [`inline`]

Definition at line 211 of file Rmath.h.

5.1.1.6 `double R::bessel_k_ex( double x, double al, double ex, double * bk )` [`inline`]

Definition at line 215 of file Rmath.h.

5.1.1.7 `double R::bessel_y( double x, double al )` [`inline`]

Definition at line 212 of file Rmath.h.

5.1.1.8 `double R::bessel_y_ex( double x, double a1, double * by ) [inline]`

Definition at line 216 of file Rmath.h.

5.1.1.9 `double R::beta( double a, double b ) [inline]`

Definition at line 202 of file Rmath.h.

Referenced by `Rcpp::internal::lfactorial()`.

5.1.1.10 `double R::choose( double n, double k ) [inline]`

Definition at line 205 of file Rmath.h.

Referenced by `Rcpp::internal::lfactorial()`.

5.1.1.11 `double R::dbeta( double x, double a, double b, int lg ) [inline]`

Definition at line 60 of file Rmath.h.

5.1.1.12 `double R::dbinom( double x, double n, double p, int lg ) [inline]`

Definition at line 96 of file Rmath.h.

5.1.1.13 `double R::dcauchy( double x, double lc, double sl, int lg ) [inline]`

Definition at line 105 of file Rmath.h.

5.1.1.14 `double R::dchisq( double x, double df, int lg ) [inline]`

Definition at line 72 of file Rmath.h.

5.1.1.15 `double R::dexp( double x, double sl, int lg ) [inline]`

Definition at line 111 of file Rmath.h.

5.1.1.16 `double R::df( double x, double df1, double df2, int lg ) [inline]`

Definition at line 84 of file Rmath.h.

Referenced by `Rcpp::internal::empty_data_frame()`.

5.1.1.17 `double R::dgamma ( double x, double shp, double scl, int lg )` [inline]

Definition at line 48 of file Rmath.h.

5.1.1.18 `double R::dgeom ( double x, double p, int lg )` [inline]

Definition at line 117 of file Rmath.h.

5.1.1.19 `double R::dhyper ( double x, double r, double b, double n, int lg )` [inline]

Definition at line 123 of file Rmath.h.

5.1.1.20 `double R::digamma ( double x )` [inline]

Definition at line 197 of file Rmath.h.

5.1.1.21 `double R::dlnorm ( double x, double ml, double sl, int lg )` [inline]

Definition at line 66 of file Rmath.h.

5.1.1.22 `double R::dlogis ( double x, double lc, double sl, int lg )` [inline]

Definition at line 154 of file Rmath.h.

5.1.1.23 `double R::dnbeta ( double x, double a, double b, double ncp, int lg )` [inline]

Definition at line 160 of file Rmath.h.

5.1.1.24 `double R::dnbinom ( double x, double sz, double pb, int lg )` [inline]

Definition at line 129 of file Rmath.h.

5.1.1.25 `double R::dnbinom_mu ( double x, double sz, double mu, int lg )` [inline]

Definition at line 135 of file Rmath.h.

5.1.1.26 `double R::dnchisq ( double x, double df, double ncp, int lg )` [inline]

Definition at line 78 of file Rmath.h.



5.1.1.27 `double R::dnf ( double x, double df1, double df2, double ncp, int lg )` [inline]

Definition at line 166 of file Rmath.h.

5.1.1.28 `double R::dnorm ( double x, double mu, double sigma, int lg )` [inline]

Definition at line 35 of file Rmath.h.

5.1.1.29 `double R::dnt ( double x, double df, double ncp, int lg )` [inline]

Definition at line 171 of file Rmath.h.

5.1.1.30 `double R::dpois ( double x, double lb, int lg )` [inline]

Definition at line 142 of file Rmath.h.

5.1.1.31 `void R::dpsifn ( double x, int n, int kode, int m, double * ans, int * nz, int * ierr )` [inline]

Definition at line 195 of file Rmath.h.

5.1.1.32 `double R::dsignrank ( double x, double n, int lg )` [inline]

Definition at line 186 of file Rmath.h.

5.1.1.33 `double R::dt ( double x, double n, int lg )` [inline]

Definition at line 90 of file Rmath.h.

Referenced by `Rcpp::Date::Date()`, `Rcpp::Datetime::Datetime()`, `Rcpp::Datetime::getYearDay()`, and `Rcpp::Datetime::update_tm()`.

5.1.1.34 `double R::dunif ( double x, double a, double b, int lg )` [inline]

Definition at line 42 of file Rmath.h.

5.1.1.35 `double R::dweibull ( double x, double sh, double sl, int lg )` [inline]

Definition at line 148 of file Rmath.h.

5.1.1.36 `double R::dwilcox ( double x, double m, double n, int lg ) [inline]`

Definition at line 180 of file Rmath.h.

5.1.1.37 `double R::exp_rand ( void ) [inline]`

Definition at line 32 of file Rmath.h.

Referenced by `Rcpp::stats::ExpGenerator::operator()`, `Rcpp::stats::GeomGenerator::operator()`, and `Rcpp::stats::ExpGenerator__rate1::operator()`.

5.1.1.38 `double R::expm1 ( double x ) [inline]`

Referenced by `Rcpp::stats::p_exp_0()`, `Rcpp::stats::pweibull_1()`, and `pythag()`.

5.1.1.39 `double R::fmax2 ( double x, double y ) [inline]`

Definition at line 231 of file Rmath.h.

5.1.1.40 `double R::fmin2 ( double x, double y ) [inline]`

Definition at line 232 of file Rmath.h.

5.1.1.41 `double R::fprec ( double x, double dg ) [inline]`

Definition at line 234 of file Rmath.h.

5.1.1.42 `double R::fround ( double x, double dg ) [inline]`

Definition at line 235 of file Rmath.h.

5.1.1.43 `double R::fsign ( double x, double y ) [inline]`

Definition at line 236 of file Rmath.h.

5.1.1.44 `double R::ftrunc ( double x ) [inline]`

Definition at line 237 of file Rmath.h.

5.1.1.45 `double R::gammafn ( double x ) [inline]`

Definition at line 192 of file Rmath.h.

5.1.1.46 `double R::hypot ( double a, double b ) [inline]`

Definition at line 220 of file Rmath.h.

5.1.1.47 `int R::imax2 ( int x, int y ) [inline]`

Definition at line 229 of file Rmath.h.

5.1.1.48 `int R::imin2 ( int x, int y ) [inline]`

Definition at line 230 of file Rmath.h.

5.1.1.49 `double R::lbeta ( double a, double b ) [inline]`

Definition at line 203 of file Rmath.h.

Referenced by `Rcpp::internal::lfactorial()`.

5.1.1.50 `double R::lchoose ( double n, double k ) [inline]`

Definition at line 206 of file Rmath.h.

Referenced by `Rcpp::internal::lfactorial()`.

5.1.1.51 `double R::lgamma1p ( double a ) [inline]`

Definition at line 55 of file Rmath.h.

5.1.1.52 `double R::lgammafn ( double x ) [inline]`

Definition at line 193 of file Rmath.h.

5.1.1.53 `double R::lgammafn_sign ( double x, int * sgn ) [inline]`

Definition at line 194 of file Rmath.h.

5.1.1.54 `double R::log1p( double x ) [inline]`

Referenced by `Rcpp::stats::p_exp_0()`, `Rcpp::stats::plogis_0()`, `Rcpp::stats::plogis_1()`, `Rcpp::stats::pweibull_1()`, `pythag()`, `Rcpp::stats::qlogis_0()`, and `Rcpp::stats::qlogis_1()`.

5.1.1.55 `double R::log1pexp( double x ) [inline]`

Definition at line 54 of file `Rmath.h`.

5.1.1.56 `double R::log1pmx( double x ) [inline]`

Definition at line 53 of file `Rmath.h`.

5.1.1.57 `double R::logspace_add( double lx, double ly ) [inline]`

Definition at line 56 of file `Rmath.h`.

5.1.1.58 `double R::logspace_sub( double lx, double ly ) [inline]`

Definition at line 57 of file `Rmath.h`.

5.1.1.59 `double R::norm_rand( void ) [inline]`

Definition at line 30 of file `Rmath.h`.

Referenced by `Rcpp::stats::TGenerator::operator()()`, `Rcpp::stats::LNormGenerator::operator()()`, `Rcpp::stats::NormGenerator::operator()()`, `Rcpp::stats::NormGenerator__sd1::operator()()`, `Rcpp::stats::LNormGenerator_1::operator()()`, `Rcpp::stats::NormGenerator__mean0::operator()()`, `Rcpp::stats::LNormGenerator_0::operator()()`, and `Rcpp::stats::NormGenerator__mean0__sd1::operator()()`.

5.1.1.60 `double R::pbeta( double x, double p, double q, int lt, int lg ) [inline]`

Definition at line 61 of file `Rmath.h`.

5.1.1.61 `double R::pbinom( double x, double n, double p, int lt, int lg ) [inline]`

Definition at line 97 of file `Rmath.h`.

5.1.1.62 `double R::pcauchy( double x, double lc, double sl, int lt, int lg ) [inline]`

Definition at line 106 of file `Rmath.h`.

5.1.1.63 `double R::pchisq ( double x, double df, int lt, int lg ) [inline]`

Definition at line 73 of file Rmath.h.

5.1.1.64 `double R::pentagamma ( double x ) [inline]`

Definition at line 200 of file Rmath.h.

5.1.1.65 `double R::pexp ( double x, double sl, int lt, int lg ) [inline]`

Definition at line 112 of file Rmath.h.

5.1.1.66 `double R::pf ( double x, double df1, double df2, int lt, int lg ) [inline]`

Definition at line 85 of file Rmath.h.

5.1.1.67 `double R::pgamma ( double x, double alp, double scl, int lt, int lg ) [inline]`

Definition at line 49 of file Rmath.h.

5.1.1.68 `double R::pgeom ( double x, double p, int lt, int lg ) [inline]`

Definition at line 118 of file Rmath.h.

5.1.1.69 `double R::phyper ( double x, double r, double b, double n, int lt, int lg ) [inline]`

Definition at line 124 of file Rmath.h.

5.1.1.70 `double R::plnorm ( double x, double ml, double sl, int lt, int lg ) [inline]`

Definition at line 67 of file Rmath.h.

5.1.1.71 `double R::plogis ( double x, double lc, double sl, int lt, int lg ) [inline]`

Definition at line 155 of file Rmath.h.

5.1.1.72 `double R::pnbeta ( double x, double a, double b, double ncp, int lt, int lg ) [inline]`

Definition at line 161 of file Rmath.h.

5.1.1.73 `double R::pnbinom ( double x, double sz, double pb, int lt, int lg )` [inline]

Definition at line 130 of file Rmath.h.

5.1.1.74 `double R::pnbinom_mu ( double x, double sz, double mu, int lt, int lg )` [inline]

Definition at line 136 of file Rmath.h.

5.1.1.75 `double R::pnchisq ( double x, double df, double ncp, int lt, int lg )` [inline]

Definition at line 79 of file Rmath.h.

5.1.1.76 `double R::pnf ( double x, double df1, double df2, double ncp, int lt, int lg )` [inline]

Definition at line 167 of file Rmath.h.

5.1.1.77 `double R::pnorm ( double x, double mu, double sigma, int lt, int lg )` [inline]

Definition at line 36 of file Rmath.h.

5.1.1.78 `void R::pnorm_both ( double x, double * cum, double * ccum, int lt, int lg )` [inline]

Definition at line 39 of file Rmath.h.

5.1.1.79 `double R::pnt ( double x, double df, double ncp, int lt, int lg )` [inline]

Definition at line 172 of file Rmath.h.

5.1.1.80 `double R::ppois ( double x, double lb, int lt, int lg )` [inline]

Definition at line 143 of file Rmath.h.

5.1.1.81 `double R::psigamma ( double x, double deriv )` [inline]

Definition at line 196 of file Rmath.h.

Referenced by `Rcpp::internal::lfactorial()`.

5.1.1.82 `double R::psigrank ( double x, double n, int lt, int lg )` [inline]

Definition at line 187 of file Rmath.h.

5.1.1.83 `double R::pt ( double x, double n, int lt, int lg )` [inline]

Definition at line 91 of file Rmath.h.

5.1.1.84 `double R::ptukey ( double q, double rr, double cc, double df, int lt, int lg )` [inline]

Definition at line 176 of file Rmath.h.

5.1.1.85 `double R::punif ( double x, double a, double b, int lt, int lg )` [inline]

Definition at line 43 of file Rmath.h.

5.1.1.86 `double R::pweibull ( double x, double sh, double sl, int lt, int lg )` [inline]

Definition at line 149 of file Rmath.h.

5.1.1.87 `double R::pwilcox ( double q, double m, double n, int lt, int lg )` [inline]

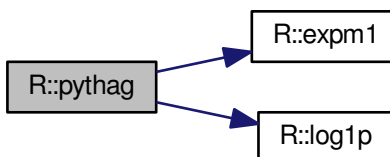
Definition at line 181 of file Rmath.h.

5.1.1.88 `double R::pythag ( double a, double b )` [inline]

Definition at line 222 of file Rmath.h.

References `expm1()`, and `log1p()`.

Here is the call graph for this function:



5.1.1.89 `double R::qbeta ( double a, double p, double q, int lt, int lg )` [inline]

Definition at line 62 of file Rmath.h.

5.1.1.90 `double R::qbinom ( double p, double n, double m, int lt, int lg )` [inline]

Definition at line 98 of file Rmath.h.

5.1.1.91 `double R::qcauchy ( double p, double lc, double sl, int lt, int lg )` [inline]

Definition at line 107 of file Rmath.h.

5.1.1.92 `double R::qchisq ( double p, double df, int lt, int lg )` [inline]

Definition at line 74 of file Rmath.h.

5.1.1.93 `double R::qexp ( double p, double sl, int lt, int lg )` [inline]

Definition at line 113 of file Rmath.h.

5.1.1.94 `double R::qf ( double p, double df1, double df2, int lt, int lg )` [inline]

Definition at line 86 of file Rmath.h.

5.1.1.95 `double R::qgamma ( double p, double alp, double scl, int lt, int lg )` [inline]

Definition at line 50 of file Rmath.h.

5.1.1.96 `double R::qgeom ( double p, double pb, int lt, int lg )` [inline]

Definition at line 119 of file Rmath.h.

5.1.1.97 `double R::qhyper ( double p, double r, double b, double n, int lt, int lg )` [inline]

Definition at line 125 of file Rmath.h.

5.1.1.98 `double R::qnorm ( double p, double ml, double sl, int lt, int lg )` [inline]

Definition at line 68 of file Rmath.h.



5.1.1.99 `double R::qlogis ( double p, double lc, double sl, int lt, int lg ) [inline]`

Definition at line 156 of file Rmath.h.

5.1.1.100 `double R::qnbeta ( double p, double a, double b, double ncp, int lt, int lg ) [inline]`

Definition at line 162 of file Rmath.h.

5.1.1.101 `double R::qnbinom ( double p, double sz, double pb, int lt, int lg ) [inline]`

Definition at line 131 of file Rmath.h.

5.1.1.102 `double R::qnbinom_mu ( double x, double sz, double mu, int lt, int lg ) [inline]`

Definition at line 137 of file Rmath.h.

5.1.1.103 `double R::qnchisq ( double p, double df, double ncp, int lt, int lg ) [inline]`

Definition at line 80 of file Rmath.h.

5.1.1.104 `double R::qnf ( double p, double df1, double df2, double ncp, int lt, int lg ) [inline]`

Definition at line 168 of file Rmath.h.

5.1.1.105 `double R::qnorm ( double p, double mu, double sigma, int lt, int lg ) [inline]`

Definition at line 37 of file Rmath.h.

5.1.1.106 `double R::qnt ( double p, double df, double ncp, int lt, int lg ) [inline]`

Definition at line 173 of file Rmath.h.

5.1.1.107 `double R::qpois ( double p, double lb, int lt, int lg ) [inline]`

Definition at line 144 of file Rmath.h.

5.1.1.108 `double R::qsignrank ( double x, double n, int lt, int lg ) [inline]`

Definition at line 188 of file Rmath.h.

5.1.1.109 `double R::qt ( double p, double n, int lt, int lg )` `[inline]`

Definition at line 92 of file Rmath.h.

5.1.1.110 `double R::qtukey ( double p, double rr, double cc, double df, int lt, int lg )` `[inline]`

Definition at line 177 of file Rmath.h.

5.1.1.111 `double R::qunif ( double p, double a, double b, int lt, int lg )` `[inline]`

Definition at line 44 of file Rmath.h.

5.1.1.112 `double R::qweibull ( double p, double sh, double sl, int lt, int lg )` `[inline]`

Definition at line 150 of file Rmath.h.

5.1.1.113 `double R::qwilcox ( double x, double m, double n, int lt, int lg )` `[inline]`

Definition at line 182 of file Rmath.h.

5.1.1.114 `double R::rbeta ( double a, double b )` `[inline]`

Definition at line 63 of file Rmath.h.

5.1.1.115 `double R::rbinom ( double n, double p )` `[inline]`

Definition at line 99 of file Rmath.h.

5.1.1.116 `double R::rcauchy ( double lc, double sl )` `[inline]`

Definition at line 108 of file Rmath.h.

5.1.1.117 `double R::rchisq ( double df )` `[inline]`

Definition at line 75 of file Rmath.h.

5.1.1.118 `double R::rexp ( double sl )` `[inline]`

Definition at line 114 of file Rmath.h.

5.1.1.119 `double R::rf ( double df1, double df2 ) [inline]`

Definition at line 87 of file Rmath.h.

5.1.1.120 `double R::rgamma ( double a, double scl ) [inline]`

Definition at line 51 of file Rmath.h.

5.1.1.121 `double R::rgeom ( double p ) [inline]`

Definition at line 120 of file Rmath.h.

5.1.1.122 `double R::rhyper ( double r, double b, double n ) [inline]`

Definition at line 126 of file Rmath.h.

5.1.1.123 `double R::rlnorm ( double ml, double sl ) [inline]`

Definition at line 69 of file Rmath.h.

5.1.1.124 `double R::rlogis ( double lc, double sl ) [inline]`

Definition at line 157 of file Rmath.h.

5.1.1.125 `void R::rmultinom ( int n, double * prob, int k, int * rn ) [inline]`

Definition at line 102 of file Rmath.h.

5.1.1.126 `double R::rnbeta ( double a, double b, double np ) [inline]`

Definition at line 163 of file Rmath.h.

5.1.1.127 `double R::rnbinom ( double sz, double pb ) [inline]`

Definition at line 132 of file Rmath.h.

5.1.1.128 `double R::rnchisq ( double df, double lb ) [inline]`

Definition at line 81 of file Rmath.h.

5.1.1.129 `double R::rnorm ( double mu, double sigma )` [inline]

Definition at line 38 of file Rmath.h.

5.1.1.130 `double R::rpois ( double mu )` [inline]

Definition at line 145 of file Rmath.h.

5.1.1.131 `double R::rsignrank ( double n )` [inline]

Definition at line 189 of file Rmath.h.

5.1.1.132 `double R::rt ( double n )` [inline]

Definition at line 93 of file Rmath.h.

5.1.1.133 `double R::runif ( double a, double b )` [inline]

Definition at line 45 of file Rmath.h.

5.1.1.134 `double R::rweibull ( double sh, double sl )` [inline]

Definition at line 151 of file Rmath.h.

5.1.1.135 `double R::rwilcox ( double m, double n )` [inline]

Definition at line 183 of file Rmath.h.

5.1.1.136 `double R::sign ( double x )` [inline]

Definition at line 233 of file Rmath.h.

5.1.1.137 `double R::tetragamma ( double x )` [inline]

Definition at line 199 of file Rmath.h.

5.1.1.138 `double R::trigamma ( double x )` [inline]

Definition at line 198 of file Rmath.h.

5.1.1.139 `double R::unif_rand ( void ) [inline]`

Definition at line 31 of file Rmath.h.

Referenced by `Rcpp::stats::CauchyGenerator::operator()`, `Rcpp::stats::LogisGenerator::operator()`, `Rcpp::stats::WeibullGenerator::operator()`, `Rcpp::stats::UnifGenerator::operator()`, `Rcpp::stats::CauchyGenerator_1::operator()`, `Rcpp::stats::WeibullGenerator__scale1::operator()`, `Rcpp::stats::UnifGenerator_0__1::operator()`, `Rcpp::stats::LogisGenerator_1::operator()`, `Rcpp::stats::CauchyGenerator_0::operator()`, and `Rcpp::stats::LogisGenerator_0::operator()`.

## 5.2 Rcpp Namespace Reference

[Rcpp API](#).

### Namespaces

- [algorithm](#)
- [attributes](#)
- [internal](#)

*internal implementation details*

- [InternalFunctionWithStdFunction](#)
- [stats](#)
- [sugar](#)
- [traits](#)

*traits used to dispatch wrap*

### Classes

- class [Argument](#)
- class [Armor](#)
- class [AttributeProxyPolicy](#)
- class [binary\\_call](#)
- class [BindingPolicy](#)
- struct [can\\_have\\_na](#)
- class [ChildVector](#)
- class [class\\_Base](#)
- class [ConstInputParameter](#)
- class [ConstMatrixColumn](#)
- class [ConstMatrixRow](#)
- class [ConstReferenceInputParameter](#)
- class [CppClass](#)
- class [CppFinalizer](#)
- class [CppFunction](#)
- class [CppFunctionBase](#)
- class [CplusplusInheritedMethod](#)
- class [CplusplusInheritedProperty](#)

- class [CppMethod](#)
- class [CppObject](#)
- class [CppMethod](#)
- class [DataFrame\\_Impl](#)
- class [Date](#)
- class [Datetime](#)
- class [DatetimeVector](#)
- class [DateVector](#)
- class [Dimension](#)
- class [DottedPairImpl](#)
- class [DottedPairProxyPolicy](#)
- class [enum\\_](#)
- class [exception](#)
- class [Fast](#)
- class [FieldProxyPolicy](#)
- class [file\\_exists](#)
- class [file\\_io\\_error](#)
- class [file\\_not\\_found](#)
- class [fixed\\_call](#)
- class [FunctionFinalizer](#)
- class [Generator](#)
- struct [GenericProxy](#)
- class [InputParameter](#)
- class [ListOf](#)
- struct [lsinfo](#)
- class [Matrix](#)
- class [MatrixBase](#)
- class [MatrixColumn](#)
- class [MatrixRow](#)
- class [Module](#)
- class [Na\\_Proxy](#)
- class [NamesProxyPolicy](#)
- class [no\\_init\\_matrix](#)
- class [no\\_init\\_vector](#)
- class [no\\_such\\_env](#)
- class [NoProtectStorage](#)
- class [Nullable](#)
- class [object](#)
- class [PreserveStorage](#)
- class [ProtectedProxyPolicy](#)
- class [Range](#)
- class [ReferenceInputParameter](#)
- class [result](#)
- class [RNGScope](#)
- class [RObjectMethods](#)
- class [Rostream](#)
- class [Rstreambuf](#)
- struct [rule](#)
- class [S4\\_CppConstructor](#)
- class [S4\\_CppOverloadedMethods](#)
- class [S4\\_field](#)

- class [Shelter](#)
- class [Shield](#)
- class [SignedConstructor](#)
- class [SignedFactory](#)
- class [SignedMethod](#)
- class [SingleLogicalResult](#)
- class [SlotProxyPolicy](#)
- struct [state](#)
- class [String](#)
- class [StringTransformer](#)
- class [SubMatrix](#)
- class [SubsetProxy](#)
- class [TagProxyPolicy](#)
- class [Timer](#)
- struct [tinfo](#)
- struct [tzhead](#)
- class [unary\\_call](#)
- class [Vector](#)
- class [VectorBase](#)
- struct [void\\_type](#)
- class [XPtr](#)

## Typedefs

- typedef [uint64\\_t](#) [nanotime\\_t](#)
- typedef [DataFrame\\_Impl< PreserveStorage >](#) [DataFrame](#)
- typedef [DottedPair\\_Impl< PreserveStorage >](#) [DottedPair](#)
- typedef [Environment\\_Impl< PreserveStorage >](#) [Environment](#)
- typedef [Formula\\_Impl< PreserveStorage >](#) [Formula](#)
- typedef [Function\\_Impl< PreserveStorage >](#) [Function](#)
- typedef [InternalFunction\\_Impl< PreserveStorage >](#) [InternalFunction](#)
- typedef [DottedPairProxyPolicy< Language\\_Impl >::const\\_DottedPairProxy](#) [const\\_Proxy](#)
- typedef [Language\\_Impl< PreserveStorage >](#) [Language](#)
- typedef [bool\(\\* ValidConstructor\)](#) ([SEXP \\*](#), [int](#))
- typedef [bool\(\\* ValidMethod\)](#) ([SEXP \\*](#), [int](#))
- typedef [Pairlist\\_Impl< PreserveStorage >](#) [Pairlist](#)
- typedef [Promise\\_Impl< PreserveStorage >](#) [Promise](#)
- typedef [Reference\\_Impl< PreserveStorage >](#) [Reference](#)
- typedef [RObject\\_Impl< PreserveStorage >](#) [RObject](#)
- typedef [S4\\_Impl< PreserveStorage >](#) [S4](#)
- typedef [StretchyList\\_Impl< PreserveStorage >](#) [StretchyList](#)
- typedef [Symbol\\_Impl< NoProtectStorage >](#) [Symbol](#)
- typedef [Vector< CPLXSXP >](#) [ComplexVector](#)
- typedef [Vector< INTSXP >](#) [IntegerVector](#)
- typedef [Vector< LGLSXP >](#) [LogicalVector](#)
- typedef [Vector< REALSXP >](#) [NumericVector](#)
- typedef [Vector< REALSXP >](#) [DoubleVector](#)
- typedef [Vector< RAWSXP >](#) [RawVector](#)
- typedef [Vector< STRSXP >](#) [CharacterVector](#)
- typedef [Vector< STRSXP >](#) [StringVector](#)

- typedef [Vector](#)< VECSXP > [GenericVector](#)
- typedef [Vector](#)< VECSXP > [List](#)
- typedef [Vector](#)< EXPRSXP > [ExpressionVector](#)
- typedef [Matrix](#)< CPLXSXP > [ComplexMatrix](#)
- typedef [Matrix](#)< INTSXP > [IntegerMatrix](#)
- typedef [Matrix](#)< LGLSXP > [LogicalMatrix](#)
- typedef [Matrix](#)< REALSXP > [NumericMatrix](#)
- typedef [Matrix](#)< RAWSXP > [RawMatrix](#)
- typedef [Matrix](#)< STRSXP > [CharacterMatrix](#)
- typedef [Matrix](#)< STRSXP > [StringMatrix](#)
- typedef [Matrix](#)< VECSXP > [GenericMatrix](#)
- typedef [Matrix](#)< VECSXP > [ListMatrix](#)
- typedef [Matrix](#)< EXPRSXP > [ExpressionMatrix](#)
- typedef WeakReference\_Impl< [PreserveStorage](#) > [WeakReference](#)

## Functions

- template<class InputIterator, class T >  
bool [\\_\\_any](#) (InputIterator first, InputIterator last, const T &value, std::input\_iterator\_tag)
- template<class RandomAccessIterator, class T >  
bool [\\_\\_any](#) (RandomAccessIterator \_\_first, RandomAccessIterator \_\_last, const T &\_\_val, std::random\_access\_iterator\_tag)
- template<class InputIterator, class T >  
bool [any](#) (InputIterator first, InputIterator last, const T &value)
- template<class InputIterator, class Predicate >  
bool [\\_\\_any\\_if](#) (InputIterator first, InputIterator last, Predicate pred, std::input\_iterator\_tag)
- template<class RandomAccessIterator, class Predicate >  
bool [\\_\\_any\\_if](#) (RandomAccessIterator \_\_first, RandomAccessIterator \_\_last, Predicate \_\_pred, std::random\_access\_iterator\_tag)
- template<class InputIterator, class Predicate >  
bool [any\\_if](#) (InputIterator first, InputIterator last, Predicate pred)
- template<>  
SEXP [wrap\\_extra\\_steps](#)< [Rcpp::Date](#) > (SEXP)
- template<>  
SEXP [wrap\\_extra\\_steps](#)< [Rcpp::Datetime](#) > (SEXP)
- template<typename T >  
SEXP [wrap\\_extra\\_steps](#) (SEXP x)
- template<>  
SEXP [wrap](#) (const [Date](#) &date)
- template<>  
SEXP [wrap](#)< [Datetime](#) > (const [Datetime](#) &date)
- SEXP [Rcpp\\_eval](#) (SEXP expr, SEXP env)
- template<typename T >  
T [as](#) (SEXP x)
- template<>  
char [as](#)< char > (SEXP x)
- template<typename T >  
[traits::remove\\_const\\_and\\_reference](#)< T >::type [bare\\_as](#) (SEXP x)
- template<>  
SEXP [as](#) (SEXP x)



- `template<typename T >`  
`T clone (const T &object)`
- `template<>`  
`SEXP wrap< Rcpp::Date > (const Rcpp::Date &date)`
- `Date operator+` (const `Date` &date, int offset)
- `double operator-` (const `Date` &d1, const `Date` &d2)
- `bool operator<` (const `Date` &d1, const `Date` &d2)
- `bool operator>` (const `Date` &d1, const `Date` &d2)
- `bool operator==` (const `Date` &d1, const `Date` &d2)
- `bool operator>=` (const `Date` &d1, const `Date` &d2)
- `bool operator<=` (const `Date` &d1, const `Date` &d2)
- `bool operator!=` (const `Date` &d1, const `Date` &d2)
- `template<>`  
`SEXP wrap< Rcpp::Datetime > (const Rcpp::Datetime &dt)`
- `Datetime operator+` (const `Datetime` &datetime, double offset)
- `double operator-` (const `Datetime` &d1, const `Datetime` &d2)
- `bool operator<` (const `Datetime` &d1, const `Datetime` &d2)
- `bool operator>` (const `Datetime` &d1, const `Datetime` &d2)
- `bool operator==` (const `Datetime` &d1, const `Datetime` &d2)
- `bool operator>=` (const `Datetime` &d1, const `Datetime` &d2)
- `bool operator<=` (const `Datetime` &d1, const `Datetime` &d2)
- `bool operator!=` (const `Datetime` &d1, const `Datetime` &d2)
- `RCPP_API_CLASS` (`DottedPair_Impl`)
- `RCPP_API_CLASS` (`Environment_Impl`)
- `Environment_Impl` (`SEXP x`)
- `Environment_Impl` (const `std::string` &name)
- `Environment_Impl` (int pos)
- `SEXP ls` (bool all) const
- `SEXP get` (const `std::string` &name) const
- `SEXP get` (`Symbol` name) const
- `SEXP find` (const `std::string` &name) const
- `SEXP find` (`Symbol` name) const
- `bool exists` (const `std::string` &name) const
- `bool assign` (const `std::string` &name, `SEXP x`) const
- `template<typename WRAPPABLE >`  
`bool assign` (const `std::string` &name, const `WRAPPABLE` &x) const
- `bool isLocked` () const
- `bool remove` (const `std::string` &name)
- `void lock` (bool bindings=false)
- `void lockBinding` (const `std::string` &name)
- `void unlockBinding` (const `std::string` &name)
- `bool bindingsLocked` (const `std::string` &name) const
- `bool bindingsActive` (const `std::string` &name) const
- `bool is_user_database` () const
- `static Environment_Impl global_env` ()
- `static Environment_Impl empty_env` ()
- `static Environment_Impl base_env` ()
- `static Environment_Impl base_namespace` ()
- `static Environment_Impl Rcpp_namespace` ()
- `static Environment_Impl namespace_env` (const `std::string` &package)
- `Environment_Impl parent` () const

- [Environment\\_Impl new\\_child](#) (bool hashed)
- void [update](#) (SEXP)
- [Environment new\\_env](#) (int size=29)
- [Environment new\\_env](#) (SEXP parent, int size=29)
- static std::string [toString](#) (const int i)
- void [warning](#) (const std::string &message)
- template<typename T1 >  
void [warning](#) (const char \*fmt, const T1 &arg1)
- template<typename T1 , typename T2 >  
void [warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2)
- template<typename T1 , typename T2 , typename T3 >  
void [warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3)
- template<typename T1 , typename T2 , typename T3 , typename T4 >  
void [warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 >  
void [warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 >  
void [warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 >  
void [warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 >  
void [warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 >  
void [warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8, const T9 &arg9)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 >  
void [warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8, const T9 &arg9, const T10 &arg10)
- void [NORET stop](#) (const std::string &message)
- template<typename T1 >  
void [NORET stop](#) (const char \*fmt, const T1 &arg1)
- template<typename T1 , typename T2 >  
void [NORET stop](#) (const char \*fmt, const T1 &arg1, const T2 &arg2)
- template<typename T1 , typename T2 , typename T3 >  
void [NORET stop](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3)
- template<typename T1 , typename T2 , typename T3 , typename T4 >  
void [NORET stop](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 >  
void [NORET stop](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 >  
void [NORET stop](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 >  
void [NORET stop](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7)

- `template<typename T1, typename T2, typename T3, typename T4, typename T5, typename T6, typename T7, typename T8 >`  
`void NORET stop (const char *fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8)`
- `template<typename T1, typename T2, typename T3, typename T4, typename T5, typename T6, typename T7, typename T8, typename T9 >`  
`void NORET stop (const char *fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8, const T9 &arg9)`
- `template<typename T1, typename T2, typename T3, typename T4, typename T5, typename T6, typename T7, typename T8, typename T9, typename T10 >`  
`void NORET stop (const char *fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8, const T9 &arg9, const T10 &arg10)`
- [RCPP\\_API\\_CLASS](#) ([Formula\\_Impl](#))
- [Formula\\_Impl](#) (SEXP x)
- [Formula\\_Impl](#) (const std::string &code)
- [RCPP\\_API\\_CLASS](#) ([Function\\_Impl](#))
- SEXP [pairlist](#) ()
- SEXP [grow](#) (SEXP [head](#), SEXP [tail](#))
- `template<typename T >`  
`SEXP grow (const T &head, SEXP tail)`
- SEXP [grow](#) (const char \*head, SEXP tail)
- [RCPP\\_API\\_CLASS](#) ([InternalFunction\\_Impl](#))
- void [checkUserInterrupt](#) ()
- `template<typename T >`  
`bool is (SEXP x)`
- SEXP [Rcpp\\_icons](#) (SEXP car, SEXP cdr)
- SEXP [Rcpp\\_list2](#) (SEXP x0, SEXP x1)
- SEXP [Rcpp\\_lang2](#) (SEXP x0, SEXP x1)
- SEXP [Rcpp\\_list3](#) (SEXP x0, SEXP x1, SEXP x2)
- SEXP [Rcpp\\_lang3](#) (SEXP x0, SEXP x1, SEXP x2)
- SEXP [Rcpp\\_list4](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3)
- SEXP [Rcpp\\_lang4](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3)
- SEXP [Rcpp\\_list5](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4)
- SEXP [Rcpp\\_lang5](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4)
- SEXP [Rcpp\\_list6](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5)
- SEXP [Rcpp\\_lang6](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5)
- SEXP [Rcpp\\_list7](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6)
- SEXP [Rcpp\\_lang7](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6)
- SEXP [Rcpp\\_list8](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7)
- SEXP [Rcpp\\_lang8](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7)
- SEXP [Rcpp\\_list9](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8)
- SEXP [Rcpp\\_lang9](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8)
- SEXP [Rcpp\\_list10](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9)
- SEXP [Rcpp\\_lang10](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9)
- SEXP [Rcpp\\_list11](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10)
- SEXP [Rcpp\\_lang11](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10)
- SEXP [Rcpp\\_list12](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11)

- SEXP [Rcpp\\_lang12](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11)
- SEXP [Rcpp\\_list13](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12)
- SEXP [Rcpp\\_lang13](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12)
- SEXP [Rcpp\\_list14](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13)
- SEXP [Rcpp\\_lang14](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13)
- SEXP [Rcpp\\_list15](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14)
- SEXP [Rcpp\\_lang15](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14)
- SEXP [Rcpp\\_list16](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15)
- SEXP [Rcpp\\_lang16](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15)
- SEXP [Rcpp\\_list17](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16)
- SEXP [Rcpp\\_lang17](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16)
- SEXP [Rcpp\\_list18](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17)
- SEXP [Rcpp\\_lang18](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17)
- SEXP [Rcpp\\_list19](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17, SEXP x18)
- SEXP [Rcpp\\_lang19](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17, SEXP x18)
- SEXP [Rcpp\\_list20](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17, SEXP x18, SEXP x19)
- SEXP [Rcpp\\_lang20](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17, SEXP x18, SEXP x19)
- [RCPP\\_API\\_CLASS](#) ([Language\\_Impl](#))
- [Language\\_Impl](#) ()
- [Language\\_Impl](#) (SEXP x)
- [Language\\_Impl](#) (const std::string &symbol)
- [Language\\_Impl](#) (const [Symbol](#) &symbol)
- [Language\\_Impl](#) (const [Function](#) &function)
- void [setSymbol](#) (const std::string &symbol)
- void [setSymbol](#) (const [Symbol](#) &symbol)
- void [setFunction](#) (const [Function](#) &function)
- SEXP [eval](#) () const
- SEXP [eval](#) (SEXP env) const
- SEXP [fast\\_eval](#) () const
- SEXP [fast\\_eval](#) (SEXP env) const

- `template<typename RESULT_TYPE >`  
`std::string get\_return\_type\_dispatch (Rcpp::traits::false_type)`
- `template<typename RESULT_TYPE >`  
`std::string get\_return\_type\_dispatch (Rcpp::traits::true_type)`
- `template<typename RESULT_TYPE >`  
`std::string get\_return\_type ()`
- `template<>`  
`std::string get\_return\_type< void_type > ()`
- `template<>`  
`std::string get\_return\_type< SEXP > ()`
- `template<>`  
`std::string get\_return\_type< Rcpp::IntegerVector > ()`
- `template<>`  
`std::string get\_return\_type< Rcpp::NumericVector > ()`
- `template<>`  
`std::string get\_return\_type< Rcpp::RawVector > ()`
- `template<>`  
`std::string get\_return\_type< Rcpp::ExpressionVector > ()`
- `template<>`  
`std::string get\_return\_type< Rcpp::List > ()`
- `template<>`  
`std::string get\_return\_type< Rcpp::CharacterVector > ()`
- `template<typename FROM , typename TO >`  
`void converter (const char *from, const char *to, TO(*fun)(FROM), const char *docstring=0)`
- `LogicalVector shush\_about\_NA ()`
- `Argument Named (const std::string &name)`
- `template<typename T >`  
`traits::named\_object< T > Named (const std::string &name, const T &o)`
- `RCPP\_API\_CLASS (Pairlist\_Impl)`
- `Pairlist\_Impl ()`
- `Pairlist\_Impl (SEXP x)`
- `void print (SEXP s)`
- `void warningcall (SEXP call, const std::string &s)`
- `RCPP\_API\_CLASS (Promise\_Impl)`
- `SEXP Rcpp\_protect (SEXP x)`
- `template<int TARGET>`  
`SEXP r\_cast (SEXP x)`
- `RCPP\_API\_CLASS (Reference\_Impl)`
- `RCPP\_API\_CLASS (RObject\_Impl)`
- `attribute_hidden const char * type2name (SEXP x)`
- `attribute_hidden double mktime00 (struct tm &tm)`
- `attribute_hidden struct tm * gmtime\_ (const time_t *const x)`
- `RCPP\_API\_CLASS (S4\_Impl)`
- `template<int MAX_SIZE>`  
`std::string sprintf (const char *format,...)`
- `template<bool NA, typename T >`  
`stats::D1< REALSXP, NA, T > dexp (const Rcpp::VectorBase< REALSXP, NA, T > &x, double shape, bool log=false)`
- `template<bool NA, typename T >`  
`stats::P1< REALSXP, NA, T > pexp (const Rcpp::VectorBase< REALSXP, NA, T > &x, double shape, bool lower=true, bool log=false)`

- `template<bool NA, typename T >`  
`stats::Q1< REALSXP, NA, T > qexp` (const `Rcpp::VectorBase< REALSXP, NA, T >` &x, double shape, bool lower=true, bool log=false)
- `NumericVector rnorm` (int n, double mean, double sd)
- `NumericVector rnorm` (int n, double mean)
- `NumericVector rnorm` (int n)
- `NumericVector rbeta` (int n, double a, double b)
- `NumericVector rbinom` (int n, double nin, double pp)
- `NumericVector rcauchy` (int n, double location, double scale)
- `NumericVector rcauchy` (int n, double location)
- `NumericVector rcauchy` (int n)
- `NumericVector rchisq` (int n, double df)
- `NumericVector rexp` (int n, double rate)
- `NumericVector rexp` (int n)
- `NumericVector rf` (int n, double n1, double n2)
- `NumericVector rgamma` (int n, double a, double scale)
- `NumericVector rgamma` (int n, double a)
- `NumericVector rgeom` (int n, double p)
- `NumericVector rhyper` (int n, double nn1, double nn2, double kk)
- `NumericVector rlnorm` (int n, double meanlog, double sdlog)
- `NumericVector rlnorm` (int n, double meanlog)
- `NumericVector rlnorm` (int n)
- `NumericVector rlogis` (int n, double location, double scale)
- `NumericVector rlogis` (int n, double location)
- `NumericVector rlogis` (int n)
- `NumericVector rnbinom` (int n, double siz, double prob)
- `NumericVector rnbinom_mu` (int n, double siz, double mu)
- `NumericVector rnchisq` (int n, double df, double lambda)
- `NumericVector rnchisq` (int n, double df)
- `NumericVector rpois` (int n, double mu)
- `NumericVector rsignrank` (int n, double nn)
- `NumericVector rt` (int n, double df)
- `NumericVector runif` (int n, double min, double max)
- `NumericVector runif` (int n, double min)
- `NumericVector runif` (int n)
- `NumericVector rweibull` (int n, double shape, double scale)
- `NumericVector rweibull` (int n, double shape)
- `NumericVector rwilcox` (int n, double mm, double nn)
- `Rcpp_API_CLASS` (`StretchyList_Impl`)
- `StretchyList_Impl` ()
- `StretchyList_Impl` (SEXP x)
- `operator SEXP` () const
- `template<typename T >`  
`StretchyList_Impl & push_back` (const T &obj)
- `template<typename T >`  
`StretchyList_Impl & push_front` (const T &obj)
- `template<typename T >`  
`StretchyList_Impl & push_back__impl` (const T &obj, `traits::true_type`)
- `template<typename T >`  
`StretchyList_Impl & push_back__impl` (const T &obj, `traits::false_type`)

- `template<typename T >`  
`StretchyList_Impl & push_front__impl (const T &obj, traits::true_type)`
- `template<typename T >`  
`StretchyList_Impl & push_front__impl (const T &obj, traits::false_type)`
- `template<>`  
`SEXP wrap< Rcpp::String > (const Rcpp::String &object)`
- `bool operator== (const String::StringProxy &lhs, const String &rhs)`
- `bool operator!= (const String::StringProxy &lhs, const String &rhs)`
- `bool operator== (const String::const_StringProxy &lhs, const String &rhs)`
- `bool operator!= (const String::const_StringProxy &lhs, const String &rhs)`
- `template<typename UnaryOperator >`  
`StringTransformer< UnaryOperator > make_string_transformer (const UnaryOperator &fun)`
- `template<bool NA, typename T >`  
`sugar::All< NA, T > all (const Rcpp::VectorBase< LGLSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Any< NA, T > any (const Rcpp::VectorBase< LGLSXP, NA, T > &t)`
- `template<int RTYPE, bool NA, typename T >`  
`sugar::Clamp_Primitive_Vector_Primitive< RTYPE, NA, T > clamp (typename Rcpp::traits::storage_type< R←TYPE >::type lhs, const Rcpp::VectorBase< RTYPE, NA, T > &vec, typename Rcpp::traits::storage_type< R←TYPE >::type rhs)`
- `template<bool NA, typename T >`  
`sugar::Cummax< INTSXP, NA, T > cummax (const VectorBase< INTSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Cummax< REALSXP, NA, T > cummax (const VectorBase< REALSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Cummin< INTSXP, NA, T > cummin (const VectorBase< INTSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Cummin< REALSXP, NA, T > cummin (const VectorBase< REALSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Cumprod< INTSXP, NA, T > cumprod (const VectorBase< INTSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Cumprod< REALSXP, NA, T > cumprod (const VectorBase< REALSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Cumprod< CPLXSXP, NA, T > cumprod (const VectorBase< CPLXSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Cumsum< INTSXP, NA, T > cumsum (const VectorBase< INTSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Cumsum< REALSXP, NA, T > cumsum (const VectorBase< REALSXP, NA, T > &t)`
- `template<bool LHS_NA, typename LHS_T >`  
`sugar::Diff< INTSXP, LHS_NA, LHS_T > diff (const VectorBase< INTSXP, LHS_NA, LHS_T > &lhs)`
- `template<bool LHS_NA, typename LHS_T >`  
`sugar::Diff< REALSXP, LHS_NA, LHS_T > diff (const VectorBase< REALSXP, LHS_NA, LHS_T > &lhs)`
- `template<int RTYPE, bool NA, typename T >`  
`LogicalVector duplicated (const VectorBase< RTYPE, NA, T > &x)`
- `template<int RTYPE, bool NA, typename T >`  
`sugar::Head< RTYPE, NA, T > head (const VectorBase< RTYPE, NA, T > &t, R_xlen_t n)`
- `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T > ifelse (const Rcpp::Vector←Base< LGLSXP, COND_NA, COND_T > &cond, const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T > &rhs)`

- `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T >`  
[sugar::IfElse\\_Primitive\\_Vector](#)< RTYPE, COND\_NA, COND\_T, RHS\_NA, RHS\_T > [ifelse](#) (const [Rcpp::Vector](#)<[Base](#)< LGLSXP, COND\_NA, COND\_T > &cond, typename [traits::storage\\_type](#)< RTYPE >::type lhs, const [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > &rhs)
- `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T >`  
[sugar::IfElse\\_Vector\\_Primitive](#)< RTYPE, COND\_NA, COND\_T, RHS\_NA, RHS\_T > [ifelse](#) (const [Rcpp::Vector](#)<[Base](#)< LGLSXP, COND\_NA, COND\_T > &cond, const [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > &lhs, typename [traits::storage\\_type](#)< RTYPE >::type rhs)
- `template<bool COND_NA, typename COND_T >`  
[sugar::IfElse\\_Primitive\\_Primitive](#)< REALSXP, COND\_NA, COND\_T > [ifelse](#) (const [Rcpp::VectorBase](#)< LGLSXP, COND\_NA, COND\_T > &cond, double lhs, double rhs)
- `template<bool COND_NA, typename COND_T >`  
[sugar::IfElse\\_Primitive\\_Primitive](#)< INTSXP, COND\_NA, COND\_T > [ifelse](#) (const [Rcpp::VectorBase](#)< LGLSXP, COND\_NA, COND\_T > &cond, int lhs, int rhs)
- `template<bool COND_NA, typename COND_T >`  
[sugar::IfElse\\_Primitive\\_Primitive](#)< CPLXSXP, COND\_NA, COND\_T > [ifelse](#) (const [Rcpp::VectorBase](#)< LGLSXP, COND\_NA, COND\_T > &cond, Rcomplex lhs, Rcomplex rhs)
- `template<bool COND_NA, typename COND_T >`  
[sugar::IfElse\\_Primitive\\_Primitive](#)< LGLSXP, COND\_NA, COND\_T > [ifelse](#) (const [Rcpp::VectorBase](#)< LGLSXP, COND\_NA, COND\_T > &cond, bool lhs, bool rhs)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::IsFinite](#)< RTYPE, NA, T > [is\\_finite](#) (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &t)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::IsInfinite](#)< RTYPE, NA, T > [is\\_infinite](#) (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &t)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::IsNa](#)< RTYPE, NA, T > [is\\_na](#) (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &t)
- [sugar::IsNa\\_Vector\\_is\\_na](#)< [DatetimeVector](#) > [is\\_na](#) (const [DatetimeVector](#) &x)
- [sugar::IsNa\\_Vector\\_is\\_na](#)< [DateVector](#) > [is\\_na](#) (const [DateVector](#) &x)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::IsNaN](#)< RTYPE, NA, T > [is\\_nan](#) (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &t)
- `template<int RTYPE, bool NA, typename T, typename Function >`  
[sugar::Lapply](#)< RTYPE, NA, T, Function > [lapply](#) (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &t, Function fun)
- `template<int RTYPE, bool NA_1, typename T_1, bool NA_2, typename T_2, typename Function >`  
[sugar::Mapply\\_2](#)< RTYPE, NA\_1, T\_1, NA\_2, T\_2, Function > [mapply](#) (const [Rcpp::VectorBase](#)< RTYPE, NA\_1, T\_1 > &t1, const [Rcpp::VectorBase](#)< RTYPE, NA\_2, T\_2 > &t2, Function fun)
- `template<int RTYPE, bool NA_1, typename T_1, typename Function >`  
[sugar::Mapply\\_2\\_Vector\\_Primitive](#)< RTYPE, NA\_1, T\_1, double, Function > [mapply](#) (const [Rcpp::VectorBase](#)< RTYPE, NA\_1, T\_1 > &t1, double t2, Function fun)
- `template<int RTYPE, bool NA_2, typename T_2, typename Function >`  
[sugar::Mapply\\_2\\_Primitive\\_Vector](#)< RTYPE, double, NA\_2, T\_2, Function > [mapply](#) (double t1, const [Rcpp::VectorBase](#)< RTYPE, NA\_2, T\_2 > &t2, Function fun)
- `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function >`  
[sugar::Mapply\\_3](#)< RTYPE\_1, NA\_1, T\_1, RTYPE\_2, NA\_2, T\_2, RTYPE\_3, NA\_3, T\_3, Function > [mapply](#) (const [Rcpp::VectorBase](#)< RTYPE\_1, NA\_1, T\_1 > &t1, const [Rcpp::VectorBase](#)< RTYPE\_2, NA\_2, T\_2 > &t2, const [Rcpp::VectorBase](#)< RTYPE\_3, NA\_3, T\_3 > &t3, Function fun)
- `template<int RTYPE, bool NA, typename T, bool RHS_NA, typename RHS_T >`  
[IntegerVector match](#) (const [VectorBase](#)< RTYPE, NA, T > &x, const [VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > &table\_)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::Max](#)< RTYPE, NA, T > [max](#) (const [VectorBase](#)< RTYPE, NA, T > &x)
- `template<bool NA, typename T >`  
[sugar::Mean](#)< REALSXP, NA, T > [mean](#) (const [VectorBase](#)< REALSXP, NA, T > &t)



- `template<bool NA, typename T >`  
[sugar::Mean](#)< INTSXP, NA, T > `mean` (const [VectorBase](#)< INTSXP, NA, T > &t)
- `template<bool NA, typename T >`  
[sugar::Mean](#)< CPLXSXP, NA, T > `mean` (const [VectorBase](#)< CPLXSXP, NA, T > &t)
- `template<bool NA, typename T >`  
[sugar::Mean](#)< LGLSXP, NA, T > `mean` (const [VectorBase](#)< LGLSXP, NA, T > &t)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::median\\_detail::result](#)< RTYPE >::type `median` (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &x, bool na←  
 \_rm=false)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::Min](#)< RTYPE, NA, T > `min` (const [VectorBase](#)< RTYPE, NA, T > &x)
- `template<int RTYPE, bool NA, typename T >`  
[Vector](#)< RTYPE > `na_omit` (const [VectorBase](#)< RTYPE, NA, T > &t)
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
[sugar::Pmax\\_Vector\\_Vector](#)< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > `pmax` (const [Rcpp::VectorBase](#)<  
 RTYPE, LHS\_NA, LHS\_T > &lhs, const [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > &rhs)
- `template<int RTYPE, bool LHS_NA, typename LHS_T >`  
[sugar::Pmax\\_Vector\\_Primitive](#)< RTYPE, LHS\_NA, LHS\_T > `pmax` (const [Rcpp::VectorBase](#)< RTYPE, LHS\_←  
 NA, LHS\_T > &lhs, typename [Rcpp::traits::storage\\_type](#)< RTYPE >::type rhs)
- `template<int RTYPE, bool RHS_NA, typename RHS_T >`  
[sugar::Pmax\\_Vector\\_Primitive](#)< RTYPE, RHS\_NA, RHS\_T > `pmax` (typename [Rcpp::traits::storage\\_type](#)< R←  
 TYPE >::type lhs, const [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > &rhs)
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
[sugar::Pmin\\_Vector\\_Vector](#)< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > `pmin` (const [Rcpp::VectorBase](#)<  
 RTYPE, LHS\_NA, LHS\_T > &lhs, const [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > &rhs)
- `template<int RTYPE, bool LHS_NA, typename LHS_T >`  
[sugar::Pmin\\_Vector\\_Primitive](#)< RTYPE, LHS\_NA, LHS\_T > `pmin` (const [Rcpp::VectorBase](#)< RTYPE, LHS\_NA,  
 LHS\_T > &lhs, typename [Rcpp::traits::storage\\_type](#)< RTYPE >::type rhs)
- `template<int RTYPE, bool RHS_NA, typename RHS_T >`  
[sugar::Pmin\\_Vector\\_Primitive](#)< RTYPE, RHS\_NA, RHS\_T > `pmin` (typename [Rcpp::traits::storage\\_type](#)< RT←  
 YPE >::type lhs, const [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > &rhs)
- `template<int RTYPE, bool NA, typename T, typename EXPONENT_TYPE >`  
[sugar::Pow](#)< RTYPE, NA, T, EXPONENT\_TYPE > `pow` (const [VectorBase](#)< RTYPE, NA, T > &t, EXPONEN←  
 T\_TYPE exponent)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::Range](#)< RTYPE, NA, T > `range` (const [VectorBase](#)< RTYPE, NA, T > &x)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::Rep](#)< RTYPE, NA, T > `rep` (const [VectorBase](#)< RTYPE, NA, T > &t, R\_xlen\_t n)
- `sugar::Rep_Single`< double > `rep` (const double &x, R\_xlen\_t n)
- `sugar::Rep_Single`< int > `rep` (const int &x, R\_xlen\_t n)
- `sugar::Rep_Single`< Rbyte > `rep` (const Rbyte &x, R\_xlen\_t n)
- `sugar::Rep_Single`< Rcomplex > `rep` (const Rcomplex &x, R\_xlen\_t n)
- `sugar::Rep_Single`< bool > `rep` (const bool &x, R\_xlen\_t n)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::Rep\\_each](#)< RTYPE, NA, T > `rep_each` (const [VectorBase](#)< RTYPE, NA, T > &t, R\_xlen\_t times)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::Rep\\_len](#)< RTYPE, NA, T > `rep_len` (const [VectorBase](#)< RTYPE, NA, T > &t, R\_xlen\_t len)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::Rev](#)< RTYPE, NA, T > `rev` (const [VectorBase](#)< RTYPE, NA, T > &t)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::detail::RowSumsReturn](#)< RTYPE >::type `rowSums` (const [MatrixBase](#)< RTYPE, NA, T > &x, bool na←  
 \_rm=false)

- `template<int RTYPE, bool NA, typename T >`  
[sugar::detail::ColSumsReturn](#)< RTYPE >::type [colSums](#) (const [MatrixBase](#)< RTYPE, NA, T > &x, bool na\_←  
rm=false)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::detail::RowMeansReturn](#)< RTYPE >::type [rowMeans](#) (const [MatrixBase](#)< RTYPE, NA, T > &x, bool  
na\_rm=false)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::detail::ColMeansReturn](#)< RTYPE >::type [colMeans](#) (const [MatrixBase](#)< RTYPE, NA, T > &x, bool na\_←  
\_rm=false)
- `template<int RTYPE, bool NA, typename T, typename Function >`  
[sugar::Sapply](#)< RTYPE, NA, T, Function, traits::same\_type< typename::Rcpp::sugar::sapply\_application\_←  
result\_of< Function, T >::type, typename Rcpp::traits::storage\_type< traits::r\_sexptype\_traits< typename\_←  
::Rcpp::sugar::sapply\_application\_result\_of< Function, T >::type >::type >::value > [sapply](#) (const  
[Rcpp::VectorBase](#)< RTYPE, NA, T > &t, Function fun)
- `template<bool NA, typename T >`  
[sugar::Sd](#)< REALSXP, NA, T > [sd](#) (const [VectorBase](#)< REALSXP, NA, T > &t)
- `template<int RTYPE, bool NA, typename T >`  
[IntegerVector self\\_match](#) (const [VectorBase](#)< RTYPE, NA, T > &x)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::SeqLen seq\\_along](#) (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &t)
- [sugar::SeqLen seq\\_len](#) (const size\_t &n)
- [Range seq](#) (R\_xlen\_t start, R\_xlen\_t end)
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
[Vector](#)< RTYPE > [setdiff](#) (const [VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > &lhs, const [VectorBase](#)< RTYPE,  
RHS\_NA, RHS\_T > &rhs)
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
bool [setequal](#) (const [VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > &lhs, const [VectorBase](#)< RTYPE, RHS\_NA,  
RHS\_T > &rhs)
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
[Vector](#)< RTYPE > [intersect](#) (const [VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > &lhs, const [VectorBase](#)< RTYPE,  
RHS\_NA, RHS\_T > &rhs)
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
[Vector](#)< RTYPE > [union\\_](#) (const [VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > &lhs, const [VectorBase](#)< RTYPE,  
RHS\_NA, RHS\_T > &rhs)
- `template<bool NA, typename T >`  
[sugar::Sign](#)< INTSXP, NA, T > [sign](#) (const [VectorBase](#)< INTSXP, NA, T > &t)
- `template<bool NA, typename T >`  
[sugar::Sign](#)< REALSXP, NA, T > [sign](#) (const [VectorBase](#)< REALSXP, NA, T > &t)
- `template<bool NA, typename T >`  
[String collapse](#) (const [VectorBase](#)< STRSXP, NA, T > &vec)
- `template<bool NA, typename T >`  
[sugar::Sum](#)< INTSXP, NA, T > [sum](#) (const [VectorBase](#)< INTSXP, NA, T > &t)
- `template<bool NA, typename T >`  
[sugar::Sum](#)< REALSXP, NA, T > [sum](#) (const [VectorBase](#)< REALSXP, NA, T > &t)
- `template<bool NA, typename T >`  
[sugar::Sum](#)< LGLSXP, NA, T > [sum](#) (const [VectorBase](#)< LGLSXP, NA, T > &t)
- `template<int RTYPE, bool NA, typename T >`  
[IntegerVector table](#) (const [VectorBase](#)< RTYPE, NA, T > &x)
- `template<int RTYPE, bool NA, typename T >`  
[sugar::Tail](#)< RTYPE, NA, T > [tail](#) (const [VectorBase](#)< RTYPE, NA, T > &t, R\_xlen\_t n)
- `template<int RTYPE, bool NA, typename T >`  
[Vector](#)< RTYPE > [unique](#) (const [VectorBase](#)< RTYPE, NA, T > &t)

- `template<int RTYPE, bool NA, typename T >`  
`Vector< RTYPE > sort_unique (const VectorBase< RTYPE, NA, T > &t)`
- `template<int RTYPE, bool NA, typename T , bool RHS_NA, typename RHS_T >`  
`LogicalVector in (const VectorBase< RTYPE, NA, T > &x, const VectorBase< RTYPE, RHS_NA, RHS_T > &table)`
- `template<bool NA, typename T >`  
`sugar::Var< REALSXP, NA, T > var (const VectorBase< REALSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Var< INTSXP, NA, T > var (const VectorBase< INTSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Var< LGLSXP, NA, T > var (const VectorBase< LGLSXP, NA, T > &t)`
- `template<bool NA, typename T >`  
`sugar::Var< CPLXSXP, NA, T > var (const VectorBase< CPLXSXP, NA, T > &t)`
- `template<int RTYPE, bool NA, typename T >`  
`R_xlen_t which_max (const VectorBase< RTYPE, NA, T > &t)`
- `template<int RTYPE, bool NA, typename T >`  
`R_xlen_t which_min (const VectorBase< RTYPE, NA, T > &t)`
- `template<bool NA, typename T >`  
`bool is_true (const Rcpp::sugar::SingleLogicalResult< NA, T > &x)`
- `template<bool NA, typename T >`  
`bool is_false (const Rcpp::sugar::SingleLogicalResult< NA, T > &x)`
- `template<bool NA, typename T >`  
`bool is_na (const Rcpp::sugar::SingleLogicalResult< NA, T > &x)`
- `template<int RTYPE, bool NA, typename T >`  
`Rcpp::Vector< RTYPE > as_vector (const MatrixBase< RTYPE, NA, T > &t)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T >`  
`sugar::Col< RTYPE, LHS_NA, LHS_T > col (const Rcpp::MatrixBase< RTYPE, LHS_NA, LHS_T > &lhs)`
- `template<typename T >`  
`sugar::diag_result_type_trait< T >::type diag (const T &t)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T >`  
`sugar::LowerTri< RTYPE, LHS_NA, LHS_T > lower_tri (const Rcpp::MatrixBase< RTYPE, LHS_NA, LHS_T > &lhs, bool diag=false)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T , typename Function >`  
`sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function > outer (const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T > &rhs, Function fun)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T >`  
`sugar::Row< RTYPE, LHS_NA, LHS_T > row (const Rcpp::MatrixBase< RTYPE, LHS_NA, LHS_T > &lhs)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T >`  
`sugar::UpperTri< RTYPE, LHS_NA, LHS_T > upper_tri (const Rcpp::MatrixBase< RTYPE, LHS_NA, LHS_T > &lhs, bool diag=false)`
- `template<int RTYPE, bool NA, typename VECTOR >`  
`sugar::Nona< RTYPE, NA, VECTOR > noNA (const Rcpp::VectorBase< RTYPE, NA, VECTOR > &vec)`
- `sugar::NonaPrimitive< double > noNA (double x)`
- `sugar::NonaPrimitive< int > noNA (int x)`
- `template<int RTYPE, bool NA, typename T , typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename traits::storage_type< RTYPE >::type >::value, sugar::Divides_Vector_Primitive< RTYPE, NA, T > >::type operator/ (const VectorBase< RTYPE, NA, T > &lhs, const U &rhs)`
- `template<int RTYPE, bool NA, typename T , typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename traits::storage_type< RTYPE >::type >::value, sugar::Divides_Primitive_Vector< RTYPE, NA, T > >::type operator/ (const U &lhs, const VectorBase< RTYPE, NA, T > &rhs)`

- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > operator/` (const `VectorBase<`  
`RTYPE, LHS_NA, LHS_T > &lhs`, const `VectorBase<` `RTYPE, RHS_NA, RHS_T > &rhs`)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, sugar::Minus_Vector_Primitive< RTYPE, NA, T > >::type`  
`operator-` (const `VectorBase<` `RTYPE, NA, T > &lhs`, const `U &rhs`)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, sugar::Minus_Primitive_Vector< RTYPE, NA, T > >::type`  
`operator-` (const `U &lhs`, const `VectorBase<` `RTYPE, NA, T > &rhs`)
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > operator-` (const `VectorBase<` `R←`  
`TYPE, LHS_NA, LHS_T > &lhs`, const `VectorBase<` `RTYPE, RHS_NA, RHS_T > &rhs`)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, typename sugar::Plus_Vector_Primitive< RTYPE, NA, T > >←`  
`::type operator+` (const `VectorBase<` `RTYPE, NA, T > &lhs`, const `U &rhs`)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, typename sugar::Plus_Vector_Primitive< RTYPE, NA, T > >←`  
`::type operator+` (const `U &rhs`, const `VectorBase<` `RTYPE, NA, T > &lhs`)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, sugar::Plus_Vector_Primitive_nona< RTYPE, NA, T > >::type`  
`operator+` (const `VectorBase<` `RTYPE, NA, T > &lhs`, const `typename sugar::NonaPrimitive< U > &rhs`)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, sugar::Plus_Vector_Primitive_nona< RTYPE, NA, T > >::type`  
`operator+` (const `typename sugar::NonaPrimitive< U > &rhs`, const `VectorBase<` `RTYPE, NA, T > &lhs`)
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > operator+` (const `VectorBase<` `R←`  
`TYPE, LHS_NA, LHS_T > &lhs`, const `VectorBase<` `RTYPE, RHS_NA, RHS_T > &rhs`)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, sugar::Times_Vector_Primitive< RTYPE, NA, T > >::type`  
`operator*` (const `VectorBase<` `RTYPE, NA, T > &lhs`, const `U &rhs`)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, sugar::Times_Vector_Primitive< RTYPE, NA, T > >::type`  
`operator*` (const `U &rhs`, const `VectorBase<` `RTYPE, NA, T > &lhs`)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, sugar::Times_Vector_Primitive_nona< RTYPE, NA, T > >::type`  
`operator*` (const `VectorBase<` `RTYPE, NA, T > &lhs`, const `typename sugar::NonaPrimitive< U > &rhs`)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, sugar::Times_Vector_Primitive_nona< RTYPE, NA, T > >::type`  
`operator*` (const `typename sugar::NonaPrimitive< U > &rhs`, const `VectorBase<` `RTYPE, NA, T > &lhs`)
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > operator*` (const `VectorBase<`  
`RTYPE, LHS_NA, LHS_T > &lhs`, const `VectorBase<` `RTYPE, RHS_NA, RHS_T > &rhs`)
- `RCPY_API_CLASS` (Symbol\_Impl)

- `template<typename T, typename Function >`  
`List lapply` (const `ListOf< T >` &t, `Function` fun)
- `template<typename T, typename Function >`  
`T sapply` (const `ListOf< T >` &t, `Function` fun)
- `internal::DimNameProxy rownames` (SEXP x)
- `internal::DimNameProxy colnames` (SEXP x)
- `template<template< class > class StoragePolicy>`  
`std::ostream & operator<<` (std::ostream &s, const `Matrix< REALSXP, StoragePolicy >` &rhs)
- `template<template< class > class StoragePolicy>`  
`std::ostream & operator<<` (std::ostream &s, const `Matrix< INTSXP, StoragePolicy >` &rhs)
- `template<template< class > class StoragePolicy>`  
`std::ostream & operator<<` (std::ostream &s, const `Matrix< STRSXP, StoragePolicy >` &rhs)
- `template<int RTYPE, template< class > class StoragePolicy>`  
`std::ostream & operator<<` (std::ostream &s, const `Matrix< RTYPE, StoragePolicy >` &rhs)
- `template<int RTYPE, template< class > class StoragePolicy>`  
`Matrix< RTYPE, StoragePolicy > transpose_impl` (const `Matrix< RTYPE, StoragePolicy >` &x)
- `template<template< class > class StoragePolicy>`  
`Matrix< REALSXP, StoragePolicy > transpose` (const `Matrix< REALSXP, StoragePolicy >` &x)
- `template<template< class > class StoragePolicy>`  
`Matrix< INTSXP, StoragePolicy > transpose` (const `Matrix< INTSXP, StoragePolicy >` &x)
- `template<template< class > class StoragePolicy>`  
`Matrix< STRSXP, StoragePolicy > transpose` (const `Matrix< STRSXP, StoragePolicy >` &x)
- `no_init_vector no_init` (int size)
- `no_init_matrix no_init` (int nr, int nc)
- `template<int RTYPE, template< class > class StoragePolicy>`  
`std::ostream & operator<<` (std::ostream &s, const `Vector< RTYPE, StoragePolicy >` &rhs)
- `template<template< class > class StoragePolicy>`  
`std::ostream & operator<<` (std::ostream &s, const `Vector< STRSXP, StoragePolicy >` &rhs)
- `RCPP_API_CLASS` (`WeakReference_Impl`)
- `template<typename T >`  
void `standard_delete_finalizer` (T \*obj)
- `template<typename T, void Finalizer>`  
void `finalizer_wrapper` (SEXP p)
- SEXP `Rcpp_PreserveObject` (SEXP x)
- void `Rcpp_ReleaseObject` (SEXP x)
- SEXP `Rcpp_ReplaceObject` (SEXP x, SEXP y)
- static int `tzparse` (const char \*name, struct `state` \*sp, int lastditch)
- static int `typesequiv` (const struct `state` \*sp, int a, int b)
- static const char \* `getsecs` (const char \*strp, long \*secp)
- static const char \* `getnum` (const char \*strp, int \*const nump, const int min, const int max)
- static const char \* `getrule` (const char \*strp, struct `rule` \*const rulep)
- static time\_t `transtime` (const time\_t janfirst, const int year, const struct `rule` \*const rulep, const long offset)
- static struct `tm` \* `timesub` (const time\_t \*const timep, const long offset, const struct `state` \*const sp, struct `tm` \*const tmp)
- static int `leaps_thru_end_of` (const int y)
- static int `increment_overflow` (int \*number, int delta)
- static long `detzcode` (const char \*const codep)
- static time\_t `detzcode64` (const char \*const codep)
- static int `differ_by_repeat` (const time\_t t1, const time\_t t0)
- static const char \* `getzname` (const char \*strp)
- static const char \* `getqzname` (const char \*strp, const int delim)
- static const char \* `getoffset` (const char \*strp, long \*const offsetp)

- static int [tzload](#) (const char \*name, struct [state](#) \*const sp, const int doextend)
- static void [gmtload](#) (struct [state](#) \*const sp)
- static struct [tm](#) \* [gmtsub](#) (const time\_t \*const timep, const long offset, struct [tm](#) \*const tmp)

## Variables

- public [DottedPairProxyPolicy](#)< [DottedPair\\_Impl](#)< [StoragePolicy](#) > >
- public public [DottedPairImpl](#)< [DottedPair\\_Impl](#)< [StoragePolicy](#) > >
- public [BindingPolicy](#)< [Environment\\_Impl](#)< [StoragePolicy](#) > >
- public [DottedPairProxyPolicy](#)< [Formula\\_Impl](#)< [StoragePolicy](#) > >
- public public [DottedPairImpl](#)< [Formula\\_Impl](#)< [StoragePolicy](#) > >
- static [Rostream](#)< true > [Rcout](#)
- static [Rostream](#)< false > [Rcerr](#)
- public [DottedPairProxyPolicy](#)< [Language\\_Impl](#)< [StoragePolicy](#) > >
- public public [DottedPairImpl](#)< [Language\\_Impl](#)< [StoragePolicy](#) > >
- static [Na\\_Proxy](#) NA
- static [internal::NamedPlaceholder](#) \_
- public [DottedPairProxyPolicy](#)< [Pairlist\\_Impl](#)< [StoragePolicy](#) > >
- public public [DottedPairImpl](#)< [Pairlist\\_Impl](#)< [StoragePolicy](#) > >
- public [FieldProxyPolicy](#)< [Reference\\_Impl](#)< [StoragePolicy](#) > >
- public [DottedPairProxyPolicy](#)< [StretchyList\\_Impl](#)< [StoragePolicy](#) > >
- static const char [gmt](#) [] = "GMT"
- static const int [mon\\_lengths](#) [2][MONSPERYEAR]
- static const int [year\\_lengths](#) [2]
- static int [gmt\\_is\\_set](#)
- static struct [state](#) [gmtmem](#)
- static struct [tm](#) [tm](#)
- static [Module](#) \* [current\\_scope](#)

### 5.2.1 Detailed Description

[Rcpp](#) API.

### 5.2.2 Typedef Documentation

#### 5.2.2.1 typedef [Matrix](#)<[STRSXP](#)> [Rcpp::CharacterMatrix](#)

Definition at line 46 of file instantiation.h.

#### 5.2.2.2 typedef [Vector](#)<[STRSXP](#)> [Rcpp::CharacterVector](#)

Definition at line 34 of file instantiation.h.

**5.2.2.3 typedef Matrix<CPLXXP> Rcpp::ComplexMatrix**

Definition at line 40 of file instantiation.h.

**5.2.2.4 typedef Vector<CPLXXP> Rcpp::ComplexVector**

Definition at line 27 of file instantiation.h.

**5.2.2.5 typedef DottedPairProxyPolicy< StretchyList\_Impl >::const\_DottedPairProxy Rcpp::const\_Proxy**

Definition at line 39 of file Language.h.

**5.2.2.6 typedef DataFrame\_Impl<PreserveStorage> Rcpp::DataFrame**

Definition at line 136 of file DataFrame.h.

**5.2.2.7 typedef DottedPair\_Impl<PreserveStorage> Rcpp::DottedPair**

Definition at line 45 of file DottedPair.h.

**5.2.2.8 typedef Vector<REALXP> Rcpp::DoubleVector**

Definition at line 31 of file instantiation.h.

**5.2.2.9 typedef Environment\_Impl<PreserveStorage> Rcpp::Environment**

Definition at line 399 of file Environment.h.

**5.2.2.10 typedef Matrix<EXPRXP> Rcpp::ExpressionMatrix**

Definition at line 50 of file instantiation.h.

**5.2.2.11 typedef Vector<EXPRXP> Rcpp::ExpressionVector**

Definition at line 38 of file instantiation.h.

**5.2.2.12 typedef Formula\_Impl<PreserveStorage> Rcpp::Formula**

Definition at line 75 of file Formula.h.

### 5.2.2.13 `typedef Function_Impl<PreserveStorage> Rcpp::Function`

Examples:

[SugarPerformance/Timer.h](#).

Definition at line 111 of file `Function.h`.

### 5.2.2.14 `typedef Matrix<VECSXP> Rcpp::GenericMatrix`

Definition at line 48 of file `instantiation.h`.

### 5.2.2.15 `typedef Vector<VECSXP> Rcpp::GenericVector`

Definition at line 36 of file `instantiation.h`.

### 5.2.2.16 `typedef Matrix<INTSXP> Rcpp::IntegerMatrix`

Definition at line 41 of file `instantiation.h`.

### 5.2.2.17 `typedef Vector<INTSXP> Rcpp::IntegerVector`

Definition at line 28 of file `instantiation.h`.

### 5.2.2.18 `typedef InternalFunction_Impl<PreserveStorage> Rcpp::InternalFunction`

Definition at line 62 of file `InternalFunction.h`.

### 5.2.2.19 `typedef Language_Impl<PreserveStorage> Rcpp::Language`

Definition at line 159 of file `Language.h`.

### 5.2.2.20 `typedef Vector<VECSXP> Rcpp::List`

Definition at line 37 of file `instantiation.h`.

### 5.2.2.21 `typedef Matrix<VECSXP> Rcpp::ListMatrix`

Definition at line 49 of file `instantiation.h`.



**5.2.2.22 typedef Matrix<LGLSXP> Rcpp::LogicalMatrix**

Definition at line 42 of file instantiation.h.

**5.2.2.23 typedef Vector<LGLSXP> Rcpp::LogicalVector**

Definition at line 29 of file instantiation.h.

**5.2.2.24 typedef uint64\_t Rcpp::nanotime\_t**

Definition at line 47 of file Timer.h.

**5.2.2.25 typedef Matrix<REALSXP> Rcpp::NumericMatrix**

Definition at line 43 of file instantiation.h.

**5.2.2.26 typedef Vector<REALSXP> Rcpp::NumericVector**

Definition at line 30 of file instantiation.h.

**5.2.2.27 typedef Pairlist\_Impl<PreserveStorage> Rcpp::Pairlist**

Definition at line 51 of file Pairlist.h.

**5.2.2.28 typedef Promise\_Impl<PreserveStorage> Rcpp::Promise**

Definition at line 73 of file Promise.h.

**5.2.2.29 typedef Matrix<RAWSXP> Rcpp::RawMatrix**

Definition at line 44 of file instantiation.h.

**5.2.2.30 typedef Vector<RAWSXP> Rcpp::RawVector**

Definition at line 32 of file instantiation.h.

**5.2.2.31 typedef Reference\_Impl<PreserveStorage> Rcpp::Reference**

Definition at line 70 of file Reference.h.

**5.2.2.32 typedef RObject\_Impl<PreserveStorage> Rcpp::RObject**

Definition at line 56 of file RObject.h.

**5.2.2.33 typedef S4\_Impl<PreserveStorage> Rcpp::S4**

Definition at line 72 of file S4.h.

**5.2.2.34 typedef StretchyList\_Impl<PreserveStorage> Rcpp::StretchyList** [private]

Definition at line 81 of file StretchyList.h.

**5.2.2.35 typedef Matrix<STRSXP> Rcpp::StringMatrix**

Definition at line 47 of file instantiation.h.

**5.2.2.36 typedef Vector<STRSXP> Rcpp::StringVector**

Definition at line 35 of file instantiation.h.

**5.2.2.37 typedef Symbol\_Impl<NoProtectStorage> Rcpp::Symbol**

Definition at line 80 of file Symbol.h.

**5.2.2.38 typedef bool(\* Rcpp::ValidConstructor) (SEXP \*, int)**

Definition at line 139 of file Module.h.

**5.2.2.39 typedef bool(\* Rcpp::ValidMethod) (SEXP \*, int)**

Definition at line 140 of file Module.h.

**5.2.2.40 typedef WeakReference\_Impl<PreserveStorage> Rcpp::WeakReference**

Definition at line 62 of file WeakReference.h.

### 5.2.3 Function Documentation

5.2.3.1 `template<class InputIterator , class T > bool Rcpp::__any ( InputIterator first, InputIterator last, const T & value, std::input_iterator_tag ) [inline]`

Definition at line 32 of file algo.h.

Referenced by any().

5.2.3.2 `template<class RandomAccessIterator , class T > bool Rcpp::__any ( RandomAccessIterator __first, RandomAccessIterator __last, const T & __val, std::random_access_iterator_tag ) [inline]`

Definition at line 39 of file algo.h.

5.2.3.3 `template<class InputIterator , class Predicate > bool Rcpp::__any_if ( InputIterator first, InputIterator last, Predicate pred, std::input_iterator_tag ) [inline]`

Definition at line 98 of file algo.h.

Referenced by any\_if().

5.2.3.4 `template<class RandomAccessIterator , class Predicate > bool Rcpp::__any_if ( RandomAccessIterator __first, RandomAccessIterator __last, Predicate __pred, std::random_access_iterator_tag ) [inline]`

Definition at line 105 of file algo.h.

5.2.3.5 `template<bool NA, typename T > sugar::All<NA,T> Rcpp::all ( const Rcpp::VectorBase< LGLSXP, NA, T > & t ) [inline]`

Definition at line 84 of file all.h.

5.2.3.6 `template<bool NA, typename T > sugar::Any<NA,T> Rcpp::any ( const Rcpp::VectorBase< LGLSXP, NA, T > & t ) [inline]`

Definition at line 81 of file any.h.

```
5.2.3.7 template<class InputIterator , class T > bool Rcpp::any ( InputIterator first, InputIterator last, const T & value )  
    [inline]
```

stl like algorithm to identify if any of the objects in the range is equal to the value

Definition at line 89 of file algo.h.

References `__any()`.

Referenced by `Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >::operator result_type()`, and `Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >::operator result_type()`.

Here is the call graph for this function:



```
5.2.3.8 template<class InputIterator , class Predicate > bool Rcpp::any_if ( InputIterator first, InputIterator last, Predicate pred )  
    [inline]
```

stl-like algorithm to identify if the predicate is true for any of the objects in the range

Definition at line 155 of file algo.h.

References `__any_if()`.

Here is the call graph for this function:



### 5.2.3.9 `template<typename T> T Rcpp::as ( SEXP x )`

Generic converted from SEXP to the typename. T can be any type that has a constructor taking a SEXP, which is the case for all our RObject and derived classes.

If it is not possible to add the SEXP constructor, e.g you don't control the type, you can specialize the as template to perform the requested conversion

This is used for example in Environment, so that for example the code below will work as long as there is a way to as<> the Foo type

```
Environment x = ... ; // some environment Foo y = x["bla"] ; // if as<Foo> makes sense then this works !!
```

Definition at line 143 of file as.h.

Referenced by `CppProperty_GetMethod_SetMethod< Class, PROP >::set()`, `CppProperty_GetConstMethod_SetMethod< Class, PROP >::set()`, `CppProperty_GetMethod_SetPointer< Class, PROP >::set()`, `CppProperty_GetConstMethod_SetPointer< Class, PROP >::set()`, `CppProperty_GetPointer_SetMethod< Class, PROP >::set()`, `CppProperty_GetPointer_SetPointer< Class, PROP >::set()`, and `Rcpp::attributes::SourceFileAttributesParser::SourceFileAttributesParser()`.

### 5.2.3.10 `template<> SEXP Rcpp::as ( SEXP x ) [inline]`

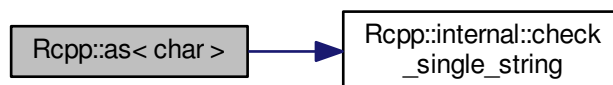
Definition at line 156 of file as.h.

### 5.2.3.11 `template<> char Rcpp::as< char > ( SEXP x ) [inline]`

Definition at line 147 of file as.h.

References `Rcpp::internal::check_single_string()`.

Here is the call graph for this function:

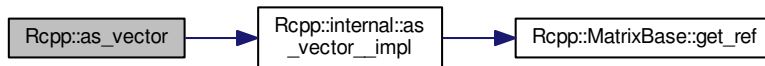


5.2.3.12 `template<int RTYPE, bool NA, typename T > Rcpp::Vector<RTYPE> Rcpp::as_vector ( const MatrixBase< RTYPE, NA, T > & t ) [inline]`

Definition at line 55 of file `as_vector.h`.

References `Rcpp::internal::as_vector__impl()`.

Here is the call graph for this function:



5.2.3.13 `bool Rcpp::assign ( const std::string & name, SEXP x ) const`

Attempts to assign `x` to `name` in this environment

#### Parameters

<i>name</i>	name of the object to assign
<i>x</i>	object to assign

#### Returns

true if the assign was successfull see `?bindingsIsLocked`

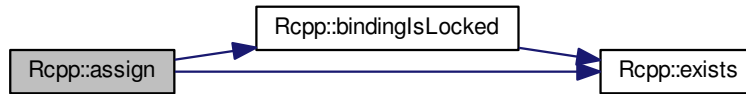
#### Exceptions

<i>binding_is_locked</i>	if the binding is locked
--------------------------	--------------------------

Definition at line 209 of file `Environment.h`.

References `bindingsIsLocked()`, and `exists()`.

Here is the call graph for this function:



**5.2.3.14** `template<typename WRAPPABLE > bool Rcpp::assign ( const std::string & name, const WRAPPABLE & x ) const`

wrap and assign. If there is a wrap method taking an object of WRAPPABLE type, then it is wrapped and the corresponding SEXP is assigned in the environment

#### Parameters

<i>name</i>	name of the object to assign
<i>x</i>	wrappable object. anything that has a wrap( WRAPPABLE ) is fine

**5.2.3.15** `template<typename T > traits::remove_const_and_reference<T>::type Rcpp::bare_as ( SEXP x ) [inline]`

Definition at line 152 of file as.h.

**5.2.3.16** `static Environment_Impl Rcpp::base_env ( ) [static]`

#### Returns

the base environment. See ?baseenv

Definition at line 345 of file Environment.h.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::attributeWarning()`, `Rcpp::attributes::createDirectory()`, `Rcpp::attributes::isRoxygenCpp()`, `Rcpp::attributes::removeFile()`, and `Rcpp::attributes::showWarning()`.

**5.2.3.17** `static Environment_Impl Rcpp::base_namespace ( ) [static]`

#### Returns

the base namespace. See ?baseenv

Definition at line 352 of file Environment.h.

**5.2.3.18** `bool Rcpp::bindingsActive ( const std::string & name ) const`

**Parameters**

<i>name</i>	name of a binding
-------------	-------------------

**Returns**

true if the binding is active in this environment see ?bindingsActive

**Exceptions**

<i>no_such_binding</i>	if there is no such binding in this environment
------------------------	---

Definition at line 314 of file Environment.h.

References exists().

Here is the call graph for this function:



### 5.2.3.19 bool Rcpp::bindingsLocked ( const std::string & *name* ) const

**Parameters**

<i>name</i>	name of a potential binding
-------------	-----------------------------

**Returns**

true if the binding is locked in this environment see ?bindingsLocked

**Exceptions**

<i>no_such_binding</i>	if there is no such binding in this environment
------------------------	---

Definition at line 299 of file Environment.h.

References exists().



Referenced by `assign()`, and `remove()`.

Here is the call graph for this function:



5.2.3.20 `void Rcpp::checkUserInterrupt ( ) [inline]`

Definition at line 59 of file `Interrupt.h`.

5.2.3.21 `template<int RTYPE, bool NA, typename T > sugar::Clamp_Primitive_Vector_Primitive<RTYPE,NA,T>  
Rcpp::clamp ( typename Rcpp::traits::storage_type< RTYPE >::type lhs, const Rcpp::VectorBase< RTYPE,  
NA, T > & vec, typename Rcpp::traits::storage_type< RTYPE >::type rhs ) [inline]`

Definition at line 84 of file `clamp.h`.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`, `Rcpp::sugar::clamp_operator< RTYPE, NA >::lhs`, and `Rcpp::sugar::clamp_operator< RTYPE, NA >::rhs`.

Here is the call graph for this function:



5.2.3.22 `template<typename T > T Rcpp::clone ( const T & object )`

Definition at line 33 of file `clone.h`.

Referenced by `Rcpp::Nullable< T >::clone()`.

5.2.3.23 `template<int RTYPE, bool LHS_NA, typename LHS_T > sugar::Col<RTYPE,LHS_NA,LHS_T> Rcpp::col ( const Rcpp::MatrixBase< RTYPE, LHS_NA, LHS_T > & lhs ) [inline]`

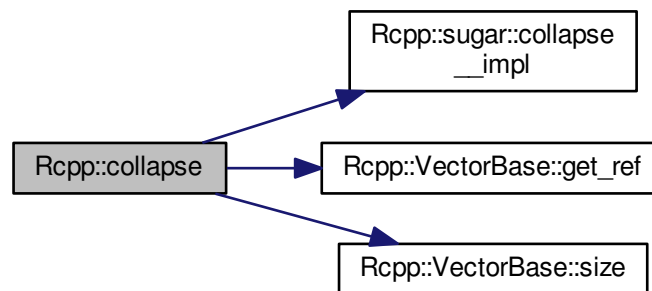
Definition at line 55 of file col.h.

5.2.3.24 `template<bool NA, typename T > String Rcpp::collapse ( const VectorBase< STRSXP, NA, T > & vec ) [inline]`

Definition at line 41 of file collapse.h.

References `Rcpp::sugar::collapse__impl()`, `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



5.2.3.25 `template<int RTYPE, bool NA, typename T > sugar::detail::ColMeansReturn<RTYPE>::type Rcpp::colMeans ( const MatrixBase< RTYPE, NA, T > & x, bool na_rm = false ) [inline]`

Definition at line 951 of file rowSums.h.

5.2.3.26 `internal::DimNameProxy Rcpp::colnames ( SEXP x ) [inline]`

Definition at line 214 of file Matrix.h.

5.2.3.27 `template<int RTYPE, bool NA, typename T > sugar::detail::ColSumsReturn<RTYPE>::type Rcpp::colSums ( const MatrixBase< RTYPE, NA, T > & x, bool na_rm = false ) [inline]`

Definition at line 933 of file rowSums.h.

5.2.3.28 `template<typename FROM, typename TO > void Rcpp::converter ( const char * from, const char * to, TO(*)(FROM) fun, const char * docstring = 0 )`

Definition at line 377 of file Module.h.

5.2.3.29 `template<bool NA, typename T > sugar::Cummax<INTSXP, NA, T> Rcpp::cummax ( const VectorBase< INTSXP, NA, T > & t ) [inline]`

Definition at line 59 of file cummax.h.

5.2.3.30 `template<bool NA, typename T > sugar::Cummax<REALSXP, NA, T> Rcpp::cummax ( const VectorBase< REALSXP, NA, T > & t ) [inline]`

Definition at line 64 of file cummax.h.

5.2.3.31 `template<bool NA, typename T > sugar::Cummin<INTSXP, NA, T> Rcpp::cummin ( const VectorBase< INTSXP, NA, T > & t ) [inline]`

Definition at line 59 of file cummin.h.

5.2.3.32 `template<bool NA, typename T > sugar::Cummin<REALSXP, NA, T> Rcpp::cummin ( const VectorBase< REALSXP, NA, T > & t ) [inline]`

Definition at line 64 of file cummin.h.

5.2.3.33 `template<bool NA, typename T > sugar::Cumprod<INTSXP, NA, T> Rcpp::cumprod ( const VectorBase< INTSXP, NA, T > & t ) [inline]`

Definition at line 59 of file cumprod.h.

5.2.3.34 `template<bool NA, typename T > sugar::Cumprod<REALSXP, NA, T> Rcpp::cumprod ( const VectorBase< REALSXP, NA, T > & t ) [inline]`

Definition at line 64 of file cumprod.h.

5.2.3.35 `template<bool NA, typename T > sugar::Cumprod<CPLXSXP, NA, T> Rcpp::cumprod ( const VectorBase< CPLXSXP, NA, T > & t ) [inline]`

Definition at line 69 of file cumprod.h.

5.2.3.36 `template<bool NA, typename T > sugar::Cumsum<INTSXP,NA,T> Rcpp::cumsum ( const VectorBase< INTSXP, NA, T > & t ) [inline]`

Definition at line 59 of file cumsum.h.

5.2.3.37 `template<bool NA, typename T > sugar::Cumsum<REALSXP,NA,T> Rcpp::cumsum ( const VectorBase< REALSXP, NA, T > & t ) [inline]`

Definition at line 64 of file cumsum.h.

5.2.3.38 `static long Rcpp::detzcode ( const char *const codep ) [static]`

Definition at line 398 of file Date.cpp.

Referenced by tzload().

5.2.3.39 `static time_t Rcpp::detzcode64 ( const char *const codep ) [static]`

Definition at line 408 of file Date.cpp.

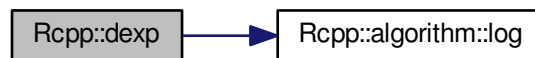
Referenced by tzload().

5.2.3.40 `template<bool NA, typename T > stats::D1<REALSXP,NA,T> Rcpp::dexp ( const Rcpp::VectorBase< REALSXP, NA, T > & x, double shape, bool log = false ) [inline]`

Definition at line 81 of file exp.h.

References Rcpp::algorithm::log().

Here is the call graph for this function:



5.2.3.41 `template<typename T > sugar::diag_result_type_trait<T>::type Rcpp::diag ( const T & t ) [inline]`

Definition at line 83 of file diag.h.

Referenced by lower\_tri(), and upper\_tri().

5.2.3.42 `template<bool LHS_NA, typename LHS_T > sugar::Diff<INTSXP,LHS_NA,LHS_T> Rcpp::diff ( const VectorBase<INTSXP, LHS_NA, LHS_T > & lhs ) [inline]`

Definition at line 124 of file diff.h.

References `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::lhs`.

Referenced by `compileAttributes()`, and `Rcpp::sugar::Diff< RTYPE, false, LHS_T >::operator[]()`.

5.2.3.43 `template<bool LHS_NA, typename LHS_T > sugar::Diff<REALSXP,LHS_NA,LHS_T> Rcpp::diff ( const VectorBase<REALSXP, LHS_NA, LHS_T > & lhs ) [inline]`

Definition at line 131 of file diff.h.

References `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::lhs`.

5.2.3.44 `static int Rcpp::differ_by_repeat ( const time_t t1, const time_t t0 ) [static]`

Definition at line 418 of file Date.cpp.

References `SECSPERREPEAT`, `SECSPERREPEAT_BITS`, `TYPE_BIT`, `TYPE_INTEGRAL`, and `TYPE_SIGNED`.

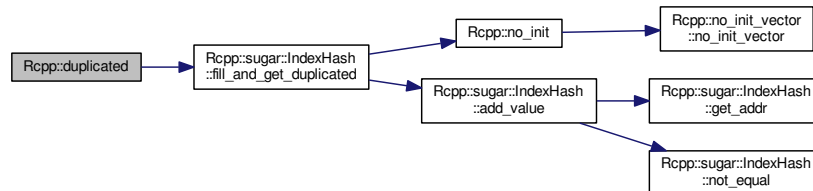
Referenced by `tzload()`.

5.2.3.45 `template<int RTYPE, bool NA, typename T > LogicalVector Rcpp::duplicated ( const VectorBase< RTYPE, NA, T > & x ) [inline]`

Definition at line 28 of file duplicated.h.

References `Rcpp::sugar::IndexHash< RTYPE >::fill_and_get_duplicated()`.

Here is the call graph for this function:



### 5.2.3.46 `static Environment_Impl Rcpp::empty_env ( ) [static]`

#### Returns

The empty environment. See `?emptyenv`

Definition at line 338 of file `Environment.h`.

### 5.2.3.47 `Rcpp::Environment_Impl ( SEXP x )`

wraps the given environment

if the SEXP is not an environment, and exception is thrown

Definition at line 59 of file `Environment.h`.

Referenced by `namespace_env()`, `new_child()`, and `parent()`.

### 5.2.3.48 `Rcpp::Environment_Impl::Environment_Impl ( const std::string & name )`

Gets the environment associated with the given name

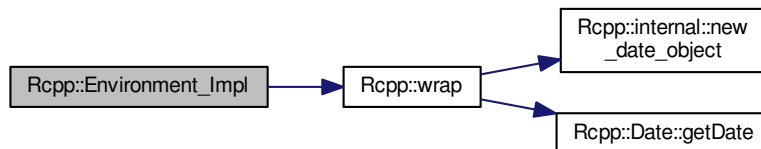
#### Parameters

<i>name</i>	name of the environment, e.g "package:Rcpp"
-------------	---

Definition at line 34 of file `Environment.h`.

References `wrap()`.

Here is the call graph for this function:



### 5.2.3.49 `Rcpp::Environment_Impl::Environment_Impl ( int pos )`

Gets the environment in the given position of the search path

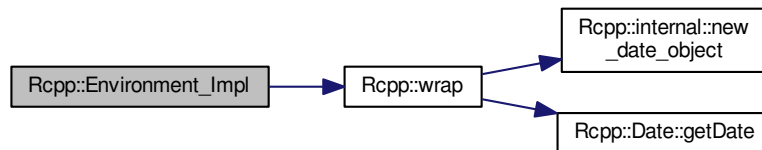
## Parameters

<i>pos</i>	(1-based) position of the environment, e.g pos=1 gives the global environment
------------	---

Definition at line 41 of file Environment.h.

References wrap().

Here is the call graph for this function:



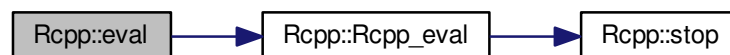
## 5.2.3.50 SEXP Rcpp::eval ( ) const

eval this call in the global environment

Definition at line 136 of file Language.h.

References Rcpp\_eval().

Here is the call graph for this function:



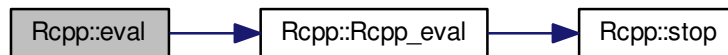
### 5.2.3.51 SEXP Rcpp::eval ( SEXP *env* ) const

eval this call in the requested environment

Definition at line 143 of file Language.h.

References Rcpp\_eval().

Here is the call graph for this function:



### 5.2.3.52 bool Rcpp::exists ( const std::string & *name* ) const

Indicates if an object called name exists in the environment

#### Parameters

<i>name</i>	name of the object
-------------	--------------------

#### Returns

true if the object exists in the environment

Definition at line 192 of file Environment.h.

Referenced by assign(), bindingIsActive(), bindingIsLocked(), Rcpp::attributes::ExportsGenerator::ExportsGenerator(), lockBinding(), remove(), and unlockBinding().

### 5.2.3.53 SEXP Rcpp::fast\_eval ( ) const

Definition at line 147 of file Language.h.



### 5.2.3.54 SEXP Rcpp::fast\_eval ( SEXP env ) const

Definition at line 150 of file Language.h.

References update().

Here is the call graph for this function:



### 5.2.3.55 template<typename T , void Finalizer> void Rcpp::finalizer\_wrapper ( SEXP p )

Definition at line 35 of file XPtr.h.

References DEMANGLE, and RCPP\_DEBUG\_3.

### 5.2.3.56 SEXP Rcpp::find ( const std::string & name ) const

Get an object from the environment or one of its parents

#### Parameters

<i>name</i>	name of the object
-------------	--------------------

Definition at line 147 of file Environment.h.

Referenced by Rcpp::attributes::CppExportsIncludeGenerator::commit(), Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T >::get\_indices(), and Rcpp::attributes::SourceFileAttributesParser::SourceFileAttributesParser().

### 5.2.3.57 SEXP Rcpp::find ( Symbol name ) const

Get an object from the environment or one of its parents

#### Parameters

<i>name</i>	symbol name to call
-------------	---------------------

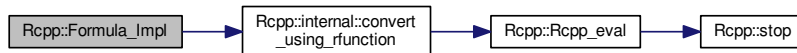
Definition at line 167 of file Environment.h.

### 5.2.3.58 Rcpp::Formula\_Impl ( SEXP x )

Definition at line 40 of file Formula.h.

References Rcpp::internal::convert\_using\_rfunction().

Here is the call graph for this function:

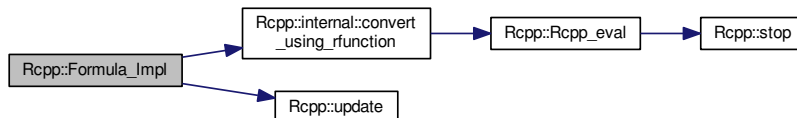


### 5.2.3.59 Rcpp::Formula\_Impl ( const std::string & code ) [explicit]

Definition at line 69 of file Formula.h.

References Rcpp::internal::convert\_using\_rfunction(), and update().

Here is the call graph for this function:



### 5.2.3.60 SEXP Rcpp::get ( const std::string & name ) const

Get an object from the environment

#### Parameters

<i>name</i>	name of the object
-------------	--------------------

**Returns**

a SEXP (possibly R\_NilValue)

Definition at line 105 of file Environment.h.

Referenced by Rcpp::sugar::Supply< RTYPE, NA, T, Function, NO\_CONVERSION >::operator[]().

**5.2.3.61 SEXP Rcpp::get ( *Symbol name* ) const**

Get an object from the environment

**Parameters**

<i>name</i>	symbol name to call
-------------	---------------------

**Returns**

a SEXP (possibly R\_NilValue)

Definition at line 126 of file Environment.h.

**5.2.3.62 template<typename RESULT\_TYPE > std::string Rcpp::get\_return\_type ( ) [inline]**

Definition at line 42 of file get\_return\_type.h.

**5.2.3.63 template<> std::string Rcpp::get\_return\_type< Rcpp::CharacterVector > ( ) [inline]**

Definition at line 74 of file get\_return\_type.h.

**5.2.3.64 template<> std::string Rcpp::get\_return\_type< Rcpp::ExpressionVector > ( ) [inline]**

Definition at line 66 of file get\_return\_type.h.

**5.2.3.65 template<> std::string Rcpp::get\_return\_type< Rcpp::IntegerVector > ( ) [inline]**

Definition at line 54 of file get\_return\_type.h.

**5.2.3.66 template<> std::string Rcpp::get\_return\_type< Rcpp::List > ( ) [inline]**

Definition at line 70 of file get\_return\_type.h.

5.2.3.67 `template<> std::string Rcpp::get_return_type< Rcpp::NumericVector >( ) [inline]`

Definition at line 58 of file `get_return_type.h`.

5.2.3.68 `template<> std::string Rcpp::get_return_type< Rcpp::RawVector >( ) [inline]`

Definition at line 62 of file `get_return_type.h`.

5.2.3.69 `template<> std::string Rcpp::get_return_type< SEXP >( ) [inline]`

Definition at line 50 of file `get_return_type.h`.

5.2.3.70 `template<> std::string Rcpp::get_return_type< void_type >( ) [inline]`

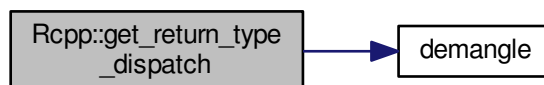
Definition at line 46 of file `get_return_type.h`.

5.2.3.71 `template<typename RESULT_TYPE > std::string Rcpp::get_return_type_dispatch ( Rcpp::traits::false_type ) [inline]`

Definition at line 30 of file `get_return_type.h`.

References `demangle()`.

Here is the call graph for this function:

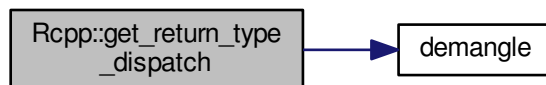


5.2.3.72 `template<typename RESULT_TYPE > std::string Rcpp::get_return_type_dispatch ( Rcpp::traits::true_type )`  
[inline]

Definition at line 34 of file `get_return_type.h`.

References `demangle()`.

Here is the call graph for this function:



5.2.3.73 `static const char * Rcpp::getnum ( const char * strp, int *const nump, const int min, const int max )` [static]

Definition at line 490 of file `Date.cpp`.

References `is_digit`.

Referenced by `getrule()`, and `getsecs()`.

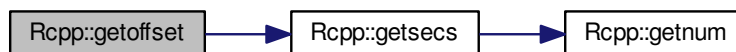
5.2.3.74 `static const char* Rcpp::getoffset ( const char * strp, long *const offsetp )` [static]

Definition at line 443 of file `Date.cpp`.

References `getsecs()`.

Referenced by `tzparse()`.

Here is the call graph for this function:



**5.2.3.75** `static const char* Rcpp::getqzname ( const char * strp, const int delim )` `[static]`

Definition at line 435 of file Date.cpp.

Referenced by `tzparse()`.

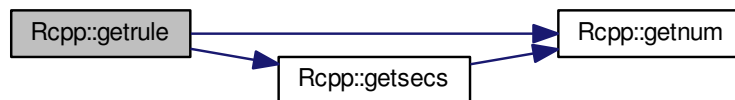
**5.2.3.76** `static const char * Rcpp::getrule ( const char * strp, struct rule *const rulep )` `[static]`

Definition at line 509 of file Date.cpp.

References `DAY_OF_YEAR`, `DAYSPERNYEAR`, `DAYSPERWEEK`, `getnum()`, `getsecs()`, `is_digit`, `JULIAN_DAY`, `MONTH_NTH_DAY_OF_WEEK`, `Rcpp::rule::r_day`, `Rcpp::rule::r_mon`, `Rcpp::rule::r_time`, `Rcpp::rule::r_type`, `Rcpp::rule::r_week`, and `SECSPERHOUR`.

Referenced by `tzparse()`.

Here is the call graph for this function:



**5.2.3.77** `static const char * Rcpp::getsecs ( const char * strp, long * secp )` `[static]`

Definition at line 459 of file Date.cpp.

References `DAYSPERWEEK`, `getnum()`, `HOURSPERDAY`, `MINSPERHOUR`, `SECSPERHOUR`, and `SECSPERMIN`.

Referenced by `getoffset()`, and `getrule()`.

Here is the call graph for this function:



### 5.2.3.78 `static const char* Rcpp::getzname ( const char * strp ) [static]`

Definition at line 426 of file Date.cpp.

References `is_digit`.

Referenced by `tzparse()`.

### 5.2.3.79 `static Environment_Impl Rcpp::global_env ( ) [static]`

Returns

the global environment. See `?globalenv`

Definition at line 331 of file Environment.h.

### 5.2.3.80 `struct tm * Rcpp::gmtime_ ( const time_t *const x )`

Definition at line 110 of file routines.h.

References `GET_CALLABLE`, and `tm`.

Referenced by `gmtsub()`, `operator+()`, `registerFunctions()`, `Rcpp::Datetime::update_tm()`, and `Rcpp::Date::update_tm()`.

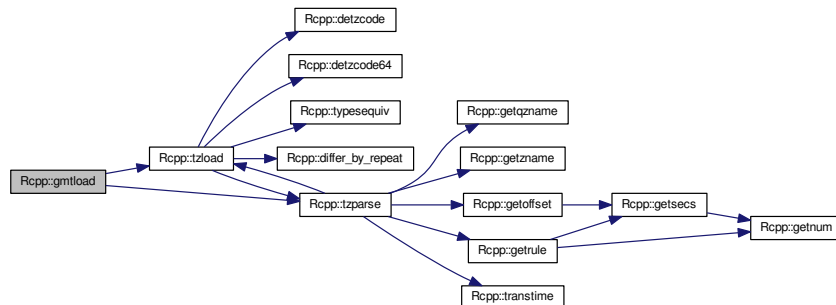
### 5.2.3.81 `static void Rcpp::gmtload ( struct state *const sp ) [static]`

Definition at line 1256 of file Date.cpp.

References `tzload()`, and `tzparse()`.

Referenced by `gmtsub()`.

Here is the call graph for this function:

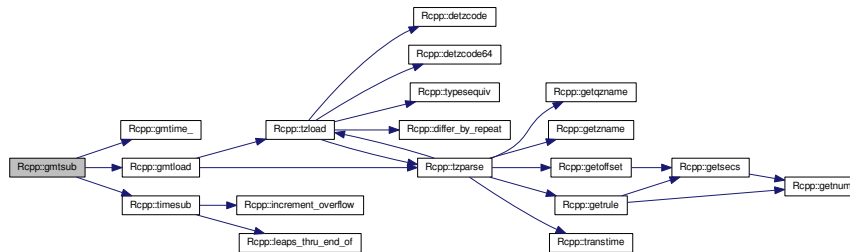


**5.2.3.82** `static struct tm* Rcpp::gmtsub ( const time_t *const timep, const long offset, struct tm *const tmp )` `[static]`

Definition at line 1261 of file Date.cpp.

References `gmtime_()`, `gmtload()`, `gmtptr`, and `timesub()`.

Here is the call graph for this function:



**5.2.3.83** `SEXP Rcpp::grow ( SEXP head, SEXP tail )` `[inline]`

Definition at line 34 of file grow.h.

Referenced by `grow()`, `Rcpp::internal::grow__dispatch()`, `Rcpp::DottedPairImpl< CLASS >::insert()`, `Rcpp::DottedPairImpl< CLASS >::push_back()`, and `Rcpp::DottedPairImpl< CLASS >::push_front()`.

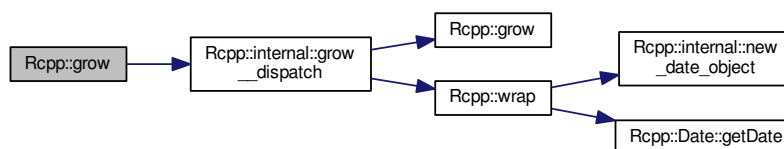
**5.2.3.84** `template<typename T> SEXP Rcpp::grow ( const T & head, SEXP tail )`

grows a pairlist. First wrap the head into a SEXP, then grow the tail pairlist

Definition at line 63 of file grow.h.

References `Rcpp::internal::grow__dispatch()`.

Here is the call graph for this function:





5.2.3.85 `SEXP Rcpp::grow ( const char * head, SEXP tail ) [inline]`

Definition at line 68 of file grow.h.

References `grow()`.

Here is the call graph for this function:

5.2.3.86 `template<int RTYPE, bool NA, typename T > sugar::Head<RTYPE,NA,T> Rcpp::head ( const VectorBase< RTYPE, NA, T > & t, R_xlen_t n ) [inline]`

Definition at line 53 of file head.h.

References `Rcpp::sugar::Head< RTYPE, NA, T >::n`.

5.2.3.87 `template<int RTYPE, bool COND_NA, typename COND_T , bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > sugar::IfElse< RTYPE,COND_NA,COND_T,LHS_NA,LHS_T,RHS_NA,RHS_T > Rcpp::ifelse ( const Rcpp::VectorBase< LGLSXP, COND_NA, COND_T > & cond, const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 342 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.88 `template<int RTYPE, bool COND_NA, typename COND_T , bool RHS_NA, typename RHS_T > sugar::IfElse_Primitive_Vector< RTYPE,COND_NA,COND_T,RHS_NA,RHS_T > Rcpp::ifelse ( const Rcpp::VectorBase< LGLSXP, COND_NA, COND_T > & cond, typename traits::storage_type< RTYPE >::type lhs, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 357 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

```
5.2.3.89 template<int RTYPE, bool COND_NA, typename COND_T , bool RHS_NA, typename RHS_T >
sugar::IfElse_Vector_Primitive< RTYPE,COND_NA,COND_T,RHS_NA,RHS_T > Rcpp::ifelse ( const
Rcpp::VectorBase< LGLSXP, COND_NA, COND_T > & cond, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T
> & lhs, typename traits::storage_type< RTYPE >::type rhs ) [inline]
```

Definition at line 371 of file ifelse.h.

References Rcpp::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::cond, Rcpp←  
::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::IfElse<  
RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

```
5.2.3.90 template<bool COND_NA, typename COND_T > sugar::IfElse_Primitive_Primitive< REALSXP,COND_NA,COND_T
> Rcpp::ifelse ( const Rcpp::VectorBase< LGLSXP, COND_NA, COND_T > & cond, double lhs, double rhs )
[inline]
```

Definition at line 383 of file ifelse.h.

References Rcpp::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::cond, Rcpp←  
::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::IfElse<  
RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

```
5.2.3.91 template<bool COND_NA, typename COND_T > sugar::IfElse_Primitive_Primitive< INTSXP,COND_NA,COND_T >
Rcpp::ifelse ( const Rcpp::VectorBase< LGLSXP, COND_NA, COND_T > & cond, int lhs, int rhs ) [inline]
```

Definition at line 395 of file ifelse.h.

References Rcpp::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::cond, Rcpp←  
::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::IfElse<  
RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

```
5.2.3.92 template<bool COND_NA, typename COND_T > sugar::IfElse_Primitive_Primitive< CPLXSXP,COND_NA,COND_T
> Rcpp::ifelse ( const Rcpp::VectorBase< LGLSXP, COND_NA, COND_T > & cond, Rcomplex lhs, Rcomplex rhs )
[inline]
```

Definition at line 407 of file ifelse.h.

References Rcpp::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::cond, Rcpp←  
::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::IfElse<  
RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

```
5.2.3.93 template<bool COND_NA, typename COND_T > sugar::IfElse_Primitive_Primitive< LGLSXP,COND_NA,COND_T >
Rcpp::ifelse ( const Rcpp::VectorBase< LGLSXP, COND_NA, COND_T > & cond, bool lhs, bool rhs ) [inline]
```

Definition at line 419 of file ifelse.h.

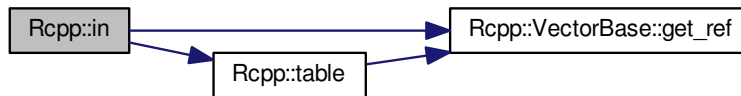
References Rcpp::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::cond, Rcpp←  
::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::IfElse<  
RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

5.2.3.94 `template<int RTYPE, bool NA, typename T, bool RHS_NA, typename RHS_T> LogicalVector Rcpp::in ( const VectorBase< RTYPE, NA, T > & x, const VectorBase< RTYPE, RHS_NA, RHS_T > & table ) [inline]`

Definition at line 77 of file unique.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`, and `table()`.

Here is the call graph for this function:



5.2.3.95 `static int Rcpp::increment_overflow ( int * number, int delta ) [static]`

Definition at line 390 of file Date.cpp.

Referenced by `timesub()`.

5.2.3.96 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> Vector<RTYPE> Rcpp::intersect ( const VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const VectorBase< RTYPE, RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 171 of file setdiff.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Referenced by `Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get()`, and `Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Intersect()`.

Here is the call graph for this function:



5.2.3.97 `template<typename T> bool Rcpp::is ( SEXP x )`

identify if an `x` can be seen as the `T` type

example: `bool is_list = is<List>( x );`

Definition at line 53 of file `is.h`.

Referenced by `Rcpp_API_CLASS()`.

5.2.3.98 `template<bool NA, typename T> bool Rcpp::is_false ( const Rcpp::sugar::SingleLogicalResult< NA, T> & x )`  
`[inline]`

Definition at line 33 of file `is.h`.

5.2.3.99 `template<int RTYPE, bool NA, typename T> sugar::IsFinite<RTYPE,NA,T> Rcpp::is_finite ( const Rcpp::VectorBase< RTYPE, NA, T> & t )` `[inline]`

Definition at line 49 of file `is_finite.h`.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Here is the call graph for this function:



5.2.3.100 `template<int RTYPE, bool NA, typename T> sugar::IsInfinite<RTYPE,NA,T> Rcpp::is_infinite ( const Rcpp::VectorBase< RTYPE, NA, T> & t )` `[inline]`

Definition at line 49 of file `is_infinite.h`.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Here is the call graph for this function:



5.2.3.101 `template<bool NA, typename T > bool Rcpp::is_na ( const Rcpp::sugar::SingleLogicalResult< NA, T > & x )`  
`[inline]`

Definition at line 38 of file `is.h`.

References `is_na()`.

Here is the call graph for this function:



5.2.3.102 `template<int RTYPE, bool NA, typename T > sugar::IsNa<RTYPE,NA,T> Rcpp::is_na ( const Rcpp::VectorBase< RTYPE, NA, T > & t )` `[inline]`

Definition at line 87 of file `is_na.h`.

Referenced by `is_na()`, `Rcpp::sugar::na_omit_impl()`, `Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >::operator result_type()`, `Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >::operator result_type()`, `Rcpp::algorithm::helpers::log<←::operator>()`, `Rcpp::algorithm::helpers::exp::operator>()`, and `Rcpp::algorithm::helpers::sqrt::operator>()`.

5.2.3.103 `sugar::IsNa_Vector_is_na<DatetimeVector> Rcpp::is_na ( const DatetimeVector & x )` `[inline]`

Definition at line 91 of file `is_na.h`.

5.2.3.104 `sugar::IsNa_Vector_is_na<DateVector> Rcpp::is_na ( const DateVector & x )` `[inline]`

Definition at line 94 of file `is_na.h`.

5.2.3.105 `template<int RTYPE, bool NA, typename T > sugar::IsNaN<RTYPE,NA,T> Rcpp::is_nan ( const Rcpp::VectorBase< RTYPE, NA, T > & t ) [inline]`

Definition at line 49 of file `is_nan.h`.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Here is the call graph for this function:



5.2.3.106 `template<bool NA, typename T > bool Rcpp::is_true ( const Rcpp::sugar::SingleLogicalResult< NA, T > & x ) [inline]`

Definition at line 28 of file `is.h`.

Referenced by `Rcpp::sugar::SingleLogicalResult< false, Any< false, T > >::operator bool()`.

5.2.3.107 `bool Rcpp::is_user_database ( ) const`

Indicates if this is a user defined database.

Definition at line 323 of file `Environment.h`.

Referenced by `Is()`.

5.2.3.108 `bool Rcpp::isLocked ( ) const`

Returns

true if this environment is locked see `?environmentIsLocked` for details of what this means

Definition at line 231 of file `Environment.h`.

5.2.3.109 `Rcpp::Language_Impl ( )`

Definition at line 43 of file `Language.h`.

5.2.3.110 `Rcpp::Language_Impl ( SEXP x )`

Attempts to convert the SEXP to a call

**Exceptions**

<i>not_compatible</i>	if the SEXP could not be converted to a call using <code>as.call</code>
-----------------------	---

Definition at line 51 of file Language.h.

**5.2.3.111 Rcpp::Language\_Impl ( const std::string & *symbol* ) [explicit]**

Creates a call using the given symbol as the function name

**Parameters**

<i>symbol</i>	symbol name to call
---------------	---------------------

`Language( "rnorm" )` makes a SEXP similar to this (expressed in [R](#))

```
as.call( as.list( as.name( "rnorm" ) ) ) call( "rnorm" )
```

Definition at line 64 of file Language.h.

**5.2.3.112 Rcpp::Language\_Impl ( const Symbol & *symbol* ) [explicit]**

Creates a call using the given symbol as the function name

**Parameters**

<i>symbol</i>	symbol name to call
---------------	---------------------

`Language( Symbol("rnorm") )` makes a SEXP similar to this:

```
call( "rnorm" )
```

Definition at line 76 of file Language.h.

**5.2.3.113 Rcpp::Language\_Impl ( const Function & *function* ) [explicit]**

Creates a call to the function

**Parameters**

<i>function</i>	function to call
-----------------	------------------

Definition at line 85 of file Language.h.

```
5.2.3.114 template<int RTYPE, bool NA, typename T , typename Function > sugar::Lapply<RTYPE,NA,T,Function>
Rcpp::lapply ( const Rcpp::VectorBase< RTYPE, NA, T > & t, Function fun ) [inline]
```

Definition at line 55 of file lapply.h.

References Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::fun.

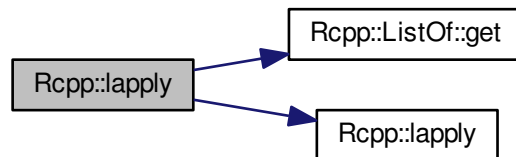
Referenced by lapply().

```
5.2.3.115 template<typename T , typename Function > List Rcpp::lapply ( const ListOf< T > & t, Function fun )
```

Definition at line 129 of file ListOf.h.

References Rcpp::ListOf< T >::get(), and lapply().

Here is the call graph for this function:



```
5.2.3.116 static int Rcpp::leaps_thru_end_of ( const int y ) [static]
```

Definition at line 1130 of file Date.cpp.

Referenced by timesub().

```
5.2.3.117 void Rcpp::lock ( bool bindings = false )
```

locks this environment. See ?lockEnvironment

#### Parameters

`bindings` also lock the bindings of this environment ?



Definition at line 263 of file Environment.h.

#### 5.2.3.118 void Rcpp::lockBinding ( const std::string & name )

Locks the given binding in the environment. see ?bindingsIsLocked

##### Exceptions

<code>no_such_binding</code>	if there is no such binding in this environment
------------------------------	---

Definition at line 273 of file Environment.h.

References exists().

Here is the call graph for this function:



#### 5.2.3.119 template<int RTYPE, bool LHS\_NA, typename LHS\_T > sugar::LowerTri<RTYPE,LHS\_NA,LHS\_T> Rcpp::lower\_tri ( const Rcpp::MatrixBase< RTYPE, LHS\_NA, LHS\_T > & lhs, bool diag = false ) [inline]

Definition at line 75 of file lower\_tri.h.

References diag().

Here is the call graph for this function:



5.2.3.120 `SEXP Rcpp::ls ( bool all ) const`

The list of objects in the environment

the same as calling this from [R](#):

```
ls( envir = this, all = all )
```

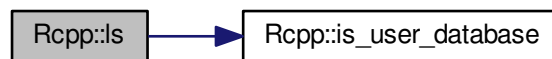
## Parameters

<i>all</i>	same meaning as in <code>?ls</code>
------------	-------------------------------------

Definition at line 87 of file `Environment.h`.

References `is_user_database()`.

Here is the call graph for this function:

5.2.3.121 `template<typename UnaryOperator > StringTransformer<UnaryOperator> Rcpp::make_string_transformer ( const UnaryOperator & fun )`

Definition at line 47 of file `StringTransformer.h`.

5.2.3.122 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function > sugar::Mapply_3<RTYPE_1,NA_1,T_1,RTYPE_2,NA_2,T_2,RTYPE_3,NA_3,T_3,Function> Rcpp::mapply ( const Rcpp::VectorBase< RTYPE_1, NA_1, T_1 > & t1, const Rcpp::VectorBase< RTYPE_2, NA_2, T_2 > & t2, const Rcpp::VectorBase< RTYPE_3, NA_3, T_3 > & t3, Function fun ) [inline]`

Definition at line 76 of file `mapply_3.h`.

References `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::fun`.

```
5.2.3.123 template<int RTYPE, bool NA_1, typename T_1 , bool NA_2, typename T_2 , typename Function >
sugar::Mapply_2<RTYPE,NA_1,T_1,NA_2,T_2,Function> Rcpp::mapply ( const Rcpp::VectorBase< RTYPE,
NA_1, T_1 > & t1, const Rcpp::VectorBase< RTYPE, NA_2, T_2 > & t2, Function fun ) [inline]
```

Definition at line 126 of file mapply\_2.h.

References Rcpp::sugar::Mapply\_2< RTYPE, NA\_1, T\_1, NA\_2, T\_2, Function >::fun, and Rcpp::VectorBase< RTYPE, na, VECTOR >::get\_ref().

Here is the call graph for this function:



```
5.2.3.124 template<int RTYPE, bool NA_1, typename T_1 , typename Function > sugar::Mapply_2_Vector_Primitive<RTYPE,NA_1,T_1,double,Function> Rcpp::mapply ( const Rcpp::VectorBase< RTYPE, NA_1, T_1 > & t1, double t2,
Function fun ) [inline]
```

Definition at line 132 of file mapply\_2.h.

References Rcpp::sugar::Mapply\_2< RTYPE, NA\_1, T\_1, NA\_2, T\_2, Function >::fun, and Rcpp::VectorBase< RTYPE, na, VECTOR >::get\_ref().

Here is the call graph for this function:



5.2.3.125 `template<int RTYPE, bool NA_2, typename T_2, typename Function > sugar::Mapply_2_Primitive_Vector<RTYPE, double, NA_2, T_2, Function> Rcpp::mapply ( double t1, const Rcpp::VectorBase< RTYPE, NA_2, T_2 > & t2, Function fun ) [inline]`

Definition at line 138 of file mapply\_2.h.

References `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::fun`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Here is the call graph for this function:



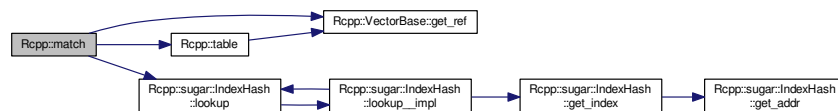
5.2.3.126 `template<int RTYPE, bool NA, typename T, bool RHS_NA, typename RHS_T > IntegerVector Rcpp::match ( const VectorBase< RTYPE, NA, T > & x, const VectorBase< RTYPE, RHS_NA, RHS_T > & table_ ) [inline]`

Definition at line 28 of file match.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`, `Rcpp::sugar::IndexHash< RTYPE >::lookup()`, and `table()`.

Referenced by `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices()`, and `Rcpp::attributes::SourceFileAttributesParser::sourceDependencies()`.

Here is the call graph for this function:



5.2.3.127 `template<int RTYPE, bool NA, typename T > sugar::Max<RTYPE,NA,T> Rcpp::max ( const VectorBase< RTYPE, NA, T > & x )`

Definition at line 81 of file max.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Referenced by `Rcpp::sugar::Max< RTYPE, NA, T >::operator STORAGE()`, `Rcpp::sugar::Max< RTYPE, false, T >::operator STORAGE()`, and `operator<<()`.

Here is the call graph for this function:



5.2.3.128 `template<bool NA, typename T > sugar::Mean<REALSXP,NA,T> Rcpp::mean ( const VectorBase< REALSXP, NA, T > & t ) [inline]`

Definition at line 140 of file mean.h.

Referenced by `Rcpp::sugar::Var< RTYPE, NA, T >::get()`, and `Rcpp::sugar::Var< CPLXSXP, NA, T >::get()`.

5.2.3.129 `template<bool NA, typename T > sugar::Mean<INTSXP,NA,T> Rcpp::mean ( const VectorBase< INTSXP, NA, T > & t ) [inline]`

Definition at line 145 of file mean.h.

5.2.3.130 `template<bool NA, typename T > sugar::Mean<CPLXSXP,NA,T> Rcpp::mean ( const VectorBase< CPLXSXP, NA, T > & t ) [inline]`

Definition at line 150 of file mean.h.

5.2.3.131 `template<bool NA, typename T > sugar::Mean<LGLSXP,NA,T> Rcpp::mean ( const VectorBase< LGLSXP, NA, T > & t ) [inline]`

Definition at line 155 of file mean.h.

5.2.3.132 `template<int RTYPE, bool NA, typename T > sugar::median_detail::result<RTYPE>::type Rcpp::median ( const Rcpp::VectorBase< RTYPE, NA, T > & x, bool na_rm = false ) [inline]`

Definition at line 283 of file median.h.

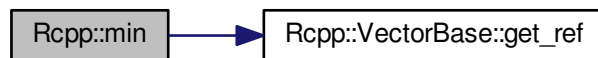
5.2.3.133 `template<int RTYPE, bool NA, typename T > sugar::Min<RTYPE,NA,T> Rcpp::min ( const VectorBase< RTYPE, NA, T > & x )`

Definition at line 80 of file min.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Referenced by `Rcpp::sugar::WhichMax< RTYPE, NA, T >::get()`, `Rcpp::sugar::WhichMin< RTYPE, NA, T >::get()`, `Rcpp::sugar::WhichMax< RTYPE, false, T >::get()`, `Rcpp::sugar::WhichMin< RTYPE, false, T >::get()`, `Rcpp::sugar::Min< RTYPE, NA, T >::operator STORAGE()`, `Rcpp::sugar::Min< RTYPE, false, T >::operator STORAGE()`, and `operator<<()`.

Here is the call graph for this function:



5.2.3.134 `double Rcpp::mktime00 ( struct tm & tm ) [inline]`

Definition at line 104 of file routines.h.

References `GET_CALLABLE`.

Referenced by `Rcpp::Date::Date()`, and `registerFunctions()`.

5.2.3.135 `template<int RTYPE, bool NA, typename T > Vector<RTYPE> Rcpp::na_omit ( const VectorBase< RTYPE, NA, T > & t ) [inline]`

Definition at line 75 of file na\_omit.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Here is the call graph for this function:



5.2.3.136 `Argument Rcpp::Named ( const std::string & name ) [inline]`

Definition at line 40 of file Named.h.

References `Rcpp::Argument::Argument()`.

Referenced by `Rcpp::attributes::createDirectory()`, `fastLm()`, and `Rcpp::attributes::showWarning()`.

Here is the call graph for this function:

5.2.3.137 `template<typename T > traits::named_object<T> Rcpp::Named ( const std::string & name, const T & o ) [inline]`

Definition at line 44 of file Named.h.

References `Rcpp::Argument::name`.

5.2.3.138 `static Environment_Impl Rcpp::namespace_env ( const std::string & package ) [static]`

## Parameters

<i>name</i>	the name of the package of which we want the namespace
-------------	--

## Returns

the namespace of the package

## Exceptions

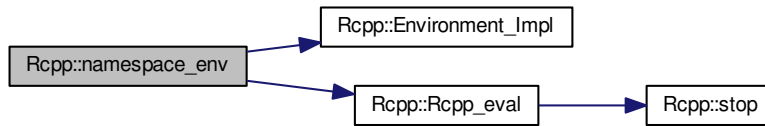
<i>no_such_namespace</i>	
--------------------------	--

Definition at line 370 of file Environment.h.

References `Environment_Impl()`, and `Rcpp_eval()`.

Referenced by `Rcpp::attributes::isRxygenCpp()`.

Here is the call graph for this function:



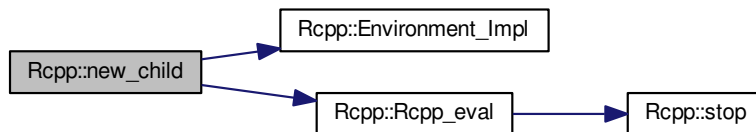
#### 5.2.3.139 Environment\_Impl Rcpp::new\_child ( bool hashed )

creates a new environment whose this is the parent

Definition at line 392 of file Environment.h.

References `Environment_Impl()`, and `Rcpp_eval()`.

Here is the call graph for this function:



#### 5.2.3.140 Environment Rcpp::new\_env ( int size = 29 ) [inline]

Definition at line 403 of file Environment.h.

References `R_NewHashedEnv()`.

Here is the call graph for this function:



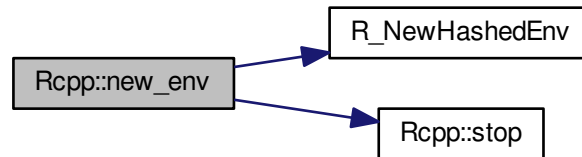


5.2.3.141 Environment `Rcpp::new_env ( SEXP parent, int size = 29 ) [inline]`

Definition at line 408 of file Environment.h.

References `R_NewHashedEnv()`, and `stop()`.

Here is the call graph for this function:

5.2.3.142 `no_init_vector` `Rcpp::no_init ( int size ) [inline]`

Definition at line 69 of file no\_init.h.

References `Rcpp::no_init_vector::no_init_vector()`.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::fill_and_get_duplicated()`, `Rcpp::sugar::SelfHash< RTYPE >::fill_and_self_match()`, `Rcpp::sugar::SetDiff< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get()`, `Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get()`, `Rcpp::sugar::Union< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTTYPE, RHS_NA, RHS_T >::get_vec()`, `Rcpp::sugar::IndexHash< RTYPE >::keys()`, `Rcpp::sugar::na_omit_impl()`, and `Rcpp::sugar::Table< RTYPE, TABLE_T >::operator IntegerVector()`.

Here is the call graph for this function:



5.2.3.143 `no_init_matrix Rcpp::no_init( int nr, int nc ) [inline]`

Definition at line 73 of file no\_init.h.

5.2.3.144 `template<int RTYPE, bool NA, typename VECTOR > sugar::Nona<RTYPE,NA,VECTOR> Rcpp::noNA( const Rcpp::VectorBase<RTYPE, NA, VECTOR > & vec ) [inline]`

Definition at line 74 of file nona.h.

Referenced by convolve11cpp().

5.2.3.145 `sugar::NonaPrimitive<double> Rcpp::noNA( double x ) [inline]`

Definition at line 78 of file nona.h.

5.2.3.146 `sugar::NonaPrimitive<int> Rcpp::noNA( int x ) [inline]`

Definition at line 81 of file nona.h.

5.2.3.147 `Rcpp::operator SEXP( ) const [inline]`

Definition at line 53 of file StretchyList.h.

5.2.3.148 `bool Rcpp::operator!=( const Datetime & d1, const Datetime & d2 ) [inline]`

Definition at line 121 of file Datetime.h.

References Rcpp::Datetime::m\_dt.

5.2.3.149 `bool Rcpp::operator!=( const Date & d1, const Date & d2 ) [inline]`

Definition at line 150 of file Date.h.

References Rcpp::Date::m\_d.

5.2.3.150 `bool Rcpp::operator!=( const String::StringProxy & lhs, const String & rhs ) [inline]`

Definition at line 524 of file String.h.

5.2.3.151 `bool Rcpp::operator!=( const String::const_StringProxy & lhs, const String & rhs ) [inline]`

Definition at line 532 of file String.h.

References `Rcpp::String::get_cstring()`.

Here is the call graph for this function:



5.2.3.152 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if<traits::is_convertible<typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, sugar::Times_Vector_Primitive<RTYPE,NA,T> >::type Rcpp::operator* ( const VectorBase< RTYPE, NA, T > & lhs, const U & rhs ) [inline]`

Definition at line 429 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.153 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if<traits::is_convertible<typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, sugar::Times_Vector_Primitive< RTYPE , NA , T > >::type Rcpp::operator* ( const U & rhs, const VectorBase< RTYPE, NA, T > & lhs ) [inline]`

Definition at line 439 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.154 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if<traits::is_convertible<typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, sugar::Times_Vector_Primitive_nona<RTYPE,NA,T> >::type Rcpp::operator* ( const VectorBase< RTYPE, NA, T > & lhs, const typename sugar::NonaPrimitive< U > & rhs ) [inline]`

Definition at line 450 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.155 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if<traits::is_convertible<typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, sugar::Times_Vector_Primitive_nona< RTYPE, NA, T > >::type Rcpp::operator* ( const typename sugar::NonaPrimitive< U > & rhs, const VectorBase< RTYPE, NA, T > & lhs ) [inline]`

Definition at line 459 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.156 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > Rcpp::operator* ( const VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const VectorBase< RTYPE, RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 473 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.157 `Datetime Rcpp::operator+ ( const Datetime & datetime, double offset ) [inline]`

Definition at line 106 of file Datetime.h.

References `gmtime_()`, `Rcpp::Datetime::m_dt`, `Rcpp::Datetime::m_tm`, and `Rcpp::Datetime::m_us`.

Here is the call graph for this function:



5.2.3.158 `Date Rcpp::operator+ ( const Date & date, int offset ) [inline]`

Definition at line 136 of file Date.h.

References `gmtime_()`, `Rcpp::Date::m_d`, and `Rcpp::Date::m_tm`.

Here is the call graph for this function:



5.2.3.159 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if<traits::is_convertible<typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, typename sugar::Plus_Vector_Primitive<RTYPE,NA,T> >::type Rcpp::operator+ ( const VectorBase< RTYPE, NA, T > & lhs, const U & rhs ) [inline]`

Definition at line 448 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.160 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if<traits::is_convertible<typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, typename sugar::Plus_Vector_Primitive< RTYPE, NA, T > >::type Rcpp::operator+ ( const U & rhs, const VectorBase< RTYPE, NA, T > & lhs ) [inline]`

Definition at line 458 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.161 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if<traits::is_convertible<typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, sugar::Plus_Vector_Primitive_nona<RTYPE,NA,T> >::type Rcpp::operator+ ( const VectorBase< RTYPE, NA, T > & lhs, const typename sugar::NonaPrimitive< U > & rhs ) [inline]`

Definition at line 469 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.162 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if<traits::is_convertible<typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, sugar::Plus_Vector_Primitive_nona< RTYPE, NA, T > >::type Rcpp::operator+ ( const typename sugar::NonaPrimitive< U > & rhs, const VectorBase< RTYPE, NA, T > & lhs ) [inline]`

Definition at line 478 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.163 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > Rcpp::operator+ ( const VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const VectorBase< RTYPE, RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 492 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.164 `double Rcpp::operator- ( const Datetime & d1, const Datetime & d2 ) [inline]`

Definition at line 115 of file Datetime.h.

References Rcpp::Datetime::m\_dt.

5.2.3.165 `double Rcpp::operator- ( const Date & d1, const Date & d2 ) [inline]`

Definition at line 144 of file Date.h.

References Rcpp::Date::m\_d.

5.2.3.166 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if<traits::is_convertible<typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, sugar::Minus_Vector_Primitive< RTYPE, NA, T > >::type Rcpp::operator- ( const VectorBase< RTYPE, NA, T > & lhs, const U & rhs ) [inline]`

Definition at line 417 of file minus.h.

References Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

5.2.3.167 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if<traits::is_convertible<typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, sugar::Minus_Primitive_Vector< RTYPE, NA,T > >::type Rcpp::operator- ( const U & lhs, const VectorBase< RTYPE, NA, T > & rhs ) [inline]`

Definition at line 427 of file minus.h.

References Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

5.2.3.168 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > Rcpp::operator- ( const VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const VectorBase< RTYPE, RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 440 of file minus.h.

References Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

5.2.3.169 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if<traits::is_convertible<typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, sugar::Divides_Vector_Primitive< RTYPE, NA, T > >::type Rcpp::operator/( const VectorBase< RTYPE, NA, T > & lhs, const U & rhs ) [inline]`

Definition at line 413 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.170 `template<int RTYPE, bool NA, typename T, typename U > traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference<U>::type, typename traits::storage_type<RTYPE>::type>::value, sugar::Divides_Primitive_Vector< RTYPE, NA,T > >::type Rcpp::operator/( const U & lhs, const VectorBase< RTYPE, NA, T > & rhs ) [inline]`

Definition at line 423 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.171 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T > Rcpp::operator/( const VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const VectorBase< RTYPE, RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 436 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

5.2.3.172 `bool Rcpp::operator<( const Datetime & d1, const Datetime & d2 ) [inline]`

Definition at line 116 of file Datetime.h.

References `Rcpp::Datetime::m_dt`.

5.2.3.173 `bool Rcpp::operator<( const Date & d1, const Date & d2 ) [inline]`

Definition at line 145 of file Date.h.

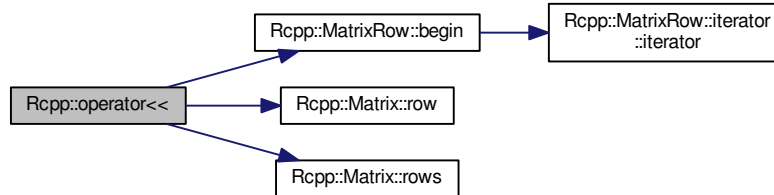
References `Rcpp::Date::m_d`.

5.2.3.174 `template<template< class > class StoragePolicy> std::ostream& Rcpp::operator<< ( std::ostream & s, const Matrix< REALXP, StoragePolicy > & rhs ) [inline]`

Definition at line 219 of file Matrix.h.

References `Rcpp::MatrixRow< RTYPE >::begin()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::row()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::rows()`.

Here is the call graph for this function:

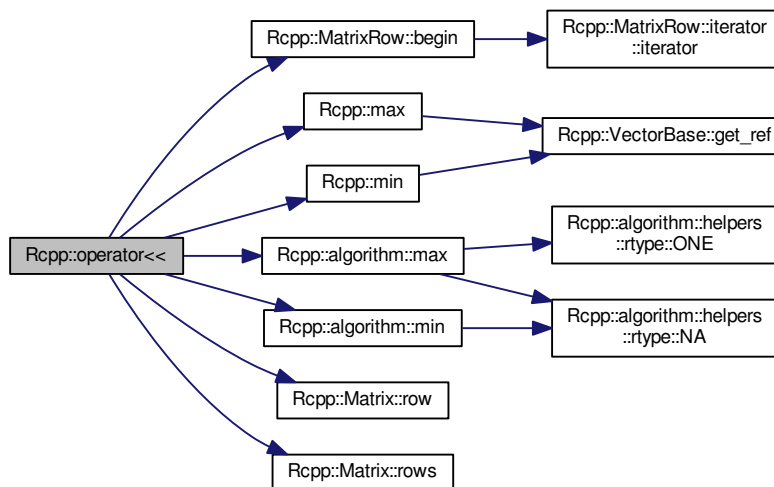


5.2.3.175 `template<template< class > class StoragePolicy> std::ostream& Rcpp::operator<< ( std::ostream & s, const Matrix< INTSXP, StoragePolicy > & rhs ) [inline]`

Definition at line 286 of file Matrix.h.

References `Rcpp::MatrixRow< RTYPE >::begin()`, `max()`, `Rcpp::algorithm::max()`, `min()`, `Rcpp::algorithm::min()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::row()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::rows()`.

Here is the call graph for this function:



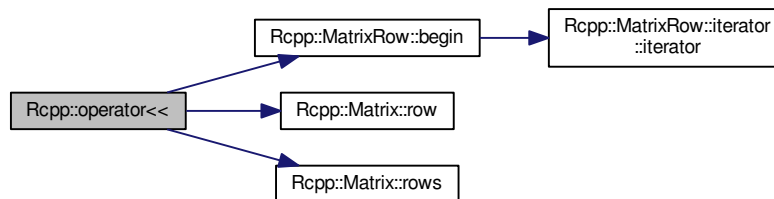


5.2.3.176 `template<template< class > class StoragePolicy> std::ostream& Rcpp::operator<< ( std::ostream & s, const Matrix< STRSXP, StoragePolicy > & rhs ) [inline]`

Definition at line 352 of file Matrix.h.

References `Rcpp::MatrixRow< RTYPE >::begin()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::row()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::rows()`.

Here is the call graph for this function:

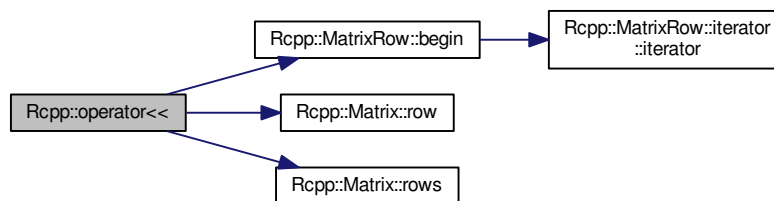


5.2.3.177 `template<int RTYPE, template< class > class StoragePolicy> std::ostream& Rcpp::operator<< ( std::ostream & s, const Matrix< RTYPE, StoragePolicy > & rhs ) [inline]`

Definition at line 379 of file Matrix.h.

References `Rcpp::MatrixRow< RTYPE >::begin()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::row()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::rows()`.

Here is the call graph for this function:

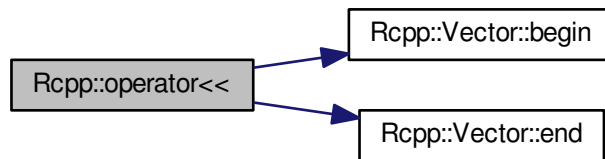


5.2.3.178 `template<int RTYPE, template< class > class StoragePolicy> std::ostream& Rcpp::operator<< ( std::ostream & s, const Vector< RTYPE, StoragePolicy > & rhs ) [inline]`

Definition at line 1093 of file Vector.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, and `Rcpp::Vector< RTYPE, StoragePolicy >::end()`.

Here is the call graph for this function:

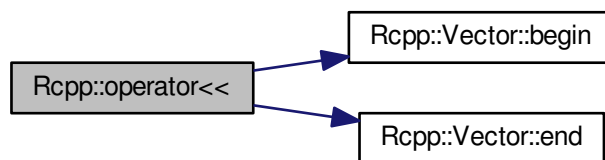


5.2.3.179 `template<template< class > class StoragePolicy> std::ostream& Rcpp::operator<< ( std::ostream & s, const Vector< STRSXP, StoragePolicy > & rhs ) [inline]`

Definition at line 1112 of file Vector.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, and `Rcpp::Vector< RTYPE, StoragePolicy >::end()`.

Here is the call graph for this function:



5.2.3.180 `bool Rcpp::operator<=( const Datetime & d1, const Datetime & d2 ) [inline]`

Definition at line 120 of file Datetime.h.

References `Rcpp::Datetime::m_dt`.

5.2.3.181 `bool Rcpp::operator<=( const Date & d1, const Date & d2 ) [inline]`

Definition at line 149 of file Date.h.

References Rcpp::Date::m\_d.

5.2.3.182 `bool Rcpp::operator==( const Datetime & d1, const Datetime & d2 ) [inline]`

Definition at line 118 of file Datetime.h.

References Rcpp::Datetime::m\_dt.

5.2.3.183 `bool Rcpp::operator==( const Date & d1, const Date & d2 ) [inline]`

Definition at line 147 of file Date.h.

References Rcpp::Date::m\_d.

Referenced by RCPP\_API\_CLASS().

5.2.3.184 `bool Rcpp::operator==( const String::StringProxy & lhs, const String & rhs ) [inline]`

Definition at line 520 of file String.h.

5.2.3.185 `bool Rcpp::operator==( const String::const_StringProxy & lhs, const String & rhs ) [inline]`

Definition at line 528 of file String.h.

5.2.3.186 `bool Rcpp::operator>( const Datetime & d1, const Datetime & d2 ) [inline]`

Definition at line 117 of file Datetime.h.

References Rcpp::Datetime::m\_dt.

5.2.3.187 `bool Rcpp::operator>( const Date & d1, const Date & d2 ) [inline]`

Definition at line 146 of file Date.h.

References Rcpp::Date::m\_d.

**5.2.3.188** `bool Rcpp::operator>=( const Datetime & d1, const Datetime & d2 ) [inline]`

Definition at line 119 of file Datetime.h.

References `Rcpp::Datetime::m_dt`.

**5.2.3.189** `bool Rcpp::operator>=( const Date & d1, const Date & d2 ) [inline]`

Definition at line 148 of file Date.h.

References `Rcpp::Date::m_d`.

**5.2.3.190** `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T , typename Function >  
sugar::Outer<RTYPE,LHS_NA,LHS_T,RHS_NA,RHS_T,Function> Rcpp::outer ( const Rcpp::VectorBase<  
RTYPE, LHS_NA, LHS_T > & lhs, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T > & rhs, Function fun )  
[inline]`

Definition at line 80 of file outer.h.

References `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::fun`, `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::lhs`, and `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::rhs`.

**5.2.3.191** `SEXP Rcpp::pairlist ( ) [inline]`

Definition at line 30 of file grow.h.

Referenced by `Rcpp::DottedPairImpl< CLASS >::replace()`.

**5.2.3.192** `Rcpp::Pairlist_Impl ( )`

Definition at line 41 of file Pairlist.h.

**5.2.3.193** `Rcpp::Pairlist_Impl ( SEXP x )`

Definition at line 42 of file Pairlist.h.

References `update()`.

Here is the call graph for this function:



## 5.2.3.194 Environment\_Impl Rcpp::parent ( ) const

The parent environment of this environment

Definition at line 385 of file Environment.h.

References Environment\_Impl().

Referenced by class\_< Class >::derives().

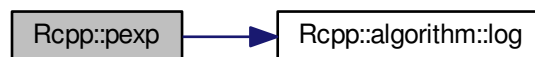
Here is the call graph for this function:

5.2.3.195 `template<bool NA, typename T > stats::P1<REALSXP,NA,T> Rcpp::pexp ( const Rcpp::VectorBase< REALSXP, NA, T > & x, double shape, bool lower = true, bool log = false ) [inline]`

Definition at line 86 of file exp.h.

References Rcpp::algorithm::log().

Here is the call graph for this function:

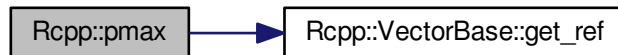


5.2.3.196 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > sugar::Pmax_Vector_↵  
Vector<RTYPE,LHS_NA,LHS_T,RHS_NA,RHS_T> Rcpp::pmax ( const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T  
> & lhs, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 158 of file pmax.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::get\_ref().

Here is the call graph for this function:



5.2.3.197 `template<int RTYPE, bool LHS_NA, typename LHS_T > sugar::Pmax_Vector_Primitive<RTYPE,LHS_NA,LHS_T>  
Rcpp::pmax ( const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, typename  
Rcpp::traits::storage_type< RTYPE >::type rhs ) [inline]`

Definition at line 170 of file pmax.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::get\_ref().

Here is the call graph for this function:



5.2.3.198 `template<int RTYPE, bool RHS_NA, typename RHS_T > sugar::Pmax_Vector_Primitive<RTYPE,RHS_NA,RHS_T>  
Rcpp::pmax ( typename Rcpp::traits::storage_type< RTYPE >::type lhs, const Rcpp::VectorBase< RTYPE,  
RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 183 of file pmax.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::get\_ref().

Here is the call graph for this function:



```

5.2.3.199 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T >
  sugar::Pmin_Vector_Vector<RTYPE,LHS_NA,LHS_T,RHS_NA,RHS_T> Rcpp::pmin ( const Rcpp::VectorBase<
  RTYPE, LHS_NA, LHS_T > & lhs, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T > & rhs ) [inline]
  
```

Definition at line 156 of file pmin.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Here is the call graph for this function:



```

5.2.3.200 template<int RTYPE, bool LHS_NA, typename LHS_T > sugar::Pmin_Vector_Primitive<RTYPE,LHS_NA,LHS_T>
  Rcpp::pmin ( const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, typename
  Rcpp::traits::storage_type< RTYPE >::type rhs ) [inline]
  
```

Definition at line 168 of file pmin.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Here is the call graph for this function:

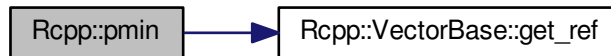


5.2.3.201 `template<int RTYPE, bool RHS_NA, typename RHS_T > sugar::Pmin_Vector_Primitive<RTYPE,RHS_NA,RHS_T>  
Rcpp::pmin ( typename Rcpp::traits::storage_type< RTYPE >::type lhs, const Rcpp::VectorBase< RTYPE,  
RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 181 of file pmin.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Here is the call graph for this function:



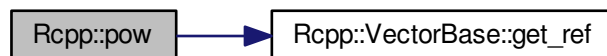
5.2.3.202 `template<int RTYPE, bool NA, typename T , typename EXPONENT_TYPE > sugar::Pow<RTYPE,NA,T,E←  
XPONENT_TYPE> Rcpp::pow ( const VectorBase< RTYPE, NA, T > & t, EXPONENT_TYPE exponent )  
[inline]`

Definition at line 79 of file pow.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Referenced by `Rcpp::stats::dweibull_1()`, `Rcpp::sugar::Var< RTYPE, NA, T >::get()`, `Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >::operator[]()`, `Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT_TYPE >::operator[]()`, `Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT_TYPE >::operator[]()`, `Rcpp::stats::pweibull_1()`, and `Rcpp::stats::qweibull_1()`.

Here is the call graph for this function:



5.2.3.203 `void Rcpp::print ( SEXP s ) [inline]`

Definition at line 25 of file print.h.



5.2.3.204 `template<typename T > StretchyList_Impl& Rcpp::push_back ( const T & obj ) [inline]`

Definition at line 58 of file StretchyList.h.

References `push_back__impl()`.

Referenced by `class_< Class >::AddMethod()`.

Here is the call graph for this function:



5.2.3.205 `template<typename T > StretchyList_Impl& Rcpp::push_back__impl ( const T & obj, traits::true_type ) [private]`

Referenced by `push_back()`, and `push_front()`.

5.2.3.206 `template<typename T > StretchyList_Impl& Rcpp::push_back__impl ( const T & obj, traits::false_type ) [private]`

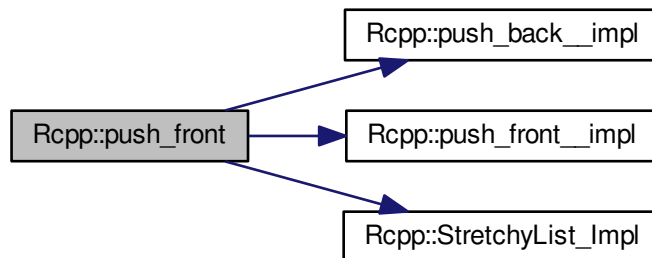
5.2.3.207 `template<typename T > StretchyList_Impl& Rcpp::push_front ( const T & obj ) [inline]`

Definition at line 63 of file StretchyList.h.

References `push_back__impl()`, `push_front__impl()`, and `StretchyList_Impl()`.

Referenced by `Rcpp::DottedPairImpl< CLASS >::insert()`.

Here is the call graph for this function:



5.2.3.208 `template<typename T > StretchyList_Impl& Rcpp::push_front_impl ( const T & obj, traits::true_type )`  
`[private]`

Referenced by `push_front()`.

5.2.3.209 `template<typename T > StretchyList_Impl& Rcpp::push_front_impl ( const T & obj, traits::false_type )`  
`[private]`

5.2.3.210 `template<bool NA, typename T > stats::Q1<REALSXP,NA,T> Rcpp::qexp ( const Rcpp::VectorBase< REALSXP, NA, T > & x, double shape, bool lower = true, bool log = false )` `[inline]`

Definition at line 91 of file `exp.h`.

References `Rcpp::algorithm::log()`.

Here is the call graph for this function:



5.2.3.211 `template<int TARGET> SEXP Rcpp::r_cast ( SEXP x )`

Definition at line 138 of file `r_cast.h`.

References `Rcpp::internal::r_true_cast()`.

Referenced by `Rcpp::internal::vector_from_string()`.

Here is the call graph for this function:



5.2.3.212 `template<int RTYPE, bool NA, typename T > sugar::Range<RTYPE,NA,T> Rcpp::range ( const VectorBase<RTYPE, NA, T > & x )`

Definition at line 86 of file range.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Here is the call graph for this function:



5.2.3.213 `NumericVector Rcpp::rbeta ( int n, double a, double b ) [inline]`

Definition at line 106 of file random.h.

5.2.3.214 `NumericVector Rcpp::rbinom ( int n, double nin, double pp ) [inline]`

Definition at line 110 of file random.h.

5.2.3.215 `NumericVector Rcpp::rcauchy ( int n, double location, double scale ) [inline]`

Definition at line 114 of file random.h.

5.2.3.216 `NumericVector Rcpp::rcauchy ( int n, double location ) [inline]`

Definition at line 124 of file random.h.

5.2.3.217 `NumericVector Rcpp::rcauchy ( int n ) [inline]`

Definition at line 134 of file random.h.

5.2.3.218 `NumericVector Rcpp::rchisq ( int n, double df ) [inline]`

Definition at line 138 of file random.h.

5.2.3.219 `Rcpp::RCPP_API_CLASS ( DottedPair_Impl )`

5.2.3.220 `Rcpp::RCPP_API_CLASS ( Symbol_Impl )`

wraps the SEXP into a Symbol object.

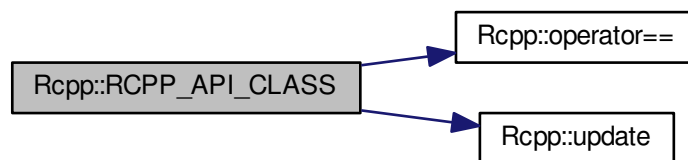
## Parameters

x	Accepted SEXP types are SYMSXP, CHARSXP and STRSXP in the last case, the first element of the character vector is silently used
---	---

Definition at line 27 of file Symbol.h.

References operator==(), RCPP\_GENERATE\_CTOR\_ASSIGN, and update().

Here is the call graph for this function:



### 5.2.3.221 Rcpp::RCPP\_API\_CLASS ( WeakReference\_Impl )

wraps a weak reference

## Parameters

x	presumably a SEXP of SEXTYPE WEAKREFSXP
---	---

## Exceptions

<i>not_compatible</i>	if x is not a weak reference
-----------------------	------------------------------

Retrieve the key

Retrieve the value

Definition at line 27 of file WeakReference.h.

References RCPP\_GENERATE\_CTOR\_ASSIGN, and update().

Here is the call graph for this function:



#### 5.2.3.222 Rcpp::RCPP\_API\_CLASS ( Promise\_Impl )

Return the result of the PRSEEN macro

Return the result of the PRVALUE macro on the promise

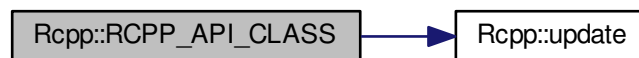
The promise expression: PRCODE

The promise environment : PRENV

Definition at line 27 of file Promise.h.

References RCPP\_GENERATE\_CTOR\_ASSIGN, and update().

Here is the call graph for this function:



#### 5.2.3.223 Rcpp::RCPP\_API\_CLASS ( RObject\_Impl )

default constructor. uses R\_NilValue

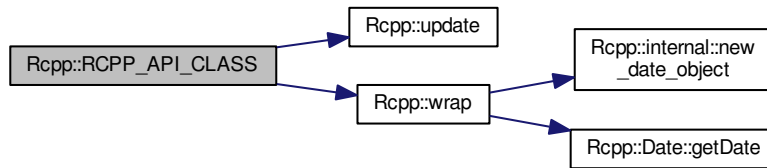
wraps a SEXP. The SEXP is automatically protected from garbage collection by this object and the protection vanishes when this object is destroyed

Assignment operator. Set this SEXP to the given SEXP

Definition at line 27 of file RObject.h.

References RCPP\_GENERATE\_CTOR\_ASSIGN, update(), and wrap().

Here is the call graph for this function:



#### 5.2.3.224 Rcpp::RCPP\_API\_CLASS ( Reference\_Impl )

S4 object (of a reference class)

#### 5.2.3.225 Rcpp::RCPP\_API\_CLASS ( Formula\_Impl )

#### 5.2.3.226 Rcpp::RCPP\_API\_CLASS ( S4\_Impl )

S4 object checks that x is an S4 object and wrap it.

##### Parameters

<i>x</i>	must be an S4 object
----------	----------------------

Creates an S4 object of the requested class.

##### Parameters

<i>klass</i>	name of the target S4 class
--------------	-----------------------------

##### Exceptions

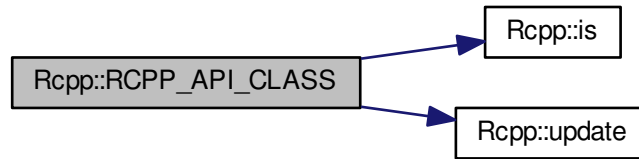
<i>not_s4</i>	if klass does not map to a known S4 class
---------------	---

Indicates if this object is an instance of the given S4 class

Definition at line 30 of file S4.h.

References is(), RCPP\_GENERATE\_CTOR\_ASSIGN, and update().

Here is the call graph for this function:



5.2.3.227 `Rcpp::RCPP_API_CLASS ( Pairlist_Impl )`

5.2.3.228 `Rcpp::RCPP_API_CLASS ( Language_Impl )`

C++ wrapper around calls (LANGSXP SEXP)

This represents calls that can be evaluated

5.2.3.229 `Rcpp::RCPP_API_CLASS ( Environment_Impl )`

5.2.3.230 `Rcpp::RCPP_API_CLASS ( StretchyList_Impl )`

StretchyList uses a special pairlist to provide efficient insertion at the front and the end of a pairlist.

This is a C++ abstraction of the functions `NewList`, `GrowList` and `Insert` that are found in places where a pair list has to grow efficiently, e.g. in the `R` parser (`gram.y`)

5.2.3.231 `Rcpp::RCPP_API_CLASS ( Function_Impl )`

functions Finds a function. By default, searches from the global environment

#### Parameters

<i>name</i>	name of the function
<i>env</i>	an environment where to search the function
<i>ns</i>	name of the namespace in which to search the function

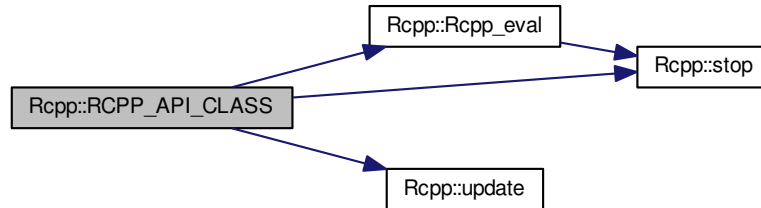
Returns the environment of this function

Returns the body of the function

Definition at line 34 of file Function.h.

References `Rcpp_eval()`, `RCPP_GENERATE_CTOR_ASSIGN`, `stop()`, and `update()`.

Here is the call graph for this function:

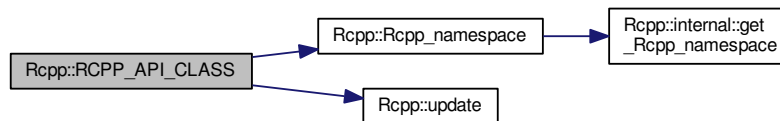


#### 5.2.3.232 `Rcpp::RCPP_API_CLASS ( InternalFunction_Impl )`

Definition at line 35 of file InternalFunction.h.

References `RCPP_GENERATE_CTOR_ASSIGN`, `Rcpp_namespace()`, and `update()`.

Here is the call graph for this function:



#### 5.2.3.233 `SEXP Rcpp::Rcpp_eval ( SEXP expr, SEXP env ) [inline]`

Definition at line 25 of file `Rcpp_eval.h`.

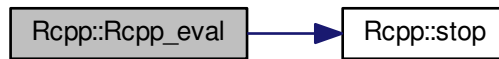
References `stop()`.

Referenced by `Rcpp::internal::convert_using_rfunction()`, `eval()`, `Rcpp::Vector< INTSXP >::eval()`, `Rcpp::DataFrame< _Impl< StoragePolicy >::from_list()`, `Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::get()`, `Rcpp::FieldProxyPolicy<`



CLASS >::const\_FieldProxy::get(), get\_last\_call(), get\_rcpp\_cache(), init\_Rcpp\_cache(), namespace\_env(), new\_← child(), Rcpp::internal::r\_true\_cast< STRSXP >(), RCPP\_API\_CLASS(), remove(), Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::set(), and Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::set().

Here is the call graph for this function:



5.2.3.234 SEXP Rcpp::Rcpp\_lang10 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9 ) [inline]

Definition at line 180 of file lang.h.

References Rcpp\_list9().

Here is the call graph for this function:



5.2.3.235 SEXP Rcpp::Rcpp\_lang11 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10 ) [inline]

Definition at line 198 of file lang.h.

References Rcpp\_list10().

Here is the call graph for this function:

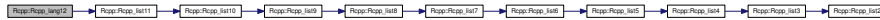


5.2.3.236 **SEXP Rcpp::Rcpp\_lang12 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11 )** `[inline]`

Definition at line 216 of file lang.h.

References `Rcpp_list11()`.

Here is the call graph for this function:



5.2.3.237 **SEXP Rcpp::Rcpp\_lang13 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12 )** `[inline]`

Definition at line 234 of file lang.h.

References `Rcpp_list12()`.

Here is the call graph for this function:



5.2.3.238 **SEXP Rcpp::Rcpp\_lang14 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13 )** `[inline]`

Definition at line 252 of file lang.h.

References `Rcpp_list13()`.

Here is the call graph for this function:



5.2.3.239 **SEXP Rcpp::Rcpp\_lang15 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14 )** `[inline]`

Definition at line 270 of file lang.h.

References `Rcpp_list14()`.

Here is the call graph for this function:



5.2.3.240 `SEXP Rcpp::Rcpp_lang16 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15 )` `[inline]`

Definition at line 288 of file lang.h.

References `Rcpp_list15()`.

Here is the call graph for this function:



5.2.3.241 `SEXP Rcpp::Rcpp_lang17 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16 )` `[inline]`

Definition at line 306 of file lang.h.

References `Rcpp_list16()`.

Here is the call graph for this function:

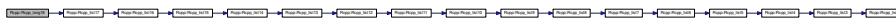


5.2.3.242 `SEXP Rcpp::Rcpp_lang18 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17 )` `[inline]`

Definition at line 324 of file lang.h.

References `Rcpp_list17()`.

Here is the call graph for this function:



5.2.3.243 `SEXP Rcpp::Rcpp_lang19 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17, SEXP x18 )` `[inline]`

Definition at line 342 of file lang.h.

References `Rcpp_list18()`.

Here is the call graph for this function:



#### 5.2.3.244 `SEXP Rcpp::Rcpp_lang2 ( SEXP x0, SEXP x1 ) [inline]`

Definition at line 40 of file lang.h.

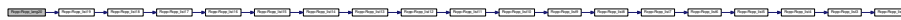
References `Rcpp_list1`.

#### 5.2.3.245 `SEXP Rcpp::Rcpp_lang20 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17, SEXP x18, SEXP x19 ) [inline]`

Definition at line 360 of file lang.h.

References `Rcpp_list19()`.

Here is the call graph for this function:



#### 5.2.3.246 `SEXP Rcpp::Rcpp_lang3 ( SEXP x0, SEXP x1, SEXP x2 ) [inline]`

Definition at line 55 of file lang.h.

References `Rcpp_list2()`.

Here is the call graph for this function:

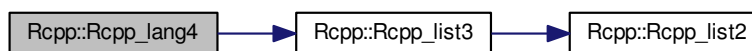


#### 5.2.3.247 `SEXP Rcpp::Rcpp_lang4 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3 ) [inline]`

Definition at line 72 of file lang.h.

References `Rcpp_list3()`.

Here is the call graph for this function:



5.2.3.248 `SEXP Rcpp::Rcpp_lang5 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4 )` [inline]

Definition at line 90 of file lang.h.

References `Rcpp_list4()`.

Here is the call graph for this function:

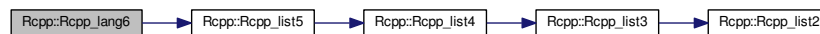


5.2.3.249 `SEXP Rcpp::Rcpp_lang6 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5 )` [inline]

Definition at line 108 of file lang.h.

References `Rcpp_list5()`.

Here is the call graph for this function:



5.2.3.250 `SEXP Rcpp::Rcpp_lang7 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6 )` [inline]

Definition at line 126 of file lang.h.

References `Rcpp_list6()`.

Here is the call graph for this function:



5.2.3.251 `SEXP Rcpp::Rcpp_lang8 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7 )`  
`[inline]`

Definition at line 144 of file lang.h.

References `Rcpp_list7()`.

Here is the call graph for this function:



5.2.3.252 `SEXP Rcpp::Rcpp_lang9 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8 )`  
`[inline]`

Definition at line 162 of file lang.h.

References `Rcpp_list8()`.

Here is the call graph for this function:



5.2.3.253 `SEXP Rcpp::Rcpp_icons ( SEXP car, SEXP cdr )` `[inline]`

Definition at line 30 of file lang.h.

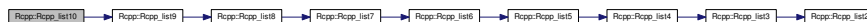
5.2.3.254 `SEXP Rcpp::Rcpp_list10 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9 )` `[inline]`

Definition at line 173 of file lang.h.

References `Rcpp_list9()`.

Referenced by `Rcpp_lang11()`, and `Rcpp_list11()`.

Here is the call graph for this function:



5.2.3.255 `SEXP Rcpp::Rcpp_list11 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10 ) [inline]`

Definition at line 191 of file lang.h.

References `Rcpp_list10()`.

Referenced by `Rcpp_lang12()`, and `Rcpp_list12()`.

Here is the call graph for this function:



5.2.3.256 `SEXP Rcpp::Rcpp_list12 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11 ) [inline]`

Definition at line 209 of file lang.h.

References `Rcpp_list11()`.

Referenced by `Rcpp_lang13()`, and `Rcpp_list13()`.

Here is the call graph for this function:



5.2.3.257 `SEXP Rcpp::Rcpp_list13 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12 ) [inline]`

Definition at line 227 of file lang.h.

References `Rcpp_list12()`.

Referenced by `Rcpp_lang14()`, and `Rcpp_list14()`.

Here is the call graph for this function:



5.2.3.258 `SEXP Rcpp::Rcpp_list14 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13 ) [inline]`

Definition at line 245 of file lang.h.

References `Rcpp_list13()`.

Referenced by `Rcpp_lang15()`, and `Rcpp_list15()`.

Here is the call graph for this function:



5.2.3.259 `SEXP Rcpp::Rcpp_list15 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14 ) [inline]`

Definition at line 263 of file lang.h.

References `Rcpp_list14()`.

Referenced by `Rcpp_lang16()`, and `Rcpp_list16()`.

Here is the call graph for this function:



5.2.3.260 `SEXP Rcpp::Rcpp_list16 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15 ) [inline]`

Definition at line 281 of file lang.h.

References `Rcpp_list15()`.

Referenced by `Rcpp_lang17()`, and `Rcpp_list17()`.

Here is the call graph for this function:





5.2.3.261 `SEXP Rcpp::Rcpp_list17 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16 ) [inline]`

Definition at line 299 of file lang.h.

References `Rcpp_list16()`.

Referenced by `Rcpp_lang18()`, and `Rcpp_list18()`.

Here is the call graph for this function:



5.2.3.262 `SEXP Rcpp::Rcpp_list18 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17 ) [inline]`

Definition at line 317 of file lang.h.

References `Rcpp_list17()`.

Referenced by `Rcpp_lang19()`, and `Rcpp_list19()`.

Here is the call graph for this function:



5.2.3.263 `SEXP Rcpp::Rcpp_list19 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17, SEXP x18 ) [inline]`

Definition at line 335 of file lang.h.

References `Rcpp_list18()`.

Referenced by `Rcpp_lang20()`, and `Rcpp_list20()`.

Here is the call graph for this function:



5.2.3.264 `SEXP Rcpp::Rcpp_list2 ( SEXP x0, SEXP x1 ) [inline]`

Definition at line 35 of file lang.h.

References `Rcpp_list1`.

Referenced by `Rcpp_lang3()`, and `Rcpp_list3()`.

5.2.3.265 `SEXP Rcpp::Rcpp_list20 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8, SEXP x9, SEXP x10, SEXP x11, SEXP x12, SEXP x13, SEXP x14, SEXP x15, SEXP x16, SEXP x17, SEXP x18, SEXP x19 ) [inline]`

Definition at line 353 of file lang.h.

References `Rcpp_list19()`.

Here is the call graph for this function:



5.2.3.266 `SEXP Rcpp::Rcpp_list3 ( SEXP x0, SEXP x1, SEXP x2 ) [inline]`

Definition at line 49 of file lang.h.

References `Rcpp_list2()`.

Referenced by `Rcpp_lang4()`, and `Rcpp_list4()`.

Here is the call graph for this function:



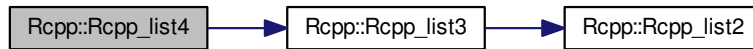
**5.2.3.267** `SEXP Rcpp::Rcpp_list4 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3 )` `[inline]`

Definition at line 65 of file lang.h.

References `Rcpp_list3()`.

Referenced by `Rcpp_lang5()`, and `Rcpp_list5()`.

Here is the call graph for this function:

**5.2.3.268** `SEXP Rcpp::Rcpp_list5 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4 )` `[inline]`

Definition at line 83 of file lang.h.

References `Rcpp_list4()`.

Referenced by `Rcpp_lang6()`, and `Rcpp_list6()`.

Here is the call graph for this function:

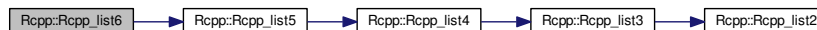
**5.2.3.269** `SEXP Rcpp::Rcpp_list6 ( SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5 )` `[inline]`

Definition at line 101 of file lang.h.

References `Rcpp_list5()`.

Referenced by `Rcpp_lang7()`, and `Rcpp_list7()`.

Here is the call graph for this function:



### 5.2.3.270 `SEXPRcpp::Rcpp_list7 ( SEXPR x0, SEXPR x1, SEXPR x2, SEXPR x3, SEXPR x4, SEXPR x5, SEXPR x6 )` `[inline]`

Definition at line 119 of file lang.h.

References `Rcpp_list6()`.

Referenced by `Rcpp_lang8()`, and `Rcpp_list8()`.

Here is the call graph for this function:



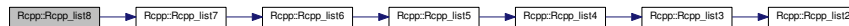
### 5.2.3.271 `SEXPRcpp::Rcpp_list8 ( SEXPR x0, SEXPR x1, SEXPR x2, SEXPR x3, SEXPR x4, SEXPR x5, SEXPR x6, SEXPR x7 )` `[inline]`

Definition at line 137 of file lang.h.

References `Rcpp_list7()`.

Referenced by `Rcpp_lang9()`, and `Rcpp_list9()`.

Here is the call graph for this function:



### 5.2.3.272 `SEXPRcpp::Rcpp_list9 ( SEXPR x0, SEXPR x1, SEXPR x2, SEXPR x3, SEXPR x4, SEXPR x5, SEXPR x6, SEXPR x7, SEXPR x8 )` `[inline]`

Definition at line 155 of file lang.h.

References `Rcpp_list8()`.

Referenced by `Rcpp_lang10()`, and `Rcpp_list10()`.

Here is the call graph for this function:



5.2.3.273 `static Environment_Impl Rcpp::Rcpp_namespace ( ) [static]`

#### Returns

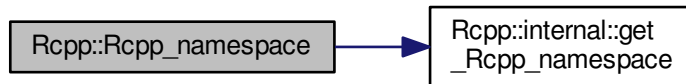
the [Rcpp](#) namespace

Definition at line 359 of file Environment.h.

References `Rcpp::internal::get_Rcpp_namespace()`.

Referenced by `Rcpp::internal::make_new_object()`, and `Rcpp::RCPP_API_CLASS()`.

Here is the call graph for this function:



5.2.3.274 `SEXP Rcpp::Rcpp_PreserveObject ( SEXP x ) [inline]`

Definition at line 84 of file RcppCommon.h.

Referenced by `Rcpp::Rcpp_ReplaceObject()`, `Rcpp::String::set_encoding()`, `Rcpp::String::setData()`, `Rcpp::String::String()`, and `wrap< Rcpp::String >()`.

5.2.3.275 `SEXP Rcpp::Rcpp_protect ( SEXP x ) [inline]`

Definition at line 23 of file Shield.h.

5.2.3.276 `void Rcpp::Rcpp_ReleaseObject ( SEXP x ) [inline]`

Definition at line 91 of file RcppCommon.h.

Referenced by `Rcpp::Rcpp_ReplaceObject()`, `Rcpp::PreserveStorage< Vector< RTYPE, PreserveStorage > >::~~PreserveStorage()`, and `Rcpp::String::~~String()`.

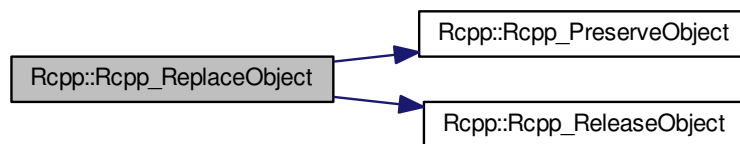
### 5.2.3.277 SEXP Rcpp::Rcpp\_ReplaceObject ( SEXP x, SEXP y ) [inline]

Definition at line 97 of file RcppCommon.h.

References Rcpp\_PreserveObject(), and Rcpp\_ReleaseObject().

Referenced by Rcpp::String::append\_wide\_string(), Rcpp::String::assign\_wide\_string(), Rcpp::String::operator+>(), Rcpp::String::operator=(), Rcpp::PreserveStorage< Vector< RTYPE, PreserveStorage > >::set\_\_(), Rcpp::String←::set\_encoding(), and Rcpp::String::set\_na().

Here is the call graph for this function:



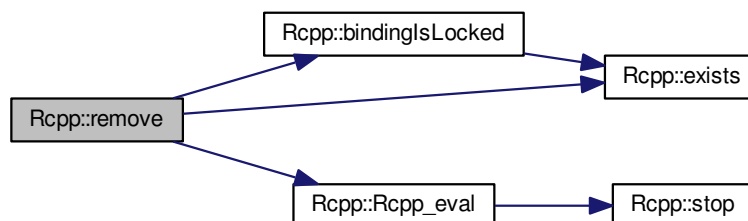
### 5.2.3.278 bool Rcpp::remove ( const std::string & name )

remove an object from this environment

Definition at line 238 of file Environment.h.

References bindingsLocked(), exists(), and Rcpp\_eval().

Here is the call graph for this function:



5.2.3.279 `template<int RTYPE, bool NA, typename T > sugar::Rep<RTYPE,NA,T> Rcpp::rep ( const VectorBase< RTYPE, NA, T > & t, R_xlen_t n ) [inline]`

Definition at line 69 of file rep.h.

References `Rcpp::sugar::Rep< RTYPE, NA, T >::n`.

5.2.3.280 `sugar::Rep_Single<double> Rcpp::rep ( const double & x, R_xlen_t n ) [inline]`

Definition at line 73 of file rep.h.

References `Rcpp::sugar::Rep< RTYPE, NA, T >::n`.

5.2.3.281 `sugar::Rep_Single<int> Rcpp::rep ( const int & x, R_xlen_t n ) [inline]`

Definition at line 76 of file rep.h.

References `Rcpp::sugar::Rep< RTYPE, NA, T >::n`.

5.2.3.282 `sugar::Rep_Single<Rbyte> Rcpp::rep ( const Rbyte & x, R_xlen_t n ) [inline]`

Definition at line 79 of file rep.h.

References `Rcpp::sugar::Rep< RTYPE, NA, T >::n`.

5.2.3.283 `sugar::Rep_Single<Rcomplex> Rcpp::rep ( const Rcomplex & x, R_xlen_t n ) [inline]`

Definition at line 82 of file rep.h.

References `Rcpp::sugar::Rep< RTYPE, NA, T >::n`.

5.2.3.284 `sugar::Rep_Single<bool> Rcpp::rep ( const bool & x, R_xlen_t n ) [inline]`

Definition at line 85 of file rep.h.

References `Rcpp::sugar::Rep< RTYPE, NA, T >::n`.

5.2.3.285 `template<int RTYPE, bool NA, typename T > sugar::Rep_each<RTYPE,NA,T> Rcpp::rep_each ( const VectorBase< RTYPE, NA, T > & t, R_xlen_t times ) [inline]`

Definition at line 50 of file rep\_each.h.

References `Rcpp::sugar::Rep_each< RTYPE, NA, T >::times`.

5.2.3.286 `template<int RTYPE, bool NA, typename T > sugar::Rep_len<RTYPE,NA,T> Rcpp::rep_len ( const VectorBase< RTYPE, NA, T > & t, R_xlen_t len ) [inline]`

Definition at line 50 of file rep\_len.h.

References `Rcpp::sugar::Rep_len< RTYPE, NA, T >::len`.

5.2.3.287 `template<int RTYPE, bool NA, typename T > sugar::Rev<RTYPE,NA,T> Rcpp::rev ( const VectorBase< RTYPE, NA, T > & t ) [inline]`

Definition at line 50 of file rev.h.

5.2.3.288 `NumericVector Rcpp::rexp ( int n, double rate ) [inline]`

Definition at line 143 of file random.h.

5.2.3.289 `NumericVector Rcpp::rexp ( int n ) [inline]`

Definition at line 153 of file random.h.

5.2.3.290 `NumericVector Rcpp::rf ( int n, double n1, double n2 ) [inline]`

Definition at line 157 of file random.h.

5.2.3.291 `NumericVector Rcpp::rgamma ( int n, double a, double scale ) [inline]`

Definition at line 171 of file random.h.

5.2.3.292 `NumericVector Rcpp::rgamma ( int n, double a ) [inline]`

Definition at line 180 of file random.h.

5.2.3.293 `NumericVector Rcpp::rgeom ( int n, double p ) [inline]`

Definition at line 189 of file random.h.

5.2.3.294 `NumericVector Rcpp::rhyper ( int n, double nn1, double nn2, double kk ) [inline]`

Definition at line 195 of file random.h.

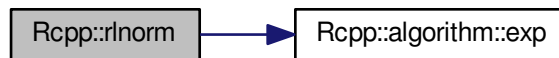


**5.2.3.295** `NumericVector Rcpp::rlnorm ( int n, double meanlog, double sdlog )` `[inline]`

Definition at line 199 of file random.h.

References `Rcpp::algorithm::exp()`.

Here is the call graph for this function:

**5.2.3.296** `NumericVector Rcpp::rlnorm ( int n, double meanlog )` `[inline]`

Definition at line 210 of file random.h.

References `Rcpp::algorithm::exp()`.

Here is the call graph for this function:

**5.2.3.297** `NumericVector Rcpp::rlnorm ( int n )` `[inline]`

Definition at line 221 of file random.h.

**5.2.3.298** `NumericVector Rcpp::rlogis ( int n, double location, double scale )` `[inline]`

Definition at line 225 of file random.h.

**5.2.3.299** `NumericVector Rcpp::rlogis ( int n, double location ) [inline]`

Definition at line 235 of file random.h.

**5.2.3.300** `NumericVector Rcpp::rlogis ( int n ) [inline]`

Definition at line 245 of file random.h.

**5.2.3.301** `NumericVector Rcpp::rnbinom ( int n, double siz, double prob ) [inline]`

Definition at line 249 of file random.h.

**5.2.3.302** `NumericVector Rcpp::rnbinom_mu ( int n, double siz, double mu ) [inline]`

Definition at line 257 of file random.h.

**5.2.3.303** `NumericVector Rcpp::rnchisq ( int n, double df, double lambda ) [inline]`

Definition at line 264 of file random.h.

**5.2.3.304** `NumericVector Rcpp::rnchisq ( int n, double df ) [inline]`

Definition at line 274 of file random.h.

**5.2.3.305** `NumericVector Rcpp::rnorm ( int n, double mean, double sd ) [inline]`

Definition at line 64 of file random.h.

**5.2.3.306** `NumericVector Rcpp::rnorm ( int n, double mean ) [inline]`

Definition at line 86 of file random.h.

**5.2.3.307** `NumericVector Rcpp::rnorm ( int n ) [inline]`

Definition at line 102 of file random.h.

5.2.3.308 `template<int RTYPE, bool LHS_NA, typename LHS_T > sugar::Row<RTYPE,LHS_NA,LHS_T> Rcpp::row ( const Rcpp::MatrixBase< RTYPE, LHS_NA, LHS_T > & lhs ) [inline]`

Definition at line 55 of file row.h.

5.2.3.309 `template<int RTYPE, bool NA, typename T > sugar::detail::RowMeansReturn<RTYPE>::type Rcpp::rowMeans ( const MatrixBase< RTYPE, NA, T > & x, bool na_rm = false ) [inline]`

Definition at line 942 of file rowSums.h.

5.2.3.310 `internal::DimNameProxy Rcpp::rownames ( SEXP x ) [inline]`

Definition at line 210 of file Matrix.h.

5.2.3.311 `template<int RTYPE, bool NA, typename T > sugar::detail::RowSumsReturn<RTYPE>::type Rcpp::rowSums ( const MatrixBase< RTYPE, NA, T > & x, bool na_rm = false ) [inline]`

Definition at line 924 of file rowSums.h.

5.2.3.312 `NumericVector Rcpp::rpois ( int n, double mu ) [inline]`

Definition at line 280 of file random.h.

5.2.3.313 `NumericVector Rcpp::rsignrank ( int n, double nn ) [inline]`

Definition at line 284 of file random.h.

5.2.3.314 `NumericVector Rcpp::rt ( int n, double df ) [inline]`

Definition at line 288 of file random.h.

5.2.3.315 `NumericVector Rcpp::runif ( int n, double min, double max ) [inline]`

Definition at line 301 of file random.h.

Referenced by piSugar().

5.2.3.316 `NumericVector Rcpp::runif ( int n, double min ) [inline]`

Definition at line 307 of file random.h.

5.2.3.317 **NumericVector Rcpp::runif** ( int *n* ) [inline]

Definition at line 313 of file random.h.

5.2.3.318 **NumericVector Rcpp::rweibull** ( int *n*, double *shape*, double *scale* ) [inline]

Definition at line 317 of file random.h.

5.2.3.319 **NumericVector Rcpp::rweibull** ( int *n*, double *shape* ) [inline]

Definition at line 326 of file random.h.

5.2.3.320 **NumericVector Rcpp::rwilcox** ( int *n*, double *mm*, double *nn* ) [inline]

Definition at line 333 of file random.h.

5.2.3.321 **template**<int RTYPE, bool NA, typename T, typename Function > **sugar::Sapply**< RTYPE,NA,T,Function, traits::same\_type< typename ::Rcpp::sugar::sapply\_application\_result\_of<Function, T>::type, typename Rcpp::traits::storage\_type< traits::r\_sexptype\_traits< typename ::Rcpp::sugar::sapply\_application\_result\_of<Function, T>::type >::rtype >::type >::value> Rcpp::sapply ( const Rcpp::VectorBase< RTYPE, NA, T > & *t*, Function *fun* ) [inline]

Definition at line 126 of file sapply.h.

References NA.

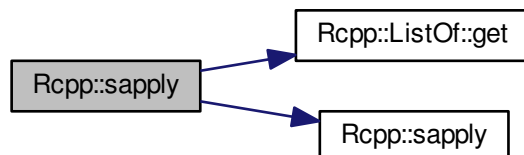
Referenced by sapply().

5.2.3.322 **template**<typename T, typename Function > T Rcpp::sapply ( const ListOf< T > & *t*, Function *fun* )

Definition at line 134 of file ListOf.h.

References Rcpp::ListOf< T >::get(), and sapply().

Here is the call graph for this function:



5.2.3.323 `template<bool NA, typename T> sugar::Sd<REALSXP,NA,T> Rcpp::sd ( const VectorBase< REALSXP, NA, T > & t ) [inline]`

Definition at line 46 of file sd.h.

5.2.3.324 `template<int RTYPE, bool NA, typename T > IntegerVector Rcpp::self_match ( const VectorBase< RTYPE, NA, T > & x ) [inline]`

Definition at line 69 of file self\_match.h.

5.2.3.325 `Range Rcpp::seq ( R_xlen_t start, R_xlen_t end ) [inline]`

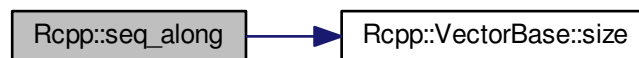
Definition at line 52 of file seq\_along.h.

5.2.3.326 `template<int RTYPE, bool NA, typename T > sugar::SeqLen Rcpp::seq_along ( const Rcpp::VectorBase< RTYPE, NA, T > & t ) [inline]`

Definition at line 44 of file seq\_along.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



5.2.3.327 `sugar::SeqLen Rcpp::seq_len ( const size_t & n ) [inline]`

Definition at line 48 of file seq\_along.h.

```
5.2.3.328 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > Vector<RTYPE>
Rcpp::setdiff ( const VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const VectorBase< RTYPE, RHS_NA, RHS_T
> & rhs ) [inline]
```

Definition at line 161 of file setdiff.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::get\_ref().

Here is the call graph for this function:



```
5.2.3.329 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > bool Rcpp::setequal (
const VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const VectorBase< RTYPE, RHS_NA, RHS_T > & rhs )
[inline]
```

Definition at line 166 of file setdiff.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::get\_ref().

Here is the call graph for this function:



```
5.2.3.330 void Rcpp::setFunction ( const Function & function )
```

sets the function

Definition at line 127 of file Language.h.

```
5.2.3.331 void Rcpp::setSymbol ( const std::string & symbol )
```

Creates a call to the given symbol using variable number of arguments

## Parameters

<i>symbol</i>	symbol
<i>...Args</i>	variable length argument list. The type of each argument must be wrappable, meaning there need to be a wrap function that takes this type as its parameter

For example, `Language( "rnorm", 10, 0.0 )` will create the same call as

```
call( "rnorm", 10L, 0.0 )
```

10 is wrapped as an integer vector using `wrap( const& int )` 0.0 is wrapped as a numeric vector using `wrap( const& double )` ... sets the symbol of the call

Definition at line 111 of file `Language.h`.

### 5.2.3.332 void Rcpp::setSymbol ( const Symbol & symbol )

sets the symbol of the call

Definition at line 118 of file `Language.h`.

### 5.2.3.333 LogicalVector Rcpp::shush\_about\_NA ( ) [inline]

Definition at line 54 of file `Na_Proxy.h`.

References `_`, and `Rcpp::Vector< RTYPE, StoragePolicy >::create()`.

Here is the call graph for this function:



### 5.2.3.334 template<bool NA, typename T > sugar::Sign<INTSXP,NA,T> Rcpp::sign ( const VectorBase< INTSXP, NA, T > & t ) [inline]

Definition at line 70 of file `sign.h`.

Referenced by `Rcpp::Module::get_function()`.

5.2.3.335 `template<bool NA, typename T > sugar::Sign<REALSXP,NA,T> Rcpp::sign ( const VectorBase< REALSXP, NA, T> & f ) [inline]`

Definition at line 75 of file sign.h.

5.2.3.336 `template<int RTYPE, bool NA, typename T > Vector<RTYPE> Rcpp::sort_unique ( const VectorBase< RTYPE, NA, T> & f ) [inline]`

Definition at line 72 of file unique.h.

5.2.3.337 `template<int MAX_SIZE> std::string Rcpp::sprintf ( const char * format, ... )`

Definition at line 28 of file sprintf.h.

5.2.3.338 `template<typename T > void Rcpp::standard_delete_finalizer ( T * obj )`

Definition at line 30 of file XPtr.h.

5.2.3.339 `void Rcpp::stop ( const std::string & message ) [inline]`

Definition at line 267 of file exceptions.h.

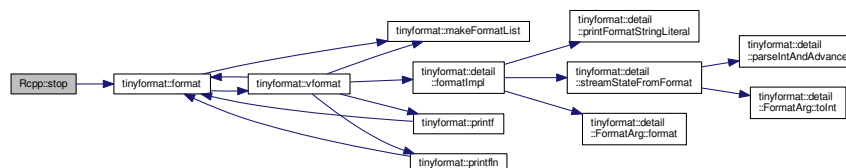
Referenced by `Rcpp::internal::DimNameProxy::assign()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::check_indices()`, `Rcpp::Vector< INTSXP >::findName()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices()`, `Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >::JoinOp()`, `new_env()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator=()`, `RCPP_API_CLASS()`, and `Rcpp_eval()`.

5.2.3.340 `template<typename T1 > void NORET Rcpp::stop ( const char * fmt, const T1 & arg1 ) [inline]`

Definition at line 272 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:



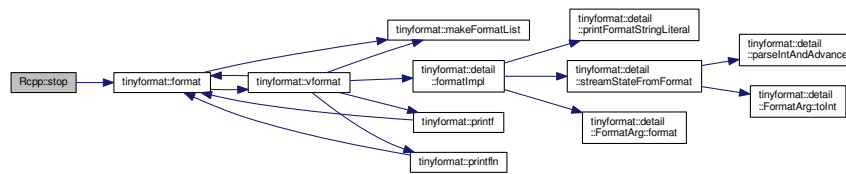


5.2.3.341 `template<typename T1 , typename T2 > void NORET Rcpp::stop ( const char * fmt, const T1 & arg1, const T2 & arg2 )`  
`[inline]`

Definition at line 277 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

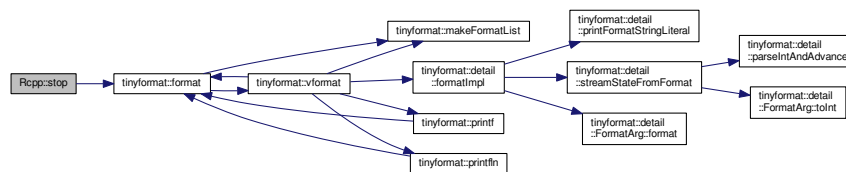


5.2.3.342 `template<typename T1 , typename T2 , typename T3 > void NORET Rcpp::stop ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3 )`  
`[inline]`

Definition at line 282 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

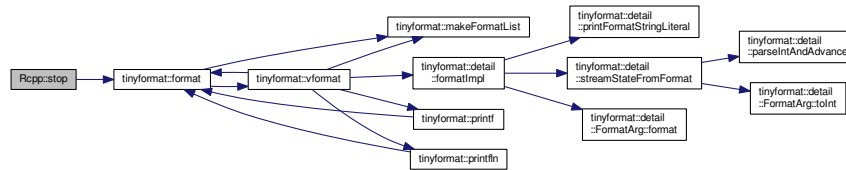


5.2.3.343 `template<typename T1 , typename T2 , typename T3 , typename T4 > void NORET Rcpp::stop ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4 )`  
`[inline]`

Definition at line 287 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

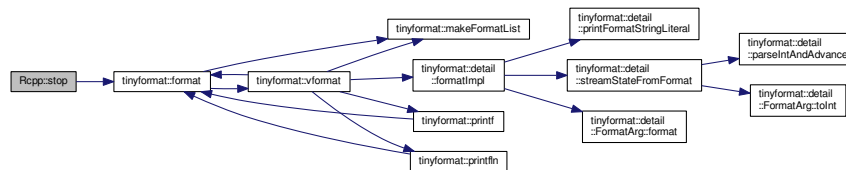


5.2.3.344 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 > void NORET Rcpp::stop ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5 ) [inline]`

Definition at line 292 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

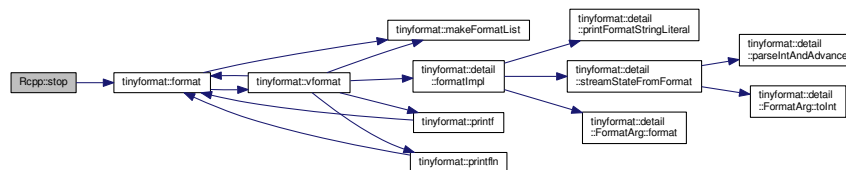


5.2.3.345 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 > void NORET Rcpp::stop ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5, const T6 & arg6 ) [inline]`

Definition at line 297 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

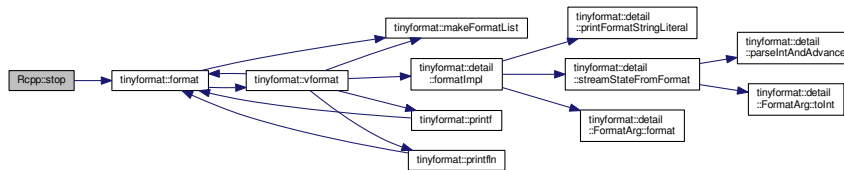


5.2.3.346 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 > void NORET Rcpp::stop ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5, const T6 & arg6, const T7 & arg7 ) [inline]`

Definition at line 302 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

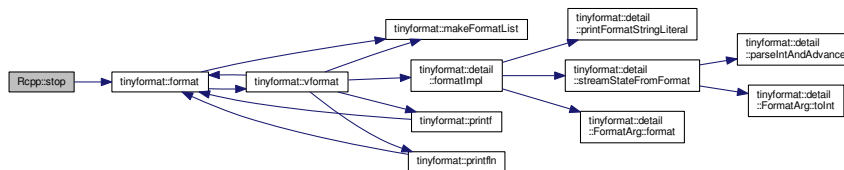


5.2.3.347 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 > void NORET Rcpp::stop ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5, const T6 & arg6, const T7 & arg7, const T8 & arg8 ) [inline]`

Definition at line 307 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

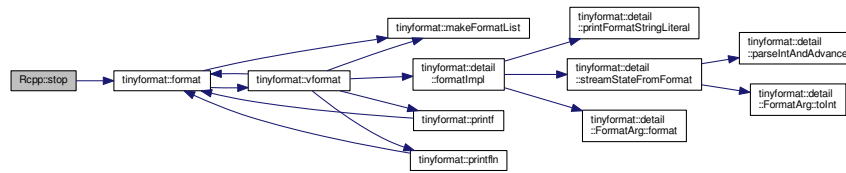


5.2.3.348 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 > void NORET Rcpp::stop ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5, const T6 & arg6, const T7 & arg7, const T8 & arg8, const T9 & arg9 ) [inline]`

Definition at line 312 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

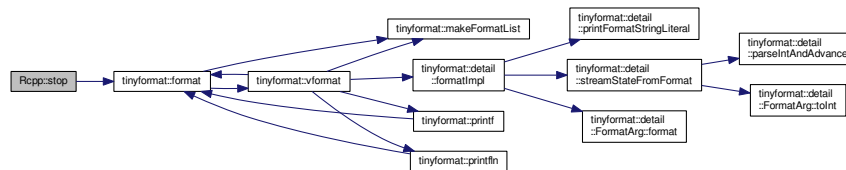


5.2.3.349 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 > void NORET Rcpp::stop ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5, const T6 & arg6, const T7 & arg7, const T8 & arg8, const T9 & arg9, const T10 & arg10 ) [inline]`

Definition at line 317 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:



5.2.3.350 `Rcpp::StretchyList_Impl ( )`

Definition at line 42 of file StretchyList.h.

Referenced by `push_front()`.

5.2.3.351 `Rcpp::StretchyList_Impl ( SEXP x )`

Definition at line 47 of file StretchyList.h.

References `update()`.

Here is the call graph for this function:



5.2.3.352 `template<bool NA, typename T > sugar::Sum<INTSXP,NA,T> Rcpp::sum ( const VectorBase< INTSXP, NA, T > & t ) [inline]`

Definition at line 98 of file sum.h.

Referenced by `Rcpp::sugar::na_omit_impl()`, and `piSugar()`.

5.2.3.353 `template<bool NA, typename T > sugar::Sum<REALSXP,NA,T> Rcpp::sum ( const VectorBase< REALSXP, NA, T > & t ) [inline]`

Definition at line 103 of file sum.h.

5.2.3.354 `template<bool NA, typename T > sugar::Sum<LGLSXP,NA,T> Rcpp::sum ( const VectorBase< LGLSXP, NA, T > & t ) [inline]`

Definition at line 108 of file sum.h.

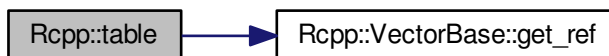
5.2.3.355 `template<int RTYPE, bool NA, typename T > IntegerVector Rcpp::table ( const VectorBase< RTYPE, NA, T > & x ) [inline]`

Definition at line 126 of file table.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Referenced by `in()`, and `match()`.

Here is the call graph for this function:



5.2.3.356 `template<int RTYPE, bool NA, typename T > sugar::Tail<RTYPE,NA,T> Rcpp::tail ( const VectorBase< RTYPE, NA, T > & t, R_xlen_t n ) [inline]`

Definition at line 56 of file tail.h.

References `Rcpp::sugar::Tail< RTYPE, NA, T >::n`.

Referenced by `Rcpp::DottedPairImpl< CLASS >::insert()`, and `Rcpp::DottedPairImpl< CLASS >::push_back()`.

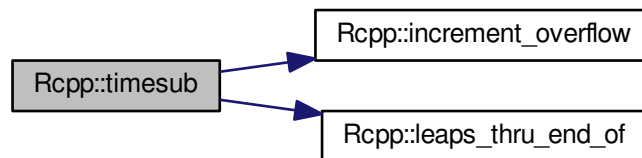
5.2.3.357 `static struct tm * Rcpp::timesub ( const time_t *const timep, const long offset, const struct state *const sp, struct tm *const tmp ) [static]`

Definition at line 1135 of file Date.cpp.

References `DAYSPERLYEAR`, `DAYSPERNYEAR`, `DAYSPERWEEK`, `EPOCH_WDAY`, `EPOCH_YEAR`, `increment_↔ overflow()`, `isleap`, `Rcpp::state::leapcnt`, `leaps_thru_end_of()`, `Rcpp::linfo::ls_corr`, `Rcpp::linfo::ls_trans`, `Rcpp::state↔ ::lisis`, `SECSPERDAY`, `SECSPERHOUR`, and `SECSPERMIN`.

Referenced by `gmtsub()`.

Here is the call graph for this function:



5.2.3.358 `static std::string Rcpp::toString ( const int i ) [static]`

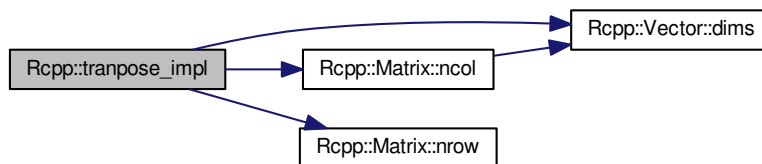
Definition at line 44 of file exceptions.h.

5.2.3.359 `template<int RTYPE, template< class > class StoragePolicy> Matrix<RTYPE, StoragePolicy> Rcpp::transpose_impl ( const Matrix< RTYPE, StoragePolicy > & x )`

Definition at line 406 of file Matrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::dims()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::nrow()`.

Here is the call graph for this function:



5.2.3.360 `template<template< class > class StoragePolicy> Matrix<REALSXP, StoragePolicy> Rcpp::transpose ( const Matrix< REALSXP, StoragePolicy > & x )`

Definition at line 435 of file Matrix.h.

5.2.3.361 `template<template< class > class StoragePolicy> Matrix<INTSXP, StoragePolicy> Rcpp::transpose ( const Matrix< INTSXP, StoragePolicy > & x )`

Definition at line 440 of file Matrix.h.

5.2.3.362 `template<template< class > class StoragePolicy> Matrix<STRSXP, StoragePolicy> Rcpp::transpose ( const Matrix< STRSXP, StoragePolicy > & x )`

Definition at line 445 of file Matrix.h.

5.2.3.363 `static time_t Rcpp::transtime ( const time_t janfirst, const int year, const struct rule *const rulep, const long offset )`  
`[static]`

Definition at line 796 of file Date.cpp.

References `DAY_OF_YEAR`, `DAYSPERWEEK`, `INITIALIZE`, `isleap`, `JULIAN_DAY`, `MONTH_NTH_DAY_OF_WEEK`, `Rcpp::rule::r_day`, `Rcpp::rule::r_mon`, `Rcpp::rule::r_time`, `Rcpp::rule::r_type`, `Rcpp::rule::r_week`, and `SECSPERDAY`.

Referenced by `tzparse()`.

5.2.3.364 `const char * Rcpp::type2name ( SEXP x ) [inline]`

Definition at line 70 of file routines.h.

References GET\_CALLABLE.

Referenced by registerFunctions().

5.2.3.365 `static int Rcpp::typesequiv ( const struct state * sp, int a, int b ) [static]`

Definition at line 1110 of file Date.cpp.

References Rcpp::state::chars, Rcpp::ttinfo::tt\_abbrind, Rcpp::ttinfo::tt\_gmtoff, Rcpp::ttinfo::tt\_isdst, Rcpp::ttinfo::tt\_tisgmt, Rcpp::ttinfo::tt\_tisstd, Rcpp::state::ttis, and Rcpp::state::typecnt.

Referenced by tzload().

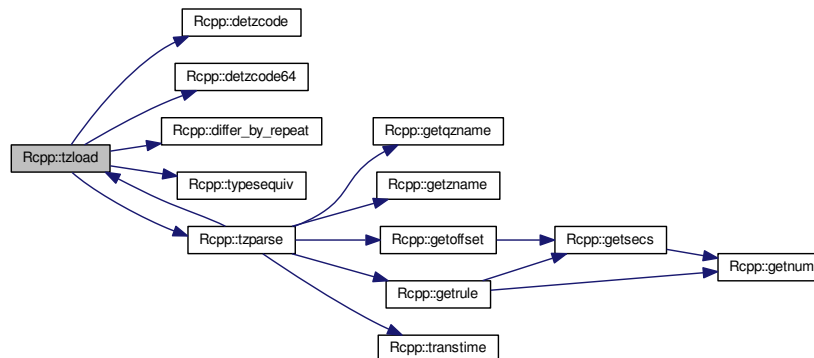
5.2.3.366 `static int Rcpp::tzload ( const char * name, struct state *const sp, const int doextend ) [static]`

Definition at line 553 of file Date.cpp.

References Rcpp::state::ats, Rcpp::state::charcnt, Rcpp::state::chars, detzcode(), detzcode64(), differ\_by\_repeat(), Rcpp::state::goahead, Rcpp::state::goback, Rcpp::state::leapcnt, Rcpp::lsinfo::ls\_corr, Rcpp::lsinfo::ls\_trans, Rcpp::state::lisis, OPEN\_MODE, Rcpp::state::timecnt, Rcpp::ttinfo::tt\_abbrind, Rcpp::ttinfo::tt\_gmtoff, Rcpp::ttinfo::tt\_isdst, Rcpp::ttinfo::tt\_tisgmt, Rcpp::ttinfo::tt\_tisstd, Rcpp::state::ttis, TYPE\_INTEGRAL, TYPE\_SIGNED, Rcpp::state::typecnt, Rcpp::state::types, typesequiv(), TZ\_MAX\_CHARS, TZ\_MAX\_LEAPS, TZ\_MAX\_TIMES, TZ\_MAX\_TYPES, TZDEFAULT, tzparse(), and YEARSPERREPEAT.

Referenced by gmtload(), and tzparse().

Here is the call graph for this function:





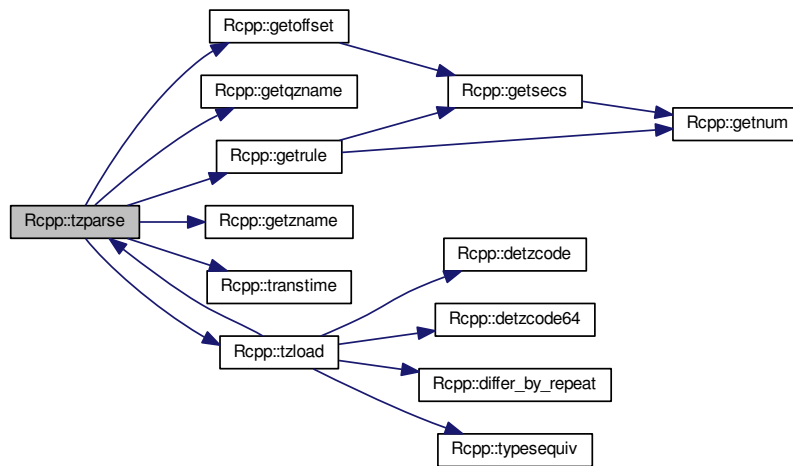
5.2.3.367 `static int Rcpp::tzparse ( const char * name, struct state * sp, int lastditch ) [static]`

Definition at line 880 of file Date.cpp.

References `Rcpp::state::ats`, `Rcpp::state::charcnt`, `Rcpp::state::chars`, `EPOCH_YEAR`, `getoffset()`, `getqzname()`, `getrule()`, `getzname()`, `INITIALIZE`, `isleap`, `Rcpp::state::leapcnt`, `SECSPERDAY`, `SECSPERHOUR`, `Rcpp::state::timecnt`, `transtime()`, `Rcpp::tinfo::tt_abbrind`, `Rcpp::tinfo::tt_gmtoff`, `Rcpp::tinfo::tt_isdst`, `Rcpp::tinfo::tt_tisgmt`, `Rcpp::tinfo::tt_tisstd`, `Rcpp::state::ttis`, `Rcpp::state::typecnt`, `Rcpp::state::types`, `TZ_MAX_TIMES`, `TZDEFRULES`, `TZDEFRULESTRING`, and `tzload()`.

Referenced by `gmtload()`, and `tzload()`.

Here is the call graph for this function:



5.2.3.368 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Vector<RTYPE>  
Rcpp::union_ ( const VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const VectorBase< RTYPE, RHS_NA, RHS_T  
> & rhs ) [inline]`

Definition at line 177 of file setdiff.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`.

Here is the call graph for this function:

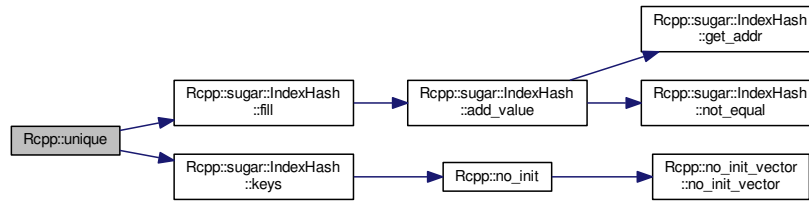


5.2.3.369 `template<int RTYPE, bool NA, typename T > Vector<RTYPE> Rcpp::unique ( const VectorBase< RTYPE, NA, T > & t ) [inline]`

Definition at line 65 of file unique.h.

References `Rcpp::sugar::IndexHash< RTYPE >::fill()`, `Rcpp::sugar::InSet< HASH >::hash`, and `Rcpp::sugar::IndexHash< RTYPE >::keys()`.

Here is the call graph for this function:



5.2.3.370 `void Rcpp::unlockBinding ( const std::string & name )`

unlocks the given binding see `?bindingsIsLocked`

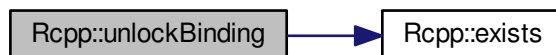
#### Exceptions

<code>no_such_binding</code>	if there is no such binding in this environment
------------------------------	---

Definition at line 285 of file Environment.h.

References `exists()`.

Here is the call graph for this function:



5.2.3.371 `void Rcpp::update ( SEXP x )`

Definition at line 398 of file Environment.h.

Referenced by `fast_eval()`, `Formula_Impl()`, `Pairlist_Impl()`, `Rcpp_API_CLASS()`, and `StretchyList_Impl()`.

5.2.3.372 `template<int RTYPE, bool LHS_NA, typename LHS_T > sugar::UpperTri<RTYPE,LHS_NA,LHS_T> Rcpp::upper_tri ( const Rcpp::MatrixBase< RTYPE, LHS_NA, LHS_T > & lhs, bool diag = false ) [inline]`

Definition at line 70 of file upper\_tri.h.

References `diag()`.

Here is the call graph for this function:



5.2.3.373 `template<bool NA, typename T > sugar::Var<REALSXP,NA,T> Rcpp::var ( const VectorBase< REALSXP, NA, T > & t ) [inline]`

Definition at line 74 of file var.h.

Referenced by `Rcpp::sugar::Sd< RTYPE, NA, T >::get()`.

5.2.3.374 `template<bool NA, typename T > sugar::Var<INTSXP,NA,T> Rcpp::var ( const VectorBase< INTSXP, NA, T > & t ) [inline]`

Definition at line 79 of file var.h.

5.2.3.375 `template<bool NA, typename T > sugar::Var<LGLSXP,NA,T> Rcpp::var ( const VectorBase< LGLSXP, NA, T > & t ) [inline]`

Definition at line 84 of file var.h.

5.2.3.376 `template<bool NA, typename T > sugar::Var<CPLXSP,NA,T> Rcpp::var ( const VectorBase< CPLXSP, NA, T > & t ) [inline]`

Definition at line 89 of file var.h.

5.2.3.377 `void Rcpp::warning ( const std::string & message ) [inline]`

Definition at line 213 of file exceptions.h.

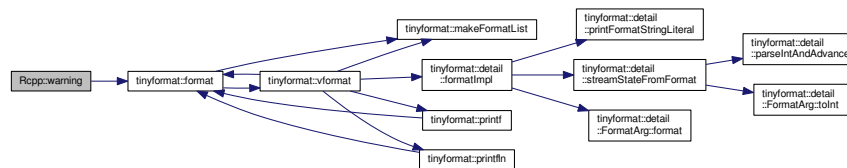
Referenced by `Rcpp::attributes::showWarning()`.

5.2.3.378 `template<typename T1 > void Rcpp::warning ( const char * fmt, const T1 & arg1 ) [inline]`

Definition at line 218 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

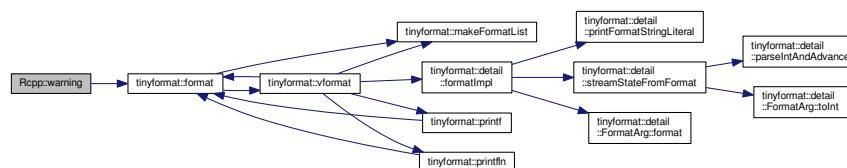


5.2.3.379 `template<typename T1 , typename T2 > void Rcpp::warning ( const char * fmt, const T1 & arg1, const T2 & arg2 ) [inline]`

Definition at line 223 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

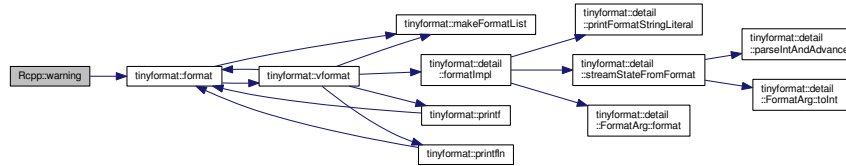


5.2.3.380 `template<typename T1 , typename T2 , typename T3 > void Rcpp::warning ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3 ) [inline]`

Definition at line 228 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

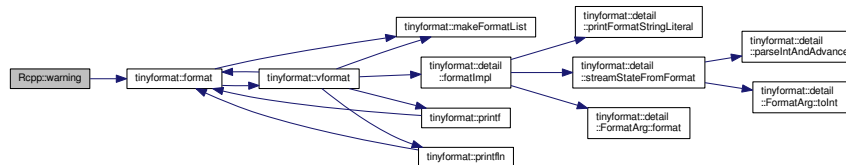


5.2.3.381 `template<typename T1 , typename T2 , typename T3 , typename T4 > void Rcpp::warning ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4 ) [inline]`

Definition at line 233 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

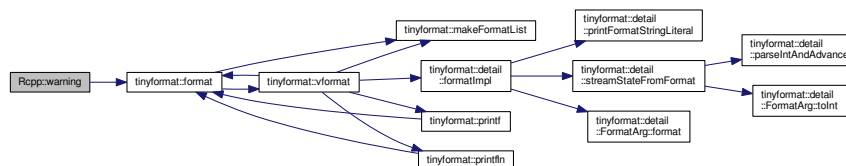


5.2.3.382 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 > void Rcpp::warning ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5 ) [inline]`

Definition at line 238 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

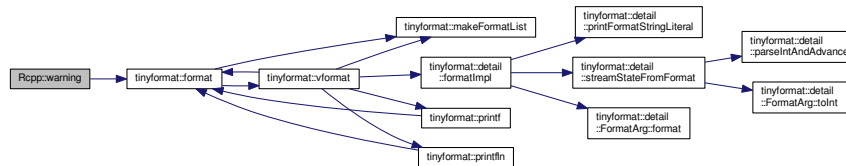


5.2.3.383 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 > void Rcpp::warning ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5, const T6 & arg6 ) [inline]`

Definition at line 243 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

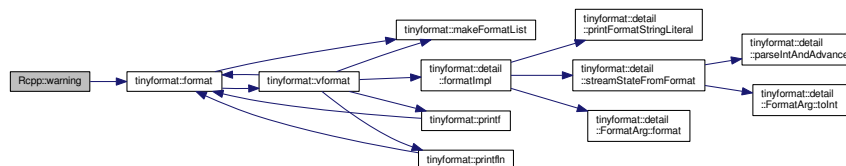


5.2.3.384 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 > void Rcpp::warning ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5, const T6 & arg6, const T7 & arg7 ) [inline]`

Definition at line 248 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

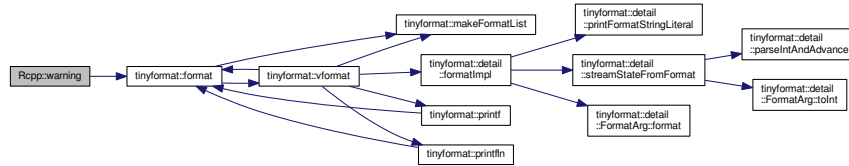


5.2.3.385 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 > void Rcpp::warning ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5, const T6 & arg6, const T7 & arg7, const T8 & arg8 ) [inline]`

Definition at line 253 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

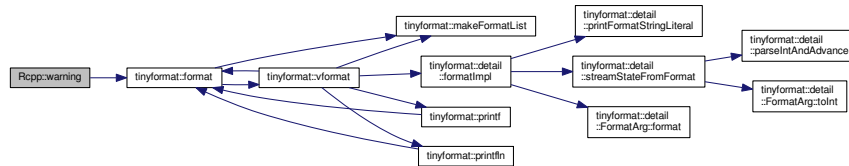


5.2.3.386 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 > void Rcpp::warning ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5, const T6 & arg6, const T7 & arg7, const T8 & arg8, const T9 & arg9 ) [inline]`

Definition at line 258 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:

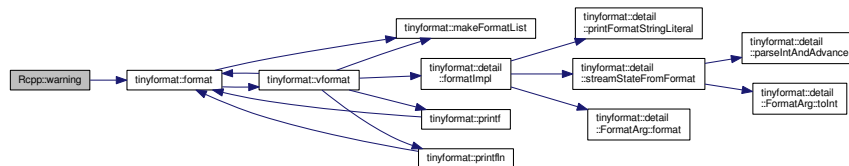


5.2.3.387 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 > void Rcpp::warning ( const char * fmt, const T1 & arg1, const T2 & arg2, const T3 & arg3, const T4 & arg4, const T5 & arg5, const T6 & arg6, const T7 & arg7, const T8 & arg8, const T9 & arg9, const T10 & arg10 ) [inline]`

Definition at line 263 of file exceptions.h.

References `tinyformat::format()`.

Here is the call graph for this function:



5.2.3.388 void Rcpp::warningcall ( SEXP *call*, const std::string & *s* ) [inline]

Definition at line 29 of file print.h.

5.2.3.389 template<int RTYPE, bool NA, typename T > R\_xlen\_t Rcpp::which\_max ( const VectorBase< RTYPE, NA, T > & *t* )

Definition at line 90 of file which\_max.h.

5.2.3.390 template<int RTYPE, bool NA, typename T > R\_xlen\_t Rcpp::which\_min ( const VectorBase< RTYPE, NA, T > & *t* )

Definition at line 90 of file which\_min.h.

5.2.3.391 template<> SEXP Rcpp::wrap ( const Date & *date* ) [inline]

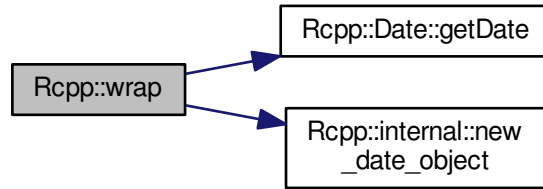
Definition at line 38 of file Date.h.

References Rcpp::Date::getDate(), and Rcpp::internal::new\_date\_object().

Referenced by Rcpp::Armor< T >::Armor(), as\_character\_externalptr(), Rcpp::Vector< INTSXP >::assign(), Rcpp::Vector< INTSXP >::assign\_object(), Rcpp::Vector< INTSXP >::assign\_sugar\_expression(), Rcpp::DataFrame\_Impl< StoragePolicy >::DataFrame\_Impl(), Environment\_Impl(), Rcpp::DataFrame\_Impl< StoragePolicy >::from\_list(), CppProperty\_Getter\_Setter< PROP >::get(), CppProperty\_GetMethod< Class, PROP >::get(), CppProperty\_Getter< PROP >::get(), CppProperty\_GetConstMethod< Class, PROP >::get(), CppProperty\_GetPointerMethod< Class, PROP >::get(), Rcpp::internal::generic\_element\_converter< RTYPE >::get(), CppProperty\_GetMethod\_SetMethod< Class, PROP >::get(), CppProperty\_GetConstMethod\_SetMethod< Class, PROP >::get(), CppProperty\_GetMethod\_SetPointer< Class, PROP >::get(), CppProperty\_GetConstMethod\_SetPointer< Class, PROP >::get(), CppProperty\_GetPointer\_SetMethod< Class, PROP >::get(), CppProperty\_GetPointer\_SetPointer< Class, PROP >::get(), Rcpp::sugar::IndexHash< RTYPE >::get\_profile\_data(), Rcpp::internal::grow\_dispatch(), Rcpp::Dimension::operator SEXP(), Rcpp::internal::simple\_name\_proxy< RTYPE >::operator SEXP(), Rcpp::sugar::Sign< RTYPE, NA, T >::operator SEXP(), Rcpp::ListOf< T >::operator SEXP(), Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T >::operator SEXP(), Rcpp::Armor< T >::operator=(), Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::operator=(), Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy::operator=(), Rcpp::internal::generic\_proxy< RTYPE >::operator=(), Rcpp::ChildVector< T >::operator=(), Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::operator=(), Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::operator=(), Rcpp::TagProxyPolicy< XPtrClass >::TagProxy::operator=(), Rcpp::BindingPolicy< EnvironmentClass >::Binding::operator=(), Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator=(), Rcpp::internal::generic\_name\_proxy< RTYPE >::operator=(), Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::operator=(), Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::operator[](), PiLeibniz(), Rcpp::internal::range\_wrap\_dispatch\_\_impl\_\_pair(), RCPP\_API\_CLASS(), and Rcpp::attributes::SourceFileAttributesParser::SourceFileAttributesParser().



Here is the call graph for this function:

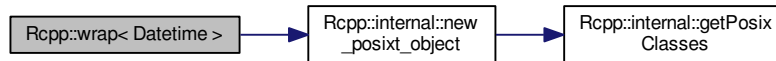


5.2.3.392 `template<> SEXP Rcpp::wrap< Datetime > ( const Datetime & date ) [inline]`

Definition at line 44 of file Datetime.h.

References `Rcpp::internal::new_posixt_object()`.

Here is the call graph for this function:



5.2.3.393 `template<> SEXP Rcpp::wrap< Rcpp::Date > ( const Rcpp::Date & date )`

5.2.3.394 `template<> SEXP Rcpp::wrap< Rcpp::Datetime > ( const Rcpp::Datetime & dt )`

5.2.3.395 `template<> SEXP Rcpp::wrap< Rcpp::String > ( const Rcpp::String & object ) [inline]`

Definition at line 511 of file String.h.

References `Rcpp::String::data`, `Rcpp_PreserveObject()`, and `RCPP_STRING_DEBUG`.

Here is the call graph for this function:



5.2.3.396 `template<typename T > SEXP Rcpp::wrap_extra_steps ( SEXP x )`

Definition at line 28 of file `wrap_extra_steps.h`.

5.2.3.397 `template<> SEXP Rcpp::wrap_extra_steps< Rcpp::Date > ( SEXP x ) [inline]`

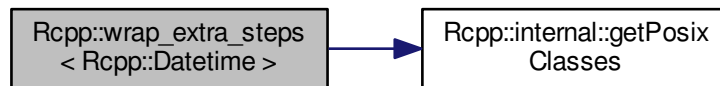
Definition at line 131 of file `Date.h`.

5.2.3.398 `template<> SEXP Rcpp::wrap_extra_steps< Rcpp::Datetime > ( SEXP ) [inline]`

Definition at line 38 of file `Datetime.h`.

References `Rcpp::internal::getPosixClasses()`.

Here is the call graph for this function:



## 5.2.4 Variable Documentation

5.2.4.1 `internal::NamedPlaceholder Rcpp::_ [static]`

Definition at line 64 of file `Named.h`.

Referenced by `Rcpp::Module::invoke()`, `shush_about_NA()`, `sourceCppContext()`, and `stack_trace()`.

5.2.4.2 `public Rcpp::BindingPolicy< Environment_Impl< StoragePolicy > >`

### Initial value:

```

{
  private:
    inline SEXP as_environment(SEXP x){
      if( Rf_isEnvironment(x) ) return x ;
      SEXP asEnvironmentSym = Rf_install("as.environment");
      try {
        Shield<SEXP> res( Rcpp_eval( Rf_lang2( asEnvironmentSym, x ) ) );
        return res ;
      } catch( const eval_error& ex){
        throw not_compatible( "cannot convert to environment" ) ;
      }
    }

  public:

    Environment_Impl(){
      Storage::set__(R_GlobalEnv) ;
    }
}
  
```

Definition at line 34 of file `Environment.h`.

#### 5.2.4.3 `Module* Rcpp::current_scope` [static]

Definition at line 224 of file `Module.cpp`.

Referenced by `getCurrentScope()`, and `setCurrentScope()`.

#### 5.2.4.4 `public public Rcpp::DottedPairImpl< DottedPair_Impl< StoragePolicy > >`

##### Initial value:

```
{
public:

    DottedPair_Impl() {}

    DottedPair_Impl(SEXP x) {
        Storage::set__(x) ;
    }

    void update(SEXP) {}
}
```

Definition at line 29 of file `DottedPair.h`.

#### 5.2.4.5 `public public Rcpp::DottedPairImpl< Formula_Impl< StoragePolicy > >`

##### Initial value:

```
{
public:

    Formula_Impl() {}
}
```

Definition at line 33 of file `Formula.h`.

#### 5.2.4.6 `public public Rcpp::DottedPairImpl< Language_Impl< StoragePolicy > >`

##### Initial value:

```
{
public:

    typedef typename DottedPairProxyPolicy<Language_Impl>::DottedPairProxy Proxy
}
```

Definition at line 35 of file `Language.h`.

5.2.4.7 `public public Rcpp::DottedPairImpl< Pairlist_Impl< StoragePolicy > >`

**Initial value:**

```
{  
  public:  
  
  typedef typename DottedPairProxyPolicy<Pairlist_Impl>::DottedPairProxy Proxy
```

Definition at line 33 of file Pairlist.h.

5.2.4.8 `public Rcpp::DottedPairProxyPolicy< DottedPair_Impl< StoragePolicy > >`

Definition at line 28 of file DottedPair.h.

5.2.4.9 `public Rcpp::DottedPairProxyPolicy< Formula_Impl< StoragePolicy > >`

Definition at line 31 of file Formula.h.

5.2.4.10 `public Rcpp::DottedPairProxyPolicy< Language_Impl< StoragePolicy > >`

Definition at line 33 of file Language.h.

5.2.4.11 `public Rcpp::DottedPairProxyPolicy< Pairlist_Impl< StoragePolicy > >`

Definition at line 32 of file Pairlist.h.

5.2.4.12 `public Rcpp::DottedPairProxyPolicy< StretchyList_Impl< StoragePolicy > >`

**Initial value:**

```
{  
  public:  
  
  typedef typename DottedPairProxyPolicy<StretchyList_Impl>::DottedPairProxy Proxy
```

Definition at line 34 of file StretchyList.h.

5.2.4.13 `public Rcpp::FieldProxyPolicy< Reference_Impl< StoragePolicy > >`**Initial value:**

```

{
    public:
        Reference_Impl() {}

        Reference_Impl(SEXP x) {
            Storage::set__(x) ;
        }

        Reference_Impl& operator=( SEXP other ) {
            Storage::set__(other) ;
            return *this ;
        }

        Reference_Impl( const std::string& klass ) {
            SEXP newSym = Rf_install("new");
            Shield<SEXP> call( Rf_lang2( newSym, Rf_mkString( klass.c_str() ) ) );
            Storage::set__( Rcpp_eval( call ,
Rcpp::internal::get_Rcpp_namespace() ) );
        }

        void update( SEXP x){
            if( ! ::Rf_isS4(x) ) throw not_reference();
        }
}

```

Definition at line 32 of file Reference.h.

5.2.4.14 `const char Rcpp::gmt[] = "GMT"` [static]

Definition at line 299 of file Date.cpp.

5.2.4.15 `int Rcpp::gmt_is_set` [static]

Definition at line 370 of file Date.cpp.

5.2.4.16 `struct state Rcpp::gmtmem` [static]

Definition at line 373 of file Date.cpp.

5.2.4.17 `const int Rcpp::mon_lengths2[MONSPERYEAR]` [static]**Initial value:**

```

= {
    { 31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31 },
    { 31, 29, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31 }
}

```

Definition at line 361 of file Date.cpp.

#### 5.2.4.18 `Na_Proxy Rcpp::NA` `[static]`

Definition at line 52 of file `Na_Proxy.h`.

Referenced by `Rcpp::Vector< INTSXP >::import_sugar_expression()`, `Rcpp::algorithm::helpers::rtype< T >::NA()`, `operator!=()`, `operator<()`, `operator<=()`, `operator==()`, `operator>()`, `operator>=()`, and `sapply()`.

#### 5.2.4.19 `Rostream<false> Rcpp::Rcerr` `[static]`

Definition at line 87 of file `Rstreambuf.h`.

#### 5.2.4.20 `Rostream<true> Rcpp::Rcout` `[static]`

Definition at line 86 of file `Rstreambuf.h`.

Referenced by `compileAttributes()`, and `Rcpp::attributes::CppExportsGenerator::doWriteFunctions()`.

#### 5.2.4.21 `struct tm Rcpp::tm` `[static]`

Definition at line 377 of file `Date.cpp`.

Referenced by `gmtime_()`.

#### 5.2.4.22 `const int Rcpp::year_lengths[2]` `[static]`

**Initial value:**

```
= {
    DAYSPERNYEAR, DAYSPERLYEAR
}
```

Definition at line 366 of file `Date.cpp`.

## 5.3 `Rcpp::algorithm` Namespace Reference

### Namespaces

- [helpers](#)



**5.3.1.1** `template<typename InputIterator, typename OutputIterator > void Rcpp::algorithm::exp ( InputIterator begin, InputIterator end, OutputIterator out )`

Definition at line 455 of file `algorithm.h`.

Referenced by `Rcpp::internal::complex__exp()`, `Rcpp::stats::d_exp_0()`, `Rcpp::stats::dlnorm_0()`, `Rcpp::stats::dlnorm_1()`, `Rcpp::stats::dlogis_0()`, `Rcpp::stats::dlogis_1()`, `Rcpp::stats::dnorm_0()`, `Rcpp::stats::dnorm_1()`, `Rcpp::stats::dweibull_1()`, `Rcpp::stats::LNormGenerator::operator()`, `Rcpp::stats::LNormGenerator_1::operator()`, `Rcpp::stats::LNormGenerator_0::operator()`, `Rcpp::algorithm::helpers::exp::operator()`, `Rcpp::stats::p_exp_0()`, `Rcpp::stats::plogis_0()`, `Rcpp::stats::plogis_1()`, `Rcpp::stats::pweibull_1()`, `Rcpp::stats::qlnorm_0()`, `Rcpp::stats::qlnorm_1()`, `Rcpp::stats::qlogis_0()`, `Rcpp::stats::qlogis_1()`, and `Rcpp::rlnorm()`.

**5.3.1.2** `template<typename InputIterator, typename OutputIterator > void Rcpp::algorithm::log ( InputIterator begin, InputIterator end, OutputIterator out )`

Definition at line 450 of file `algorithm.h`.

Referenced by `Rcpp::internal::complex__asin()`, `Rcpp::internal::complex__atan()`, `Rcpp::internal::complex__log()`, `Rcpp::dexp()`, `Rcpp::stats::dgamma_1()`, `Rcpp::stats::dlnorm_0()`, `Rcpp::stats::dlnorm_1()`, `Rcpp::stats::dlogis_0()`, `Rcpp::stats::dlogis_1()`, `Rcpp::stats::dweibull_1()`, `Rcpp::stats::LogisGenerator::operator()`, `Rcpp::stats::WeibullGenerator::operator()`, `Rcpp::stats::WeibullGenerator__scale1::operator()`, `Rcpp::stats::LogisGenerator_1::operator()`, `Rcpp::stats::LogisGenerator_0::operator()`, `Rcpp::algorithm::helpers::log::operator()`, `Rcpp::stats::p_exp_0()`, `Rcpp::pexp()`, `Rcpp::stats::plnorm_0()`, `Rcpp::stats::plnorm_1()`, `Rcpp::stats::pweibull_1()`, `Rcpp::qexp()`, `Rcpp::stats::qlogis_0()`, and `Rcpp::stats::qlogis_1()`.

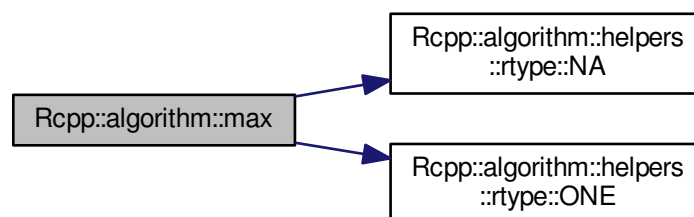
**5.3.1.3** `template<typename InputIterator > traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type Rcpp::algorithm::max ( InputIterator begin, InputIterator end )`

Definition at line 305 of file `algorithm.h`.

References `Rcpp::algorithm::helpers::rtype< T >::NA()`, `Rcpp::algorithm::helpers::rtype< T >::ONE()`, and `Rcpp::algorithm::helpers::ctype_helper< I >::value`.

Referenced by `max_nona()`, and `Rcpp::operator<<()`.

Here is the call graph for this function:



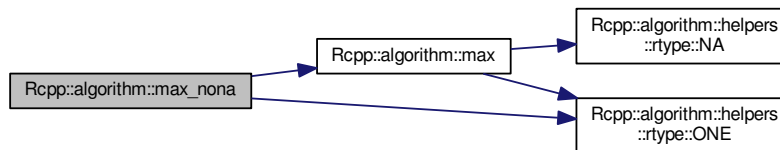


5.3.1.4 `template<typename InputIterator > traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type Rcpp::algorithm::max_nona ( InputIterator begin, InputIterator end )`

Definition at line 330 of file `algorithm.h`.

References `max()`, `Rcpp::algorithm::helpers::rtype< T >::ONE()`, and `Rcpp::algorithm::helpers::ctype_helper< I >::value`.

Here is the call graph for this function:



5.3.1.5 `template<typename InputIterator > traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value && traits::same_type< typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type, double >::value, double >::type Rcpp::algorithm::mean ( InputIterator begin, InputIterator end )`

Definition at line 398 of file `algorithm.h`.

References `Rcpp::algorithm::helpers::rtype< T >::NA()`, and `Rcpp::algorithm::helpers::ctype_helper< I >::value`.

Here is the call graph for this function:



5.3.1.6 `template<typename InputIterator > traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value && traits::same_type< typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type, int >::value, double >::type Rcpp::algorithm::mean ( InputIterator begin, InputIterator end )`

Definition at line 425 of file algorithm.h.

References `Rcpp::algorithm::helpers::rtype< T >::NA()`.

Here is the call graph for this function:



5.3.1.7 `template<typename InputIterator > traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type Rcpp::algorithm::min ( InputIterator begin, InputIterator end )`

Definition at line 351 of file algorithm.h.

References `Rcpp::algorithm::helpers::rtype< T >::NA()`, and `Rcpp::algorithm::helpers::ctype_helper< I >::value`.

Referenced by `tinyformat::detail::formatTruncated()`, `min_nona()`, `Rcpp::operator<<()`, and `PiLeibniz()`.

Here is the call graph for this function:

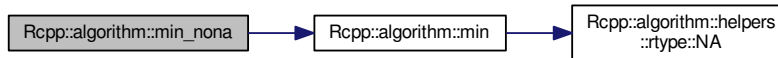


5.3.1.8 `template<typename InputIterator > traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type Rcpp::algorithm::min_nona ( InputIterator begin, InputIterator end )`

Definition at line 376 of file algorithm.h.

References `min()`, and `Rcpp::algorithm::helpers::ctype_helper< I >::value`.

Here is the call graph for this function:

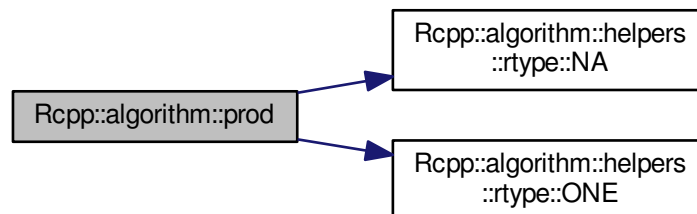


5.3.1.9 `template<typename InputIterator > traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type Rcpp::algorithm::prod ( InputIterator begin, InputIterator end )`

Definition at line 259 of file algorithm.h.

References `Rcpp::algorithm::helpers::rctype< T >::NA()`, `Rcpp::algorithm::helpers::rctype< T >::ONE()`, and `Rcpp::algorithm::helpers::ctype_helper< I >::value`.

Here is the call graph for this function:

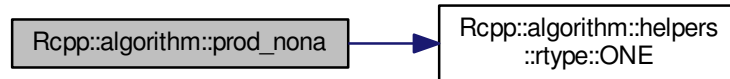


5.3.1.10 `template<typename InputIterator > traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type Rcpp::algorithm::prod_nona ( InputIterator begin, InputIterator end )`

Definition at line 284 of file `algorithm.h`.

References `Rcpp::algorithm::helpers::rtype< T >::ONE()`, and `Rcpp::algorithm::helpers::ctype_helper< I >::value`.

Here is the call graph for this function:



5.3.1.11 `template<typename InputIterator , typename OutputIterator > void Rcpp::algorithm::sqrt ( InputIterator begin, InputIterator end, OutputIterator out )`

Definition at line 460 of file `algorithm.h`.

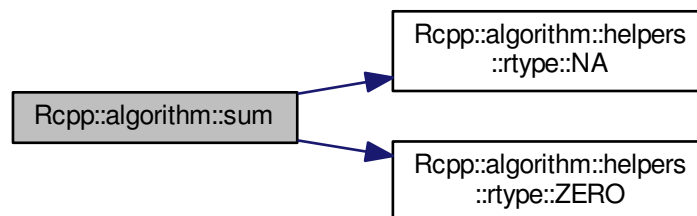
Referenced by `Rcpp::internal::complex_asin()`, `Rcpp::internal::complex_Mod()`, `Rcpp::internal::complex_sqrt()`, `fastLm()`, `Rcpp::sugar::Sd< RTYPE, NA, T >::get()`, `Rcpp::stats::TGenerator::operator()()`, `Rcpp::algorithm::helpers::sqrt::operator()()`, and `piSugar()`.

5.3.1.12 `template<typename InputIterator > traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type Rcpp::algorithm::sum ( InputIterator begin, InputIterator end )`

Definition at line 213 of file `algorithm.h`.

References `Rcpp::algorithm::helpers::rtype< T >::NA()`, `Rcpp::algorithm::helpers::ctype_helper< I >::value`, and `Rcpp::algorithm::helpers::rtype< T >::ZERO()`.

Here is the call graph for this function:

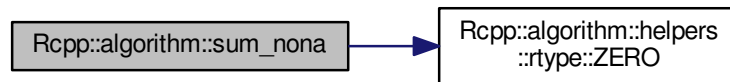


5.3.1.13 `template<typename InputIterator > traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type Rcpp::algorithm::sum_nona ( InputIterator begin, InputIterator end )`

Definition at line 238 of file `algorithm.h`.

References `Rcpp::algorithm::helpers::ctype_helper< I >::value`, and `Rcpp::algorithm::helpers::rtype< T >::ZERO()`.

Here is the call graph for this function:



## 5.4 Rcpp::algorithm::helpers Namespace Reference

### Classes

- struct [ctype](#)
- struct [CTYPE\\_CHAR](#)
- struct [CTYPE\\_DOUBLE](#)
- struct [CTYPE\\_FLOAT](#)
- struct [ctype\\_helper](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_CHAR\) >](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_DOUBLE\) >](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_FLOAT\) >](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_INT\) >](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_LONG\) >](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_LONG\\_DOUBLE\) >](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_SHORT\) >](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_STRING\) >](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_UNSIGNED\\_CHAR\) >](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_UNSIGNED\\_INT\) >](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_UNSIGNED\\_LONG\) >](#)
- struct [ctype\\_helper< sizeof\(CTYPE\\_UNSIGNED\\_SHORT\) >](#)
- struct [CTYPE\\_INT](#)
- struct [CTYPE\\_LONG](#)
- struct [CTYPE\\_LONG\\_DOUBLE](#)
- struct [CTYPE\\_SHORT](#)
- struct [CTYPE\\_STRING](#)
- struct [CTYPE\\_UNKNOWN](#)
- struct [CTYPE\\_UNSIGNED\\_CHAR](#)

- struct [CTYPE\\_UNSIGNED\\_INT](#)
- struct [CTYPE\\_UNSIGNED\\_LONG](#)
- struct [CTYPE\\_UNSIGNED\\_SHORT](#)
- struct [decays\\_to\\_ctype](#)
- struct [exp](#)
- struct [log](#)
- struct [rtype](#)
- struct [rtype\\_helper](#)
- struct [rtype\\_helper< double >](#)
- struct [rtype\\_helper< int >](#)
- struct [sqrt](#)

## 5.5 Rcpp::attributes Namespace Reference

### Classes

- class [Argument](#)
- class [Attribute](#)
- class [CommentState](#)
- class [CppExportsGenerator](#)
- class [CppExportsIncludeGenerator](#)
- class [CppPackageIncludeGenerator](#)
- class [ExportsGenerator](#)
- class [ExportsGenerators](#)
- class [FileInfo](#)
- class [Function](#)
- class [Param](#)
- class [REExportsGenerator](#)
- class [SourceFileAttributes](#)
- class [SourceFileAttributesParser](#)
- class [Type](#)

### Functions

- bool [removeFile](#) (const std::string &path)
- void [createDirectory](#) (const std::string &path)
- bool [isWhitespace](#) (char ch)
- void [trimWhitespace](#) (std::string \*pStr)
- void [stripTrailingLineComments](#) (std::string \*pStr)
- void [stripQuotes](#) (std::string \*pStr)
- bool [isQuoted](#) (const std::string &str)
- void [showWarning](#) (const std::string &msg)
- bool [isRoxxygenCpp](#) (const std::string &str)
- std::ostream & [operator<<](#) (std::ostream &os, const [Type](#) &type)
- std::ostream & [operator<<](#) (std::ostream &os, const [Argument](#) &argument)
- std::ostream & [operator<<](#) (std::ostream &os, const [Function](#) &function)
- std::ostream & [operator<<](#) (std::ostream &os, const [Param](#) &param)
- std::ostream & [operator<<](#) (std::ostream &os, const [Attribute](#) &attribute)
- std::string [generateRArgList](#) (const [Function](#) &function)
- void [generateCpp](#) (std::ostream &ostr, const [SourceFileAttributes](#) &attributes, bool includePrototype, bool cpp←→ Interface, const std::string &contextId)
- void [printArgument](#) (std::ostream &os, const [Argument](#) &argument, bool printDefault=true)
- void [printFunction](#) (std::ostream &os, const [Function](#) &function, bool printArgDefaults=true)

## Variables

- const char \*const [kWhitespaceChars](#) = "\f\n\r\t\v"
- const char \*const [kExportAttribute](#) = "export"
- const char \*const [kExportName](#) = "name"
- const char \*const [kExportRng](#) = "rng"
- const char \*const [kDependsAttribute](#) = "depends"
- const char \*const [kPluginsAttribute](#) = "plugins"
- const char \*const [kInterfacesAttribute](#) = "interfaces"
- const char \*const [kInterfaceR](#) = "r"
- const char \*const [kInterfaceCpp](#) = "cpp"
- const char \*const [kParamValueFalse](#) = "false"
- const char \*const [kParamValueTrue](#) = "true"
- const char \*const [kParamValueFALSE](#) = "FALSE"
- const char \*const [kParamValueTRUE](#) = "TRUE"

### 5.5.1 Function Documentation

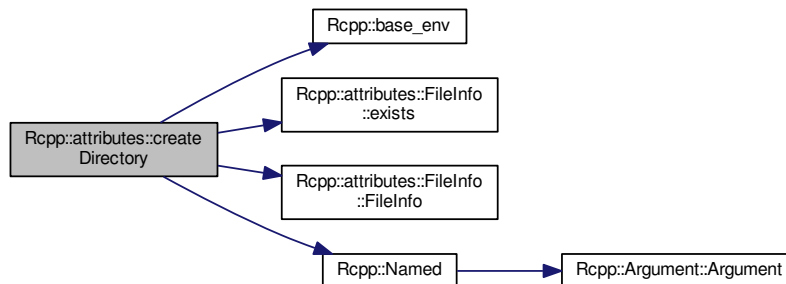
#### 5.5.1.1 void Rcpp::attributes::createDirectory ( const std::string & path )

Definition at line 2707 of file attributes.cpp.

References [Rcpp::base\\_env\(\)](#), [Rcpp::attributes::FileInfo::exists\(\)](#), [Rcpp::attributes::FileInfo::FileInfo\(\)](#), and [Rcpp::Named\(\)](#).

Referenced by [Rcpp::attributes::CppExportsIncludeGenerator::commit\(\)](#), and [Rcpp::attributes::CppPackageIncludeGenerator::commit\(\)](#).

Here is the call graph for this function:



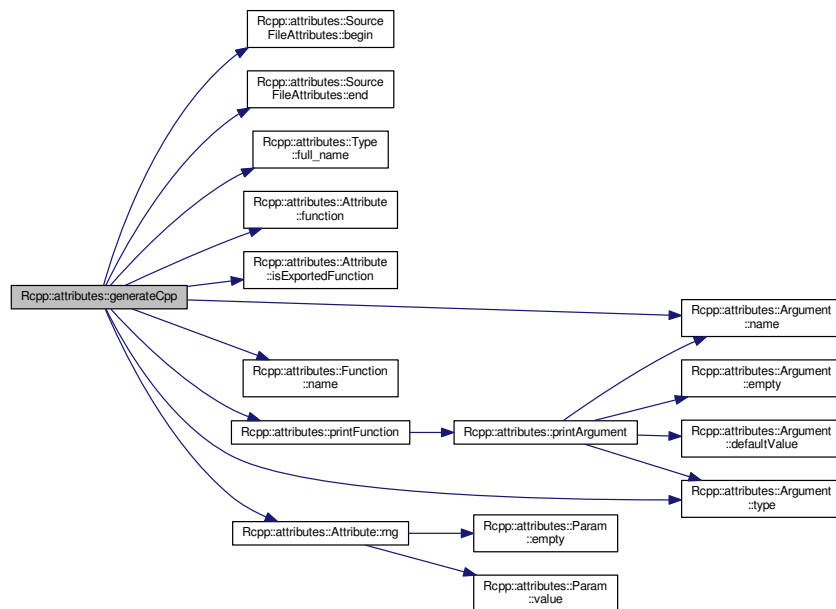
5.5.1.2 `void Rcpp::attributes::generateCpp ( std::ostream & ostr, const SourceFileAttributes & attributes, bool includePrototype, bool cppInterface, const std::string & contextId )`

Definition at line 2541 of file attributes.cpp.

References `Rcpp::attributes::SourceFileAttributes::begin()`, `Rcpp::attributes::SourceFileAttributes::end()`, `Rcpp::attributes::Type::full_name()`, `Rcpp::attributes::Attribute::function()`, `Rcpp::attributes::Attribute::isExportedFunction()`, `Rcpp::attributes::Argument::name()`, `Rcpp::attributes::Function::name()`, `printFunction()`, `Rcpp::attributes::Attribute::rng()`, and `Rcpp::attributes::Argument::type()`.

Referenced by `Rcpp::attributes::CppExportsGenerator::doWriteFunctions()`, and `isRoxygenCpp()`.

Here is the call graph for this function:



5.5.1.3 `std::string Rcpp::attributes::generateRArgList ( const Function & function )`

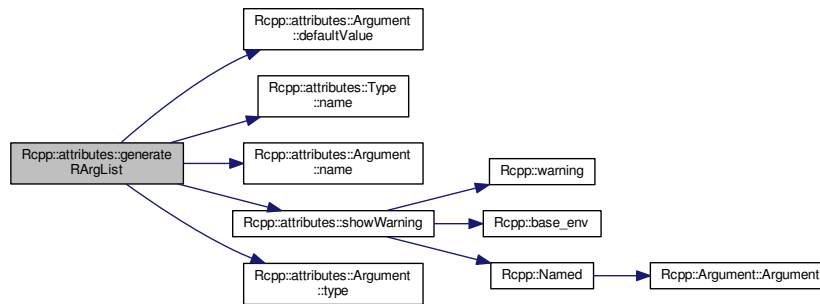
Definition at line 2514 of file attributes.cpp.

References `Rcpp::attributes::Argument::defaultValue()`, `Rcpp::attributes::Type::name()`, `Rcpp::attributes::Argument::name()`, `showWarning()`, and `Rcpp::attributes::Argument::type()`.

Referenced by `Rcpp::attributes::REExportsGenerator::doWriteFunctions()`, and `isRoxygenCpp()`.



Here is the call graph for this function:



#### 5.5.1.4 bool Rcpp::attributes::isQuoted ( const std::string & str )

Definition at line 2794 of file attributes.cpp.

Referenced by Rcpp::attributes::ExportsGenerators::remove().

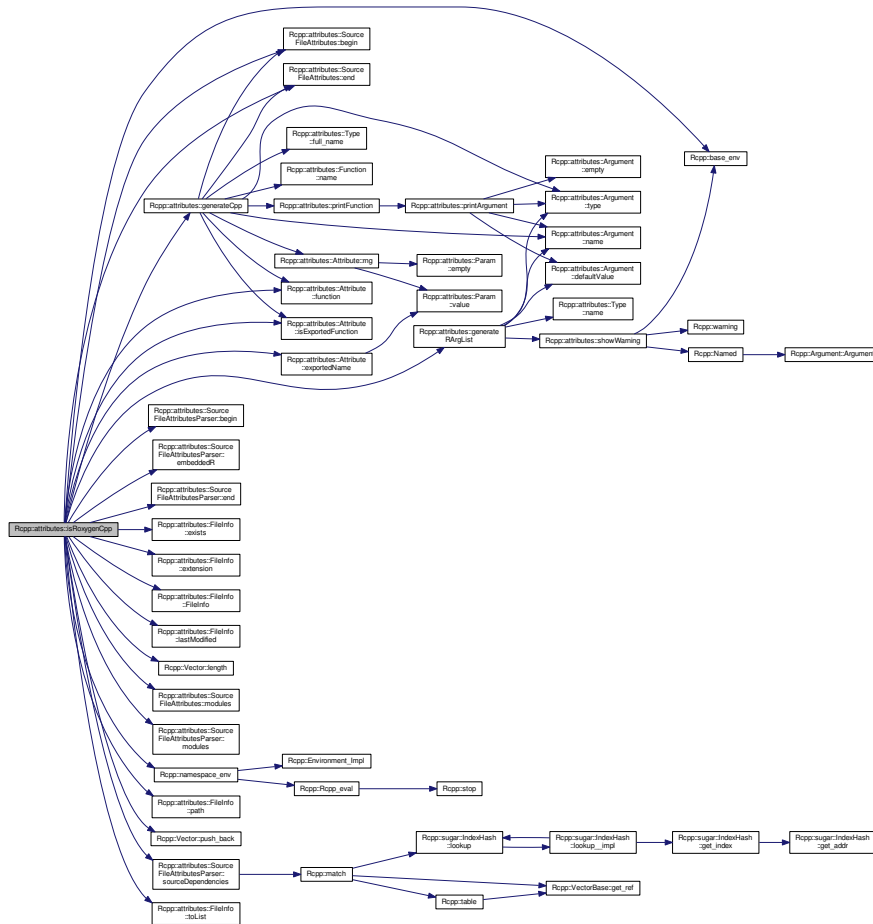
#### 5.5.1.5 bool Rcpp::attributes::isRoxygenCpp ( const std::string & str )

Definition at line 2807 of file attributes.cpp.

References Rcpp::base\_env(), Rcpp::attributes::SourceFileAttributes::begin(), Rcpp::attributes::SourceFileAttributesParser::begin(), Rcpp::attributes::SourceFileAttributesParser::embeddedR(), Rcpp::attributes::SourceFileAttributes::end(), Rcpp::attributes::SourceFileAttributesParser::end(), Rcpp::attributes::FileInfo::exists(), Rcpp::attributes::Attribute::exportedName(), Rcpp::attributes::FileInfo::extension(), Rcpp::attributes::FileInfo::FileInfo(), Rcpp::attributes::Attribute::function(), generateCpp(), generateRArgList(), Rcpp::attributes::Attribute::isExportedFunction(), kDependsAttribute, kExportAttribute, kPluginsAttribute, Rcpp::attributes::FileInfo::lastModified(), Rcpp::Vector< RTYPE, StoragePolicy >::length(), Rcpp::attributes::SourceFileAttributes::modules(), Rcpp::attributes::SourceFileAttributesParser::modules(), Rcpp::namespace\_env(), Rcpp::attributes::FileInfo::path(), Rcpp::Vector< RTYPE, StoragePolicy >::push\_back(), Rcpp::attributes::SourceFileAttributesParser::sourceDependencies(), and Rcpp::attributes::FileInfo::toList().

Referenced by stripTrailingLineComments().

Here is the call graph for this function:



### 5.5.1.6 bool Rcpp::attributes::isWhitespace ( char ch )

Definition at line 2718 of file attributes.cpp.

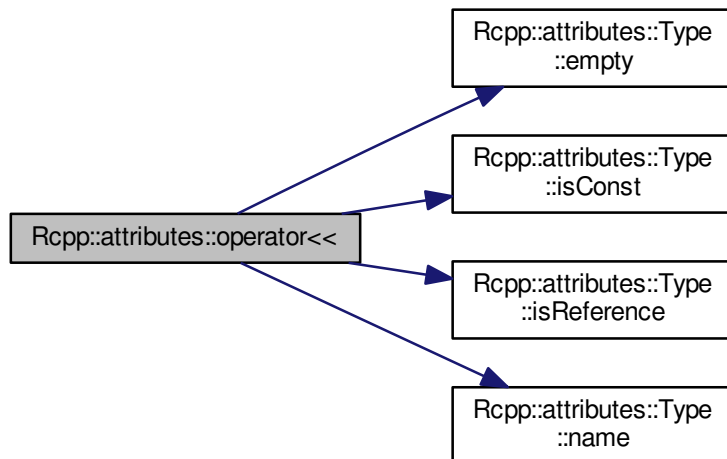
Referenced by Rcpp::attributes::SourceFileAttributesParser::parseFunction().

### 5.5.1.7 std::ostream & Rcpp::attributes::operator<< ( std::ostream & os, const Type & type )

Definition at line 1024 of file attributes.cpp.

References Rcpp::attributes::Type::empty(), Rcpp::attributes::Type::isConst(), Rcpp::attributes::Type::isReference(), and Rcpp::attributes::Type::name().

Here is the call graph for this function:

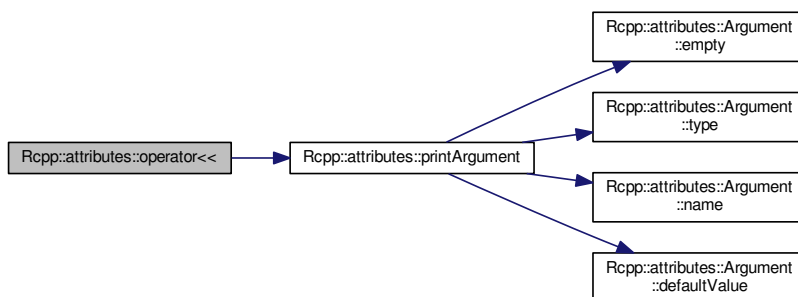


#### 5.5.1.8 `std::ostream & Rcpp::attributes::operator<< ( std::ostream & os, const Argument & argument )`

Definition at line 1051 of file `attributes.cpp`.

References `printArgument()`.

Here is the call graph for this function:

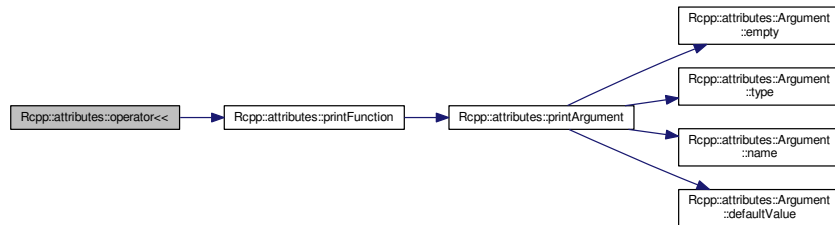


### 5.5.1.9 `std::ostream & Rcpp::attributes::operator<< ( std::ostream & os, const Function & function )`

Definition at line 1079 of file attributes.cpp.

References `printFunction()`.

Here is the call graph for this function:

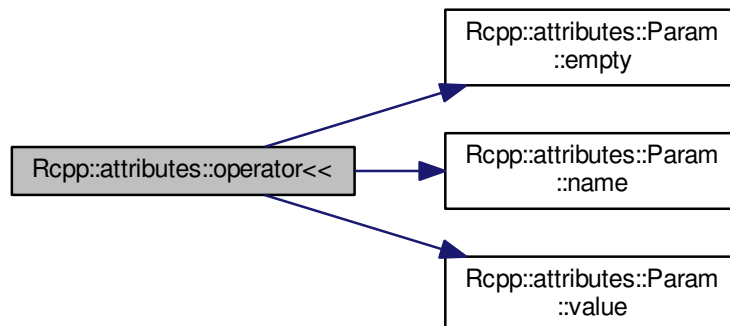


### 5.5.1.10 `std::ostream & Rcpp::attributes::operator<< ( std::ostream & os, const Param & param )`

Definition at line 1085 of file attributes.cpp.

References `Rcpp::attributes::Param::empty()`, `Rcpp::attributes::Param::name()`, and `Rcpp::attributes::Param::value()`.

Here is the call graph for this function:

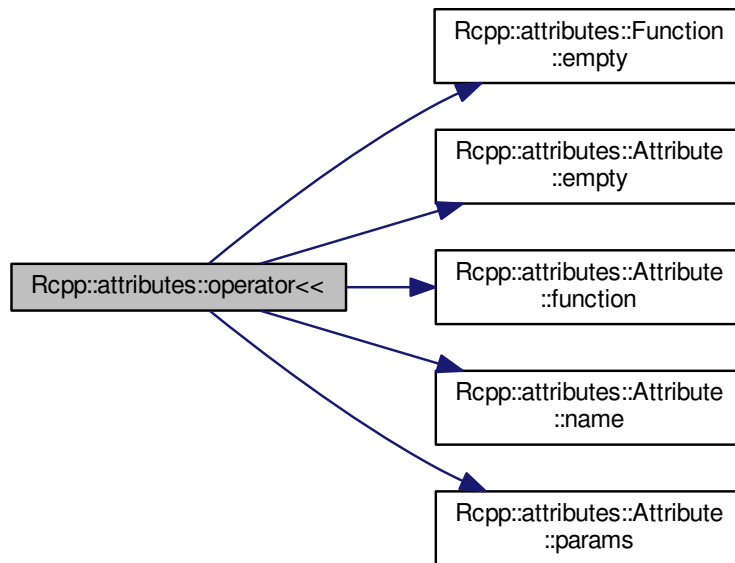


5.5.1.11 `std::ostream & Rcpp::attributes::operator<< ( std::ostream & os, const Attribute & attribute )`

Definition at line 1095 of file attributes.cpp.

References `Rcpp::attributes::Function::empty()`, `Rcpp::attributes::Attribute::empty()`, `Rcpp::attributes::Attribute::function()`, `Rcpp::attributes::Attribute::name()`, and `Rcpp::attributes::Attribute::params()`.

Here is the call graph for this function:

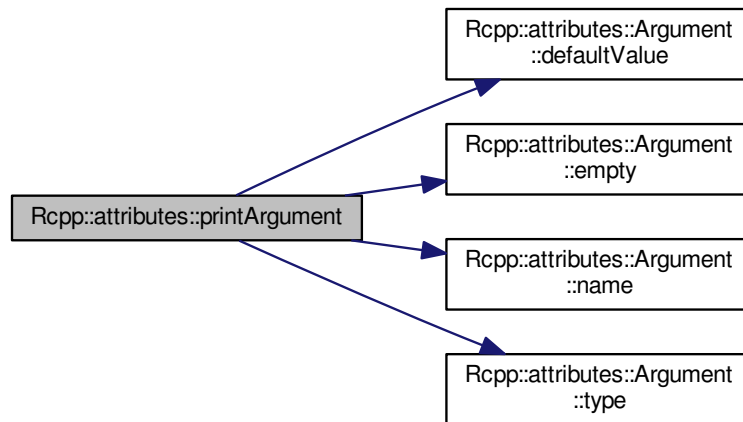
5.5.1.12 `void Rcpp::attributes::printArgument ( std::ostream & os, const Argument & argument, bool printDefault = true )`

Definition at line 1036 of file attributes.cpp.

References `Rcpp::attributes::Argument::defaultValue()`, `Rcpp::attributes::Argument::empty()`, `Rcpp::attributes::Argument::name()`, and `Rcpp::attributes::Argument::type()`.

Referenced by `operator<<()`, and `printFunction()`.

Here is the call graph for this function:



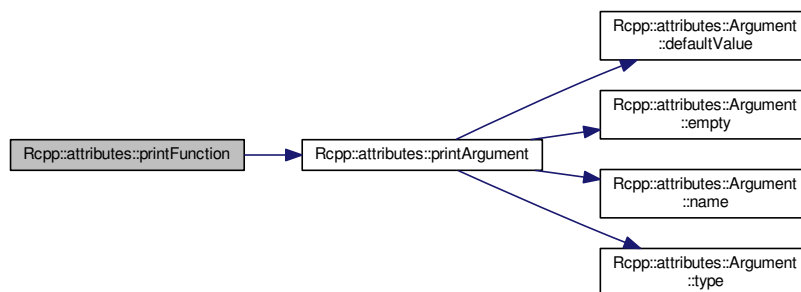
5.5.1.13 `void Rcpp::attributes::printFunction ( std::ostream & os, const Function & function, bool printArgDefaults = true )`

Definition at line 1057 of file `attributes.cpp`.

References `printArgument()`.

Referenced by `generateCpp()`, and `operator<<()`.

Here is the call graph for this function:



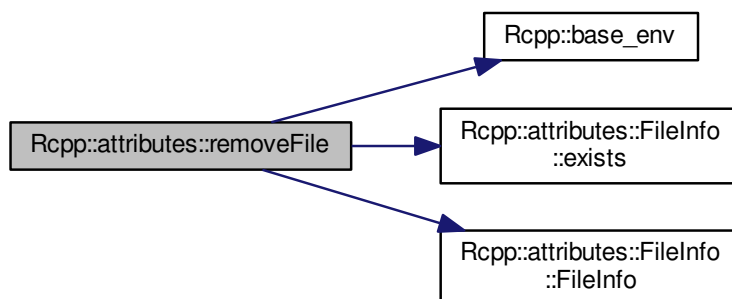
5.5.1.14 `bool Rcpp::attributes::removeFile ( const std::string & path )`

Definition at line 2695 of file attributes.cpp.

References `Rcpp::base_env()`, `Rcpp::attributes::FileInfo::exists()`, and `Rcpp::attributes::FileInfo::FileInfo()`.

Referenced by `Rcpp::attributes::ExportsGenerator::remove()`.

Here is the call graph for this function:

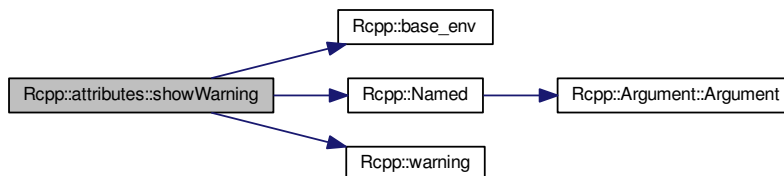
5.5.1.15 `void Rcpp::attributes::showWarning ( const std::string & msg )`

Definition at line 2802 of file attributes.cpp.

References `Rcpp::base_env()`, `Rcpp::Named()`, and `Rcpp::warning()`.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::attributeWarning()`, `compileAttributes()`, and `generateRArgList()`.

Here is the call graph for this function:







## 5.5.2 Variable Documentation

### 5.5.2.1 `const char* const Rcpp::attributes::kDependsAttribute = "depends"`

Definition at line 153 of file attributes.cpp.

Referenced by `compileAttributes()`, `Rcpp::attributes::SourceFileAttributesParser::isKnownAttribute()`, and `isRoxygenC↵  
Cpp()`.

### 5.5.2.2 `const char* const Rcpp::attributes::kExportAttribute = "export"`

Definition at line 150 of file attributes.cpp.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::isKnownAttribute()`, `isRoxygenC↵  
pp()`, and `Rcpp↵  
::attributes::SourceFileAttributesParser::parseAttribute()`.

### 5.5.2.3 `const char* const Rcpp::attributes::kExportName = "name"`

Definition at line 151 of file attributes.cpp.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::parseAttribute()`.

### 5.5.2.4 `const char* const Rcpp::attributes::kExportRng = "rng"`

Definition at line 152 of file attributes.cpp.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::parseAttribute()`.

### 5.5.2.5 `const char* const Rcpp::attributes::kInterfaceCpp = "cpp"`

Definition at line 157 of file attributes.cpp.

Referenced by `Rcpp::attributes::CppExportsGenerator::doWriteFunctions()`, `Rcpp::attributes::CppExportsInclude↵  
Generator::doWriteFunctions()`, `Rcpp::attributes::SourceFileAttributesParser::parseAttribute()`, and `Rcpp::attributes::↵  
ExportsGenerator::writeFunctions()`.

### 5.5.2.6 `const char* const Rcpp::attributes::kInterfaceR = "r"`

Definition at line 156 of file attributes.cpp.

Referenced by `Rcpp::attributes::REExportsGenerator::doWriteFunctions()`, `Rcpp::attributes::SourceFileAttributes↵  
Parser::hasInterface()`, and `Rcpp::attributes::SourceFileAttributesParser::parseAttribute()`.

#### 5.5.2.7 `const char* const Rcpp::attributes::kInterfacesAttribute = "interfaces"`

Definition at line 155 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::hasInterface()`, `Rcpp::attributes::SourceFileAttributesParser::isKnownAttribute()`, and `Rcpp::attributes::SourceFileAttributesParser::parseAttribute()`.

#### 5.5.2.8 `const char* const Rcpp::attributes::kParamValueFalse = "false"`

Definition at line 158 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::parseAttribute()`.

#### 5.5.2.9 `const char* const Rcpp::attributes::kParamValueFALSE = "FALSE"`

Definition at line 160 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::parseAttribute()`.

#### 5.5.2.10 `const char* const Rcpp::attributes::kParamValueTrue = "true"`

Definition at line 159 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::parseAttribute()`.

#### 5.5.2.11 `const char* const Rcpp::attributes::kParamValueTRUE = "TRUE"`

Definition at line 161 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::parseAttribute()`, and `Rcpp::attributes::Attribute::rng()`.

#### 5.5.2.12 `const char* const Rcpp::attributes::kPluginsAttribute = "plugins"`

Definition at line 154 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::isKnownAttribute()`, and `isRoxygenCpp()`.

#### 5.5.2.13 `const char *const Rcpp::attributes::kWhitespaceChars = "\n\r\t\v"`

Definition at line 2715 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::parseFunction()`.

## 5.6 Rcpp::internal Namespace Reference

internal implementation details

### Classes

- class [const\\_generic\\_proxy](#)
- class [const\\_string\\_proxy](#)
- class [DimNameProxy](#)
- class [element\\_converter](#)
- class [generic\\_element\\_converter](#)
- class [generic\\_name\\_proxy](#)
- class [generic\\_proxy](#)
- class [InterruptedException](#)
- class [LazyVector](#)
- class [LazyVector< Rcpp::Vector< RTYPE > >](#)
- class [NamedPlaceHolder](#)
- class [RangelIndexer](#)
- class [simple\\_name\\_proxy](#)
- class [string\\_element\\_converter](#)
- class [string\\_name\\_proxy](#)
- class [string\\_proxy](#)

### Functions

- `template<>`  
`double caster< Rcpp::Date, double > (Rcpp::Date from)`
- `template<>`  
`Rcpp::Date caster< double, Rcpp::Date > (double from)`
- `template<>`  
`double caster< Rcpp::Datetime, double > (Rcpp::Datetime from)`
- `template<>`  
`Rcpp::Datetime caster< double, Rcpp::Datetime > (double from)`
- `void * as_module_object_internal (SEXP obj)`
- `template<typename InputIterator, typename value_type >`  
`void export_range__dispatch (SEXP x, InputIterator first, ::Rcpp::traits::r_type_generic_tag)`
- `bool is_atomic (SEXP x)`
- `bool is_matrix (SEXP x)`
- `template<>`  
`bool is__simple< int > (SEXP x)`
- `template<>`  
`bool is__simple< double > (SEXP x)`
- `template<>`  
`bool is__simple< bool > (SEXP x)`
- `template<>`  
`bool is__simple< std::string > (SEXP x)`
- `template<>`  
`bool is__simple< String > (SEXP x)`

- `template<>`  
`bool is__simple< Rcomplex > (SEXP x)`
- `template<>`  
`bool is__simple< CharacterVector > (SEXP x)`
- `template<>`  
`bool is__simple< CharacterMatrix > (SEXP x)`
- `template<>`  
`bool is__simple< RObject > (SEXP)`
- `template<>`  
`bool is__simple< IntegerVector > (SEXP x)`
- `template<>`  
`bool is__simple< ComplexVector > (SEXP x)`
- `template<>`  
`bool is__simple< RawVector > (SEXP x)`
- `template<>`  
`bool is__simple< NumericVector > (SEXP x)`
- `template<>`  
`bool is__simple< LogicalVector > (SEXP x)`
- `template<>`  
`bool is__simple< Language > (SEXP x)`
- `template<>`  
`bool is__simple< DottedPair > (SEXP x)`
- `template<>`  
`bool is__simple< List > (SEXP x)`
- `template<>`  
`bool is__simple< IntegerMatrix > (SEXP x)`
- `template<>`  
`bool is__simple< ComplexMatrix > (SEXP x)`
- `template<>`  
`bool is__simple< RawMatrix > (SEXP x)`
- `template<>`  
`bool is__simple< NumericMatrix > (SEXP x)`
- `template<>`  
`bool is__simple< LogicalMatrix > (SEXP x)`
- `template<>`  
`bool is__simple< GenericMatrix > (SEXP x)`
- `template<>`  
`bool is__simple< DataFrame > (SEXP x)`
- `template<>`  
`bool is__simple< WeakReference > (SEXP x)`
- `template<>`  
`bool is__simple< Symbol > (SEXP x)`
- `template<>`  
`bool is__simple< S4 > (SEXP x)`
- `template<>`  
`bool is__simple< Reference > (SEXP x)`
- `template<>`  
`bool is__simple< Promise > (SEXP x)`
- `template<>`  
`bool is__simple< Pairlist > (SEXP x)`
- `template<>`  
`bool is__simple< Function > (SEXP x)`

- `template<>`  
`bool is__simple< Environment > (SEXP x)`
- `template<>`  
`bool is__simple< Formula > (SEXP x)`
- `template<>`  
`bool is__simple< Date > (SEXP x)`
- `template<>`  
`bool is__simple< Datetime > (SEXP x)`
- `template<>`  
`bool is__simple< DateVector > (SEXP x)`
- `template<>`  
`bool is__simple< DatetimeVector > (SEXP x)`
- `bool is_module_object_internal (SEXP obj, const char *clazz)`
- `template<typename T >`  
`bool is__module__object (SEXP x)`
- `template<typename T >`  
`SEXP wrap_range_sugar_expression (const T &object, Rcpp::traits::true_type)`
- `template<typename InputIterator, typename KEY, typename VALUE, int RTYPE>`  
`SEXP range_wrap_dispatch__impl__pair (InputIterator first, InputIterator last, Rcpp::traits::true_type)`
- `template<typename InputIterator, typename KEY, typename VALUE, int RTYPE>`  
`SEXP range_wrap_dispatch__impl__pair (InputIterator first, InputIterator last, Rcpp::traits::false_type)`
- `template<typename T >`  
`T primitive_as (SEXP x)`
- `template<typename T >`  
`T as (SEXP x, ::Rcpp::traits::r_type_primitive_tag)`
- `const char * check_single_string (SEXP x)`
- `template<typename T >`  
`T as_string (SEXP x, Rcpp::traits::true_type)`
- `template<typename T >`  
`T as_string (SEXP x, Rcpp::traits::false_type)`
- `template<typename T >`  
`T as (SEXP x, ::Rcpp::traits::r_type_string_tag)`
- `template<typename T >`  
`T as (SEXP x, ::Rcpp::traits::r_type_RcppString_tag)`
- `template<typename T >`  
`T as (SEXP x, ::Rcpp::traits::r_type_generic_tag)`
- `template<typename T >`  
`object< T > as_module_object (SEXP x)`
- `template<typename T >`  
`T as (SEXP x, ::Rcpp::traits::r_type_module_object_const_pointer_tag)`
- `template<typename T >`  
`T as (SEXP x, ::Rcpp::traits::r_type_module_object_pointer_tag)`
- `template<typename T >`  
`T as (SEXP x, ::Rcpp::traits::r_type_module_object_tag)`
- `template<typename T >`  
`T as (SEXP x, ::Rcpp::traits::r_type_module_object_reference_tag)`
- `template<typename T >`  
`T as (SEXP x, ::Rcpp::traits::r_type_module_object_const_reference_tag)`
- `template<typename T >`  
`T as (SEXP x, ::Rcpp::traits::r_type_enum_tag)`
- `SEXP empty_data_frame ()`
- `SEXP getPosixClasses ()`

- SEXP [new\\_posixt\\_object](#) (double d)
- SEXP [new\\_date\\_object](#) (double d)
- `template<typename T >`  
SEXP [grow\\_dispatch](#) (::Rcpp::traits::false\_type, const T &head, SEXP tail)
- `template<typename T >`  
SEXP [grow\\_dispatch](#) (::Rcpp::traits::true\_type, const T &head, SEXP tail)
- SEXP [interruptedError](#) ()
- `template<typename T >`  
bool [is\\_simple](#) (SEXP x)
- `template<typename T >`  
bool [is\\_dispatch](#) (SEXP x, [Rcpp::traits::false\\_type](#))
- `template<typename T >`  
bool [is\\_dispatch](#) (SEXP x, [Rcpp::traits::true\\_type](#))
- `template<typename FROM , typename TO >`  
std::string [get\\_converter\\_name](#) (const char \*from, const char \*to)
- `template<typename Class >`  
SEXP [make\\_new\\_object](#) (Class \*ptr)
- SEXP [convert\\_using\\_rfunction](#) (SEXP x, const char \*const fun)
- `template<int TARGET>`  
SEXP [r\\_true\\_cast](#) (SEXP x)
- `template<int RTYPE>`  
SEXP [basic\\_cast](#) (SEXP x)
- `template<>`  
SEXP [r\\_true\\_cast](#)< [INTSXP](#) > (SEXP x)
- `template<>`  
SEXP [r\\_true\\_cast](#)< [REALSXP](#) > (SEXP x)
- `template<>`  
SEXP [r\\_true\\_cast](#)< [RAWSXP](#) > (SEXP x)
- `template<>`  
SEXP [r\\_true\\_cast](#)< [CPLXSXP](#) > (SEXP x)
- `template<>`  
SEXP [r\\_true\\_cast](#)< [LGLSXP](#) > (SEXP x)
- `template<>`  
SEXP [r\\_true\\_cast](#)< [STRSXP](#) > (SEXP x)
- `template<>`  
SEXP [r\\_true\\_cast](#)< [VECSXP](#) > (SEXP x)
- `template<>`  
SEXP [r\\_true\\_cast](#)< [EXPRSXP](#) > (SEXP x)
- `template<>`  
SEXP [r\\_true\\_cast](#)< [LISTSXP](#) > (SEXP x)
- `template<>`  
SEXP [r\\_true\\_cast](#)< [LANGSXP](#) > (SEXP x)
- attribute\_hidden unsigned long [enterRNGScope](#) ()
- attribute\_hidden unsigned long [exitRNGScope](#) ()
- attribute\_hidden char \* [get\\_string\\_buffer](#) ()
- attribute\_hidden SEXP [get\\_Rcpp\\_namespace](#) ()
- `template<>`  
SEXP [make\\_charsexp](#)< [Rcpp::String](#) > (const [Rcpp::String](#) &s)
- double [complex\\_\\_Re](#) (Rcomplex x)
- double [complex\\_\\_Im](#) (Rcomplex x)
- double [complex\\_\\_Mod](#) (Rcomplex x)
- Rcomplex [complex\\_\\_Conj](#) (Rcomplex x)

- Rcomplex [complex\\_\\_exp](#) (Rcomplex x)
- Rcomplex [complex\\_\\_log](#) (Rcomplex x)
- Rcomplex [complex\\_\\_sqrt](#) (Rcomplex z)
- Rcomplex [complex\\_\\_cos](#) (Rcomplex z)
- Rcomplex [complex\\_\\_cosh](#) (Rcomplex z)
- Rcomplex [complex\\_\\_sin](#) (Rcomplex z)
- Rcomplex [complex\\_\\_tan](#) (Rcomplex z)
- Rcomplex [complex\\_\\_asin](#) (Rcomplex z)
- Rcomplex [complex\\_\\_acos](#) (Rcomplex z)
- Rcomplex [complex\\_\\_atan](#) (Rcomplex z)
- Rcomplex [complex\\_\\_acosh](#) (Rcomplex z)
- Rcomplex [complex\\_\\_asinh](#) (Rcomplex z)
- Rcomplex [complex\\_\\_atanh](#) (Rcomplex z)
- Rcomplex [complex\\_\\_sinh](#) (Rcomplex z)
- Rcomplex [complex\\_\\_tanh](#) (Rcomplex z)
- double [factorial](#) (double x)
- double [lfactorial](#) (double x)
- template<int RTYPE, bool NA, typename T >  
[Rcpp::Vector< RTYPE > as\\_vector\\_\\_impl](#) (MatrixBase< RTYPE, NA, T > &t, [Rcpp::traits::false\\_type](#))
- template<int RTYPE, bool NA, typename T >  
[Rcpp::Vector< RTYPE > as\\_vector\\_\\_impl](#) (MatrixBase< RTYPE, NA, T > &t, [Rcpp::traits::true\\_type](#))
- int [get\\_line](#) (int index, int nr)
- int [get\\_column](#) (int index, int nr)
- int [get\\_column](#) (int index, int nr, int i)
- template<int RT>  
bool [operator<](#) (const [const\\_string\\_proxy](#)< RT > &lhs, const [const\\_string\\_proxy](#)< RT > &rhs)
- template<int RT>  
bool [operator>](#) (const [const\\_string\\_proxy](#)< RT > &lhs, const [const\\_string\\_proxy](#)< RT > &rhs)
- template<int RT>  
bool [operator>=](#) (const [const\\_string\\_proxy](#)< RT > &lhs, const [const\\_string\\_proxy](#)< RT > &rhs)
- template<int RT>  
bool [operator<=](#) (const [const\\_string\\_proxy](#)< RT > &lhs, const [const\\_string\\_proxy](#)< RT > &rhs)
- std::ostream & [operator<<](#) (std::ostream &os, const [const\\_string\\_proxy](#)< STRSXP > &proxy)
- std::string [operator+](#) (const std::string &x, const [const\\_string\\_proxy](#)< STRSXP > &y)
- template<int RT>  
bool [operator<](#) (const [string\\_proxy](#)< RT > &lhs, const [string\\_proxy](#)< RT > &rhs)
- template<int RT>  
bool [operator>](#) (const [string\\_proxy](#)< RT > &lhs, const [string\\_proxy](#)< RT > &rhs)
- template<int RT>  
bool [operator>=](#) (const [string\\_proxy](#)< RT > &lhs, const [string\\_proxy](#)< RT > &rhs)
- template<int RT>  
bool [operator<=](#) (const [string\\_proxy](#)< RT > &lhs, const [string\\_proxy](#)< RT > &rhs)
- std::ostream & [operator<<](#) (std::ostream &os, const [string\\_proxy](#)< STRSXP > &proxy)
- std::string [operator+](#) (const std::string &x, const [string\\_proxy](#)< STRSXP > &y)
- template<int RTYPE>  
SEXP [vector\\_from\\_string](#) (const std::string &st)
- template<int RTYPE>  
SEXP [vector\\_from\\_string\\_expr](#) (const std::string &code)
- template<>  
SEXP [vector\\_from\\_string< EXPRSXP >](#) (const std::string &st)

## 5.6.1 Detailed Description

internal implementation details

## 5.6.2 Function Documentation

### 5.6.2.1 `template<typename T > T Rcpp::internal::as ( SEXP x, ::Rcpp::traits::r_type_primitive_tag )`

Definition at line 40 of file as.h.

### 5.6.2.2 `template<typename T > T Rcpp::internal::as ( SEXP x, ::Rcpp::traits::r_type_string_tag )`

Definition at line 63 of file as.h.

### 5.6.2.3 `template<typename T > T Rcpp::internal::as ( SEXP x, ::Rcpp::traits::r_type_RcppString_tag )`

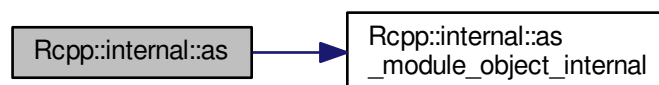
Definition at line 67 of file as.h.

### 5.6.2.4 `template<typename T > T Rcpp::internal::as ( SEXP x, ::Rcpp::traits::r_type_generic_tag )`

Definition at line 77 of file as.h.

References `as_module_object_internal()`, `DEMANGLE`, and `RCPP_DEBUG_1`.

Here is the call graph for this function:





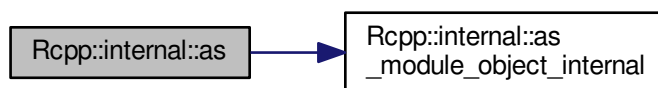
5.6.2.5 `template<typename T> T Rcpp::internal::as ( SEXP x, ::Rcpp::traits::r_type_module_object_const_pointer_tag )`

handling object<T>

Definition at line 91 of file as.h.

References `as_module_object_internal()`.

Here is the call graph for this function:



5.6.2.6 `template<typename T> T Rcpp::internal::as ( SEXP x, ::Rcpp::traits::r_type_module_object_pointer_tag )`

Definition at line 96 of file as.h.

5.6.2.7 `template<typename T> T Rcpp::internal::as ( SEXP x, ::Rcpp::traits::r_type_module_object_tag )`

handling T such that T is exposed by a module

Definition at line 101 of file as.h.

5.6.2.8 `template<typename T> T Rcpp::internal::as ( SEXP x, ::Rcpp::traits::r_type_module_object_reference_tag )`

handling T such that T is a reference of a class handled by a module

Definition at line 107 of file as.h.

5.6.2.9 `template<typename T> T Rcpp::internal::as ( SEXP x, ::Rcpp::traits::r_type_module_object_const_reference_tag )`

handling T such that T is a reference of a class handled by a module

Definition at line 114 of file as.h.

5.6.2.10 `template<typename T> T Rcpp::internal::as ( SEXP x, ::Rcpp::traits::r_type_enum_tag )`

handling enums by converting to int first

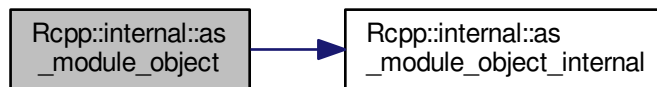
Definition at line 121 of file as.h.

5.6.2.11 `template<typename T> object<T> Rcpp::internal::as_module_object ( SEXP x )`

Definition at line 86 of file as.h.

References `as_module_object_internal()`.

Here is the call graph for this function:



5.6.2.12 `void * Rcpp::internal::as_module_object_internal ( SEXP obj )` `[inline]`

Definition at line 24 of file as.h.

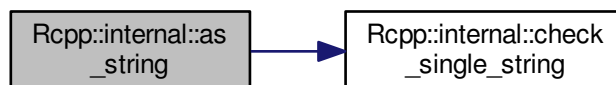
Referenced by `as()`, and `as_module_object()`.

5.6.2.13 `template<typename T> T Rcpp::internal::as_string ( SEXP x, Rcpp::traits::true_type )`

Definition at line 54 of file as.h.

References `check_single_string()`.

Here is the call graph for this function:

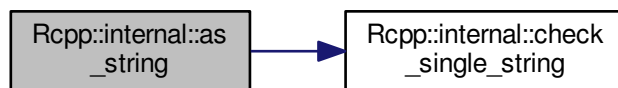


5.6.2.14 `template<typename T> T Rcpp::internal::as_string ( SEXP x, Rcpp::traits::false_type )`

Definition at line 59 of file as.h.

References `check_single_string()`.

Here is the call graph for this function:

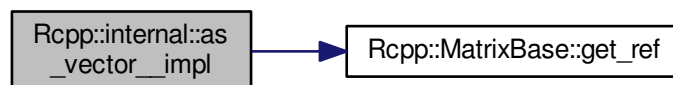
5.6.2.15 `template<int RTYPE, bool NA, typename T> Rcpp::Vector<RTYPE> Rcpp::internal::as_vector__impl ( MatrixBase< RTYPE, NA, T > & t, Rcpp::traits::false_type ) [inline]`

Definition at line 30 of file as\_vector.h.

References `Rcpp::MatrixBase< RTYPE, na, MATRIX >::get_ref()`.

Referenced by `Rcpp::as_vector()`.

Here is the call graph for this function:

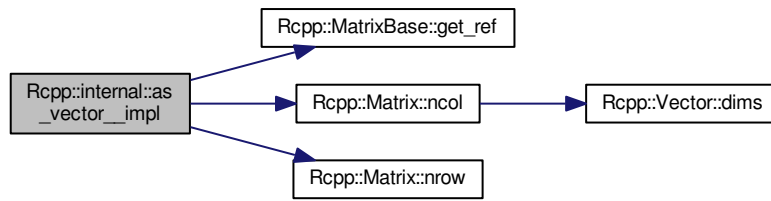


5.6.2.16 `template<int RTYPE, bool NA, typename T > Rcpp::Vector<RTYPE> Rcpp::internal::as_vector_impl ( MatrixBase< RTYPE, NA, T > & t, Rcpp::traits::true_type ) [inline]`

Definition at line 44 of file `as_vector.h`.

References `Rcpp::MatrixBase< RTYPE, na, MATRIX >::get_ref()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::nrow()`.

Here is the call graph for this function:



5.6.2.17 `template<int RTYPE> SEXP Rcpp::internal::basic_cast ( SEXP x )`

Definition at line 50 of file `r_cast.h`.

Referenced by `r_true_cast< CPLXSXP >()`, `r_true_cast< INTSXP >()`, `r_true_cast< LGLSXP >()`, `r_true_cast< R< AWSXP >()`, and `r_true_cast< REALSXP >()`.

5.6.2.18 `template<> Rcpp::Date Rcpp::internal::caster< double, Rcpp::Date > ( double from ) [inline]`

Definition at line 126 of file `Date.h`.

5.6.2.19 `template<> Rcpp::Datetime Rcpp::internal::caster< double, Rcpp::Datetime > ( double from ) [inline]`

Definition at line 99 of file `Datetime.h`.

5.6.2.20 `template<> double Rcpp::internal::caster< Rcpp::Date, double > ( Rcpp::Date from ) [inline]`

Definition at line 123 of file `Date.h`.

5.6.2.21 `template<> double Rcpp::internal::caster< Rcpp::Datetime, double > ( Rcpp::Datetime from ) [inline]`

Definition at line 96 of file `Datetime.h`.

5.6.2.22 `const char* Rcpp::internal::check_single_string ( SEXP x ) [inline]`

Definition at line 44 of file as.h.

Referenced by `Rcpp::as< char >()`, and `as_string()`.

5.6.2.23 `Rcomplex Rcpp::internal::complex__acos ( Rcomplex z ) [inline]`

Definition at line 153 of file complex.h.

References `complex__asin()`.

Referenced by `complex__acosh()`.

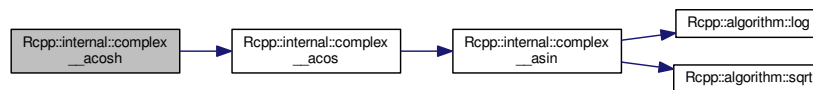
Here is the call graph for this function:

5.6.2.24 `Rcomplex Rcpp::internal::complex__acosh ( Rcomplex z ) [inline]`

Definition at line 186 of file complex.h.

References `complex__acos()`.

Here is the call graph for this function:



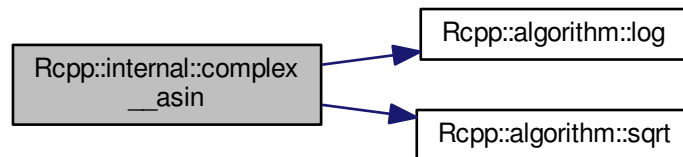
### 5.6.2.25 Rcomplex Rcpp::internal::complex\_\_asin ( Rcomplex z ) [inline]

Definition at line 137 of file complex.h.

References Rcpp::algorithm::log(), RCPP\_HYPOT, and Rcpp::algorithm::sqrt().

Referenced by complex\_\_acos(), and complex\_\_asinh().

Here is the call graph for this function:



### 5.6.2.26 Rcomplex Rcpp::internal::complex\_\_asinh ( Rcomplex z ) [inline]

Definition at line 193 of file complex.h.

References complex\_\_asin().

Here is the call graph for this function:



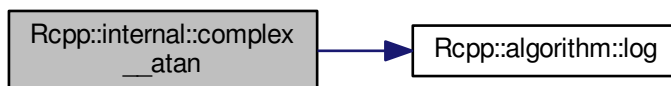
## 5.6.2.27 Rcomplex Rcpp::internal::complex\_\_atan ( Rcomplex z ) [inline]

Definition at line 169 of file complex.h.

References Rcpp::algorithm::log().

Referenced by complex\_\_atanh().

Here is the call graph for this function:

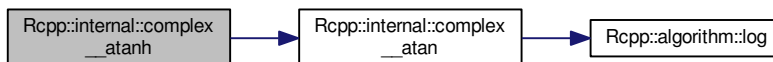


## 5.6.2.28 Rcomplex Rcpp::internal::complex\_\_atanh ( Rcomplex z ) [inline]

Definition at line 203 of file complex.h.

References complex\_\_atan().

Here is the call graph for this function:



## 5.6.2.29 Rcomplex Rcpp::internal::complex\_\_Conj ( Rcomplex x ) [inline]

Definition at line 65 of file complex.h.

## 5.6.2.30 Rcomplex Rcpp::internal::complex\_\_cos ( Rcomplex z ) [inline]

Definition at line 103 of file complex.h.

### 5.6.2.31 Rcomplex Rcpp::internal::complex\_cosh ( Rcomplex z ) [inline]

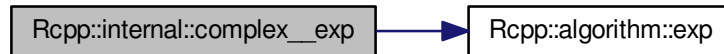
Definition at line 109 of file complex.h.

### 5.6.2.32 Rcomplex Rcpp::internal::complex\_exp ( Rcomplex x ) [inline]

Definition at line 72 of file complex.h.

References Rcpp::algorithm::exp().

Here is the call graph for this function:



### 5.6.2.33 double Rcpp::internal::complex\_lm ( Rcomplex x ) [inline]

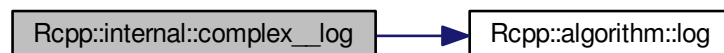
Definition at line 63 of file complex.h.

### 5.6.2.34 Rcomplex Rcpp::internal::complex\_log ( Rcomplex x ) [inline]

Definition at line 79 of file complex.h.

References Rcpp::algorithm::log(), and RCPP\_HYPOT.

Here is the call graph for this function:





5.6.2.35 `double Rcpp::internal::complex__Mod ( Rcomplex x ) [inline]`

Definition at line 64 of file `complex.h`.

References `Rcpp::algorithm::sqrt()`.

Here is the call graph for this function:



5.6.2.36 `double Rcpp::internal::complex__Re ( Rcomplex x ) [inline]`

Definition at line 62 of file `complex.h`.

5.6.2.37 `Rcomplex Rcpp::internal::complex__sin ( Rcomplex z ) [inline]`

Definition at line 115 of file `complex.h`.

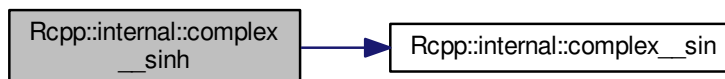
Referenced by `complex__sinh()`.

5.6.2.38 `Rcomplex Rcpp::internal::complex__sinh ( Rcomplex z ) [inline]`

Definition at line 212 of file `complex.h`.

References `complex__sin()`.

Here is the call graph for this function:

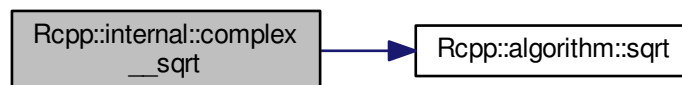


### 5.6.2.39 Rcomplex Rcpp::internal::complex\_sqrt ( Rcomplex z ) [inline]

Definition at line 85 of file complex.h.

References RCPP\_HYPOT, and Rcpp::algorithm::sqrt().

Here is the call graph for this function:



### 5.6.2.40 Rcomplex Rcpp::internal::complex\_tan ( Rcomplex z ) [inline]

Definition at line 121 of file complex.h.

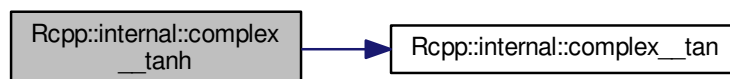
Referenced by `complex__tanh()`.

### 5.6.2.41 Rcomplex Rcpp::internal::complex\_tanh ( Rcomplex z ) [inline]

Definition at line 223 of file complex.h.

References `complex__tan()`.

Here is the call graph for this function:



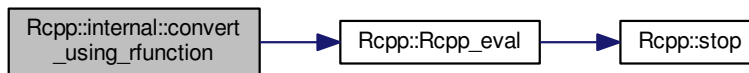
## 5.6.2.42 SEXP Rcpp::internal::convert\_using\_rfunction ( SEXP x, const char \*const fun ) [inline]

Definition at line 30 of file r\_cast.h.

References Rcpp::Rcpp\_eval().

Referenced by Rcpp::Formula\_Impl(), r\_true\_cast< EXPRSXP >(), r\_true\_cast< LANGSXP >(), r\_true\_cast< LIS←TSXP >(), r\_true\_cast< VECSXP >(), and Rcpp::DataFrame\_Impl< StoragePolicy >::set\_\_().

Here is the call graph for this function:

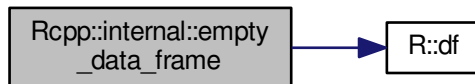


## 5.6.2.43 SEXP Rcpp::internal::empty\_data\_frame ( ) [inline]

Definition at line 28 of file DataFrame.h.

References R::df().

Here is the call graph for this function:



## 5.6.2.44 unsigned long Rcpp::internal::enterRNGScope ( ) [inline]

Definition at line 77 of file routines.h.

References GET\_CALLABLE.

Referenced by registerFunctions(), and Rcpp::RNGScope::RNGScope().

#### 5.6.2.45 `unsigned long Rcpp::internal::exitRNGScope ( ) [inline]`

Definition at line 83 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`, and `Rcpp::RNGScope::~~RNGScope()`.

#### 5.6.2.46 `template<typename InputIterator, typename value_type > void Rcpp::internal::export_range_dispatch ( SEXP x, InputIterator first, ::Rcpp::traits::r_type_generic_tag )`

Definition at line 29 of file export.h.

#### 5.6.2.47 `double Rcpp::internal::factorial ( double x ) [inline]`

Definition at line 55 of file math.h.

Referenced by `lfactorial()`.

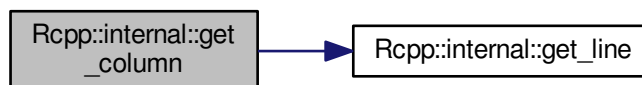
#### 5.6.2.48 `int Rcpp::internal::get_column ( int index, int nr ) [inline]`

Definition at line 32 of file tools.h.

References `get_line()`.

Referenced by `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::update_index()`.

Here is the call graph for this function:



#### 5.6.2.49 `int Rcpp::internal::get_column ( int index, int nr, int i ) [inline]`

Definition at line 37 of file tools.h.

5.6.2.50 `template<typename FROM , typename TO > std::string Rcpp::internal::get_converter_name ( const char * from, const char * to )`

Definition at line 32 of file Module.h.

5.6.2.51 `int Rcpp::internal::get_line ( int index, int nr ) [inline]`

Definition at line 28 of file tools.h.

Referenced by `get_column()`, and `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::update_index()`.

5.6.2.52 `SEXP Rcpp::internal::get_Rcpp_namespace ( ) [inline]`

Definition at line 95 of file routines.h.

References `GET_CALLABLE`.

Referenced by `get_rcpp_cache()`, `Rcpp::Rcpp_namespace()`, and `registerFunctions()`.

5.6.2.53 `char * Rcpp::internal::get_string_buffer ( ) [inline]`

Definition at line 89 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

5.6.2.54 `SEXP Rcpp::internal::getPosixClasses ( ) [inline]`

Definition at line 154 of file Date.h.

Referenced by `new_posixt_object()`, and `Rcpp::wrap_extra_steps< Rcpp::Datetime >()`.

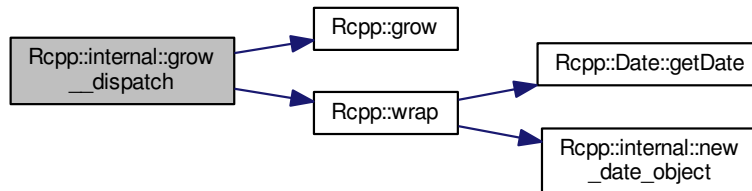
5.6.2.55 `template<typename T > SEXP Rcpp::internal::grow__dispatch ( ::Rcpp::traits::false_type , const T & head, SEXP tail ) [inline]`

Definition at line 43 of file grow.h.

References `Rcpp::grow()`, and `Rcpp::wrap()`.

Referenced by `Rcpp::grow()`.

Here is the call graph for this function:

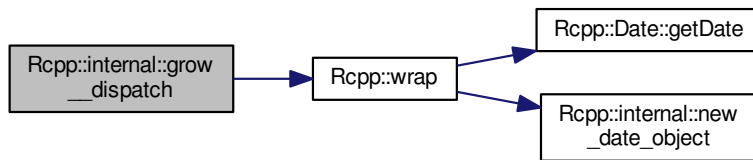


5.6.2.56 `template<typename T> SEXP Rcpp::internal::grow__dispatch ( ::Rcpp::traits::true_type , const T & head, SEXP tail ) [inline]`

Definition at line 48 of file grow.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:



5.6.2.57 `SEXP Rcpp::internal::interruptedError ( ) [inline]`

Definition at line 40 of file Interrupt.h.

5.6.2.58 `template<typename T> bool Rcpp::internal::is__dispatch ( SEXP x, Rcpp::traits::false_type ) [inline]`

Definition at line 38 of file is.h.

5.6.2.59 `template<typename T> bool Rcpp::internal::is__dispatch ( SEXP x, Rcpp::traits::true_type ) [inline]`

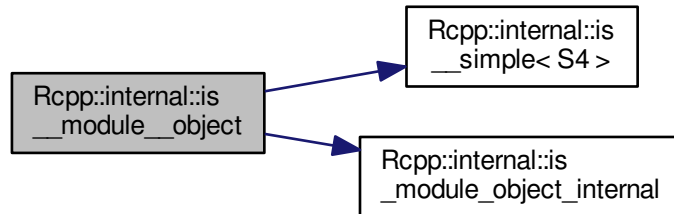
Definition at line 43 of file is.h.

5.6.2.60 `template<typename T> bool Rcpp::internal::is__module__object ( SEXP x )`

Definition at line 158 of file is.h.

References `is__simple< S4 >()`, and `is__module__object__internal()`.

Here is the call graph for this function:



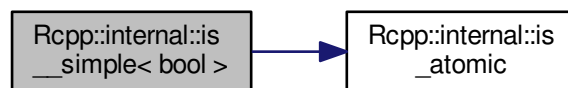
5.6.2.61 `template<typename T> bool Rcpp::internal::is__simple ( SEXP x )`

5.6.2.62 `template<> bool Rcpp::internal::is__simple< bool > ( SEXP x ) [inline]`

Definition at line 39 of file `is.h`.

References `is_atomic()`.

Here is the call graph for this function:

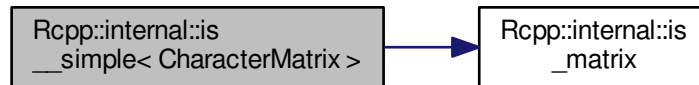


5.6.2.63 `template<> bool Rcpp::internal::is__simple< CharacterMatrix > ( SEXP x ) [inline]`

Definition at line 54 of file `is.h`.

References `is_matrix()`.

Here is the call graph for this function:



**5.6.2.64** `template<> bool Rcpp::internal::is__simple< CharacterVector > ( SEXP x ) [inline]`

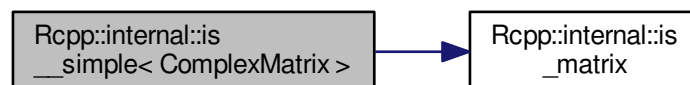
Definition at line 51 of file is.h.

**5.6.2.65** `template<> bool Rcpp::internal::is__simple< ComplexMatrix > ( SEXP x ) [inline]`

Definition at line 87 of file is.h.

References `is__matrix()`.

Here is the call graph for this function:



**5.6.2.66** `template<> bool Rcpp::internal::is__simple< ComplexVector > ( SEXP x ) [inline]`

Definition at line 63 of file is.h.

**5.6.2.67** `template<> bool Rcpp::internal::is__simple< DataFrame > ( SEXP x ) [inline]`

Definition at line 104 of file is.h.

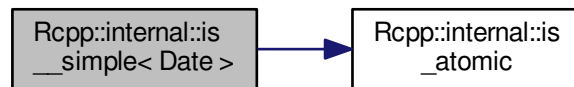


5.6.2.68 `template<> bool Rcpp::internal::is__simple< Date > ( SEXP x ) [inline]`

Definition at line 138 of file is.h.

References `is_atomic()`.

Here is the call graph for this function:

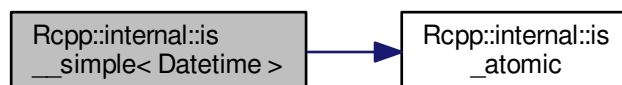


5.6.2.69 `template<> bool Rcpp::internal::is__simple< Datetime > ( SEXP x ) [inline]`

Definition at line 141 of file is.h.

References `is_atomic()`.

Here is the call graph for this function:



5.6.2.70 `template<> bool Rcpp::internal::is__simple< DatetimeVector > ( SEXP x ) [inline]`

Definition at line 147 of file is.h.

5.6.2.71 `template<> bool Rcpp::internal::is__simple< DateVector > ( SEXP x ) [inline]`

Definition at line 144 of file is.h.

5.6.2.72 `template<> bool Rcpp::internal::is__simple< DottedPair > ( SEXP x )` `[inline]`

Definition at line 78 of file is.h.

5.6.2.73 `template<> bool Rcpp::internal::is__simple< double > ( SEXP x )` `[inline]`

Definition at line 36 of file is.h.

References `is_atomic()`.

Here is the call graph for this function:



5.6.2.74 `template<> bool Rcpp::internal::is__simple< Environment > ( SEXP x )` `[inline]`

Definition at line 130 of file is.h.

5.6.2.75 `template<> bool Rcpp::internal::is__simple< Formula > ( SEXP x )` `[inline]`

Definition at line 133 of file is.h.

5.6.2.76 `template<> bool Rcpp::internal::is__simple< Function > ( SEXP x )` `[inline]`

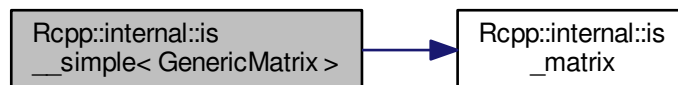
Definition at line 127 of file is.h.

5.6.2.77 `template<> bool Rcpp::internal::is__simple< GenericMatrix > ( SEXP x ) [inline]`

Definition at line 99 of file is.h.

References `is_matrix()`.

Here is the call graph for this function:

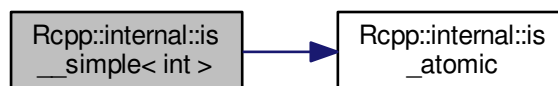


5.6.2.78 `template<> bool Rcpp::internal::is__simple< int > ( SEXP x ) [inline]`

Definition at line 33 of file is.h.

References `is_atomic()`.

Here is the call graph for this function:

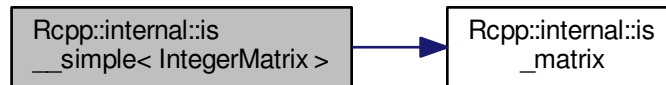


5.6.2.79 `template<> bool Rcpp::internal::is__simple< IntegerMatrix > ( SEXP x ) [inline]`

Definition at line 84 of file is.h.

References `is_matrix()`.

Here is the call graph for this function:



**5.6.2.80** `template<> bool Rcpp::internal::is__simple< IntegerVector > ( SEXP x ) [inline]`

Definition at line 60 of file is.h.

**5.6.2.81** `template<> bool Rcpp::internal::is__simple< Language > ( SEXP x ) [inline]`

Definition at line 75 of file is.h.

**5.6.2.82** `template<> bool Rcpp::internal::is__simple< List > ( SEXP x ) [inline]`

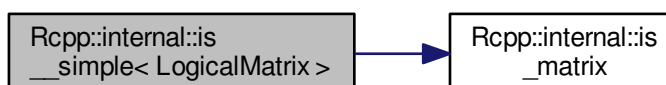
Definition at line 81 of file is.h.

**5.6.2.83** `template<> bool Rcpp::internal::is__simple< LogicalMatrix > ( SEXP x ) [inline]`

Definition at line 96 of file is.h.

References `is_matrix()`.

Here is the call graph for this function:



5.6.2.84 `template<> bool Rcpp::internal::is__simple< LogicalVector > ( SEXP x ) [inline]`

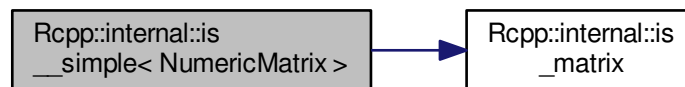
Definition at line 72 of file is.h.

5.6.2.85 `template<> bool Rcpp::internal::is__simple< NumericMatrix > ( SEXP x ) [inline]`

Definition at line 93 of file is.h.

References `is_matrix()`.

Here is the call graph for this function:



5.6.2.86 `template<> bool Rcpp::internal::is__simple< NumericVector > ( SEXP x ) [inline]`

Definition at line 69 of file is.h.

5.6.2.87 `template<> bool Rcpp::internal::is__simple< Pairlist > ( SEXP x ) [inline]`

Definition at line 124 of file is.h.

5.6.2.88 `template<> bool Rcpp::internal::is__simple< Promise > ( SEXP x ) [inline]`

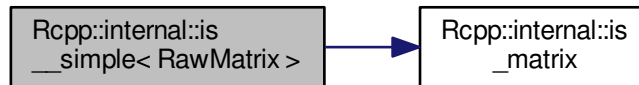
Definition at line 121 of file is.h.

5.6.2.89 `template<> bool Rcpp::internal::is__simple< RawMatrix > ( SEXP x ) [inline]`

Definition at line 90 of file is.h.

References `is_matrix()`.

Here is the call graph for this function:



5.6.2.90 `template<> bool Rcpp::internal::is__simple< RawVector > ( SEXP x ) [inline]`

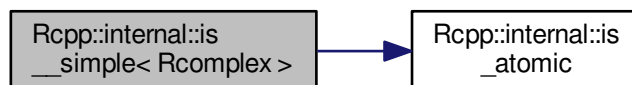
Definition at line 66 of file is.h.

5.6.2.91 `template<> bool Rcpp::internal::is__simple< Rcomplex > ( SEXP x ) [inline]`

Definition at line 48 of file is.h.

References `is_atomic()`.

Here is the call graph for this function:



5.6.2.92 `template<> bool Rcpp::internal::is__simple< Reference > ( SEXP x ) [inline]`

Definition at line 117 of file is.h.

5.6.2.93 `template<> bool Rcpp::internal::is__simple< RObject > ( SEXP ) [inline]`

Definition at line 57 of file is.h.

5.6.2.94 `template<> bool Rcpp::internal::is__simple< S4 > ( SEXP x ) [inline]`

Definition at line 114 of file is.h.

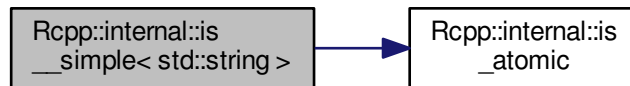
Referenced by `is__module__object()`.

5.6.2.95 `template<> bool Rcpp::internal::is__simple< std::string > ( SEXP x ) [inline]`

Definition at line 42 of file is.h.

References `is_atomic()`.

Here is the call graph for this function:



5.6.2.96 `template<> bool Rcpp::internal::is__simple< String > ( SEXP x ) [inline]`

Definition at line 45 of file is.h.

References `is_atomic()`.

Here is the call graph for this function:



**5.6.2.97** `template<> bool Rcpp::internal::is__simple< Symbol >( SEXP x )` `[inline]`

Definition at line 111 of file is.h.

**5.6.2.98** `template<> bool Rcpp::internal::is__simple< WeakReference >( SEXP x )` `[inline]`

Definition at line 108 of file is.h.

**5.6.2.99** `bool Rcpp::internal::is_atomic( SEXP x )` `[inline]`

Definition at line 28 of file is.h.

Referenced by `is__simple< bool >()`, `is__simple< Date >()`, `is__simple< Datetime >()`, `is__simple< double >()`, `is__simple< int >()`, `is__simple< Rcomplex >()`, `is__simple< std::string >()`, and `is__simple< String >()`.

**5.6.2.100** `bool Rcpp::internal::is_matrix( SEXP x )` `[inline]`

Definition at line 29 of file is.h.

Referenced by `is__simple< CharacterMatrix >()`, `is__simple< ComplexMatrix >()`, `is__simple< GenericMatrix >()`, `is__simple< IntegerMatrix >()`, `is__simple< LogicalMatrix >()`, `is__simple< NumericMatrix >()`, and `is__simple< RawMatrix >()`.

**5.6.2.101** `bool Rcpp::internal::is_module_object_internal( SEXP obj, const char * clazz )` `[inline]`

Definition at line 151 of file is.h.

Referenced by `is__module__object()`.

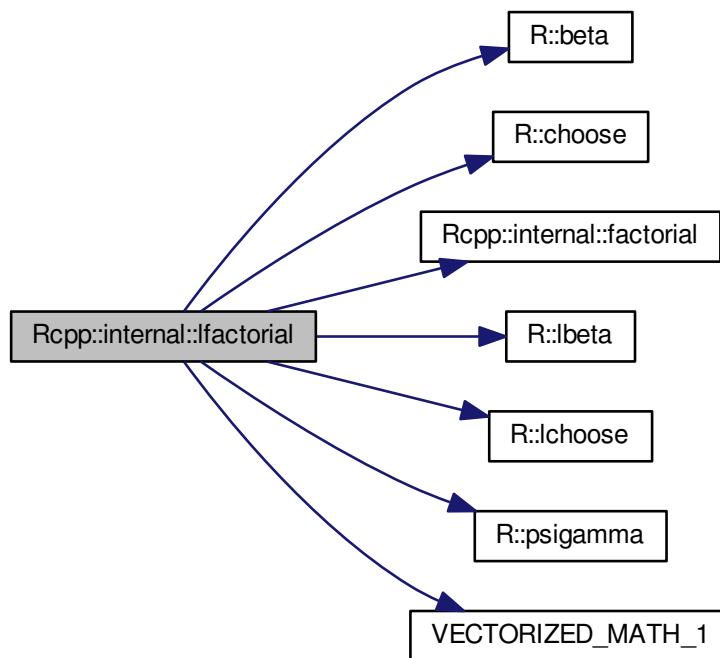
**5.6.2.102** `double Rcpp::internal::lfactorial( double x )` `[inline]`

Definition at line 56 of file math.h.

References `R::beta()`, `R::choose()`, `factorial()`, `R::lbeta()`, `R::lchoose()`, `R::psigamma()`, `SUGAR_BLOCK_2`, and `VECTORIZED_MATH_1()`.



Here is the call graph for this function:



5.6.2.103 `template<> SEXP Rcpp::internal::make_charsexp< Rcpp::String > ( const Rcpp::String & s ) [inline]`

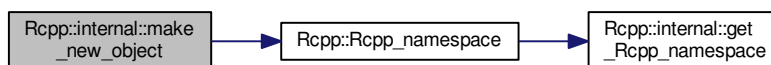
Definition at line 494 of file `String.h`.

5.6.2.104 `template<typename Class > SEXP Rcpp::internal::make_new_object ( Class * ptr )`

Definition at line 77 of file `Module.h`.

References `Rcpp::Rcpp_namespace()`.

Here is the call graph for this function:



5.6.2.105 `SEXP Rcpp::internal::new_date_object ( double d )` `[inline]`

Definition at line 167 of file Date.h.

Referenced by `Rcpp::wrap()`.

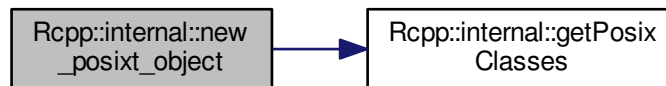
5.6.2.106 `SEXP Rcpp::internal::new_posixt_object ( double d )` `[inline]`

Definition at line 161 of file Date.h.

References `getPosixClasses()`.

Referenced by `Rcpp::wrap< Datetime >()`.

Here is the call graph for this function:



5.6.2.107 `std::string Rcpp::internal::operator+ ( const std::string & x, const const_string_proxy< STRSXP > & y )` `[inline]`

Definition at line 165 of file const\_string\_proxy.h.

5.6.2.108 `std::string Rcpp::internal::operator+ ( const std::string & x, const string_proxy< STRSXP > & y )` `[inline]`

Definition at line 248 of file string\_proxy.h.

5.6.2.109 `template<int RT> bool Rcpp::internal::operator< ( const const_string_proxy< RT > & lhs, const const_string_proxy< RT > & rhs )`

Definition at line 127 of file const\_string\_proxy.h.

5.6.2.110 `template<int RT> bool Rcpp::internal::operator< ( const string_proxy< RT > & lhs, const string_proxy< RT > & rhs )`

Definition at line 210 of file string\_proxy.h.

5.6.2.111 `std::ostream& Rcpp::internal::operator<< ( std::ostream & os, const const_string_proxy< STRSXP > & proxy )`  
[inline]

Definition at line 160 of file const\_string\_proxy.h.

5.6.2.112 `std::ostream& Rcpp::internal::operator<< ( std::ostream & os, const string_proxy< STRSXP > & proxy )`  
[inline]

Definition at line 243 of file string\_proxy.h.

5.6.2.113 `template<int RT> bool Rcpp::internal::operator<= ( const const_string_proxy< RT > & lhs, const const_string_proxy< RT > & rhs )`

Definition at line 151 of file const\_string\_proxy.h.

5.6.2.114 `template<int RT> bool Rcpp::internal::operator<= ( const string_proxy< RT > & lhs, const string_proxy< RT > & rhs )`

Definition at line 234 of file string\_proxy.h.

5.6.2.115 `template<int RT> bool Rcpp::internal::operator> ( const const_string_proxy< RT > & lhs, const const_string_proxy< RT > & rhs )`

Definition at line 135 of file const\_string\_proxy.h.

5.6.2.116 `template<int RT> bool Rcpp::internal::operator> ( const string_proxy< RT > & lhs, const string_proxy< RT > & rhs )`

Definition at line 218 of file string\_proxy.h.

5.6.2.117 `template<int RT> bool Rcpp::internal::operator>= ( const const_string_proxy< RT > & lhs, const const_string_proxy< RT > & rhs )`

Definition at line 143 of file const\_string\_proxy.h.

5.6.2.118 `template<int RT> bool Rcpp::internal::operator>= ( const string_proxy< RT > & lhs, const string_proxy< RT > & rhs )`

Definition at line 226 of file string\_proxy.h.

5.6.2.119 `template<typename T > T Rcpp::internal::primitive_as ( SEXP x )`

Definition at line 31 of file `as.h`.

5.6.2.120 `template<int TARGET> SEXP Rcpp::internal::r_true_cast ( SEXP x )`

Definition at line 44 of file `r_cast.h`.

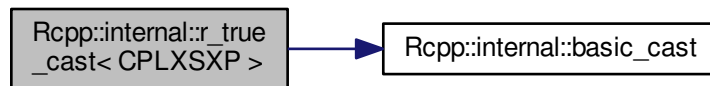
Referenced by `Rcpp::r_cast()`.

5.6.2.121 `template<> SEXP Rcpp::internal::r_true_cast< CPLXSXP > ( SEXP x )` `[inline]`

Definition at line 78 of file `r_cast.h`.

References `basic_cast()`.

Here is the call graph for this function:

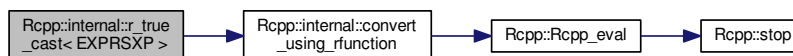


5.6.2.122 `template<> SEXP Rcpp::internal::r_true_cast< EXPRXP > ( SEXP x )` `[inline]`

Definition at line 115 of file `r_cast.h`.

References `convert_using_rfunction()`.

Here is the call graph for this function:

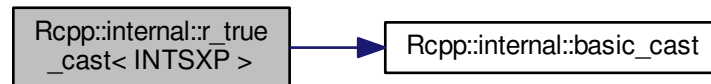


5.6.2.123 `template<> SEXP Rcpp::internal::r_true_cast< INTSXP > ( SEXP x ) [inline]`

Definition at line 66 of file `r_cast.h`.

References `basic_cast()`.

Here is the call graph for this function:

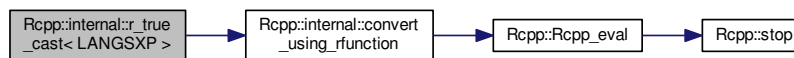


5.6.2.124 `template<> SEXP Rcpp::internal::r_true_cast< LANGSXP > ( SEXP x ) [inline]`

Definition at line 132 of file `r_cast.h`.

References `convert_using_rfunction()`.

Here is the call graph for this function:

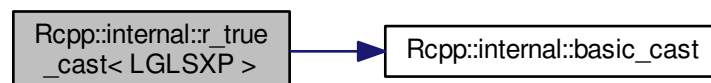


5.6.2.125 `template<> SEXP Rcpp::internal::r_true_cast< LGLSXP > ( SEXP x ) [inline]`

Definition at line 82 of file `r_cast.h`.

References `basic_cast()`.

Here is the call graph for this function:

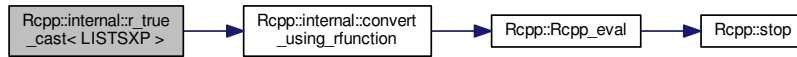


5.6.2.126 `template<> SEXP Rcpp::internal::r_true_cast< LISTSXP > ( SEXP x ) [inline]`

Definition at line 119 of file `r_cast.h`.

References `convert_using_rfunction()`.

Here is the call graph for this function:

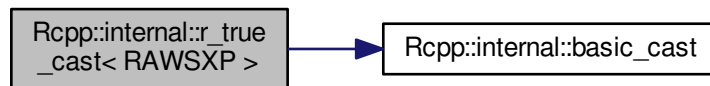


5.6.2.127 `template<> SEXP Rcpp::internal::r_true_cast< RAWXP > ( SEXP x ) [inline]`

Definition at line 74 of file `r_cast.h`.

References `basic_cast()`.

Here is the call graph for this function:

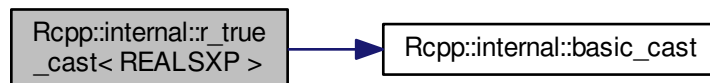


5.6.2.128 `template<> SEXP Rcpp::internal::r_true_cast< REALXP > ( SEXP x ) [inline]`

Definition at line 70 of file `r_cast.h`.

References `basic_cast()`.

Here is the call graph for this function:

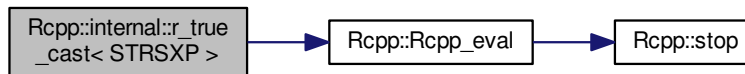


5.6.2.129 `template<> SEXP Rcpp::internal::r_true_cast< STRSXP > ( SEXP x ) [inline]`

Definition at line 87 of file `r_cast.h`.

References `Rcpp::Rcpp_eval()`.

Here is the call graph for this function:

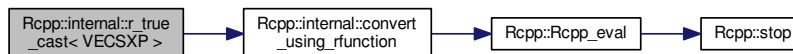


5.6.2.130 `template<> SEXP Rcpp::internal::r_true_cast< VECSXP > ( SEXP x ) [inline]`

Definition at line 111 of file `r_cast.h`.

References `convert_using_rfunction()`.

Here is the call graph for this function:



5.6.2.131 `template<typename InputIterator , typename KEY , typename VALUE , int RTYPE> SEXP Rcpp::internal::range_wrap_dispatch__impl__pair ( InputIterator first, InputIterator last, Rcpp::traits::true_type ) [inline]`

Definition at line 29 of file `wrap.h`.

References `Rcpp::AttributeProxyPolicy< CLASS >::attr()`, `DEMANGLE`, and `RCPP_DEBUG_3`.

Here is the call graph for this function:

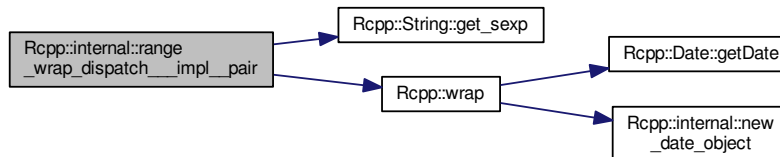


5.6.2.132 `template<typename InputIterator , typename KEY , typename VALUE , int RTYPE> SEXP Rcpp::internal::range_wrap_dispatch__impl__pair ( InputIterator first, InputIterator last, Rcpp::traits::false_type ) [inline]`

Definition at line 47 of file wrap.h.

References Rcpp::String::get\_sexp(), and Rcpp::wrap().

Here is the call graph for this function:

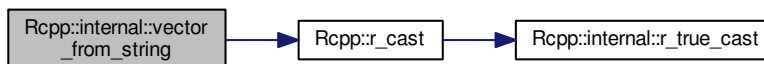


5.6.2.133 `template<int RTYPE> SEXP Rcpp::internal::vector_from_string ( const std::string & st ) [inline]`

Definition at line 29 of file vector\_from\_string.h.

References Rcpp::r\_cast().

Here is the call graph for this function:



5.6.2.134 `template<> SEXP Rcpp::internal::vector_from_string< EXPRXP > ( const std::string & st ) [inline]`

Definition at line 50 of file vector\_from\_string.h.

5.6.2.135 `template<int RTYPE> SEXP Rcpp::internal::vector_from_string_expr ( const std::string & code )`

Definition at line 35 of file vector\_from\_string.h.



5.6.2.136 `template<typename T > SEXP Rcpp::internal::wrap_range_sugar_expression ( const T & object,  
Rcpp::traits::true_type ) [inline]`

Definition at line 30 of file Vector.h.

References DEMANGLE, and RCPP\_DEBUG\_1.

## 5.7 Rcpp::InternalFunctionWithStdFunction Namespace Reference

### Classes

- class [CppFunctionBaseFromStdFunction](#)
- class [CppFunctionBaseFromStdFunction< void, Args... >](#)

## 5.8 Rcpp::stats Namespace Reference

### Classes

- class [BetaGenerator](#)
- class [BinomGenerator](#)
- class [CauchyGenerator](#)
- class [CauchyGenerator\\_0](#)
- class [CauchyGenerator\\_1](#)
- class [ChisqGenerator](#)
- class [D0](#)
- class [D1](#)
- class [D2](#)
- class [D3](#)
- class [ExpGenerator](#)
- class [ExpGenerator\\_\\_rate1](#)
- class [FGenerator\\_Finite\\_Finite](#)
- class [FGenerator\\_Finite\\_NotFinite](#)
- class [FGenerator\\_NotFinite\\_Finite](#)
- class [GammaGenerator](#)
- class [GeomGenerator](#)
- class [HyperGenerator](#)
- class [LNormGenerator](#)
- class [LNormGenerator\\_0](#)
- class [LNormGenerator\\_1](#)
- class [LogisGenerator](#)
- class [LogisGenerator\\_0](#)
- class [LogisGenerator\\_1](#)
- class [NBinomGenerator](#)
- class [NBinomGenerator\\_Mu](#)
- class [NChisqGenerator](#)
- class [NormGenerator](#)

- class [NormGenerator\\_\\_mean0](#)
- class [NormGenerator\\_\\_mean0\\_\\_sd1](#)
- class [NormGenerator\\_\\_sd1](#)
- class [P0](#)
- class [P1](#)
- class [P2](#)
- class [P3](#)
- class [PoissonGenerator](#)
- class [Q0](#)
- class [Q1](#)
- class [Q2](#)
- class [Q3](#)
- class [SignRankGenerator](#)
- class [TGenerator](#)
- class [UnifGenerator](#)
- class [UnifGenerator\\_\\_0\\_\\_1](#)
- class [WeibullGenerator](#)
- class [WeibullGenerator\\_\\_scale1](#)
- class [WilcoxGenerator](#)

## Functions

- double [dcauchy\\_0](#) (double x, int [give\\_log](#))
- double [dcauchy\\_1](#) (double x, double location, int [give\\_log](#))
- double [pcauchy\\_0](#) (double x, int lower\_tail, int log\_p)
- double [pcauchy\\_1](#) (double x, double location, int lower\_tail, int log\_p)
- double [qcauchy\\_0](#) (double p, int lower\_tail, int log\_p)
- double [qcauchy\\_1](#) (double p, double location, int lower\_tail, int log\_p)
- double [d\\_exp\\_0](#) (double x, int [give\\_log](#))
- double [q\\_exp\\_0](#) (double p, int lower\_tail, int log\_p)
- double [p\\_exp\\_0](#) (double x, int lower\_tail, int log\_p)
- double [dgamma\\_1](#) (double x, double shape, int log\_p)
- double [pgamma\\_1](#) (double x, double alph, int lower\_tail, int log\_p)
- double [qgamma\\_1](#) (double p, double alpha, int lower\_tail, int log\_p)
- double [dlnorm\\_0](#) (double x, int log\_p)
- double [dlnorm\\_1](#) (double x, double meanlog, int log\_p)
- double [plnorm\\_0](#) (double x, int lower\_tail, int log\_p)
- double [plnorm\\_1](#) (double x, double meanlog, int lower\_tail, int log\_p)
- double [qlnorm\\_0](#) (double p, int lower\_tail, int log\_p)
- double [qlnorm\\_1](#) (double p, double meanlog, int lower\_tail, int log\_p)
- double [dlogis\\_0](#) (double x, int [give\\_log](#))
- double [dlogis\\_1](#) (double x, double location, int [give\\_log](#))
- double [plogis\\_0](#) (double x, int lower\_tail, int log\_p)
- double [plogis\\_1](#) (double x, double location, int lower\_tail, int log\_p)
- double [qlogis\\_0](#) (double p, int lower\_tail, int log\_p)
- double [qlogis\\_1](#) (double p, double location, int lower\_tail, int log\_p)
- double [dnorm\\_1](#) (double x, double mu, int [give\\_log](#))
- double [dnorm\\_0](#) (double x, int [give\\_log](#))
- double [pnorm\\_1](#) (double x, double mu, int lower\_tail, int log\_p)
- double [pnorm\\_0](#) (double x, int lower\_tail, int log\_p)

- double [qnorm\\_1](#) (double p, double mu, int lower\_tail, int log\_p)
- double [qnorm\\_0](#) (double p, int lower\_tail, int log\_p)
- double [dunif\\_1](#) (double x, double a, int [give\\_log](#))
- double [dunif\\_0](#) (double x, int [give\\_log](#))
- double [punif\\_1](#) (double x, double a, int lower\_tail, int log\_p)
- double [punif\\_0](#) (double x, int lower\_tail, int log\_p)
- double [qunif\\_1](#) (double p, double a, int lower\_tail, int log\_p)
- double [qunif\\_0](#) (double p, int lower\_tail, int log\_p)
- double [dweibull\\_1](#) (double x, double shape, int [give\\_log](#))
- double [pweibull\\_1](#) (double x, double shape, int lower\_tail, int log\_p)
- double [qweibull\\_1](#) (double p, double shape, int lower\_tail, int log\_p)

### 5.8.1 Function Documentation

#### 5.8.1.1 double Rcpp::stats::d\_exp\_0( double x, int *give\_log* ) [inline]

Definition at line 30 of file exp.h.

References [Rcpp::algorithm::exp\(\)](#), and [R\\_D\\_\\_0](#).

Referenced by [p\\_exp\\_0\(\)](#).

Here is the call graph for this function:



#### 5.8.1.2 double Rcpp::stats::dcauchy\_0( double x, int *give\_log* ) [inline]

Definition at line 28 of file cauchy.h.

Referenced by [qcauchy\\_1\(\)](#).

#### 5.8.1.3 double Rcpp::stats::dcauchy\_1( double x, double *location*, int *give\_log* ) [inline]

Definition at line 32 of file cauchy.h.

Referenced by [qcauchy\\_1\(\)](#).

5.8.1.4 `double Rcpp::stats::dgamma_1 ( double x, double shape, int log_p )` `[inline]`

Definition at line 30 of file `gamma.h`.

References `Rcpp::algorithm::log()`, `ML_POSINF`, and `R_D__0`.

Referenced by `qgamma_1()`.

Here is the call graph for this function:



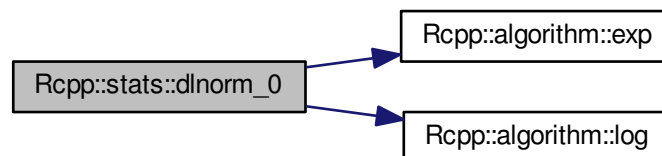
5.8.1.5 `double Rcpp::stats::dlnorm_0 ( double x, int log_p )` `[inline]`

Definition at line 30 of file `lnorm.h`.

References `Rcpp::algorithm::exp()`, `Rcpp::algorithm::log()`, and `R_D__0`.

Referenced by `qlnorm_1()`.

Here is the call graph for this function:



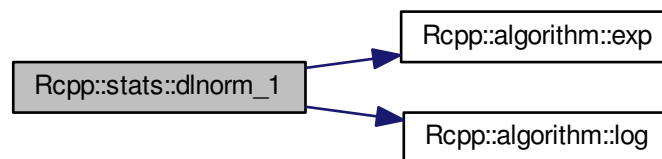
5.8.1.6 `double Rcpp::stats::dlnorm_1 ( double x, double meanlog, int log_p ) [inline]`

Definition at line 47 of file `lnorm.h`.

References `Rcpp::algorithm::exp()`, `Rcpp::algorithm::log()`, and `R_D__0`.

Referenced by `qlnorm_1()`.

Here is the call graph for this function:



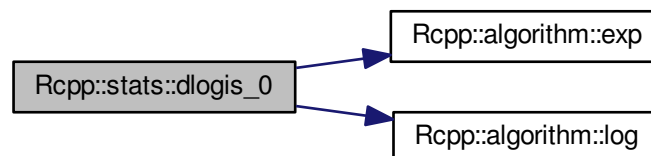
5.8.1.7 `double Rcpp::stats::dlogis_0 ( double x, int give_log ) [inline]`

Definition at line 28 of file `logis.h`.

References `Rcpp::algorithm::exp()`, and `Rcpp::algorithm::log()`.

Referenced by `qlogis_1()`.

Here is the call graph for this function:



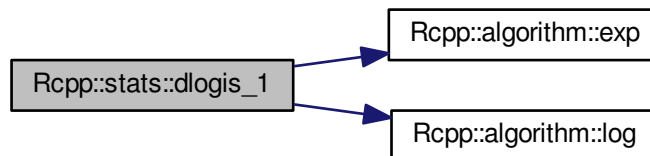
5.8.1.8 `double Rcpp::stats::dlogis_1 ( double x, double location, int give_log ) [inline]`

Definition at line 40 of file `logis.h`.

References `Rcpp::algorithm::exp()`, and `Rcpp::algorithm::log()`.

Referenced by `qlogis_1()`.

Here is the call graph for this function:



5.8.1.9 `double Rcpp::stats::dnorm_0 ( double x, int give_log ) [inline]`

Definition at line 43 of file `norm.h`.

References `Rcpp::algorithm::exp()`, and `R_D__0`.

Referenced by `qnorm_0()`.

Here is the call graph for this function:



5.8.1.10 `double Rcpp::stats::dnorm_1 ( double x, double mu, int give_log )` [inline]

Definition at line 28 of file norm.h.

References `Rcpp::algorithm::exp()`, `ML_NAN`, and `R_D__0`.

Referenced by `qnorm_0()`.

Here is the call graph for this function:



5.8.1.11 `double Rcpp::stats::dunif_0 ( double x, int give_log )` [inline]

Definition at line 34 of file unif.h.

References `R_D__0`.

Referenced by `qunif_0()`.

5.8.1.12 `double Rcpp::stats::dunif_1 ( double x, double a, int give_log )` [inline]

Definition at line 30 of file unif.h.

Referenced by `qunif_0()`.

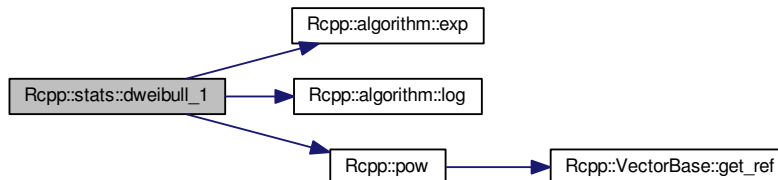
5.8.1.13 `double Rcpp::stats::dweibull_1 ( double x, double shape, int give_log )` [inline]

Definition at line 30 of file weibull.h.

References `Rcpp::algorithm::exp()`, `Rcpp::algorithm::log()`, `ML_POSINF`, `Rcpp::pow()`, and `R_D__0`.

Referenced by `qweibull_1()`.

Here is the call graph for this function:

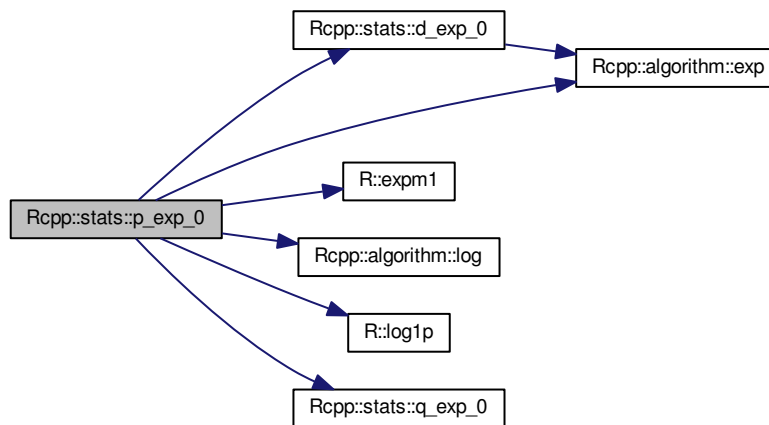


5.8.1.14 `double Rcpp::stats::p_exp_0 ( double x, int lower_tail, int log_p )` [inline]

Definition at line 54 of file exp.h.

References `d_exp_0()`, `Rcpp::algorithm::exp()`, `R::expm1()`, `Rcpp::algorithm::log()`, `R::log1p()`, `q_exp_0()`, `R_D_exp`, `R_DT_0`, and `RCPP_DPQ_0`.

Here is the call graph for this function:



5.8.1.15 `double Rcpp::stats::pcauchy_0 ( double x, int lower_tail, int log_p )` [inline]

Definition at line 36 of file cauchy.h.

Referenced by `qcauchy_1()`.

5.8.1.16 `double Rcpp::stats::pcauchy_1 ( double x, double location, int lower_tail, int log_p )` [inline]

Definition at line 40 of file cauchy.h.

Referenced by `qcauchy_1()`.

5.8.1.17 `double Rcpp::stats::pgamma_1 ( double x, double alph, int lower_tail, int log_p )` [inline]

Definition at line 56 of file gamma.h.

Referenced by `qgamma_1()`.



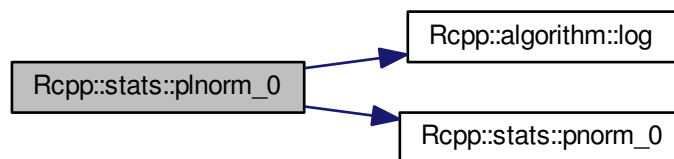
5.8.1.18 `double Rcpp::stats::plnorm_0( double x, int lower_tail, int log_p ) [inline]`

Definition at line 65 of file `lnorm.h`.

References `Rcpp::algorithm::log()`, `pnorm_0()`, and `R_DT_0`.

Referenced by `qlnorm_1()`.

Here is the call graph for this function:



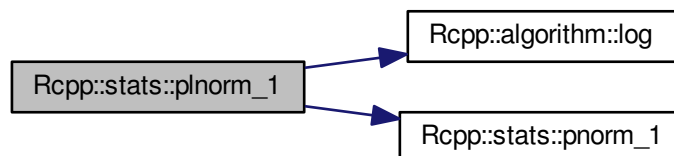
5.8.1.19 `double Rcpp::stats::plnorm_1( double x, double meanlog, int lower_tail, int log_p ) [inline]`

Definition at line 76 of file `lnorm.h`.

References `Rcpp::algorithm::log()`, `pnorm_1()`, and `R_DT_0`.

Referenced by `qlnorm_1()`.

Here is the call graph for this function:



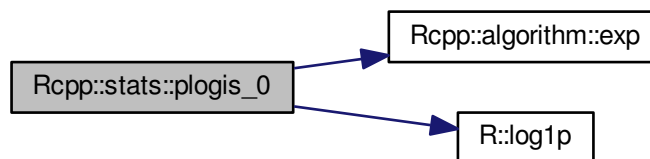
5.8.1.20 `double Rcpp::stats::plogis_0 ( double x, int lower_tail, int log_p )` [inline]

Definition at line 54 of file logis.h.

References `Rcpp::algorithm::exp()`, `R::log1p()`, and `R_P_bounds_Inf_01`.

Referenced by `qlogis_1()`.

Here is the call graph for this function:



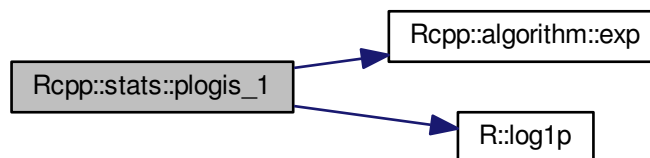
5.8.1.21 `double Rcpp::stats::plogis_1 ( double x, double location, int lower_tail, int log_p )` [inline]

Definition at line 69 of file logis.h.

References `Rcpp::algorithm::exp()`, `R::log1p()`, and `R_P_bounds_Inf_01`.

Referenced by `qlogis_1()`.

Here is the call graph for this function:



5.8.1.22 `double Rcpp::stats::pnorm_0 ( double x, int lower_tail, int log_p )` [inline]

Definition at line 78 of file norm.h.

References R\_DT\_0, and R\_DT\_1.

Referenced by pnorm\_0(), and qnorm\_0().

5.8.1.23 `double Rcpp::stats::pnorm_1 ( double x, double mu, int lower_tail, int log_p )` [inline]

Definition at line 56 of file norm.h.

References ML\_NAN, R\_DT\_0, and R\_DT\_1.

Referenced by pnorm\_1(), and qnorm\_0().

5.8.1.24 `double Rcpp::stats::punif_0 ( double x, int lower_tail, int log_p )` [inline]

Definition at line 50 of file unif.h.

References R\_D\_val, R\_DT\_0, and R\_DT\_1.

Referenced by qunif\_0().

5.8.1.25 `double Rcpp::stats::punif_1 ( double x, double a, int lower_tail, int log_p )` [inline]

Definition at line 46 of file unif.h.

Referenced by qunif\_0().

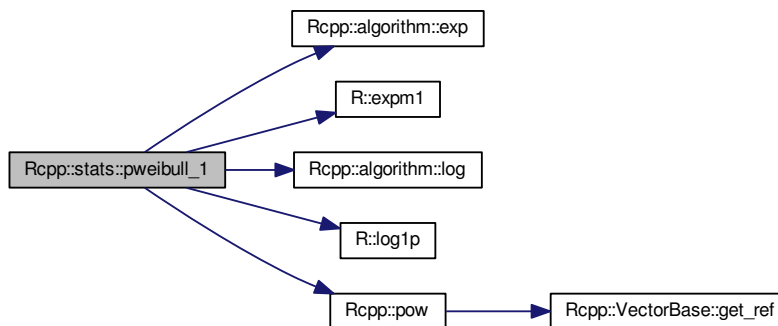
5.8.1.26 `double Rcpp::stats::pweibull_1 ( double x, double shape, int lower_tail, int log_p )` [inline]

Definition at line 49 of file weibull.h.

References Rcpp::algorithm::exp(), R::expm1(), Rcpp::algorithm::log(), R::log1p(), Rcpp::pow(), R\_D\_exp, and R\_DT\_0.

Referenced by qweibull\_1().

Here is the call graph for this function:



5.8.1.27 `double Rcpp::stats::q_exp_0 ( double p, int lower_tail, int log_p )` [inline]

Definition at line 42 of file exp.h.

References `R_DT_0`, and `R_DT_Clog`.

Referenced by `p_exp_0()`.

5.8.1.28 `double Rcpp::stats::qcauchy_0 ( double p, int lower_tail, int log_p )` [inline]

Definition at line 44 of file cauchy.h.

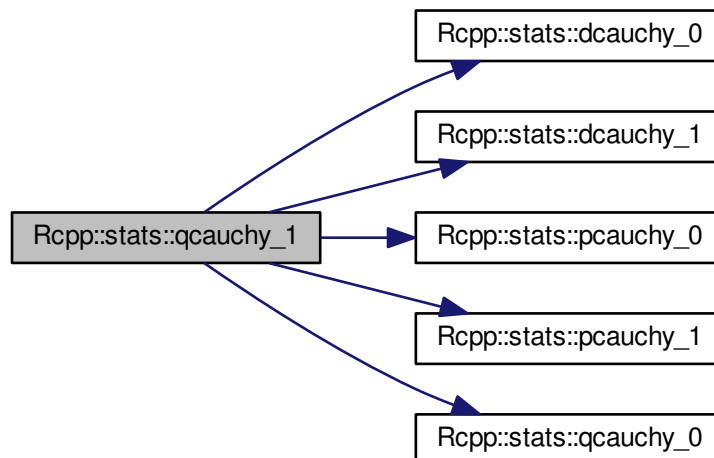
Referenced by `qcauchy_1()`.

5.8.1.29 `double Rcpp::stats::qcauchy_1 ( double p, double location, int lower_tail, int log_p )` [inline]

Definition at line 47 of file cauchy.h.

References `dcauchy_0()`, `dcauchy_1()`, `pcauchy_0()`, `pcauchy_1()`, `qcauchy_0()`, `RCPQ_DPQ_0`, `RCPQ_DPQ_1`, and `RCPQ_DPQ_2`.

Here is the call graph for this function:

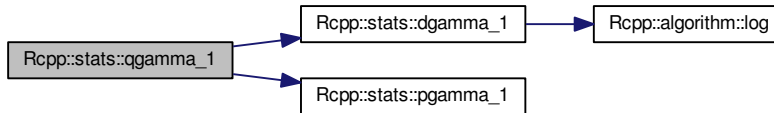


5.8.1.30 `double Rcpp::stats::qgamma_1 ( double p, double alpha, int lower_tail, int log_p )` [inline]

Definition at line 59 of file gamma.h.

References `dgamma_1()`, `pgamma_1()`, `RCPP_DPQ_1`, and `RCPP_DPQ_2`.

Here is the call graph for this function:



5.8.1.31 `double Rcpp::stats::qlnorm_0 ( double p, int lower_tail, int log_p )` [inline]

Definition at line 87 of file lnorm.h.

References `Rcpp::algorithm::exp()`, `ML_POSINF`, and `R_Q_P01_boundaries`.

Referenced by `qlnorm_1()`.

Here is the call graph for this function:

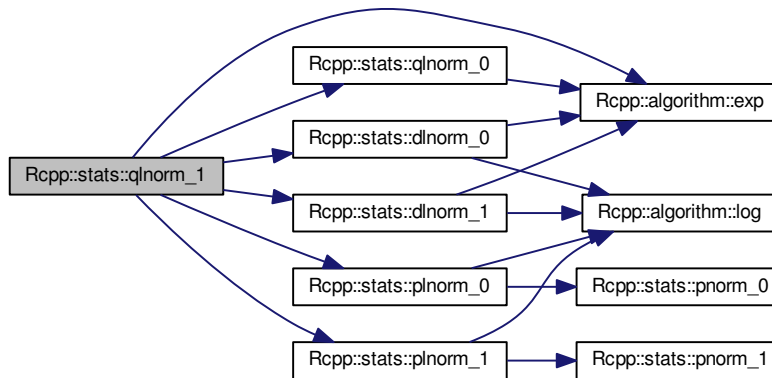


5.8.1.32 `double Rcpp::stats::qlnorm_1 ( double p, double meanlog, int lower_tail, int log_p )` [inline]

Definition at line 97 of file lnorm.h.

References `dlnorm_0()`, `dlnorm_1()`, `Rcpp::algorithm::exp()`, `ML_POSINF`, `plnorm_0()`, `plnorm_1()`, `qlnorm_0()`, `R_Q_P01_boundaries`, `RCPP_DPQ_0`, `RCPP_DPQ_1`, and `RCPP_DPQ_2`.

Here is the call graph for this function:



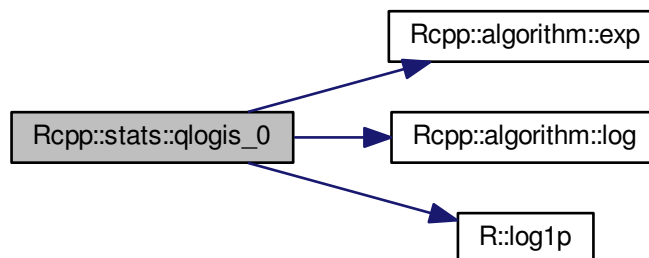
### 5.8.1.33 `double Rcpp::stats::qlogis_0 ( double p, int lower_tail, int log_p ) [inline]`

Definition at line 84 of file `logis.h`.

References `Rcpp::algorithm::exp()`, `Rcpp::algorithm::log()`, `R::log1p()`, `ML_NEGINF`, `ML_POSINF`, and `R_Q_P01_↔` boundaries.

Referenced by `qlogis_1()`.

Here is the call graph for this function:

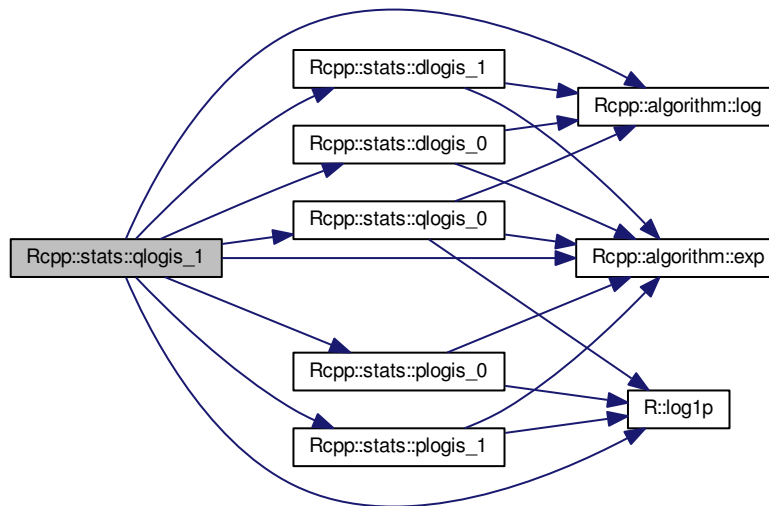


5.8.1.34 `double Rcpp::stats::qlogis_1 ( double p, double location, int lower_tail, int log_p ) [inline]`

Definition at line 106 of file `logis.h`.

References `dlogis_0()`, `dlogis_1()`, `Rcpp::algorithm::exp()`, `Rcpp::algorithm::log()`, `R::log1p()`, `ML_NEGINF`, `ML_POSINF`, `plogis_0()`, `plogis_1()`, `qlogis_0()`, `R_Q_P01_boundaries`, `RCPP_DPQ_0`, `RCPP_DPQ_1`, and `RCPP_DPQ_2`.

Here is the call graph for this function:

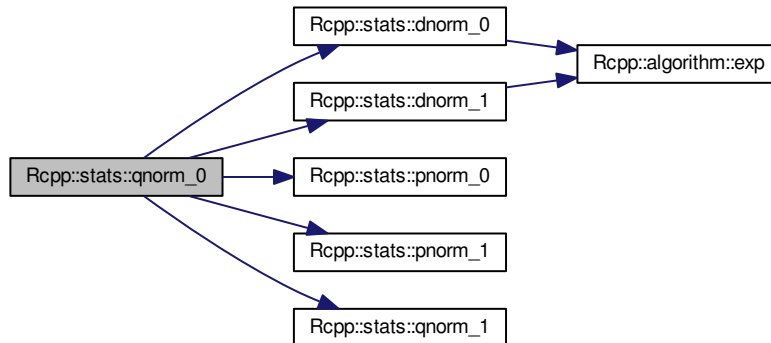


5.8.1.35 `double Rcpp::stats::qnorm_0 ( double p, int lower_tail, int log_p ) [inline]`

Definition at line 103 of file `norm.h`.

References `dnorm_0()`, `dnorm_1()`, `pnorm_0()`, `pnorm_1()`, `qnorm_1()`, `RCPP_DPQ_0`, `RCPP_DPQ_1`, and `RCPP_DPQ_2`.

Here is the call graph for this function:



5.8.1.36 `double Rcpp::stats::qnorm_1 ( double p, double mu, int lower_tail, int log_p )` [inline]

Definition at line 98 of file `norm.h`.

Referenced by `qnorm_0()`.

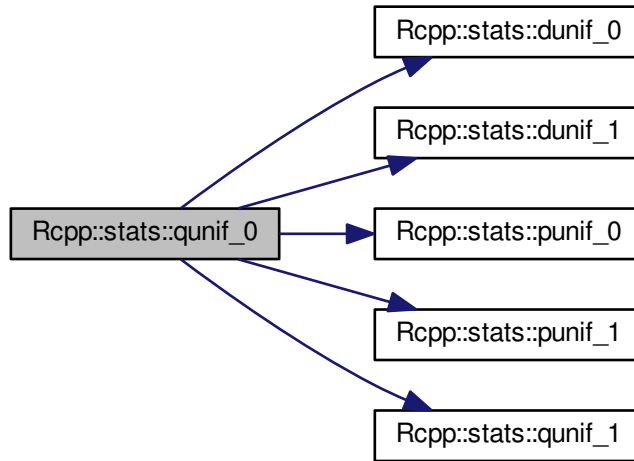
5.8.1.37 `double Rcpp::stats::qunif_0 ( double p, int lower_tail, int log_p )` [inline]

Definition at line 79 of file `unif.h`.

References `dunif_0()`, `dunif_1()`, `punif_0()`, `punif_1()`, `qunif_1()`, `R_DT_qlv`, `R_Q_P01_check`, `RCPP_DPQ_0`, `RCPP_DPQ_1`, and `RCPP_DPQ_2`.



Here is the call graph for this function:



**5.8.1.38** `double Rcpp::stats::qunif_1 ( double p, double a, int lower_tail, int log_p )` [inline]

Definition at line 65 of file `unif.h`.

References `R_DT_qlv`, and `R_Q_P01_check`.

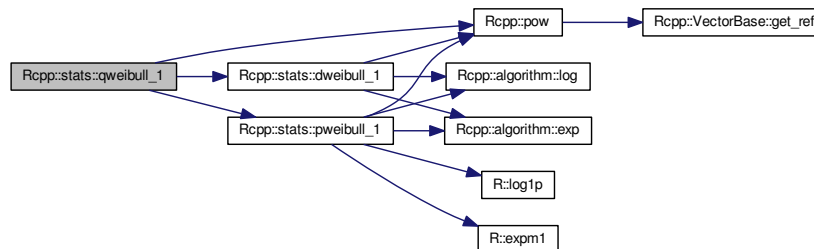
Referenced by `qunif_0()`.

**5.8.1.39** `double Rcpp::stats::qweibull_1 ( double p, double shape, int lower_tail, int log_p )` [inline]

Definition at line 67 of file `weibull.h`.

References `dweibull_1()`, `ML_POSINF`, `Rcpp::pow()`, `pweibull_1()`, `R_DT_Clog`, `R_Q_P01_boundaries`, `Rcpp::DPQ_1`, and `Rcpp::DPQ_2`.

Here is the call graph for this function:



## 5.9 Rcpp::sugar Namespace Reference

### Namespaces

- [cbind\\_impl](#)
- [detail](#)
- [median\\_detail](#)

### Classes

- class [All](#)
- class [All< false, T >](#)
- class [And\\_LogicalExpression\\_LogicalExpression](#)
- class [And\\_LogicalExpression\\_LogicalExpression< false, LHS\\_T, false, RHS\\_T >](#)
- class [And\\_LogicalExpression\\_LogicalExpression< false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [And\\_LogicalExpression\\_LogicalExpression< LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- class [And\\_SingleLogicalResult\\_bool](#)
- class [And\\_SingleLogicalResult\\_SingleLogicalResult](#)
- class [And\\_SingleLogicalResult\\_SingleLogicalResult< false, LHS\\_T, false, RHS\\_T >](#)
- class [And\\_SingleLogicalResult\\_SingleLogicalResult< false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [And\\_SingleLogicalResult\\_SingleLogicalResult< LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- class [Any](#)
- class [Any< false, T >](#)
- struct [clamp\\_operator](#)
- struct [clamp\\_operator< REALSXP, true >](#)
- class [Clamp\\_Primitive\\_Vector\\_Primitive](#)
- class [Col](#)
- class [ColMeansImpl](#)
- class [ColMeansImpl< RTYPE, false, T, NA\\_RM >](#)
- class [ColMeansImpl< RTYPE, NA, T, true >](#)
- class [ColSumsImpl](#)
- class [ColSumsImpl< RTYPE, false, T, NA\\_RM >](#)
- class [ColSumsImpl< RTYPE, NA, T, true >](#)
- class [Comparator](#)
- class [Comparator< RTYPE, Operator, false, LHS\\_T, false, RHS\\_T >](#)
- class [Comparator< RTYPE, Operator, false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Comparator\\_With\\_One\\_Value](#)
- class [Comparator\\_With\\_One\\_Value< RTYPE, Operator, false, T >](#)
- class [conversion\\_to\\_bool\\_is\\_forbidden](#)
- class [CountInserter](#)
- class [Cummax](#)
- class [Cummin](#)
- class [Cumprod](#)
- class [Cumsum](#)
- class [Diag\\_Extractor](#)
- class [Diag\\_Maker](#)
- struct [diag\\_result\\_type\\_trait](#)
- class [Diff](#)
- class [Diff< REALSXP, LHS\\_NA, LHS\\_T >](#)

- class [Diff](#)< RTYPE, false, LHS\_T >
- class [Divides\\_Primitive\\_Vector](#)
- class [Divides\\_Primitive\\_Vector](#)< REALSXP, false, T >
- class [Divides\\_Primitive\\_Vector](#)< REALSXP, NA, T >
- class [Divides\\_Primitive\\_Vector](#)< RTYPE, false, T >
- class [Divides\\_Vector\\_Primitive](#)
- class [Divides\\_Vector\\_Primitive](#)< REALSXP, false, T >
- class [Divides\\_Vector\\_Primitive](#)< REALSXP, NA, T >
- class [Divides\\_Vector\\_Primitive](#)< RTYPE, false, T >
- class [Divides\\_Vector\\_Vector](#)
- class [Divides\\_Vector\\_Vector](#)< REALSXP, false, LHS\_T, false, RHS\_T >
- class [Divides\\_Vector\\_Vector](#)< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T >
- class [Divides\\_Vector\\_Vector](#)< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >
- class [Divides\\_Vector\\_Vector](#)< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >
- class [Divides\\_Vector\\_Vector](#)< RTYPE, false, LHS\_T, false, RHS\_T >
- class [Divides\\_Vector\\_Vector](#)< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >
- class [Divides\\_Vector\\_Vector](#)< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >
- class [forbidden\\_conversion](#)
- class [forbidden\\_conversion](#)< true >
- class [Grabber](#)
- class [Head](#)
- class [IfElse](#)
- class [IfElse](#)< RTYPE, false, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >
- class [IfElse\\_Primitive\\_Primitive](#)
- class [IfElse\\_Primitive\\_Primitive](#)< RTYPE, false, COND\_T >
- class [IfElse\\_Primitive\\_Vector](#)
- class [IfElse\\_Primitive\\_Vector](#)< RTYPE, false, COND\_T, RHS\_NA, RHS\_T >
- class [IfElse\\_Vector\\_Primitive](#)
- class [IfElse\\_Vector\\_Primitive](#)< RTYPE, false, COND\_T, LHS\_NA, LHS\_T >
- class [In](#)
- class [IndexHash](#)
- class [InSet](#)
- class [Intersect](#)
- struct [is\\_sugar\\_vector](#)
- struct [is\\_sugar\\_vector](#)< Rcpp::Vector< RTYPE > >
- class [IsFinite](#)
- class [IsInfinite](#)
- class [IsNa](#)
- class [IsNa](#)< RTYPE, false, VEC\_TYPE >
- class [IsNa\\_Vector\\_is\\_na](#)
- class [IsNaN](#)
- class [Lapply](#)
- class [Lazy](#)
- class [LowerTri](#)
- class [Mapply\\_2](#)
- class [Mapply\\_2\\_Primitive\\_Vector](#)
- class [Mapply\\_2\\_Vector\\_Primitive](#)
- class [Mapply\\_3](#)
- class [Max](#)
- class [Max](#)< RTYPE, false, T >
- class [Mean](#)

- class [Mean](#)< CPLXSXP, NA, T >
- class [Mean](#)< INTSXP, NA, T >
- class [Mean](#)< LGLSXP, NA, T >
- class [Median](#)
- class [Median](#)< RTYPE, false, T, NA\_RM >
- class [Median](#)< RTYPE, NA, T, true >
- class [Median](#)< STRSXP, false, T, true >
- class [Median](#)< STRSXP, NA, T, NA\_RM >
- class [Median](#)< STRSXP, NA, T, true >
- class [Min](#)
- class [Min](#)< RTYPE, false, T >
- class [Minus\\_Primitive\\_Vector](#)
- class [Minus\\_Primitive\\_Vector](#)< REALSXP, false, T >
- class [Minus\\_Primitive\\_Vector](#)< REALSXP, NA, T >
- class [Minus\\_Primitive\\_Vector](#)< RTYPE, false, T >
- class [Minus\\_Vector\\_Primitive](#)
- class [Minus\\_Vector\\_Primitive](#)< REALSXP, false, T >
- class [Minus\\_Vector\\_Primitive](#)< REALSXP, NA, T >
- class [Minus\\_Vector\\_Primitive](#)< RTYPE, false, T >
- class [Minus\\_Vector\\_Vector](#)
- class [Minus\\_Vector\\_Vector](#)< REALSXP, false, LHS\_T, false, RHS\_T >
- class [Minus\\_Vector\\_Vector](#)< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T >
- class [Minus\\_Vector\\_Vector](#)< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >
- class [Minus\\_Vector\\_Vector](#)< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >
- class [Minus\\_Vector\\_Vector](#)< RTYPE, false, LHS\_T, false, RHS\_T >
- class [Minus\\_Vector\\_Vector](#)< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >
- class [Minus\\_Vector\\_Vector](#)< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >
- struct [negate](#)
- struct [negate](#)< false >
- class [Negate\\_SingleLogicalResult](#)
- class [Nona](#)
- class [Nona](#)< RTYPE, NA, Rcpp::Vector< RTYPE > >
- class [NonaPrimitive](#)
- class [not\\_](#)
- class [not\\_](#)< CPLXSXP, false >
- class [not\\_](#)< CPLXSXP, NA >
- class [not\\_](#)< REALSXP, false >
- class [not\\_](#)< REALSXP, NA >
- class [not\\_](#)< RTYPE, false >
- class [Not\\_Vector](#)
- class [Or\\_LogicalExpression\\_LogicalExpression](#)
- class [Or\\_LogicalExpression\\_LogicalExpression](#)< false, LHS\_T, false, RHS\_T >
- class [Or\\_LogicalExpression\\_LogicalExpression](#)< false, LHS\_T, RHS\_NA, RHS\_T >
- class [Or\\_LogicalExpression\\_LogicalExpression](#)< LHS\_NA, LHS\_T, false, RHS\_T >
- class [Or\\_SingleLogicalResult\\_bool](#)
- class [Or\\_SingleLogicalResult\\_SingleLogicalResult](#)
- class [Or\\_SingleLogicalResult\\_SingleLogicalResult](#)< false, LHS\_T, false, RHS\_T >
- class [Or\\_SingleLogicalResult\\_SingleLogicalResult](#)< false, LHS\_T, RHS\_NA, RHS\_T >
- class [Or\\_SingleLogicalResult\\_SingleLogicalResult](#)< LHS\_NA, LHS\_T, false, RHS\_T >
- class [Outer](#)
- class [Plus\\_Vector\\_Primitive](#)

- class [Plus\\_Vector\\_Primitive< REALSXP, false, T >](#)
- class [Plus\\_Vector\\_Primitive< REALSXP, NA, T >](#)
- class [Plus\\_Vector\\_Primitive< RTYPE, false, T >](#)
- class [Plus\\_Vector\\_Primitive\\_nona](#)
- class [Plus\\_Vector\\_Primitive\\_nona< REALSXP, false, T >](#)
- class [Plus\\_Vector\\_Primitive\\_nona< REALSXP, NA, T >](#)
- class [Plus\\_Vector\\_Primitive\\_nona< RTYPE, false, T >](#)
- class [Plus\\_Vector\\_Vector](#)
- class [Plus\\_Vector\\_Vector< REALSXP, false, LHS\\_T, false, RHS\\_T >](#)
- class [Plus\\_Vector\\_Vector< REALSXP, false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Plus\\_Vector\\_Vector< REALSXP, LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- class [Plus\\_Vector\\_Vector< REALSXP, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Plus\\_Vector\\_Vector< RTYPE, false, LHS\\_T, false, RHS\\_T >](#)
- class [Plus\\_Vector\\_Vector< RTYPE, false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Plus\\_Vector\\_Vector< RTYPE, LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- struct [pmax\\_op](#)
- struct [pmax\\_op< INTSXP, LHS\\_NA, RHS\\_NA >](#)
- struct [pmax\\_op< REALSXP, false, false >](#)
- struct [pmax\\_op< REALSXP, false, true >](#)
- struct [pmax\\_op< REALSXP, true, false >](#)
- struct [pmax\\_op< REALSXP, true, true >](#)
- class [pmax\\_op\\_Vector\\_Primitive](#)
- class [pmax\\_op\\_Vector\\_Primitive< REALSXP, true >](#)
- class [Pmax\\_Vector\\_Primitive](#)
- class [Pmax\\_Vector\\_Vector](#)
- struct [pmin\\_op](#)
- struct [pmin\\_op< INTSXP, LHS\\_NA, RHS\\_NA >](#)
- struct [pmin\\_op< REALSXP, false, false >](#)
- struct [pmin\\_op< REALSXP, false, true >](#)
- struct [pmin\\_op< REALSXP, true, false >](#)
- struct [pmin\\_op< REALSXP, true, true >](#)
- class [pmin\\_op\\_Vector\\_Primitive](#)
- class [pmin\\_op\\_Vector\\_Primitive< REALSXP, true >](#)
- class [Pmin\\_Vector\\_Primitive](#)
- class [Pmin\\_Vector\\_Vector](#)
- class [Pow](#)
- class [Pow< INTSXP, false, T, EXPONENT\\_TYPE >](#)
- class [Pow< INTSXP, NA, T, EXPONENT\\_TYPE >](#)
- class [Range](#)
- class [Range< RTYPE, false, T >](#)
- class [RemoveFromSet](#)
- class [Rep](#)
- class [Rep\\_each](#)
- class [Rep\\_len](#)
- class [Rep\\_Single](#)
- class [Rev](#)
- class [Row](#)
- class [RowMeansImpl](#)
- class [RowMeansImpl< RTYPE, false, T, NA\\_RM >](#)
- class [RowMeansImpl< RTYPE, NA, T, true >](#)
- class [RowSumsImpl](#)

- class [RowSumsImpl](#)< RTYPE, false, T, NA\_RM >
- class [RowSumsImpl](#)< RTYPE, NA, T, true >
- class [Supply](#)
- class [Supply](#)< RTYPE, NA, T, Function, true >
- struct [sapply\\_application\\_result\\_of](#)
- class [Sd](#)
- class [SelfHash](#)
- class [SelfInserter](#)
- class [SelfMatch](#)
- class [SeqLen](#)
- class [SetDiff](#)
- class [SetEqual](#)
- class [Sign](#)
- class [sign\\_\\_impl](#)
- class [sign\\_\\_impl](#)< false, RTYPE >
- class [SingleLogicalResult](#)
- struct [sugar\\_const\\_iterator\\_type](#)
- struct [sugar\\_const\\_iterator\\_type](#)< CharacterVector >
- struct [sugar\\_const\\_iterator\\_type](#)< Rcpp::Vector< RTYPE > >
- class [SugarBlock\\_1](#)
- class [SugarBlock\\_2](#)
- class [SugarBlock\\_2\\_\\_PV](#)
- class [SugarBlock\\_2\\_\\_VP](#)
- class [SugarBlock\\_3\\_VVV](#)
- class [SugarComplex](#)
- class [SugarIterator](#)
- class [SugarMath\\_1](#)
- class [SugarMath\\_1](#)< false, RESULT\_TYPE, int, T1, FunPtr >
- class [SugarMath\\_1](#)< NA, RESULT\_TYPE, int, T1, FunPtr >
- class [Sum](#)
- class [Sum](#)< REALSXP, NA, T >
- class [Sum](#)< RTYPE, false, T >
- class [Table](#)
- class [Tail](#)
- class [Times\\_Vector\\_Primitive](#)
- class [Times\\_Vector\\_Primitive](#)< REALSXP, false, T >
- class [Times\\_Vector\\_Primitive](#)< REALSXP, NA, T >
- class [Times\\_Vector\\_Primitive](#)< RTYPE, false, T >
- class [Times\\_Vector\\_Primitive\\_nona](#)
- class [Times\\_Vector\\_Primitive\\_nona](#)< REALSXP, false, T >
- class [Times\\_Vector\\_Primitive\\_nona](#)< REALSXP, NA, T >
- class [Times\\_Vector\\_Primitive\\_nona](#)< RTYPE, false, T >
- class [Times\\_Vector\\_Vector](#)
- class [Times\\_Vector\\_Vector](#)< REALSXP, false, LHS\_T, false, RHS\_T >
- class [Times\\_Vector\\_Vector](#)< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T >
- class [Times\\_Vector\\_Vector](#)< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >
- class [Times\\_Vector\\_Vector](#)< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >
- class [Times\\_Vector\\_Vector](#)< RTYPE, false, LHS\_T, false, RHS\_T >
- class [Times\\_Vector\\_Vector](#)< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >
- class [Times\\_Vector\\_Vector](#)< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >
- class [unary\\_minus](#)

- class [unary\\_minus< CPLXSPX, false >](#)
- class [unary\\_minus< CPLXSPX, NA >](#)
- class [unary\\_minus< RTYPE, false >](#)
- struct [unary\\_minus\\_result\\_type](#)
- struct [unary\\_minus\\_result\\_type< LGLSPX >](#)
- class [UnaryMinus\\_Vector](#)
- class [Union](#)
- class [UpperTri](#)
- class [Var](#)
- class [Var< CPLXSPX, NA, T >](#)
- class [Vectorized](#)
- class [Vectorized\\_INTSPX](#)
- class [Vectorized\\_INTSPX< Func, false, VEC >](#)
- class [WhichMax](#)
- class [WhichMax< RTYPE, false, T >](#)
- class [WhichMin](#)
- class [WhichMin< RTYPE, false, T >](#)

## Typedefs

- typedef [double\(\\* DDFun\)](#) (double)

## Functions

- [template<typename T1 , typename T2 >](#)  
[cbind\\_impl::matrix\\_return< T1 >::type cbind](#) (const T1 &t1, const T2 &t2)
- [template<typename T1 , typename T2 , typename T3 >](#)  
[cbind\\_impl::matrix\\_return< T1 >::type cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3)
- [template<typename T1 , typename T2 , typename T3 , typename T4 >](#)  
[cbind\\_impl::matrix\\_return< T1 >::type cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4)
- [template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 >](#)  
[cbind\\_impl::matrix\\_return< T1 >::type cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4, const T5 &t5)
- [template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 >](#)  
[cbind\\_impl::matrix\\_return< T1 >::type cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4, const T5 &t5, const T6 &t6)
- [template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 >](#)  
[cbind\\_impl::matrix\\_return< T1 >::type cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4, const T5 &t5, const T6 &t6, const T7 &t7)
- [template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 >](#)  
[cbind\\_impl::matrix\\_return< T1 >::type cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4, const T5 &t5, const T6 &t6, const T7 &t7, const T8 &t8)
- [template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 >](#)  
[cbind\\_impl::matrix\\_return< T1 >::type cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4, const T5 &t5, const T6 &t6, const T7 &t7, const T8 &t8, const T9 &t9)
- [template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 >](#)  
[cbind\\_impl::matrix\\_return< T1 >::type cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4, const T5 &t5, const T6 &t6, const T7 &t7, const T8 &t8, const T9 &t9, const T10 &t10)

















- `template<typename Iterator >`  
[String collapse\\_\\_impl](#) (Iterator it, R\_xlen\_t n)
- `template<typename T >`  
[sugar\\_const\\_iterator\\_type](#)< T >::type [get\\_const\\_begin\\_\\_impl](#) (const T &obj, [Rcpp::traits::true\\_type](#))
- `template<typename T >`  
[sugar\\_const\\_iterator\\_type](#)< T >::type [get\\_const\\_begin\\_\\_impl](#) (const T &obj, [Rcpp::traits::false\\_type](#))
- `template<typename T >`  
[sugar\\_const\\_iterator\\_type](#)< T >::type [get\\_const\\_begin](#) (const T &obj)
- `template<>`  
 SEXP \* [get\\_const\\_begin](#) (const [CharacterVector](#) &obj)
- `template<typename T >`  
[sugar\\_const\\_iterator\\_type](#)< T >::type [get\\_const\\_end](#) (const T &obj)

## 5.9.1 Typedef Documentation

### 5.9.1.1 typedef `double(* Rcpp::sugar::DDFun)` (double)

Definition at line 28 of file `Vectorized_Math.h`.

## 5.9.2 Function Documentation

### 5.9.2.1 `template<typename T1 , typename T2 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2 )` [`inline`]

Definition at line 516 of file `cbind.h`.

References `MakeBindable`.

Referenced by `cbind()`.

### 5.9.2.2 `template<typename T1 , typename T2 , typename T3 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3 )` [`inline`]

Definition at line 522 of file `cbind.h`.

References `MakeBindable`.

### 5.9.2.3 `template<typename T1 , typename T2 , typename T3 , typename T4 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4 )` [`inline`]

Definition at line 528 of file `cbind.h`.

References `MakeBindable`.

```
5.9.2.4 template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 > cbind_impl::matrix_↵  
return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5 )  
[inline]
```

Definition at line 535 of file cbind.h.

References MakeBindable.

```
5.9.2.5 template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 >  
cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4,  
const T5 & t5, const T6 & t6 ) [inline]
```

Definition at line 541 of file cbind.h.

References MakeBindable.

```
5.9.2.6 template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 >  
cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4,  
const T5 & t5, const T6 & t6, const T7 & t7 ) [inline]
```

Definition at line 547 of file cbind.h.

References MakeBindable.

```
5.9.2.7 template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8  
> cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 &  
t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8 ) [inline]
```

Definition at line 553 of file cbind.h.

References MakeBindable.

```
5.9.2.8 template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8  
, typename T9 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 &  
t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9 ) [inline]
```

Definition at line 559 of file cbind.h.

References MakeBindable.

```
5.9.2.9 template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8  
, typename T9 , typename T10 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 &  
t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10 )  
[inline]
```

Definition at line 566 of file cbind.h.

References MakeBindable.



5.9.2.10 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11 ) [inline]`

Definition at line 572 of file cbind.h.

References MakeBindable.

5.9.2.11 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12 ) [inline]`

Definition at line 578 of file cbind.h.

References MakeBindable.

5.9.2.12 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13 ) [inline]`

Definition at line 584 of file cbind.h.

References MakeBindable.

5.9.2.13 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14 ) [inline]`

Definition at line 590 of file cbind.h.

References MakeBindable.

5.9.2.14 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15 ) [inline]`

Definition at line 597 of file cbind.h.

References MakeBindable.

5.9.2.15 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1 , const T2 & t2 , const T3 & t3 , const T4 & t4 , const T5 & t5 , const T6 & t6 , const T7 & t7 , const T8 & t8 , const T9 & t9 , const T10 & t10 , const T11 & t11 , const T12 & t12 , const T13 & t13 , const T14 & t14 , const T15 & t15 , const T16 & t16 ) [inline]`

Definition at line 603 of file cbind.h.

References MakeBindable.

5.9.2.16 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1 , const T2 & t2 , const T3 & t3 , const T4 & t4 , const T5 & t5 , const T6 & t6 , const T7 & t7 , const T8 & t8 , const T9 & t9 , const T10 & t10 , const T11 & t11 , const T12 & t12 , const T13 & t13 , const T14 & t14 , const T15 & t15 , const T16 & t16 , const T17 & t17 ) [inline]`

Definition at line 609 of file cbind.h.

References MakeBindable.

5.9.2.17 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1 , const T2 & t2 , const T3 & t3 , const T4 & t4 , const T5 & t5 , const T6 & t6 , const T7 & t7 , const T8 & t8 , const T9 & t9 , const T10 & t10 , const T11 & t11 , const T12 & t12 , const T13 & t13 , const T14 & t14 , const T15 & t15 , const T16 & t16 , const T17 & t17 , const T18 & t18 ) [inline]`

Definition at line 615 of file cbind.h.

References MakeBindable.

5.9.2.18 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1 , const T2 & t2 , const T3 & t3 , const T4 & t4 , const T5 & t5 , const T6 & t6 , const T7 & t7 , const T8 & t8 , const T9 & t9 , const T10 & t10 , const T11 & t11 , const T12 & t12 , const T13 & t13 , const T14 & t14 , const T15 & t15 , const T16 & t16 , const T17 & t17 , const T18 & t18 , const T19 & t19 ) [inline]`

Definition at line 621 of file cbind.h.

References MakeBindable.

5.9.2.19 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1 , const T2 & t2 , const T3 & t3 , const T4 & t4 , const T5 & t5 , const T6 & t6 , const T7 & t7 , const T8 & t8 , const T9 & t9 , const T10 & t10 , const T11 & t11 , const T12 & t12 , const T13 & t13 , const T14 & t14 , const T15 & t15 , const T16 & t16 , const T17 & t17 , const T18 & t18 , const T19 & t19 , const T20 & t20 ) [inline]`

Definition at line 628 of file cbind.h.

References [MakeBindable](#).

5.9.2.20 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1 , const T2 & t2 , const T3 & t3 , const T4 & t4 , const T5 & t5 , const T6 & t6 , const T7 & t7 , const T8 & t8 , const T9 & t9 , const T10 & t10 , const T11 & t11 , const T12 & t12 , const T13 & t13 , const T14 & t14 , const T15 & t15 , const T16 & t16 , const T17 & t17 , const T18 & t18 , const T19 & t19 , const T20 & t20 , const T21 & t21 ) [inline]`

Definition at line 634 of file cbind.h.

References [MakeBindable](#).

5.9.2.21 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1 , const T2 & t2 , const T3 & t3 , const T4 & t4 , const T5 & t5 , const T6 & t6 , const T7 & t7 , const T8 & t8 , const T9 & t9 , const T10 & t10 , const T11 & t11 , const T12 & t12 , const T13 & t13 , const T14 & t14 , const T15 & t15 , const T16 & t16 , const T17 & t17 , const T18 & t18 , const T19 & t19 , const T20 & t20 , const T21 & t21 , const T22 & t22 ) [inline]`

Definition at line 640 of file cbind.h.

References [MakeBindable](#).

5.9.2.22 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1 , const T2 & t2 , const T3 & t3 , const T4 & t4 , const T5 & t5 , const T6 & t6 , const T7 & t7 , const T8 & t8 , const T9 & t9 , const T10 & t10 , const T11 & t11 , const T12 & t12 , const T13 & t13 , const T14 & t14 , const T15 & t15 , const T16 & t16 , const T17 & t17 , const T18 & t18 , const T19 & t19 , const T20 & t20 , const T21 & t21 , const T22 & t22 , const T23 & t23 ) [inline]`

Definition at line 646 of file cbind.h.

References [MakeBindable](#).

5.9.2.23 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24 )` `[inline]`

Definition at line 652 of file `cbind.h`.

References `MakeBindable`.

5.9.2.24 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25 )` `[inline]`

Definition at line 659 of file `cbind.h`.

References `MakeBindable`.

5.9.2.25 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26 )` `[inline]`

Definition at line 665 of file `cbind.h`.

References `MakeBindable`.

5.9.2.26 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27 )` `[inline]`

Definition at line 671 of file `cbind.h`.

References `MakeBindable`.

5.9.2.27 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28 )` `[inline]`

Definition at line 677 of file `cbind.h`.

References `MakeBindable`.

5.9.2.28 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29 )` `[inline]`

Definition at line 683 of file `cbind.h`.

References `MakeBindable`.

5.9.2.29 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30 )` `[inline]`

Definition at line 690 of file `cbind.h`.

References `MakeBindable`.

5.9.2.30 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31 )` `[inline]`

Definition at line 696 of file `cbind.h`.

References `MakeBindable`.

5.9.2.31 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1 , const T2 & t2 , const T3 & t3 , const T4 & t4 , const T5 & t5 , const T6 & t6 , const T7 & t7 , const T8 & t8 , const T9 & t9 , const T10 & t10 , const T11 & t11 , const T12 & t12 , const T13 & t13 , const T14 & t14 , const T15 & t15 , const T16 & t16 , const T17 & t17 , const T18 & t18 , const T19 & t19 , const T20 & t20 , const T21 & t21 , const T22 & t22 , const T23 & t23 , const T24 & t24 , const T25 & t25 , const T26 & t26 , const T27 & t27 , const T28 & t28 , const T29 & t29 , const T30 & t30 , const T31 & t31 , const T32 & t32 )`  
`[inline]`

Definition at line 702 of file `cbind.h`.

References `MakeBindable`.

5.9.2.32 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1 , const T2 & t2 , const T3 & t3 , const T4 & t4 , const T5 & t5 , const T6 & t6 , const T7 & t7 , const T8 & t8 , const T9 & t9 , const T10 & t10 , const T11 & t11 , const T12 & t12 , const T13 & t13 , const T14 & t14 , const T15 & t15 , const T16 & t16 , const T17 & t17 , const T18 & t18 , const T19 & t19 , const T20 & t20 , const T21 & t21 , const T22 & t22 , const T23 & t23 , const T24 & t24 , const T25 & t25 , const T26 & t26 , const T27 & t27 , const T28 & t28 , const T29 & t29 , const T30 & t30 , const T31 & t31 , const T32 & t32 , const T33 & t33 )` `[inline]`

Definition at line 708 of file `cbind.h`.

References `MakeBindable`.

5.9.2.33 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1 , const T2 & t2 , const T3 & t3 , const T4 & t4 , const T5 & t5 , const T6 & t6 , const T7 & t7 , const T8 & t8 , const T9 & t9 , const T10 & t10 , const T11 & t11 , const T12 & t12 , const T13 & t13 , const T14 & t14 , const T15 & t15 , const T16 & t16 , const T17 & t17 , const T18 & t18 , const T19 & t19 , const T20 & t20 , const T21 & t21 , const T22 & t22 , const T23 & t23 , const T24 & t24 , const T25 & t25 , const T26 & t26 , const T27 & t27 , const T28 & t28 , const T29 & t29 , const T30 & t30 , const T31 & t31 , const T32 & t32 , const T33 & t33 , const T34 & t34 )` `[inline]`

Definition at line 714 of file `cbind.h`.

References `MakeBindable`.

5.9.2.34 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35 ) [inline]`

Definition at line 721 of file `cbind.h`.

References `MakeBindable`.

5.9.2.35 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35, const T36 & t36 ) [inline]`

Definition at line 727 of file `cbind.h`.

References `MakeBindable`.

5.9.2.36 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 , typename T37 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35, const T36 & t36, const T37 & t37 ) [inline]`

Definition at line 733 of file `cbind.h`.

References `MakeBindable`.

5.9.2.37 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 , typename T37 , typename T38 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35, const T36 & t36, const T37 & t37, const T38 & t38 ) [inline]`

Definition at line 739 of file `cbind.h`.

References `MakeBindable`.

5.9.2.38 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 , typename T37 , typename T38 , typename T39 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35, const T36 & t36, const T37 & t37, const T38 & t38, const T39 & t39 ) [inline]`

Definition at line 745 of file `cbind.h`.

References `MakeBindable`.

5.9.2.39 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 , typename T37 , typename T38 , typename T39 , typename T40 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35, const T36 & t36, const T37 & t37, const T38 & t38, const T39 & t39, const T40 & t40 ) [inline]`

Definition at line 752 of file `cbind.h`.

References `MakeBindable`.



5.9.2.40 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 , typename T37 , typename T38 , typename T39 , typename T40 , typename T41 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35, const T36 & t36, const T37 & t37, const T38 & t38, const T39 & t39, const T40 & t40, const T41 & t41 ) [inline]`

Definition at line 758 of file `cbind.h`.

References `MakeBindable`.

5.9.2.41 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 , typename T37 , typename T38 , typename T39 , typename T40 , typename T41 , typename T42 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35, const T36 & t36, const T37 & t37, const T38 & t38, const T39 & t39, const T40 & t40, const T41 & t41, const T42 & t42 ) [inline]`

Definition at line 764 of file `cbind.h`.

References `MakeBindable`.

5.9.2.42 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 , typename T37 , typename T38 , typename T39 , typename T40 , typename T41 , typename T42 , typename T43 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35, const T36 & t36, const T37 & t37, const T38 & t38, const T39 & t39, const T40 & t40, const T41 & t41, const T42 & t42, const T43 & t43 ) [inline]`

Definition at line 770 of file `cbind.h`.

References `MakeBindable`.

5.9.2.43 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 , typename T37 , typename T38 , typename T39 , typename T40 , typename T41 , typename T42 , typename T43 , typename T44 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35, const T36 & t36, const T37 & t37, const T38 & t38, const T39 & t39, const T40 & t40, const T41 & t41, const T42 & t42, const T43 & t43, const T44 & t44 ) [inline]`

Definition at line 776 of file `cbind.h`.

References `MakeBindable`.

5.9.2.44 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 , typename T37 , typename T38 , typename T39 , typename T40 , typename T41 , typename T42 , typename T43 , typename T44 , typename T45 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35, const T36 & t36, const T37 & t37, const T38 & t38, const T39 & t39, const T40 & t40, const T41 & t41, const T42 & t42, const T43 & t43, const T44 & t44, const T45 & t45 ) [inline]`

Definition at line 783 of file `cbind.h`.

References `MakeBindable`.

5.9.2.45 `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 , typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 , typename T37 , typename T38 , typename T39 , typename T40 , typename T41 , typename T42 , typename T43 , typename T44 , typename T45 , typename T46 > cbind_impl::matrix_return<T1>::type Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 & t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14, const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21, const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28, const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35, const T36 & t36, const T37 & t37, const T38 & t38, const T39 & t39, const T40 & t40, const T41 & t41, const T42 & t42, const T43 & t43, const T44 & t44, const T45 & t45, const T46 & t46 ) [inline]`

Definition at line 789 of file `cbind.h`.

References `MakeBindable`.



References `MakeBindable`.

```
5.9.2.49 template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename
T8 , typename T9 , typename T10 , typename T11 , typename T12 , typename T13 , typename T14 , typename T15 , typename
T16 , typename T17 , typename T18 , typename T19 , typename T20 , typename T21 , typename T22 , typename T23 ,
typename T24 , typename T25 , typename T26 , typename T27 , typename T28 , typename T29 , typename T30 , typename
T31 , typename T32 , typename T33 , typename T34 , typename T35 , typename T36 , typename T37 , typename T38 ,
typename T39 , typename T40 , typename T41 , typename T42 , typename T43 , typename T44 , typename T45 , typename
T46 , typename T47 , typename T48 , typename T49 , typename T50 > cbind_impl::matrix_return<T1>::type
Rcpp::sugar::cbind ( const T1 & t1, const T2 & t2, const T3 & t3, const T4 & t4, const T5 & t5, const T6 & t6, const T7 &
t7, const T8 & t8, const T9 & t9, const T10 & t10, const T11 & t11, const T12 & t12, const T13 & t13, const T14 & t14,
const T15 & t15, const T16 & t16, const T17 & t17, const T18 & t18, const T19 & t19, const T20 & t20, const T21 & t21,
const T22 & t22, const T23 & t23, const T24 & t24, const T25 & t25, const T26 & t26, const T27 & t27, const T28 & t28,
const T29 & t29, const T30 & t30, const T31 & t31, const T32 & t32, const T33 & t33, const T34 & t34, const T35 & t35,
const T36 & t36, const T37 & t37, const T38 & t38, const T39 & t39, const T40 & t40, const T41 & t41, const T42 & t42,
const T43 & t43, const T44 & t44, const T45 & t45, const T46 & t46, const T47 & t47, const T48 & t48, const T49 & t49,
const T50 & t50 ) [inline]
```

Definition at line 814 of file `cbind.h`.

References `cbind()`, and `MakeBindable`.

Here is the call graph for this function:



```
5.9.2.50 template<typename Iterator > String Rcpp::sugar::collapse_impl ( Iterator it, R_xlen_t n ) [inline]
```

Definition at line 28 of file `collapse.h`.

Referenced by `Rcpp::collapse()`.

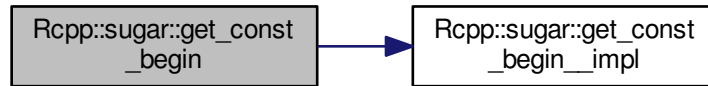
```
5.9.2.51 template<typename T > sugar_const_iterator_type<T>::type Rcpp::sugar::get_const_begin ( const T & obj )
[inline]
```

Definition at line 138 of file `iterator.h`.

References `get_const_begin__impl()`.

Referenced by `Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Intersect()`, and `Rcpp::sugar::Union< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Union()`.

Here is the call graph for this function:

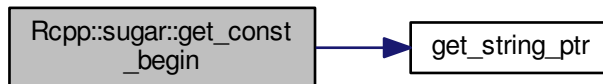


**5.9.2.52** `template<> SEXP* Rcpp::sugar::get_const_begin ( const CharacterVector & obj ) [inline]`

Definition at line 143 of file `iterator.h`.

References `get_string_ptr()`.

Here is the call graph for this function:



**5.9.2.53** `template<typename T> sugar_const_iterator_type<T>::type Rcpp::sugar::get_const_begin_impl ( const T & obj, Rcpp::traits::true_type ) [inline]`

Definition at line 126 of file `iterator.h`.

Referenced by `get_const_begin()`.

**5.9.2.54** `template<typename T> sugar_const_iterator_type<T>::type Rcpp::sugar::get_const_begin_impl ( const T & obj, Rcpp::traits::false_type ) [inline]`

Definition at line 130 of file `iterator.h`.

5.9.2.55 `template<typename T > sugar_const_iterator_type<T>::type Rcpp::sugar::get_const_end ( const T & obj )`  
`[inline]`

Definition at line 148 of file iterator.h.

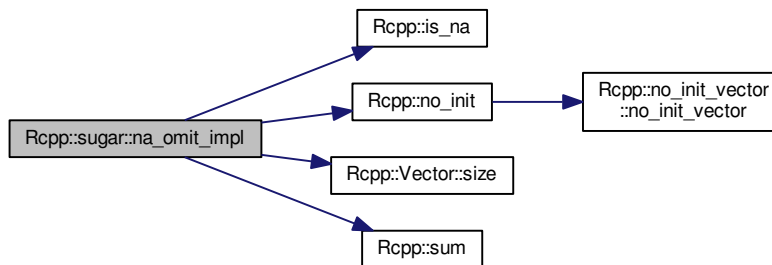
Referenced by `Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Intersect()`, and `Rcpp::sugar::Union< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Union()`.

5.9.2.56 `template<int RTYPE, bool NA, typename T > Vector<RTYPE> Rcpp::sugar::na_omit_impl ( const T & x, Rcpp::traits::false_type )`

Definition at line 29 of file na\_omit.h.

References `Rcpp::is_na()`, `Rcpp::no_init()`, `Rcpp::Vector< RTYPE, StoragePolicy >::size()`, and `Rcpp::sum()`.

Here is the call graph for this function:

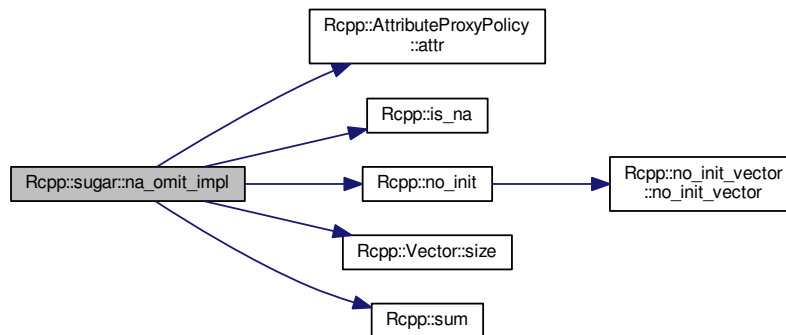


5.9.2.57 `template<int RTYPE, bool NA, typename T > Vector<RTYPE> Rcpp::sugar::na_omit_impl ( const T & x, Rcpp::traits::true_type )`

Definition at line 44 of file na\_omit.h.

References `Rcpp::AttributeProxyPolicy< CLASS >::attr()`, `Rcpp::is_na()`, `Rcpp::no_init()`, `Rcpp::Vector< RTYPE, StoragePolicy >::size()`, and `Rcpp::sum()`.

Here is the call graph for this function:



## 5.10 Rcpp::sugar::cbind\_impl Namespace Reference

### Namespaces

- [detail](#)

### Classes

- class [BindableExpression](#)
- struct [cbind\\_sexptype\\_traits](#)
- struct [cbind\\_sexptype\\_traits< SEXP >](#)
- struct [cbind\\_storage\\_type](#)
- struct [cbind\\_storage\\_type< LGLSXP >](#)
- class [ContainerBindable](#)
- class [JoinOp](#)
- class [JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type >>](#)
- class [JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >](#)
- class [JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type >>](#)
- struct [matrix\\_return](#)
- struct [matrix\\_return< T, false >](#)
- struct [scalar](#)
- class [ScalarBindable](#)

## Functions

- `template<int RTYPE>`  
[ContainerBindable](#)< RTYPE, [Rcpp::Matrix](#)< RTYPE > > [MakeContainerBindable](#) (const [Rcpp::Matrix](#)< RTYPE > &x)
- `template<int RTYPE>`  
[ContainerBindable](#)< RTYPE, [Rcpp::Vector](#)< RTYPE > > [MakeContainerBindable](#) (const [Rcpp::Vector](#)< RTYPE > &x)
- `template<>`  
[ContainerBindable](#)< LGLSXP, [Rcpp::Matrix](#)< LGLSXP > > [MakeContainerBindable](#) (const [Rcpp::Matrix](#)< LGLSXP > &x)
- `template<>`  
[ContainerBindable](#)< LGLSXP, [Rcpp::Vector](#)< LGLSXP > > [MakeContainerBindable](#) (const [Rcpp::Vector](#)< LGLSXP > &x)
- `template<typename T >`  
[ScalarBindable](#)< T > [MakeScalarBindable](#) (const T &t)
- `template<int RTYPE, typename E1 , typename E2 >`  
[JoinOp](#)< RTYPE, E1, E2 > [operator](#), (const [BindableExpression](#)< RTYPE, E1 > &e1, const [BindableExpression](#)< RTYPE, E2 > &e2)

### 5.10.1 Function Documentation

5.10.1.1 `template<int RTYPE> ContainerBindable<RTYPE, Rcpp::Matrix<RTYPE> >`  
[Rcpp::sugar::cbind\\_impl::MakeContainerBindable](#) ( const [Rcpp::Matrix](#)< RTYPE > & x ) `[inline]`

Definition at line 331 of file `cbind.h`.

Referenced by `Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, true >::operator()()`, `Rcpp::sugar::cbind_impl::detail::MakeBindableCall< Rcpp::Matrix< LGLSXP >, true >::operator()()`, and `Rcpp::sugar::cbind_impl::detail::MakeBindableCall< Rcpp::Vector< LGLSXP >, true >::operator()()`.

5.10.1.2 `template<int RTYPE> ContainerBindable<RTYPE, Rcpp::Vector<RTYPE> >`  
[Rcpp::sugar::cbind\\_impl::MakeContainerBindable](#) ( const [Rcpp::Vector](#)< RTYPE > & x ) `[inline]`

Definition at line 337 of file `cbind.h`.

5.10.1.3 `template<> ContainerBindable<LGLSXP, Rcpp::Matrix<LGLSXP> >`  
[Rcpp::sugar::cbind\\_impl::MakeContainerBindable](#) ( const [Rcpp::Matrix](#)< LGLSXP > & x ) `[inline]`

Definition at line 343 of file `cbind.h`.

5.10.1.4 `template<> ContainerBindable<LGLSXP, Rcpp::Vector<LGLSXP> >`  
[Rcpp::sugar::cbind\\_impl::MakeContainerBindable](#) ( const [Rcpp::Vector](#)< LGLSXP > & x ) `[inline]`

Definition at line 349 of file `cbind.h`.



5.10.1.5 `template<typename T> ScalarBindable<T> Rcpp::sugar::cbind_impl::MakeScalarBindable ( const T & t )`  
`[inline]`

Definition at line 355 of file cbind.h.

Referenced by `Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, false >::operator()()`.

5.10.1.6 `template<int RTYPE, typename E1 , typename E2 > JoinOp<RTYPE, E1, E2> Rcpp::sugar::cbind_impl::operator, (`  
`const BindableExpression< RTYPE, E1 > & e1, const BindableExpression< RTYPE, E2 > & e2 ) [inline]`

Definition at line 361 of file cbind.h.

## 5.11 Rcpp::sugar::cbind\_impl::detail Namespace Reference

### Classes

- class [has\\_stored\\_type](#)
- struct [MakeBindableCall](#)
- struct [MakeBindableCall< Rcpp::Matrix< LGLSXP >, true >](#)
- struct [MakeBindableCall< Rcpp::Vector< LGLSXP >, true >](#)
- struct [MakeBindableCall< T, false >](#)
- struct [MakeBindableCall< T, true >](#)
- struct [matrix\\_return](#)
- struct [matrix\\_return< bool, false >](#)
- struct [matrix\\_return< Rcpp::Matrix< LGLSXP >, true >](#)
- struct [matrix\\_return< Rcpp::Vector< LGLSXP >, true >](#)
- struct [matrix\\_return< T, false >](#)
- struct [matrix\\_return< T, true >](#)

### Functions

- `template<typename T >`  
[Rcpp::traits::enable\\_if< has\\_stored\\_type< T >::value, MakeBindableCall< T, true > >::type MakeBindable](#)  
`(const T &t)`
- `template<typename T >`  
[Rcpp::traits::enable\\_if< !has\\_stored\\_type< T >::value, MakeBindableCall< T, false > >::type MakeBindable](#)  
`(const T &t)`

### 5.11.1 Function Documentation

5.11.1.1 `template<typename T > Rcpp::traits::enable_if< has_stored_type<T>::value, MakeBindableCall<T, true>`  
`>::type Rcpp::sugar::cbind_impl::detail::MakeBindable ( const T & t ) [inline]`

Definition at line 446 of file cbind.h.

5.11.1.2 `template<typename T> Rcpp::traits::enable_if<!has_stored_type<T>::value, MakeBindableCall<T, false>>::type Rcpp::sugar::cbind_impl::detail::MakeBindable( const T & t ) [inline]`

Definition at line 455 of file cbind.h.

## 5.12 Rcpp::sugar::detail Namespace Reference

### Classes

- struct [ColMeansReturn](#)
- struct [ColSumsReturn](#)
- struct [RowMeansReturn](#)
- struct [RowMeansReturn< CPLXSXP >](#)
- struct [RowSumsReturn](#)
- struct [RowSumsReturn< LGLSXP >](#)

### Functions

- bool [check\\_na](#) (double x)
- bool [check\\_na](#) (int x)
- bool [check\\_na](#) (Rboolean x)
- bool [check\\_na](#) (SEXP x)
- bool [check\\_na](#) (Rcomplex x)
- void [incr](#) (double \*lhs, double rhs)
- void [incr](#) (int \*lhs, int rhs)
- void [incr](#) (Rcomplex \*lhs, const Rcomplex &rhs)
- void [div](#) (double \*lhs, R\_xlen\_t rhs)
- void [div](#) (Rcomplex \*lhs, R\_xlen\_t rhs)
- void [set\\_nan](#) (double \*x)
- void [set\\_nan](#) (Rcomplex \*x)

### 5.12.1 Function Documentation

5.12.1.1 `bool Rcpp::sugar::detail::check_na( double x ) [inline]`

Definition at line 30 of file rowSums.h.

Referenced by `Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >::get()`, and `Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >::get()`.

5.12.1.2 `bool Rcpp::sugar::detail::check_na( int x ) [inline]`

Definition at line 34 of file rowSums.h.

5.12.1.3 `bool Rcpp::sugar::detail::check_na ( Rboolean x ) [inline]`

Definition at line 38 of file rowSums.h.

5.12.1.4 `bool Rcpp::sugar::detail::check_na ( SEXP x ) [inline]`

Definition at line 42 of file rowSums.h.

5.12.1.5 `bool Rcpp::sugar::detail::check_na ( Rcomplex x ) [inline]`

Definition at line 46 of file rowSums.h.

5.12.1.6 `void Rcpp::sugar::detail::div ( double * lhs, R_xlen_t rhs ) [inline]`

Definition at line 65 of file rowSums.h.

Referenced by `Rcpp::sugar::RowMeansImpl< RTYPE, false, T, false >::get()`, `Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::ColMeansImpl< RTYPE, false, T, false >::get()`, and `Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >::get()`.

5.12.1.7 `void Rcpp::sugar::detail::div ( Rcomplex * lhs, R_xlen_t rhs ) [inline]`

Definition at line 69 of file rowSums.h.

5.12.1.8 `void Rcpp::sugar::detail::incr ( double * lhs, double rhs ) [inline]`

Definition at line 51 of file rowSums.h.

Referenced by `Rcpp::sugar::RowSumsImpl< RTYPE, false, T, false >::get()`, `Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::ColSumsImpl< RTYPE, false, T, false >::get()`, `Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::RowMeansImpl< RTYPE, false, T, false >::get()`, `Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::ColMeansImpl< RTYPE, false, T, false >::get()`, and `Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >::get()`.

5.12.1.9 `void Rcpp::sugar::detail::incr ( int * lhs, int rhs ) [inline]`

Definition at line 55 of file rowSums.h.

5.12.1.10 `void Rcpp::sugar::detail::incr ( Rcomplex * lhs, const Rcomplex & rhs ) [inline]`

Definition at line 59 of file rowSums.h.

5.12.1.11 `void Rcpp::sugar::detail::set_nan ( double * x ) [inline]`

Definition at line 75 of file rowSums.h.

Referenced by `Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >::get()`, and `Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >::get()`.

5.12.1.12 `void Rcpp::sugar::detail::set_nan ( Rcomplex * x ) [inline]`

Definition at line 79 of file rowSums.h.

## 5.13 Rcpp::sugar::median\_detail Namespace Reference

### Classes

- struct [result](#)
- struct [result< INTSXP >](#)
- struct [result< STRSXP >](#)

### Functions

- template<typename T >  
bool [less](#) (T lhs, T rhs)
- template<>  
bool [less< Rcomplex >](#) (Rcomplex lhs, Rcomplex rhs)
- double [half](#) (double lhs)
- double [half](#) (int lhs)
- Rcomplex [half](#) (Rcomplex lhs)

### 5.13.1 Function Documentation

5.13.1.1 `double Rcpp::sugar::median_detail::half ( double lhs ) [inline]`

Definition at line 69 of file median.h.

Referenced by `Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >::operator result_type()`, `Rcpp::sugar::Median< RT↔YPE, NA, T, true >::operator result_type()`, and `Rcpp::sugar::Median< RTYPE, false, T, NA_RM >::operator result_↔type()`.

5.13.1.2 `double Rcpp::sugar::median_detail::half ( int lhs ) [inline]`

Definition at line 73 of file median.h.

5.13.1.3 `Rcomplex Rcpp::sugar::median_detail::half ( Rcomplex lhs ) [inline]`

Definition at line 77 of file median.h.

5.13.1.4 `template<typename T > bool Rcpp::sugar::median_detail::less ( T lhs, T rhs ) [inline]`

Definition at line 55 of file median.h.

5.13.1.5 `template<> bool Rcpp::sugar::median_detail::less< Rcomplex > ( Rcomplex lhs, Rcomplex rhs ) [inline]`

Definition at line 60 of file median.h.

## 5.14 Rcpp::traits Namespace Reference

traits used to dispatch wrap

### Classes

- struct [\\_\\_sfinae\\_types](#)
- class [\\_has\\_iterator\\_helper](#)
- class [\\_has\\_matrix\\_interface\\_helper](#)
- class [\\_has\\_rtype\\_helper](#)
- class [\\_is\\_eigen\\_helper](#)
- class [\\_is\\_exporter\\_helper](#)
- class [\\_is\\_generator\\_helper](#)
- class [\\_is\\_importer\\_helper](#)
- class [\\_is\\_sugar\\_expression\\_helper](#)
- struct [both](#)
- struct [char\\_type](#)
- struct [char\\_type< const char \\* >](#)
- struct [char\\_type< const wchar\\_t \\* >](#)
- struct [container\\_exporter< Container, double >](#)
- struct [container\\_exporter< Container, int >](#)
- class [ContainerExporter](#)
- struct [enable\\_if](#)
- struct [enable\\_if< true, T >](#)
- struct [expands\\_to\\_logical](#)
- struct [expands\\_to\\_logical\\_\\_impl](#)
- struct [expands\\_to\\_logical\\_\\_impl< LGLSXP >](#)
- struct [Extractor](#)
- struct [has\\_iterator](#)
- struct [has\\_na](#)
- struct [has\\_na< CPLXSXP >](#)
- struct [has\\_na< INTSXP >](#)

- struct [has\\_na](#)< LGLSXP >
- struct [has\\_na](#)< REALSXP >
- struct [has\\_na](#)< STRSXP >
- struct [identity](#)
- struct [if\\_](#)
- struct [if\\_](#)< false, LHS, RHS >
- struct [init\\_type](#)
- struct [init\\_type](#)< LGLSXP >
- struct [init\\_type](#)< STRSXP >
- struct [input\\_parameter](#)
- struct [input\\_parameter](#)< const T & >
- struct [input\\_parameter](#)< const T >
- struct [input\\_parameter](#)< T & >
- struct [int2type](#)
- struct [integral\\_constant](#)
- struct [is\\_arithmetic](#)
- struct [is\\_arithmetic](#)< const double >
- struct [is\\_arithmetic](#)< const float >
- struct [is\\_arithmetic](#)< const int >
- struct [is\\_arithmetic](#)< const long >
- struct [is\\_arithmetic](#)< const long double >
- struct [is\\_arithmetic](#)< const short >
- struct [is\\_arithmetic](#)< const unsigned int >
- struct [is\\_arithmetic](#)< const unsigned long >
- struct [is\\_arithmetic](#)< const unsigned short >
- struct [is\\_arithmetic](#)< double >
- struct [is\\_arithmetic](#)< float >
- struct [is\\_arithmetic](#)< int >
- struct [is\\_arithmetic](#)< long >
- struct [is\\_arithmetic](#)< long double >
- struct [is\\_arithmetic](#)< short >
- struct [is\\_arithmetic](#)< unsigned int >
- struct [is\\_arithmetic](#)< unsigned long >
- struct [is\\_arithmetic](#)< unsigned short >
- struct [is\\_bool](#)
- struct [is\\_bool](#)< bool >
- struct [is\\_bool](#)< const bool >
- struct [is\\_bool](#)< volatile bool >
- struct [is\\_const](#)
- type properties [4.5.3].*
- struct [is\\_const](#)< \_Tp const >
- class [is\\_convertible](#)
- struct [is\\_eigen\\_base](#)
- struct [is\\_exporter](#)
- struct [is\\_generator](#)
- struct [is\\_importer](#)
- struct [is\\_module\\_object](#)
- struct [is\\_named](#)
- struct [is\\_named](#)< named\_object< T > >
- struct [is\\_named](#)< Rcpp::Argument >

- struct [is\\_pointer](#)
- struct [is\\_pointer< T \\* >](#)
- struct [is\\_primitive](#)
- struct [is\\_reference](#)
- struct [is\\_reference< \\_Tp & >](#)
- struct [is\\_sugar\\_expression](#)
- struct [is\\_trivial](#)
- struct [is\\_trivial< EXPRXP >](#)
- struct [is\\_trivial< VECSXP >](#)
- struct [is\\_wide\\_string](#)
- struct [is\\_wide\\_string< char >](#)
- struct [is\\_wide\\_string< const char \\* >](#)
- struct [is\\_wide\\_string< const wchar\\_t \\* >](#)
- struct [is\\_wide\\_string< wchar\\_t >](#)
- struct [matrix\\_interface](#)
- struct [module\\_wrap\\_traits](#)
- struct [module\\_wrap\\_traits< T \\* >](#)
- struct [module\\_wrap\\_traits< void >](#)
- class [named\\_object](#)
- class [named\\_object< SEXP >](#)
- struct [needs\\_protection](#)
- struct [needs\\_protection< SEXP >](#)
- struct [normal\\_wrap\\_tag](#)
- struct [num2type](#)
- struct [pointer\\_wrap\\_tag](#)
- struct [proxy\\_based\\_const\\_iterator](#)
- struct [proxy\\_based\\_iterator](#)
- class [proxy\\_cache](#)
- struct [r\\_sexptype\\_needs cast](#)
- struct [r\\_sexptype\\_needs cast< double >](#)
- struct [r\\_sexptype\\_needs cast< int >](#)
- struct [r\\_sexptype\\_needs cast< Rbyte >](#)
- struct [r\\_sexptype\\_needs cast< Rcomplex >](#)
- struct [r\\_sexptype\\_traits](#)
- struct [r\\_sexptype\\_traits< bool >](#)
- struct [r\\_sexptype\\_traits< const double >](#)
- struct [r\\_sexptype\\_traits< const int >](#)
- struct [r\\_sexptype\\_traits< double >](#)
- struct [r\\_sexptype\\_traits< float >](#)
- struct [r\\_sexptype\\_traits< int >](#)
- struct [r\\_sexptype\\_traits< long >](#)
- struct [r\\_sexptype\\_traits< long double >](#)
- struct [r\\_sexptype\\_traits< Rbyte >](#)
- struct [r\\_sexptype\\_traits< Rcomplex >](#)
- struct [r\\_sexptype\\_traits< Rcpp::Date >](#)
- struct [r\\_sexptype\\_traits< Rcpp::Datetime >](#)
- struct [r\\_sexptype\\_traits< Rcpp::String >](#)
- struct [r\\_sexptype\\_traits< short >](#)
- struct [r\\_sexptype\\_traits< std::complex< double > >](#)
- struct [r\\_sexptype\\_traits< std::complex< float > >](#)
- struct [r\\_sexptype\\_traits< std::string >](#)

- struct [r\\_sexptype\\_traits< unsigned int >](#)
- struct [r\\_sexptype\\_traits< unsigned long >](#)
- struct [r\\_sexptype\\_traits< unsigned short >](#)
- struct [r\\_type\\_enum\\_tag](#)
- struct [r\\_type\\_generic\\_tag](#)
- struct [r\\_type\\_module\\_object\\_const\\_pointer\\_tag](#)
- struct [r\\_type\\_module\\_object\\_const\\_reference\\_tag](#)
- struct [r\\_type\\_module\\_object\\_pointer\\_tag](#)
- struct [r\\_type\\_module\\_object\\_reference\\_tag](#)
- struct [r\\_type\\_module\\_object\\_tag](#)
- struct [r\\_type\\_pair\\_tag](#)
- struct [r\\_type\\_pairstring\\_generic\\_tag](#)
- struct [r\\_type\\_pairstring\\_primitive\\_tag](#)
- struct [r\\_type\\_pairstring\\_string\\_tag](#)
- struct [r\\_type\\_primitive\\_tag](#)
- struct [r\\_type\\_RcppString\\_tag](#)
- struct [r\\_type\\_string\\_tag](#)
- struct [r\\_type\\_traits](#)
- struct [r\\_type\\_traits< bool >](#)
- struct [r\\_type\\_traits< char >](#)
- struct [r\\_type\\_traits< const char \\* >](#)
- struct [r\\_type\\_traits< const double >](#)
- struct [r\\_type\\_traits< const int >](#)
- struct [r\\_type\\_traits< const wchar\\_t \\* >](#)
- struct [r\\_type\\_traits< double >](#)
- struct [r\\_type\\_traits< float >](#)
- struct [r\\_type\\_traits< int >](#)
- struct [r\\_type\\_traits< long >](#)
- struct [r\\_type\\_traits< long double >](#)
- struct [r\\_type\\_traits< Rbyte >](#)
- struct [r\\_type\\_traits< Rcomplex >](#)
- struct [r\\_type\\_traits< Rcpp::Date >](#)
- struct [r\\_type\\_traits< Rcpp::Datetime >](#)
- struct [r\\_type\\_traits< Rcpp::object< T > >](#)
- struct [r\\_type\\_traits< Rcpp::String >](#)
- struct [r\\_type\\_traits< short >](#)
- struct [r\\_type\\_traits< std::complex< double > >](#)
- struct [r\\_type\\_traits< std::complex< float > >](#)
- struct [r\\_type\\_traits< std::pair< const KEY, VALUE > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, bool > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, char > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, const int > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, double > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, float > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, int > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, long > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, long double > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, Rbyte > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, Rcomplex > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, Rcpp::Date > >](#)
- struct [r\\_type\\_traits< std::pair< const std::string, Rcpp::Datetime > >](#)



- struct `r_type_traits< std::pair< const std::string, short > >`
- struct `r_type_traits< std::pair< const std::string, std::complex< double > > >`
- struct `r_type_traits< std::pair< const std::string, std::complex< float > > >`
- struct `r_type_traits< std::pair< const std::string, std::string > >`
- struct `r_type_traits< std::pair< const std::string, std::wstring > >`
- struct `r_type_traits< std::pair< const std::string, T > >`
- struct `r_type_traits< std::pair< const std::string, unsigned int > >`
- struct `r_type_traits< std::pair< const std::string, unsigned long > >`
- struct `r_type_traits< std::pair< const std::string, unsigned short > >`
- struct `r_type_traits< std::pair< const std::string, wchar_t > >`
- struct `r_type_traits< std::string >`
- struct `r_type_traits< std::wstring >`
- struct `r_type_traits< unsigned int >`
- struct `r_type_traits< unsigned long >`
- struct `r_type_traits< unsigned short >`
- struct `r_type_traits< wchar_t >`
- class `r_vector_cache`
- struct `r_vector_cache_type`
- struct `r_vector_cache_type< EXPRXP, StoragePolicy >`
- struct `r_vector_cache_type< STRXP, StoragePolicy >`
- struct `r_vector_cache_type< VECSXP, StoragePolicy >`
- struct `r_vector_const_iterator`
- struct `r_vector_const_iterator< EXPRXP >`
- struct `r_vector_const_iterator< STRXP >`
- struct `r_vector_const_iterator< VECSXP >`
- struct `r_vector_const_proxy`
- struct `r_vector_const_proxy< EXPRXP >`
- struct `r_vector_const_proxy< STRXP >`
- struct `r_vector_const_proxy< VECSXP >`
- struct `r_vector_element_converter`
- struct `r_vector_element_converter< EXPRXP >`
- struct `r_vector_element_converter< STRXP >`
- struct `r_vector_element_converter< VECSXP >`
- struct `r_vector_iterator`
- struct `r_vector_iterator< EXPRXP >`
- struct `r_vector_iterator< STRXP >`
- struct `r_vector_iterator< VECSXP >`
- struct `r_vector_name_proxy`
- struct `r_vector_name_proxy< EXPRXP >`
- struct `r_vector_name_proxy< STRXP >`
- struct `r_vector_name_proxy< VECSXP >`
- struct `r_vector_proxy`
- struct `r_vector_proxy< EXPRXP >`
- struct `r_vector_proxy< STRXP >`
- struct `r_vector_proxy< VECSXP >`
- struct `remove_const`
  - *const-volatile modifications [4.7.1].*
- struct `remove_const< _Tp const >`
- struct `remove_const_and_reference`
- struct `remove_reference`

*reference modifications [4.7.2].*

- struct [remove\\_reference](#)< \_Tp & >
- struct [result\\_of](#)
- struct [result\\_of](#)< RESULT\_TYPE(\*) (INPUT\_TYPE) >
- struct [result\\_of](#)< RESULT\_TYPE(\*) (U1, U2) >
- struct [result\\_of](#)< RESULT\_TYPE(\*) (U1, U2, U3) >
- struct [same\\_type](#)
- struct [same\\_type](#)< T, T >
- struct [storage\\_type](#)
- struct [storage\\_type](#)< CPLXSP >
- struct [storage\\_type](#)< INTSP >
- struct [storage\\_type](#)< LGLSP >
- struct [storage\\_type](#)< RAWSP >
- struct [storage\\_type](#)< REALSP >
- struct [un\\_pointer](#)
- struct [un\\_pointer](#)< object< T > >
- struct [un\\_pointer](#)< T \* >
- struct [void\\_wrap\\_tag](#)
- struct [wrap\\_type\\_char\\_array](#)
- struct [wrap\\_type\\_enum\\_tag](#)
- struct [wrap\\_type\\_module\\_object\\_pointer\\_tag](#)
- struct [wrap\\_type\\_module\\_object\\_tag](#)
- struct [wrap\\_type\\_primitive\\_tag](#)
- struct [wrap\\_type\\_traits](#)
- struct [wrap\\_type\\_traits](#)< bool >
- struct [wrap\\_type\\_traits](#)< char >
- struct [wrap\\_type\\_traits](#)< char[N]>
- struct [wrap\\_type\\_traits](#)< const char[N]>
- struct [wrap\\_type\\_traits](#)< const int >
- struct [wrap\\_type\\_traits](#)< double >
- struct [wrap\\_type\\_traits](#)< float >
- struct [wrap\\_type\\_traits](#)< int >
- struct [wrap\\_type\\_traits](#)< long >
- struct [wrap\\_type\\_traits](#)< long double >
- struct [wrap\\_type\\_traits](#)< Rbyte >
- struct [wrap\\_type\\_traits](#)< Rcomplex >
- struct [wrap\\_type\\_traits](#)< Rcpp::Date >
- struct [wrap\\_type\\_traits](#)< Rcpp::Datetime >
- struct [wrap\\_type\\_traits](#)< Rcpp::object< T > >
- struct [wrap\\_type\\_traits](#)< Rcpp::String >
- struct [wrap\\_type\\_traits](#)< short >
- struct [wrap\\_type\\_traits](#)< std::complex< double > >
- struct [wrap\\_type\\_traits](#)< std::complex< float > >
- struct [wrap\\_type\\_traits](#)< std::string >
- struct [wrap\\_type\\_traits](#)< std::wstring >
- struct [wrap\\_type\\_traits](#)< unsigned int >
- struct [wrap\\_type\\_traits](#)< unsigned long >
- struct [wrap\\_type\\_traits](#)< unsigned short >
- struct [wrap\\_type\\_traits](#)< wchar\_t >
- struct [wrap\\_type\\_unknown\\_tag](#)

## Typedefs

- typedef [integral\\_constant](#)< bool, true > [true\\_type](#)
- typedef [integral\\_constant](#)< bool, false > [false\\_type](#)

## Functions

- template<int RTYPE>  
[storage\\_type](#)< RTYPE >::type [get\\_na](#) ()
- template<>  
int [get\\_na](#)< INTSXP > ()
- template<>  
int [get\\_na](#)< LGLSXP > ()
- template<>  
double [get\\_na](#)< REALSXP > ()
- template<>  
Rcomplex [get\\_na](#)< CPLXSXP > ()
- template<>  
SEXP [get\\_na](#)< STRSXP > ()
- template<>  
SEXP [get\\_na](#)< VECSXP > ()
- template<int RTYPE>  
bool [is\\_finite](#) (typename [storage\\_type](#)< RTYPE >::type)
- template<>  
bool [is\\_finite](#)< INTSXP > (int x)
- template<>  
bool [is\\_finite](#)< REALSXP > (double x)
- template<>  
bool [is\\_finite](#)< CPLXSXP > (Rcomplex x)
- template<>  
bool [is\\_finite](#)< STRSXP > (SEXP)
- template<>  
bool [is\\_finite](#)< LGLSXP > (int x)
- template<int RTYPE>  
bool [is\\_infinite](#) (typename [storage\\_type](#)< RTYPE >::type)
- template<>  
bool [is\\_infinite](#)< REALSXP > (double x)
- template<>  
bool [is\\_infinite](#)< CPLXSXP > (Rcomplex x)
- template<int RTYPE>  
bool [is\\_na](#) (typename [storage\\_type](#)< RTYPE >::type)
- template<>  
bool [is\\_na](#)< INTSXP > (int x)
- template<>  
bool [is\\_na](#)< REALSXP > (double x)
- template<>  
bool [is\\_na](#)< CPLXSXP > (Rcomplex x)
- template<>  
bool [is\\_na](#)< STRSXP > (SEXP x)
- template<>  
bool [is\\_na](#)< LGLSXP > (int x)

- `template<int RTYPE>`  
`bool is_nan (typename storage_type< RTYPE >::type)`
- `template<>`  
`bool is_nan< REALSXP > (double x)`
- `template<>`  
`bool is_nan< CPLXSXP > (Rcomplex x)`

### 5.14.1 Detailed Description

traits used to dispatch wrap

### 5.14.2 Typedef Documentation

#### 5.14.2.1 `typedef integral_constant<bool, false> Rcpp::traits::false_type`

Definition at line 35 of file `integral_constant.h`.

#### 5.14.2.2 `typedef integral_constant<bool, true> Rcpp::traits::true_type`

Definition at line 34 of file `integral_constant.h`.

### 5.14.3 Function Documentation

#### 5.14.3.1 `template<int RTYPE> storage_type<RTYPE>::type Rcpp::traits::get_na ( )`

#### 5.14.3.2 `template<> Rcomplex Rcpp::traits::get_na< CPLXSXP > ( ) [inline]`

Definition at line 42 of file `get_na.h`.

#### 5.14.3.3 `template<> int Rcpp::traits::get_na< INTSXP > ( ) [inline]`

Definition at line 33 of file `get_na.h`.

#### 5.14.3.4 `template<> int Rcpp::traits::get_na< LGLSXP > ( ) [inline]`

Definition at line 36 of file `get_na.h`.

5.14.3.5 `template<> double Rcpp::traits::get_na< REALSXP > ( ) [inline]`

Definition at line 39 of file `get_na.h`.

Referenced by `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >::operator[]()`.

5.14.3.6 `template<> SEXP Rcpp::traits::get_na< STRSXP > ( ) [inline]`

Definition at line 50 of file `get_na.h`.

Referenced by `Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >::operator result_type()`, `Rcpp::sugar::Median< STRSXP, NA, T, true >::operator result_type()`, and `Rcpp::sugar::Median< STRSXP, false, T, true >::operator result_type()`.

5.14.3.7 `template<> SEXP Rcpp::traits::get_na< VECSXP > ( ) [inline]`

Definition at line 54 of file `get_na.h`.

5.14.3.8 `template<int RTYPE> bool Rcpp::traits::is_finite ( typename storage_type< RTYPE >::type )`

5.14.3.9 `template<> bool Rcpp::traits::is_finite< CPLXSXP > ( Rcomplex x ) [inline]`

Definition at line 44 of file `is_finite.h`.

5.14.3.10 `template<> bool Rcpp::traits::is_finite< INTSXP > ( int x ) [inline]`

Definition at line 34 of file `is_finite.h`.

5.14.3.11 `template<> bool Rcpp::traits::is_finite< LGLSXP > ( int x ) [inline]`

Definition at line 54 of file `is_finite.h`.

5.14.3.12 `template<> bool Rcpp::traits::is_finite< REALSXP > ( double x ) [inline]`

Definition at line 39 of file `is_finite.h`.

5.14.3.13 `template<> bool Rcpp::traits::is_finite< STRSXP > ( SEXP ) [inline]`

Definition at line 49 of file `is_finite.h`.

5.14.3.14 `template<int RTYPE> bool Rcpp::traits::is_infinite ( typename storage_type< RTYPE >::type )`

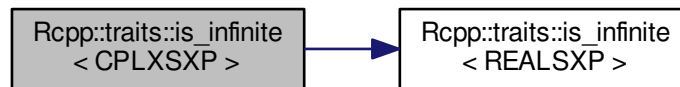
Definition at line 30 of file `is_infinite.h`.

5.14.3.15 `template<> bool Rcpp::traits::is_infinite< CPLXXP > ( Rcomplex x ) [inline]`

Definition at line 40 of file `is_infinite.h`.

References `is_infinite< REALSXP >()`.

Here is the call graph for this function:



5.14.3.16 `template<> bool Rcpp::traits::is_infinite< REALSXP > ( double x ) [inline]`

Definition at line 35 of file `is_infinite.h`.

Referenced by `is_infinite< CPLXXP >()`.

5.14.3.17 `template<int RTYPE> bool Rcpp::traits::is_na ( typename storage_type< RTYPE >::type )`

Definition at line 31 of file `is_na.h`.

5.14.3.18 `template<> bool Rcpp::traits::is_na< CPLXXP > ( Rcomplex x ) [inline]`

Definition at line 46 of file `is_na.h`.

Referenced by `Rcpp::sugar::not_< CPLXXP, NA >::apply()`, `Rcpp::sugar::unary_minus< CPLXXP, NA >::apply()`, and `Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::operator[]()`.

5.14.3.19 `template<> bool Rcpp::traits::is_na< INTSXP > ( int x ) [inline]`

Definition at line 36 of file `is_na.h`.

Referenced by `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >::operator[]()`.

5.14.3.20 `template<> bool Rcpp::traits::is_na< LGLSXP > ( int x ) [inline]`

Definition at line 57 of file `is_na.h`.

Referenced by `Rcpp::sugar::negate< NA >::apply()`, `Rcpp::sugar::All< NA, T >::apply()`, `Rcpp::sugar::Any< NA, T >::apply()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::SingleLogicalResult< false, Any< false, T > >::is_na()`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::operator[]()`, and `Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::operator[]()`.

5.14.3.21 `template<> bool Rcpp::traits::is_na< REALSXP > ( double x ) [inline]`

Definition at line 41 of file `is_na.h`.

Referenced by `Rcpp::sugar::not_< REALSXP, NA >::apply()`, `Rcpp::Datetime::is_na()`, `Rcpp::Date::is_na()`, `Rcpp::sugar::pmax_op< REALSXP, true, true >::operator()`, `Rcpp::sugar::pmin_op< REALSXP, true, true >::operator()`, `Rcpp::sugar::clamp_operator<REALSXP, true >::operator()`, `Rcpp::sugar::pmax_op_Vector_Primitive< REALSXP, true >::operator()`, and `Rcpp::sugar::pmin_op_Vector_Primitive< REALSXP, true >::operator()`.

5.14.3.22 `template<> bool Rcpp::traits::is_na< STRSXP > ( SEXP x ) [inline]`

Definition at line 52 of file `is_na.h`.

5.14.3.23 `template<int RTYPE> bool Rcpp::traits::is_nan ( typename storage_type< RTYPE >::type )`

Definition at line 30 of file `is_nan.h`.

5.14.3.24 `template<> bool Rcpp::traits::is_nan< CPLXSXP > ( Rcomplex x ) [inline]`

Definition at line 40 of file `is_nan.h`.

5.14.3.25 `template<> bool Rcpp::traits::is_nan< REALSXP > ( double x ) [inline]`

Definition at line 35 of file `is_nan.h`.

## 5.15 std Namespace Reference

## 5.16 tinyformat Namespace Reference

### Namespaces

- [detail](#)

## Classes

- class [FormatList](#)

## Typedefs

- typedef const [FormatList](#) & [FormatListRef](#)  
Reference to type-opaque format list for passing to [vformat\(\)](#)

## Functions

- template<typename T >  
void [formatValue](#) (std::ostream &out, const char \*, const char \*fmtEnd, int ntrunc, const T &value)
- [detail::FormatListN](#)< 0 > [makeFormatList](#) ()
- void [vformat](#) (std::ostream &out, const char \*fmt, [FormatListRef](#) list)
- void [format](#) (std::ostream &out, const char \*fmt)
- std::string [format](#) (const char \*fmt)
- void [printf](#) (const char \*fmt)
- void [printfln](#) (const char \*fmt)

### 5.16.1 Typedef Documentation

#### 5.16.1.1 typedef const [FormatList](#)& [tinyformat::FormatListRef](#)

Reference to type-opaque format list for passing to [vformat\(\)](#)

Definition at line 858 of file [tinyformat.h](#).

### 5.16.2 Function Documentation

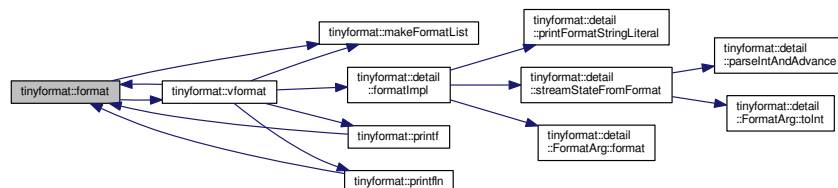
#### 5.16.2.1 void [tinyformat::format](#) ( std::ostream & *out*, const char \* *fmt* ) [inline]

Definition at line 991 of file [tinyformat.h](#).

References [makeFormatList\(\)](#), and [vformat\(\)](#).

Referenced by [format\(\)](#), [printf\(\)](#), [printfln\(\)](#), [Rcpp::stop\(\)](#), [vformat\(\)](#), and [Rcpp::warning\(\)](#).

Here is the call graph for this function:



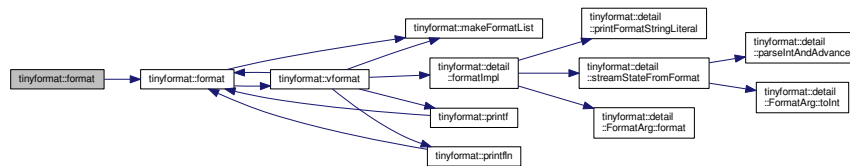


5.16.2.2 `std::string tinyformat::format ( const char * fmt ) [inline]`

Definition at line 996 of file tinyformat.h.

References `format()`.

Here is the call graph for this function:

5.16.2.3 `template<typename T> void tinyformat::formatValue ( std::ostream & out, const char * , const char * fmtEnd, int ntrunc, const T & value ) [inline]`

Format a value into a stream, delegating to `operator<<` by default.

Users may override this for their own types. When this function is called, the stream flags will have been modified according to the format string. The format specification is provided in the range [`fmtBegin`, `fmtEnd`). For truncating conversions, `ntrunc` is set to the desired maximum number of characters, for example `"%.7s"` calls `formatValue` with `ntrunc = 7`.

By default, `formatValue()` uses the usual stream insertion operator `operator<<` to format the type `T`, with special cases for the `c` and `p` conversions.

Definition at line 321 of file tinyformat.h.

References `tinyformat::detail::formatTruncated()`.

Referenced by `tinyformat::detail::FormatArg::formatImpl()`.

Here is the call graph for this function:

5.16.2.4 `detail::FormatListN<0> tinyformat::makeFormatList ( ) [inline]`

Definition at line 930 of file tinyformat.h.

Referenced by `format()`, `tinyformat::detail::FormatListN< 0 >::FormatListN()`, and `vformat()`.

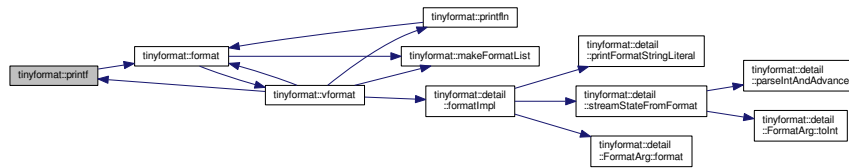
### 5.16.2.5 void tinyformat::printf ( const char \* *fmt* ) [inline]

Definition at line 1003 of file tinyformat.h.

References format().

Referenced by vformat().

Here is the call graph for this function:



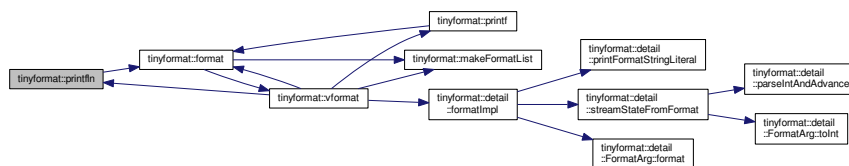
### 5.16.2.6 void tinyformat::printfln ( const char \* *fmt* ) [inline]

Definition at line 1008 of file tinyformat.h.

References format().

Referenced by vformat().

Here is the call graph for this function:



### 5.16.2.7 void tinyformat::vformat ( std::ostream & *out*, const char \* *fmt*, FormatListRef *list* ) [inline]

Format list of arguments to the stream according to the given format string.

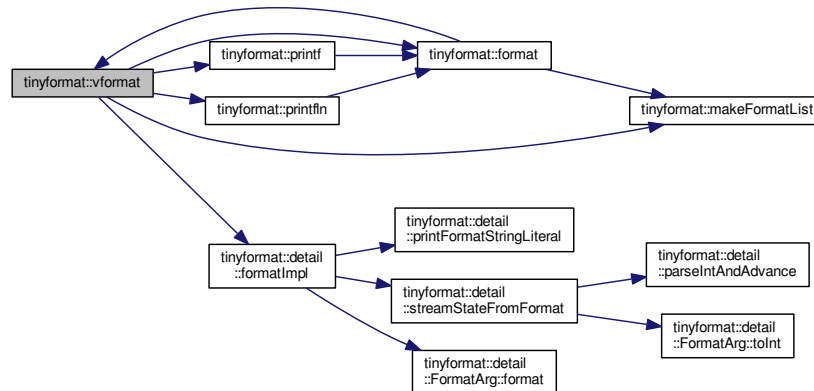
The name `vformat()` is chosen for the semantic similarity to `vprintf()`: the list of format arguments is held in a single function argument.

Definition at line 949 of file tinyformat.h.

References `format()`, `tinyformat::detail::formatImpl()`, `tinyformat::FormatList::m_formatters`, `tinyformat::FormatList::m_N`, `makeFormatList()`, `printf()`, and `printfn()`.

Referenced by `format()`, and `tinyformat::FormatList::FormatList()`.

Here is the call graph for this function:



## 5.17 tinyformat::detail Namespace Reference

### Classes

- struct [convertToInt](#)
- struct [convertToInt< T, true >](#)
- class [FormatArg](#)
- class [FormatListN](#)
- class [FormatListN< 0 >](#)
- struct [formatValueAsType](#)
- struct [formatValueAsType< T, fmtT, true >](#)
- struct [is\\_convertible](#)
- struct [is\\_wchar](#)
- struct [is\\_wchar< const wchar\\_t \\* >](#)
- struct [is\\_wchar< const wchar\\_t\[n\]>](#)
- struct [is\\_wchar< wchar\\_t \\* >](#)
- struct [is\\_wchar< wchar\\_t\[n\]>](#)

### Functions

- template<typename T >  
void [formatTruncated](#) (std::ostream &out, const T &value, int ntrunc)
- int [parseIntAndAdvance](#) (const char \*&c)
- const char \* [printFormatStringLiteral](#) (std::ostream &out, const char \*fmt)
- const char \* [streamStateFromFormat](#) (std::ostream &out, bool &spacePadPositive, int &ntrunc, const char \*fmt←Start, const [detail::FormatArg](#) \*formatters, int &argIndex, int numFormatters)
- void [formatImpl](#) (std::ostream &out, const char \*fmt, const [detail::FormatArg](#) \*formatters, int numFormatters)

### 5.17.1 Function Documentation

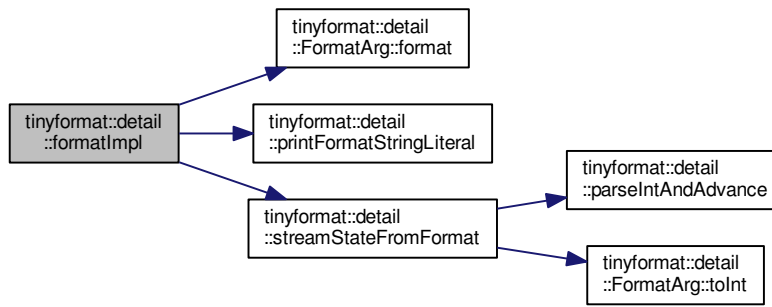
5.17.1.1 `void tinyformat::detail::formatImpl ( std::ostream & out, const char * fmt, const detail::FormatArg * formatters, int numFormatters ) [inline]`

Definition at line 776 of file tinyformat.h.

References `tinyformat::detail::FormatArg::format()`, `printFormatStringLiteral()`, `streamStateFromFormat()`, and `TINYFORMAT_ERROR`.

Referenced by `tinyformat::vformat()`.

Here is the call graph for this function:



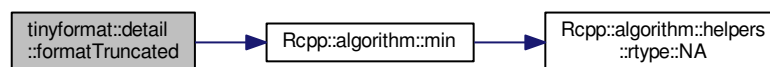
5.17.1.2 `template<typename T> void tinyformat::detail::formatTruncated ( std::ostream & out, const T & value, int ntrunc ) [inline]`

Definition at line 280 of file tinyformat.h.

References `Rcpp::algorithm::min()`.

Referenced by `tinyformat::formatValue()`.

Here is the call graph for this function:



5.17.1.3 `int tinyformat::detail::parseIntAndAdvance ( const char *& c ) [inline]`

Definition at line 547 of file tinyformat.h.

Referenced by `streamStateFromFormat()`.

5.17.1.4 `const char* tinyformat::detail::printFormatStringLiteral ( std::ostream & out, const char * fmt ) [inline]`

Definition at line 561 of file tinyformat.h.

Referenced by `formatImpl()`.

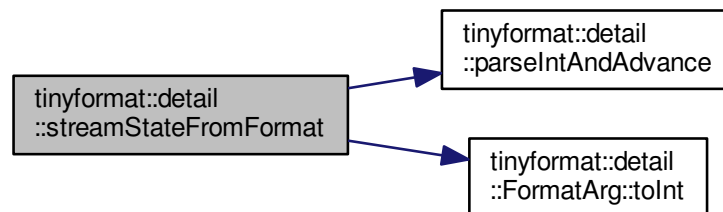
5.17.1.5 `const char* tinyformat::detail::streamStateFromFormat ( std::ostream & out, bool & spacePadPositive, int & ntrunc, const char * fmtStart, const detail::FormatArg * formatters, int & argIndex, int numFormatters ) [inline]`

Definition at line 593 of file tinyformat.h.

References `parseIntAndAdvance()`, `TINYFORMAT_ERROR`, and `tinyformat::detail::FormatArg::toInt()`.

Referenced by `formatImpl()`.

Here is the call graph for this function:





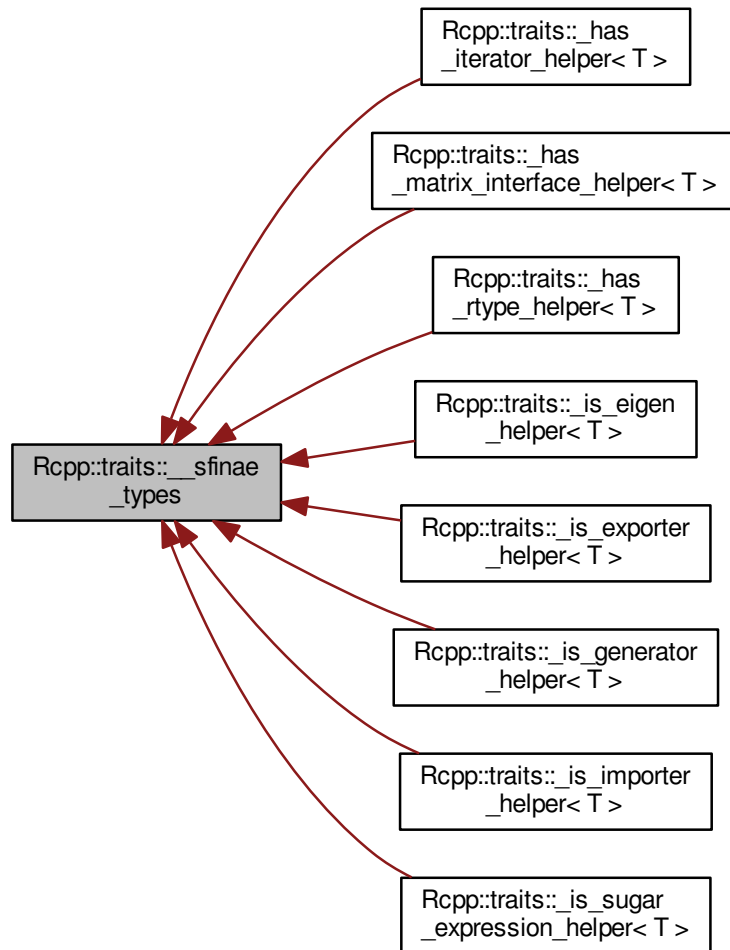
## Chapter 6

# Class Documentation

### 6.1 Rcpp::traits::\_\_sfinae\_types Struct Reference

```
#include <has_iterator.h>
```

Inheritance diagram for Rcpp::traits::\_\_sfniae\_types:



## Classes

- struct [\\_\\_two](#)

## Public Types

- typedef char [\\_\\_one](#)

### 6.1.1 Detailed Description

Definition at line 34 of file `has_iterator.h`.



## 6.1.2 Member Typedef Documentation

### 6.1.2.1 typedef char Rcpp::traits::\_\_sfn\_ypes::\_\_one

Definition at line 35 of file has\_iterator.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[has\\_iterator.h](#)

## 6.2 Rcpp::traits::\_\_sfn\_ypes::\_\_two Struct Reference

```
#include <has_iterator.h>
```

### Public Attributes

- char [\\_\\_arr](#) [2]

### 6.2.1 Detailed Description

Definition at line 36 of file has\_iterator.h.

### 6.2.2 Member Data Documentation

#### 6.2.2.1 char Rcpp::traits::\_\_sfn\_ypes::\_\_two::\_\_arr[2]

Definition at line 36 of file has\_iterator.h.

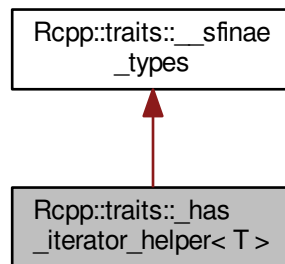
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[has\\_iterator.h](#)

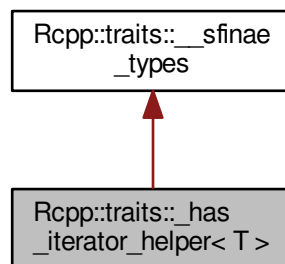
### 6.3 Rcpp::traits::\_has\_iterator\_helper< T > Class Template Reference

```
#include <has_iterator.h>
```

Inheritance diagram for Rcpp::traits::\_has\_iterator\_helper< T >:



Collaboration diagram for Rcpp::traits::\_has\_iterator\_helper< T >:



#### Classes

- struct [\\_Wrap\\_type](#)

#### Static Public Attributes

- static const bool [value](#) = sizeof([\\_\\_test](#)<T>(0)) == 1

## Static Private Member Functions

- `template<typename U >`  
`static __one__test ( _Wrap_type< typename U::iterator > *)`
- `template<typename U >`  
`static __two__test (...)`

## Additional Inherited Members

### 6.3.1 Detailed Description

```
template<typename T>  
class Rcpp::traits::_has_iterator_helper< T >
```

Definition at line 40 of file `has_iterator.h`.

### 6.3.2 Member Function Documentation

6.3.2.1 `template<typename T > template<typename U > static __one Rcpp::traits::_has_iterator_helper< T >::__test ( _Wrap_type< typename U::iterator > * )` `[static]`,`[private]`

6.3.2.2 `template<typename T > template<typename U > static __two Rcpp::traits::_has_iterator_helper< T >::__test ( ... )` `[static]`,`[private]`

### 6.3.3 Member Data Documentation

6.3.3.1 `template<typename T > const bool Rcpp::traits::_has_iterator_helper< T >::value = sizeof(__test<T>(0)) == 1`  
`[static]`

Definition at line 50 of file `has_iterator.h`.

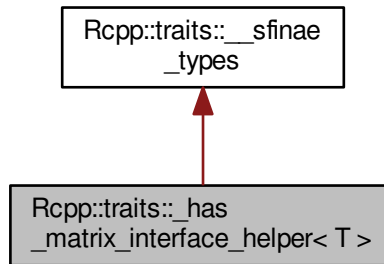
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/traits/has_iterator.h`

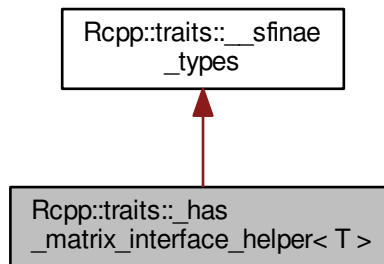
## 6.4 Rcpp::traits::\_has\_matrix\_interface\_helper< T > Class Template Reference

```
#include <matrix_interface.h>
```

Inheritance diagram for Rcpp::traits::\_has\_matrix\_interface\_helper< T >:



Collaboration diagram for Rcpp::traits::\_has\_matrix\_interface\_helper< T >:



### Classes

- struct [\\_Wrap\\_type](#)

### Static Public Attributes

- static const bool [value](#) = sizeof([\\_\\_test<T>\(0\)](#)) == 1

## Static Private Member Functions

- `template<typename U >`  
`static __one__test ( _Wrap_type< typename U:r_matrix_interface > *)`
- `template<typename U >`  
`static __two__test (...)`

## Additional Inherited Members

### 6.4.1 Detailed Description

```
template<typename T>  
class Rcpp::traits::_has_matrix_interface_helper< T >
```

Definition at line 33 of file `matrix_interface.h`.

### 6.4.2 Member Function Documentation

6.4.2.1 `template<typename T > template<typename U > static __one Rcpp::traits::_has_matrix_interface_helper< T >::__test ( _Wrap_type< typename U:r_matrix_interface > * ) [static],[private]`

6.4.2.2 `template<typename T > template<typename U > static __two Rcpp::traits::_has_matrix_interface_helper< T >::__test ( ... ) [static],[private]`

### 6.4.3 Member Data Documentation

6.4.3.1 `template<typename T > const bool Rcpp::traits::_has_matrix_interface_helper< T >::value = sizeof(__test<T>(0)) == 1 [static]`

Definition at line 43 of file `matrix_interface.h`.

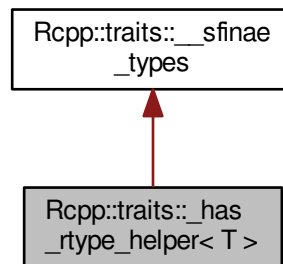
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/traits/matrix_interface.h`

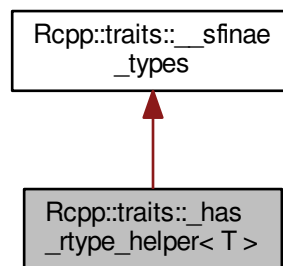
## 6.5 Rcpp::traits::\_has\_rtype\_helper< T > Class Template Reference

```
#include <expands_to_logical.h>
```

Inheritance diagram for Rcpp::traits::\_has\_rtype\_helper< T >:



Collaboration diagram for Rcpp::traits::\_has\_rtype\_helper< T >:



### Classes

- struct [\\_Wrap\\_type](#)

### Static Public Attributes

- static const bool `value` = `sizeof(__test<T>(0)) == 1`

## Static Private Member Functions

- `template<typename U >`  
`static __one__test ( _Wrap_type< typename U::r_expands_to_logical > *)`
- `template<typename U >`  
`static __two__test (...)`

## Additional Inherited Members

### 6.5.1 Detailed Description

```
template<typename T>  
class Rcpp::traits::_has_rtype_helper< T >
```

Definition at line 41 of file `expands_to_logical.h`.

### 6.5.2 Member Function Documentation

6.5.2.1 `template<typename T > template<typename U > static __one Rcpp::traits::_has_rtype_helper< T >::__test (`  
`_Wrap_type< typename U::r_expands_to_logical > * ) [static], [private]`

6.5.2.2 `template<typename T > template<typename U > static __two Rcpp::traits::_has_rtype_helper< T >::__test ( ...`  
`) [static], [private]`

### 6.5.3 Member Data Documentation

6.5.3.1 `template<typename T > const bool Rcpp::traits::_has_rtype_helper< T >::value = sizeof(__test<T>(0)) == 1`  
`[static]`

Definition at line 51 of file `expands_to_logical.h`.

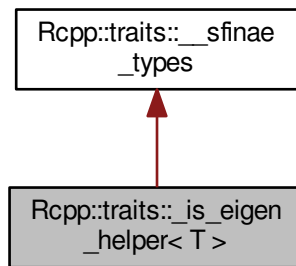
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/traits/expands_to_logical.h`

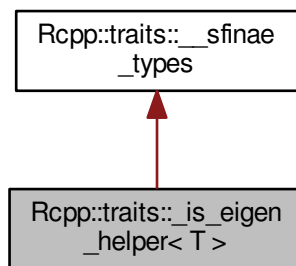
## 6.6 Rcpp::traits::\_is\_eigen\_helper< T > Class Template Reference

```
#include <is_eigen_base.h>
```

Inheritance diagram for Rcpp::traits::\_is\_eigen\_helper< T >:



Collaboration diagram for Rcpp::traits::\_is\_eigen\_helper< T >:



### Classes

- struct [\\_Wrap\\_type](#)

### Static Public Attributes

- static const bool [value](#) = sizeof([\\_\\_test](#)<T>(0)) == 1



## Static Private Member Functions

- `template<typename U >`  
`static __one__test ( _Wrap_type< typename U::StorageKind > *)`
- `template<typename U >`  
`static __two__test (...)`

## Additional Inherited Members

### 6.6.1 Detailed Description

```
template<typename T>  
class Rcpp::traits::is_eigen_helper< T >
```

Definition at line 29 of file `is_eigen_base.h`.

### 6.6.2 Member Function Documentation

6.6.2.1 `template<typename T > template<typename U > static __one Rcpp::traits::is_eigen_helper< T >::__test (`  
`_Wrap_type< typename U::StorageKind > * ) [static], [private]`

6.6.2.2 `template<typename T > template<typename U > static __two Rcpp::traits::is_eigen_helper< T >::__test ( ... )`  
`[static], [private]`

### 6.6.3 Member Data Documentation

6.6.3.1 `template<typename T > const bool Rcpp::traits::is_eigen_helper< T >::value = sizeof(__test<T>(0)) == 1`  
`[static]`

Definition at line 39 of file `is_eigen_base.h`.

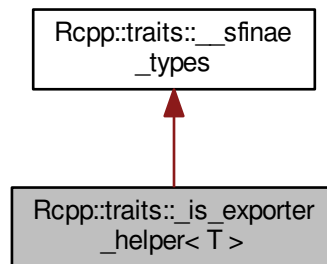
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/traits/is_eigen_base.h`

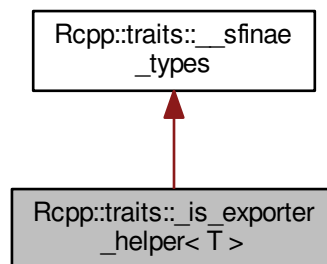
## 6.7 Rcpp::traits::\_is\_exporter\_helper< T > Class Template Reference

```
#include <has_iterator.h>
```

Inheritance diagram for Rcpp::traits::\_is\_exporter\_helper< T >:



Collaboration diagram for Rcpp::traits::\_is\_exporter\_helper< T >:



### Classes

- struct [\\_Wrap\\_type](#)

### Static Public Attributes

- static const bool [value](#) = sizeof([\\_\\_test](#)<T>(0)) == 1

## Static Private Member Functions

- `template<typename U >`  
`static __one__test ( _Wrap_type< typename U::r_export_type > *)`
- `template<typename U >`  
`static __two__test (...)`

## Additional Inherited Members

### 6.7.1 Detailed Description

```
template<typename T>  
class Rcpp::traits::_is_exporter_helper< T >
```

Definition at line 83 of file `has_iterator.h`.

### 6.7.2 Member Function Documentation

6.7.2.1 `template<typename T > template<typename U > static __one Rcpp::traits::_is_exporter_helper< T >::__test ( _Wrap_type< typename U::r_export_type > * ) [static], [private]`

6.7.2.2 `template<typename T > template<typename U > static __two Rcpp::traits::_is_exporter_helper< T >::__test ( ... ) [static], [private]`

### 6.7.3 Member Data Documentation

6.7.3.1 `template<typename T > const bool Rcpp::traits::_is_exporter_helper< T >::value = sizeof(__test<T>(0)) == 1 [static]`

Definition at line 93 of file `has_iterator.h`.

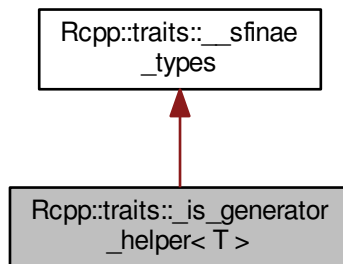
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/traits/has_iterator.h`

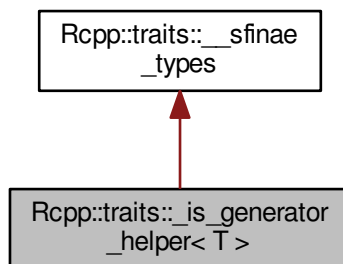
## 6.8 Rcpp::traits::\_is\_generator\_helper< T > Class Template Reference

```
#include <has_iterator.h>
```

Inheritance diagram for Rcpp::traits::\_is\_generator\_helper< T >:



Collaboration diagram for Rcpp::traits::\_is\_generator\_helper< T >:



### Classes

- struct [\\_Wrap\\_type](#)

### Static Public Attributes

- static const bool `value` = `sizeof(__test<T>(0)) == 1`

## Static Private Member Functions

- `template<typename U >`  
`static __one__test ( _Wrap_type< typename U::r_generator > *)`
- `template<typename U >`  
`static __two__test (...)`

## Additional Inherited Members

### 6.8.1 Detailed Description

```
template<typename T>
class Rcpp::traits::_is_generator_helper< T >
```

Definition at line 68 of file `has_iterator.h`.

### 6.8.2 Member Function Documentation

6.8.2.1 `template<typename T > template<typename U > static __one Rcpp::traits::_is_generator_helper< T >::__test ( _Wrap_type< typename U::r_generator > * ) [static], [private]`

6.8.2.2 `template<typename T > template<typename U > static __two Rcpp::traits::_is_generator_helper< T >::__test ( ... ) [static], [private]`

### 6.8.3 Member Data Documentation

6.8.3.1 `template<typename T > const bool Rcpp::traits::_is_generator_helper< T >::value = sizeof(__test<T>(0)) == 1 [static]`

Definition at line 78 of file `has_iterator.h`.

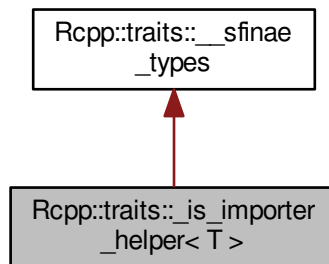
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/traits/has_iterator.h`

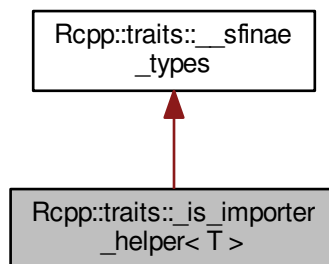
## 6.9 Rcpp::traits::\_is\_importer\_helper< T > Class Template Reference

```
#include <has_iterator.h>
```

Inheritance diagram for Rcpp::traits::\_is\_importer\_helper< T >:



Collaboration diagram for Rcpp::traits::\_is\_importer\_helper< T >:



### Classes

- struct [\\_Wrap\\_type](#)

### Static Public Attributes

- static const bool [value](#) = sizeof([\\_\\_test](#)<T>(0)) == 1

## Static Private Member Functions

- `template<typename U >`  
`static __one__test ( _Wrap_type< typename U::r_import_type > *)`
- `template<typename U >`  
`static __two__test (...)`

## Additional Inherited Members

### 6.9.1 Detailed Description

```
template<typename T>  
class Rcpp::traits::_is_importer_helper< T >
```

Definition at line 54 of file `has_iterator.h`.

### 6.9.2 Member Function Documentation

6.9.2.1 `template<typename T > template<typename U > static __one Rcpp::traits::_is_importer_helper< T >::__test ( _Wrap_type< typename U::r_import_type > * ) [static], [private]`

6.9.2.2 `template<typename T > template<typename U > static __two Rcpp::traits::_is_importer_helper< T >::__test ( ... ) [static], [private]`

### 6.9.3 Member Data Documentation

6.9.3.1 `template<typename T > const bool Rcpp::traits::_is_importer_helper< T >::value = sizeof(__test<T>(0)) == 1 [static]`

Definition at line 64 of file `has_iterator.h`.

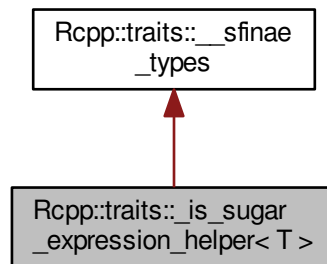
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/traits/has_iterator.h`

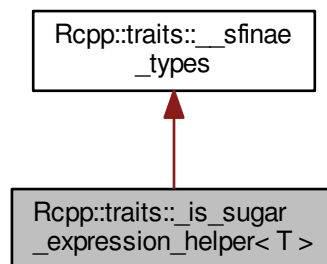
## 6.10 Rcpp::traits::\_is\_sugar\_expression\_helper< T > Class Template Reference

```
#include <is_sugar_expression.h>
```

Inheritance diagram for Rcpp::traits::\_is\_sugar\_expression\_helper< T >:



Collaboration diagram for Rcpp::traits::\_is\_sugar\_expression\_helper< T >:



### Classes

- struct [\\_Wrap\\_type](#)

### Static Public Attributes

- static const bool [value](#) = sizeof([\\_\\_test](#)<T>(0)) == 1



## Static Private Member Functions

- `template<typename U >`  
`static __one__test ( _Wrap_type< typename U::rcpp_sugar_expression > *)`
- `template<typename U >`  
`static __two__test (...)`

## Additional Inherited Members

### 6.10.1 Detailed Description

```
template<typename T>
class Rcpp::traits::_is_sugar_expression_helper< T >
```

Definition at line 29 of file `is_sugar_expression.h`.

### 6.10.2 Member Function Documentation

6.10.2.1 `template<typename T > template<typename U > static __one Rcpp::traits::_is_sugar_expression_helper< T >::__test ( _Wrap_type< typename U::rcpp_sugar_expression > * ) [static],[private]`

6.10.2.2 `template<typename T > template<typename U > static __two Rcpp::traits::_is_sugar_expression_helper< T >::__test ( ... ) [static],[private]`

### 6.10.3 Member Data Documentation

6.10.3.1 `template<typename T > const bool Rcpp::traits::_is_sugar_expression_helper< T >::value = sizeof(__test<T>(0)) == 1 [static]`

Definition at line 39 of file `is_sugar_expression.h`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/traits/is_sugar_expression.h`

## 6.11 Rcpp::traits::\_has\_iterator\_helper< T >::\_Wrap\_type< U > Struct Template Reference

### 6.11.1 Detailed Description

```
template<typename T>
template<typename U >
struct Rcpp::traits::_has_iterator_helper< T >::_Wrap_type< U >
```

Definition at line 41 of file `has_iterator.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/has_iterator.h`

## 6.12 Rcpp::traits::\_is\_importer\_helper< T >::\_Wrap\_type< U > Struct Template Reference

### 6.12.1 Detailed Description

```
template<typename T>
template<typename U>
struct Rcpp::traits::_is_importer_helper< T >::_Wrap_type< U >
```

Definition at line 55 of file `has_iterator.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/has_iterator.h`

## 6.13 Rcpp::traits::\_is\_generator\_helper< T >::\_Wrap\_type< U > Struct Template Reference

### 6.13.1 Detailed Description

```
template<typename T>
template<typename U>
struct Rcpp::traits::_is_generator_helper< T >::_Wrap_type< U >
```

Definition at line 69 of file `has_iterator.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/has_iterator.h`

## 6.14 Rcpp::traits::\_is\_exporter\_helper< T >::\_Wrap\_type< U > Struct Template Reference

### 6.14.1 Detailed Description

```
template<typename T>
template<typename U>
struct Rcpp::traits::_is_exporter_helper< T >::_Wrap_type< U >
```

Definition at line 84 of file `has_iterator.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/has_iterator.h`

## 6.15 Rcpp::traits::\_is\_eigen\_helper< T >::\_Wrap\_type< U > Struct Template Reference

### 6.15.1 Detailed Description

```
template<typename T>
template<typename U>
struct Rcpp::traits::_is_eigen_helper< T >::_Wrap_type< U >
```

Definition at line 30 of file `is_eigen_base.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_eigen\\_base.h](#)

## 6.16 Rcpp::traits::\_is\_sugar\_expression\_helper< T >::\_Wrap\_type< U > Struct Template Reference

### 6.16.1 Detailed Description

```
template<typename T>
template<typename U>
struct Rcpp::traits::_is_sugar_expression_helper< T >::_Wrap_type< U >
```

Definition at line 30 of file `is_sugar_expression.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_sugar\\_expression.h](#)

## 6.17 Rcpp::traits::\_has\_matrix\_interface\_helper< T >::\_Wrap\_type< U > Struct Template Reference

### 6.17.1 Detailed Description

```
template<typename T>
template<typename U>
struct Rcpp::traits::_has_matrix_interface_helper< T >::_Wrap_type< U >
```

Definition at line 34 of file `matrix_interface.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/matrix\\_interface.h](#)

## 6.18 Rcpp::traits::\_has\_rtype\_helper< T >::\_Wrap\_type< U > Struct Template Reference

### 6.18.1 Detailed Description

```
template<typename T>
template<typename U>
struct Rcpp::traits::_has_rtype_helper< T >::_Wrap_type< U >
```

Definition at line 42 of file `expands_to_logical.h`.

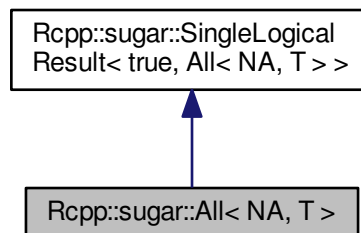
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/expands_to_logical.h`

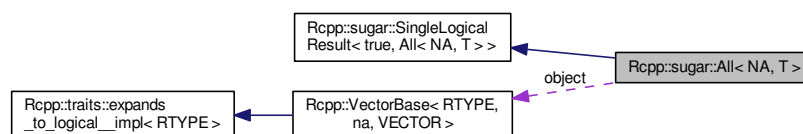
## 6.19 Rcpp::sugar::All< NA, T > Class Template Reference

```
#include <all.h>
```

Inheritance diagram for `Rcpp::sugar::All< NA, T >`:



Collaboration diagram for `Rcpp::sugar::All< NA, T >`:



## Public Types

- typedef [Rcpp::VectorBase](#)< LGLSXP, NA, T > [VEC\\_TYPE](#)
- typedef [SingleLogicalResult](#)< true, All< NA, T > > [PARENT](#)

## Public Member Functions

- [All](#) (const [VEC\\_TYPE](#) &t)
- void [apply](#) ()

## Private Attributes

- const [VEC\\_TYPE](#) & [object](#)

## Additional Inherited Members

### 6.19.1 Detailed Description

```
template<bool NA, typename T>
class Rcpp::sugar::All< NA, T >
```

Definition at line 29 of file all.h.

### 6.19.2 Member Typedef Documentation

6.19.2.1 `template<bool NA, typename T > typedef SingleLogicalResult< true, All<NA,T> > Rcpp::sugar::All< NA, T >::PARENT`

Definition at line 32 of file all.h.

6.19.2.2 `template<bool NA, typename T > typedef Rcpp::VectorBase<LGLSXP,NA,T> Rcpp::sugar::All< NA, T >::VEC\_TYPE`

Definition at line 31 of file all.h.

### 6.19.3 Constructor & Destructor Documentation

6.19.3.1 `template<bool NA, typename T > Rcpp::sugar::All< NA, T >::All ( const VEC\_TYPE & t )  [inline]`

Definition at line 33 of file all.h.

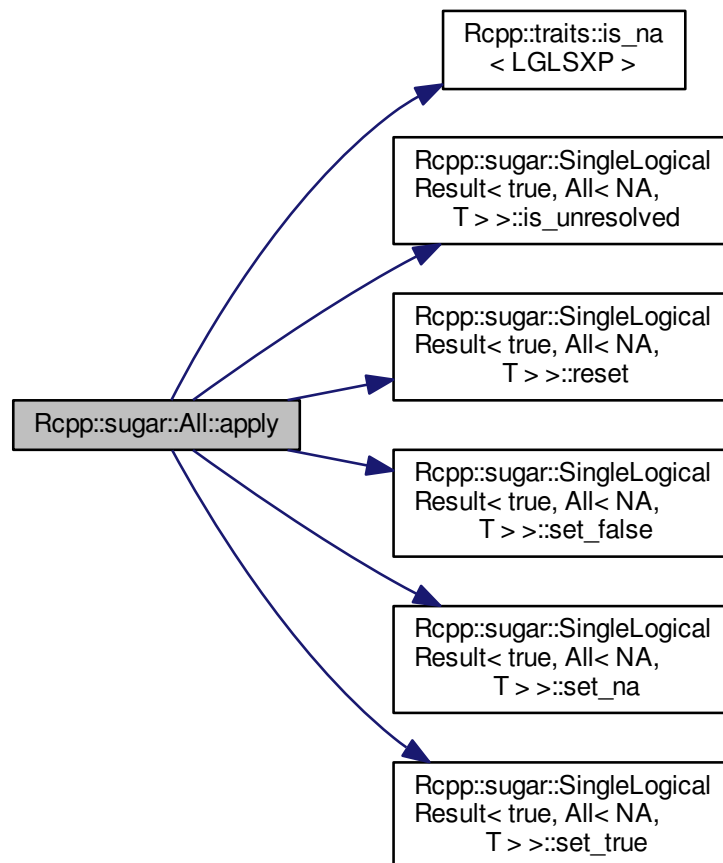
## 6.19.4 Member Function Documentation

### 6.19.4.1 `template<bool NA, typename T > void Rcpp::sugar::All< NA, T >::apply ( ) [inline]`

Definition at line 35 of file all.h.

References `Rcpp::traits::is_na< LGLSXP >()`, `Rcpp::sugar::SingleLogicalResult< true, All< NA, T > >::is_unresolved()`, `Rcpp::sugar::SingleLogicalResult< true, All< NA, T > >::reset()`, `Rcpp::sugar::SingleLogicalResult< true, All< NA, T > >::set_false()`, `Rcpp::sugar::SingleLogicalResult< true, All< NA, T > >::set_na()`, and `Rcpp::sugar::SingleLogicalResult< true, All< NA, T > >::set_true()`.

Here is the call graph for this function:



## 6.19.5 Member Data Documentation

6.19.5.1 `template<bool NA, typename T > const VEC_TYPE& Rcpp::sugar::All< NA, T >::object` [private]

Definition at line 54 of file all.h.

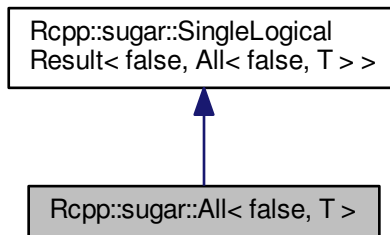
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/functions/all.h

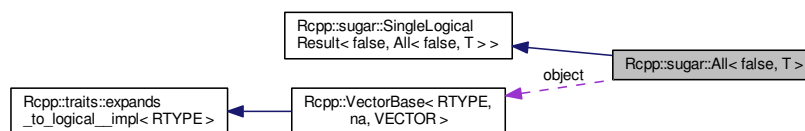
## 6.20 Rcpp::sugar::All< false, T > Class Template Reference

```
#include <all.h>
```

Inheritance diagram for Rcpp::sugar::All< false, T >:



Collaboration diagram for Rcpp::sugar::All< false, T >:



### Public Types

- typedef `Rcpp::VectorBase< LGLSXP, false, T >` `VEC_TYPE`
- typedef `SingleLogicalResult< false, All< false, T > >` `PARENT`

## Public Member Functions

- [All](#) (const [VEC\\_TYPE](#) &t)
- void [apply](#) ()

## Private Attributes

- const [VEC\\_TYPE](#) & [object](#)

## Additional Inherited Members

### 6.20.1 Detailed Description

```
template<typename T>  
class Rcpp::sugar::All< false, T >
```

Definition at line 60 of file all.h.

### 6.20.2 Member Typedef Documentation

6.20.2.1 `template<typename T > typedef SingleLogicalResult< false, All<false,T> > Rcpp::sugar::All< false, T >::PARENT`

Definition at line 63 of file all.h.

6.20.2.2 `template<typename T > typedef Rcpp::VectorBase<LGLSXP,false,T> Rcpp::sugar::All< false, T >::VEC_TYPE`

Definition at line 62 of file all.h.

### 6.20.3 Constructor & Destructor Documentation

6.20.3.1 `template<typename T > Rcpp::sugar::All< false, T >::All ( const VEC\_TYPE & t )` `[inline]`

Definition at line 64 of file all.h.



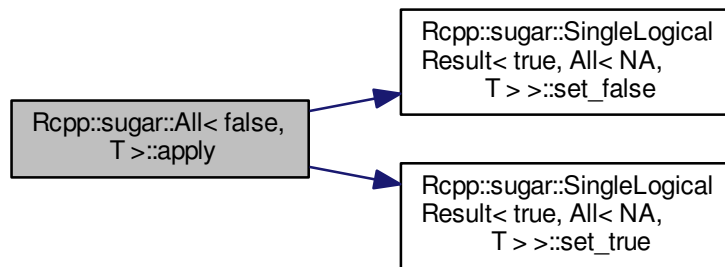
### 6.20.4 Member Function Documentation

6.20.4.1 `template<typename T> void Rcpp::sugar::All< false, T >::apply ( ) [inline]`

Definition at line 66 of file all.h.

References `Rcpp::sugar::SingleLogicalResult< true, All< NA, T > >::set_false()`, and `Rcpp::sugar::SingleLogicalResult< true, All< NA, T > >::set_true()`.

Here is the call graph for this function:



### 6.20.5 Member Data Documentation

6.20.5.1 `template<typename T> const VEC_TYPE& Rcpp::sugar::All< false, T >::object [private]`

Definition at line 77 of file all.h.

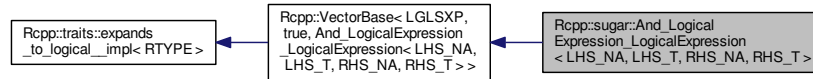
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/all.h](#)

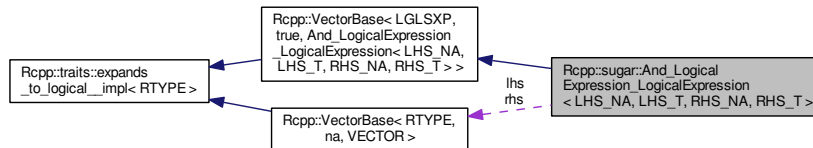
## 6.21 Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <and.h>
```

Inheritance diagram for `Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >`:



Collaboration diagram for `Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >`:



## Public Types

- typedef `Rcpp::VectorBase< LGLSXP, LHS_NA, LHS_T >` `LHS_TYPE`
- typedef `Rcpp::VectorBase< LGLSXP, RHS_NA, RHS_T >` `RHS_TYPE`

## Public Member Functions

- `And_LogicalExpression_LogicalExpression` (const `LHS_TYPE` &lhs\_, const `RHS_TYPE` &rhs\_)
- int `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- const `LHS_TYPE` &lhs
- const `RHS_TYPE` &rhs

### 6.21.1 Detailed Description

```

template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >
  
```

Definition at line 205 of file and.h.

### 6.21.2 Member Typedef Documentation

6.21.2.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef Rcpp::VectorBase<LGLS<XP,LHS_NA,LHS_T> Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 207 of file and.h.

6.21.2.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef Rcpp::VectorBase<LGLS<XP,RHS_NA,RHS_T> Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 208 of file and.h.

### 6.21.3 Constructor & Destructor Documentation

6.21.3.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::And_LogicalExpression_LogicalExpression ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 210 of file and.h.

### 6.21.4 Member Function Documentation

6.21.4.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> int Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 212 of file and.h.

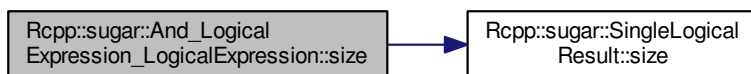
References `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.21.4.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> R_xlen_t Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 217 of file and.h.

References `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::SingleLogicalResult< NA, T >::size()`.

Here is the call graph for this function:



### 6.21.5 Member Data Documentation

6.21.5.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const LHS_TYPE& Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`  
[private]

Definition at line 220 of file and.h.

6.21.5.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const RHS_TYPE& Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`  
[private]

Definition at line 221 of file and.h.

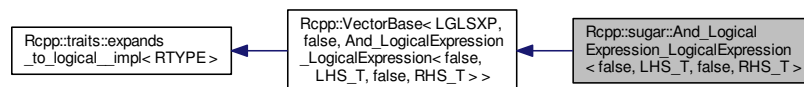
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/logical/and.h](#)

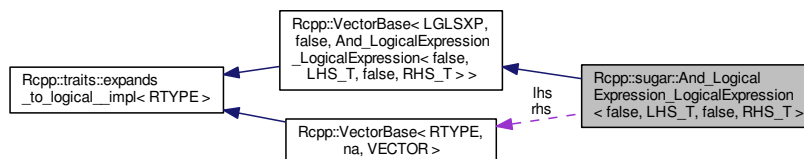
## 6.22 Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <and.h>
```

Inheritance diagram for Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< false, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< false, LHS\_T, false, RHS\_T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< LGLSXP, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< LGLSXP, false, RHS\_T > [RHS\\_TYPE](#)

## Public Member Functions

- [And\\_LogicalExpression\\_LogicalExpression](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [LHS\\_TYPE](#) & lhs
- const [RHS\\_TYPE](#) & rhs

### 6.22.1 Detailed Description

```
template<typename LHS_T, typename RHS_T>  
class Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >
```

Definition at line 264 of file and.h.

### 6.22.2 Member Typedef Documentation

6.22.2.1 `template<typename LHS_T , typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,false,LHS_T>  
Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 267 of file and.h.

6.22.2.2 `template<typename LHS_T , typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,false,RHS_T>  
Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 268 of file and.h.

### 6.22.3 Constructor & Destructor Documentation

6.22.3.1 `template<typename LHS_T , typename RHS_T > Rcpp::sugar::And_LogicalExpression_LogicalExpression<  
false, LHS_T, false, RHS_T >::And_LogicalExpression_LogicalExpression ( const LHS_TYPE & lhs_ , const  
RHS_TYPE & rhs_ ) [inline]`

Definition at line 270 of file and.h.

## 6.22.4 Member Function Documentation

6.22.4.1 `template<typename LHS_T , typename RHS_T > int Rcpp::sugar::And_LogicalExpression↔  
_LogicalExpression< false, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 272 of file and.h.

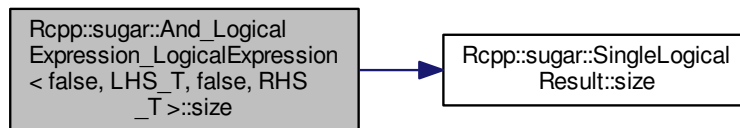
References `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`,  
and `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.22.4.2 `template<typename LHS_T , typename RHS_T > R_xlen_t Rcpp::sugar::And_LogicalExpression_Logical↔  
Expression< false, LHS_T, false, RHS_T >::size ( ) const [inline]`

Definition at line 276 of file and.h.

References `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`,  
and `Rcpp::sugar::SingleLogicalResult< NA, T >::size()`.

Here is the call graph for this function:



## 6.22.5 Member Data Documentation

6.22.5.1 `template<typename LHS_T , typename RHS_T > const LHS_TYPE& Rcpp::sugar::And_LogicalExpression↔  
_LogicalExpression< false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 279 of file and.h.

6.22.5.2 `template<typename LHS_T , typename RHS_T > const RHS_TYPE& Rcpp::sugar::And_LogicalExpression↔  
_LogicalExpression< false, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 280 of file and.h.

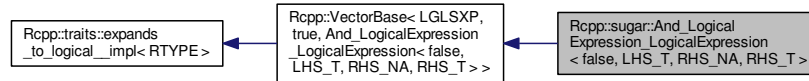
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/logical/and.h`

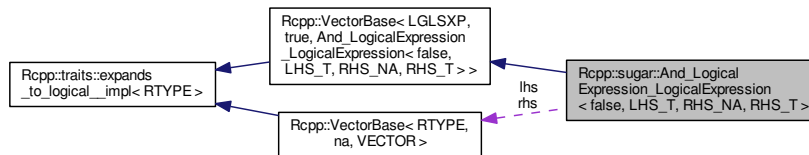
## 6.23 Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <and.h>
```

Inheritance diagram for Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< false, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< false, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase< LGLSXP, false, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase< LGLSXP, RHS\\_NA, RHS\\_T >](#) [RHS\\_TYPE](#)

### Public Member Functions

- [And\\_LogicalExpression\\_LogicalExpression](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_TYPE](#) &lhs
- const [RHS\\_TYPE](#) &rhs

### 6.23.1 Detailed Description

```
template<typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 224 of file and.h.

### 6.23.2 Member Typedef Documentation

6.23.2.1 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,false,LHS_T> Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 227 of file and.h.

6.23.2.2 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,RHS_NA,RHS_T> Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 228 of file and.h.

### 6.23.3 Constructor & Destructor Documentation

6.23.3.1 `template<typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::And_LogicalExpression_↔ LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::And_LogicalExpression_LogicalExpression ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 230 of file and.h.

### 6.23.4 Member Function Documentation

6.23.4.1 `template<typename LHS_T, bool RHS_NA, typename RHS_T > int Rcpp::sugar::And_Logical_↔ Expression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 232 of file and.h.

References `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

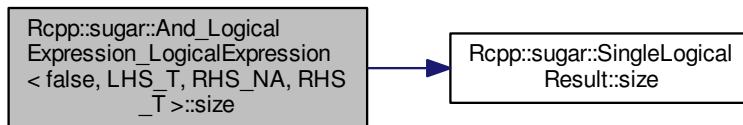


6.23.4.2 `template<typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::And_↵  
 LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::size ( ) const  
 [inline]`

Definition at line 237 of file and.h.

References Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs,  
 and Rcpp::sugar::SingleLogicalResult< NA, T >::size().

Here is the call graph for this function:



### 6.23.5 Member Data Documentation

6.23.5.1 `template<typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_TYPE& Rcpp↵  
 ::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::lhs  
 [private]`

Definition at line 240 of file and.h.

6.23.5.2 `template<typename LHS_T , bool RHS_NA, typename RHS_T > const RHS_TYPE& Rcpp↵  
 ::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::rhs  
 [private]`

Definition at line 241 of file and.h.

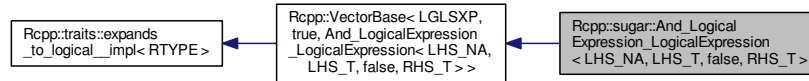
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/logical/and.h

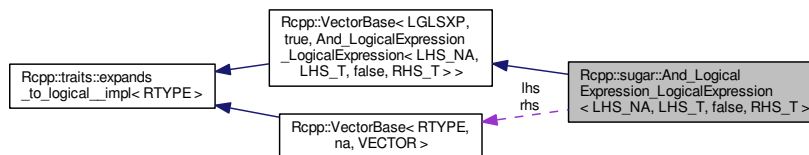
## 6.24 Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <and.h>
```

Inheritance diagram for Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase< LGLSXP, LHS\\_NA, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase< LGLSXP, false, RHS\\_T >](#) [RHS\\_TYPE](#)

### Public Member Functions

- [And\\_LogicalExpression\\_LogicalExpression](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_TYPE](#) &lhs
- const [RHS\\_TYPE](#) &rhs

### 6.24.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, typename RHS_T>  
class Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 244 of file and.h.

### 6.24.2 Member Typedef Documentation

6.24.2.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,LHS_NA,LHS_T>  
Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 247 of file and.h.

6.24.2.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,false,RHS_T>  
Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 248 of file and.h.

### 6.24.3 Constructor & Destructor Documentation

6.24.3.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > Rcpp::sugar::And_LogicalExpression_↵  
LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::And_LogicalExpression_LogicalExpression ( const  
LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 250 of file and.h.

### 6.24.4 Member Function Documentation

6.24.4.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > int Rcpp::sugar::And_Logical_↵  
Expression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 252 of file and.h.

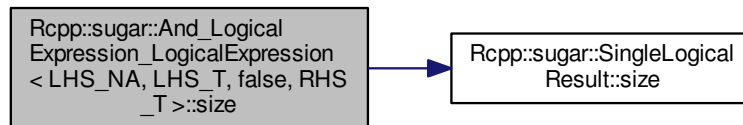
References Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs,  
and Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

6.24.4.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::And_↵  
LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::size ( ) const  
[inline]`

Definition at line 257 of file and.h.

References `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`,  
and `Rcpp::sugar::SingleLogicalResult< NA, T >::size()`.

Here is the call graph for this function:



## 6.24.5 Member Data Documentation

6.24.5.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > const LHS_TYPE& Rcpp↵  
::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::lhs  
[private]`

Definition at line 260 of file and.h.

6.24.5.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > const RHS_TYPE& Rcpp↵  
::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::rhs  
[private]`

Definition at line 261 of file and.h.

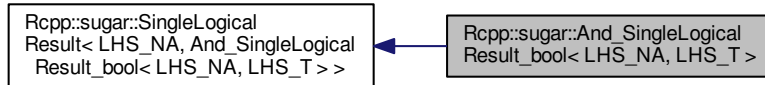
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/logical/and.h`

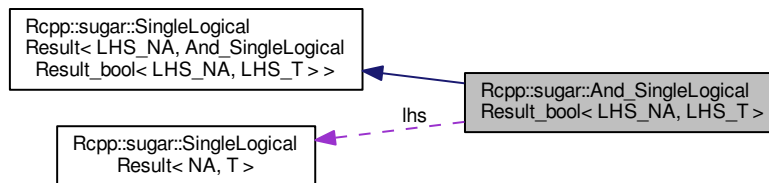
## 6.25 Rcpp::sugar::And\_SingleLogicalResult\_bool< LHS\_NA, LHS\_T > Class Template Reference

```
#include <and.h>
```

Inheritance diagram for Rcpp::sugar::And\_SingleLogicalResult\_bool< LHS\_NA, LHS\_T >:



Collaboration diagram for Rcpp::sugar::And\_SingleLogicalResult\_bool< LHS\_NA, LHS\_T >:



### Public Types

- typedef [SingleLogicalResult< LHS\\_NA, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [SingleLogicalResult< LHS\\_NA, And\\_SingleLogicalResult\\_bool< LHS\\_NA, LHS\\_T > >](#) [BASE](#)

### Public Member Functions

- [And\\_SingleLogicalResult\\_bool](#) (const [LHS\\_TYPE](#) &lhs\_, bool rhs\_)
- void [apply](#) ()

### Private Attributes

- const [LHS\\_TYPE](#) &lhs
- bool rhs

## Additional Inherited Members

### 6.25.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T>
class Rcpp::sugar::And_SingleLogicalResult_bool< LHS_NA, LHS_T >
```

Definition at line 171 of file and.h.

### 6.25.2 Member Typedef Documentation

6.25.2.1 `template<bool LHS_NA, typename LHS_T> typedef SingleLogicalResult< LHS_NA , And_SingleLogicalResult_bool<LHS_NA,LHS_T> > Rcpp::sugar::And_SingleLogicalResult_bool< LHS_NA, LHS_T >::BASE`

Definition at line 182 of file and.h.

6.25.2.2 `template<bool LHS_NA, typename LHS_T> typedef SingleLogicalResult<LHS_NA,LHS_T> Rcpp::sugar::And_SingleLogicalResult_bool< LHS_NA, LHS_T >::LHS_TYPE`

Definition at line 178 of file and.h.

### 6.25.3 Constructor & Destructor Documentation

6.25.3.1 `template<bool LHS_NA, typename LHS_T> Rcpp::sugar::And_SingleLogicalResult_bool< LHS_NA, LHS_T >::And_SingleLogicalResult_bool ( const LHS_TYPE & lhs_ , bool rhs_ ) [inline]`

Definition at line 184 of file and.h.

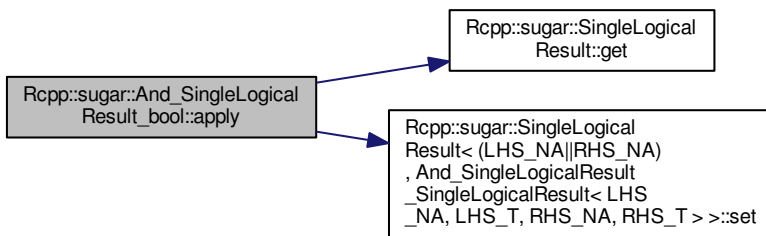
### 6.25.4 Member Function Documentation

6.25.4.1 `template<bool LHS_NA, typename LHS_T> void Rcpp::sugar::And_SingleLogicalResult_bool< LHS_NA, LHS_T >::apply ( ) [inline]`

Definition at line 187 of file and.h.

References `Rcpp::sugar::SingleLogicalResult< NA, T >::get()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`, and `Rcpp::sugar::SingleLogicalResult< (LHS_NA||RHS_NA), And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > >::set()`.

Here is the call graph for this function:



### 6.25.5 Member Data Documentation

6.25.5.1 `template<bool LHS_NA, typename LHS_T> const LHS_TYPE& Rcpp::sugar::And_SingleLogicalResult_bool<LHS_NA, LHS_T>::lhs [private]`

Definition at line 196 of file and.h.

6.25.5.2 `template<bool LHS_NA, typename LHS_T> bool Rcpp::sugar::And_SingleLogicalResult_bool<LHS_NA, LHS_T>::rhs [private]`

Definition at line 197 of file and.h.

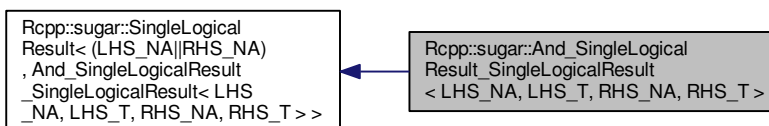
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/logical/and.h

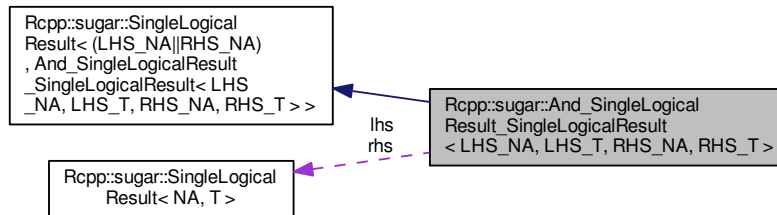
## 6.26 Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <and.h>
```

Inheritance diagram for Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >`:



## Public Types

- typedef `SingleLogicalResult< LHS_NA, LHS_T >` `LHS_TYPE`
- typedef `SingleLogicalResult< RHS_NA, RHS_T >` `RHS_TYPE`
- typedef `SingleLogicalResult< (LHS_NA||RHS_NA), And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > >` `BASE`

## Public Member Functions

- `And_SingleLogicalResult_SingleLogicalResult` (const `LHS_TYPE` &lhs\_, const `RHS_TYPE` &rhs\_)
- void `apply` ()

## Private Attributes

- const `LHS_TYPE` &lhs
- const `RHS_TYPE` &rhs

## Additional Inherited Members

### 6.26.1 Detailed Description

```

template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >
  
```

Definition at line 29 of file and.h.



## 6.26.2 Member Typedef Documentation

6.26.2.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef SingleLogicalResult<(LHS_NA || RHS_NA), And_SingleLogicalResult_SingleLogicalResult<LHS_NA,LHS_T,RHS_NA,RHS_T>> Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::BASE`

Definition at line 41 of file and.h.

6.26.2.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef SingleLogicalResult<LHS_↵NA,LHS_T> Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 36 of file and.h.

6.26.2.3 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef SingleLogicalResult<RHS_↵NA,RHS_T> Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 37 of file and.h.

## 6.26.3 Constructor & Destructor Documentation

6.26.3.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> Rcpp::sugar↵::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::And_SingleLogicalResult_SingleLogicalResult ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 43 of file and.h.

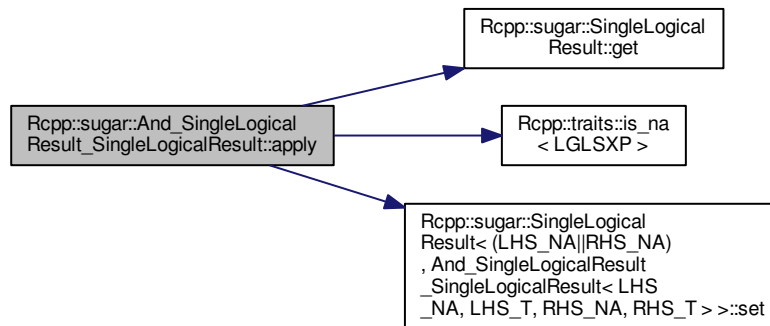
## 6.26.4 Member Function Documentation

6.26.4.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> void Rcpp::sugar↵::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::apply ( ) [inline]`

Definition at line 46 of file and.h.

References `Rcpp::sugar::SingleLogicalResult< NA, T >::get()`, `Rcpp::traits::is_na< LGLSXP >()`, `Rcpp::sugar::And↵_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::And_Single↵LogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`, and `Rcpp::sugar::SingleLogical↵Result< (LHS_NA||RHS_NA), And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::set()`.

Here is the call graph for this function:



## 6.26.5 Member Data Documentation

6.26.5.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const LHS_TYPE& Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`  
[private]

Definition at line 58 of file and.h.

Referenced by `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::apply()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::apply()`, `Rcpp::sugar::And_SingleLogicalResult_bool< LHS_NA, LHS_T >::apply()`, `operator&()`, `operator&&()`, `Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::size()`, and `Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::size()`.

6.26.5.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const RHS_TYPE& Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`  
[private]

Definition at line 59 of file and.h.

Referenced by `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::apply()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::apply()`,

Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, false, RHS\_T >::apply(), Rcpp::sugar::And\_SingleLogicalResult\_bool< LHS\_NA, LHS\_T >::apply(), operator&(), operator&&(), Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< false, LHS\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, false, RHS\_T >::operator[](), and Rcpp::sugar::And\_LogicalExpression\_LogicalExpression< false, LHS\_T, false, RHS\_T >::operator[]().

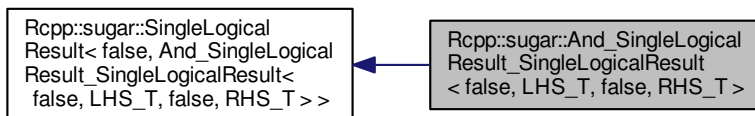
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/logical/and.h

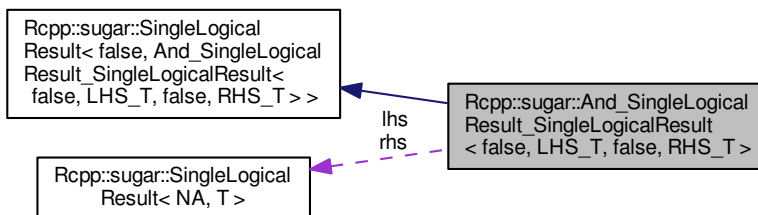
## 6.27 Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <and.h>
```

Inheritance diagram for Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [SingleLogicalResult< false, LHS\\_T >](#) LHS\_TYPE
- typedef [SingleLogicalResult< false, RHS\\_T >](#) RHS\_TYPE
- typedef [SingleLogicalResult< false, And\\_SingleLogicalResult\\_SingleLogicalResult< false, LHS\\_T, false, RHS\\_T > >](#) BASE

## Public Member Functions

- [And\\_SingleLogicalResult\\_SingleLogicalResult](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- void [apply](#) ()

## Private Attributes

- const [LHS\\_TYPE](#) & lhs
- const [RHS\\_TYPE](#) & rhs

## Additional Inherited Members

### 6.27.1 Detailed Description

```
template<typename LHS_T, typename RHS_T>
class Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >
```

Definition at line 136 of file and.h.

### 6.27.2 Member Typedef Documentation

6.27.2.1 `template<typename LHS_T , typename RHS_T > typedef SingleLogicalResult< false, And_SingleLogicalResult_SingleLogicalResult<false,LHS_T,false,RHS_T> > Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::BASE`

Definition at line 148 of file and.h.

6.27.2.2 `template<typename LHS_T , typename RHS_T > typedef SingleLogicalResult<false,LHS_T> Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 143 of file and.h.

6.27.2.3 `template<typename LHS_T , typename RHS_T > typedef SingleLogicalResult<false,RHS_T> Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 144 of file and.h.

### 6.27.3 Constructor & Destructor Documentation

6.27.3.1 `template<typename LHS_T, typename RHS_T > Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::And_SingleLogicalResult_SingleLogicalResult ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 150 of file and.h.

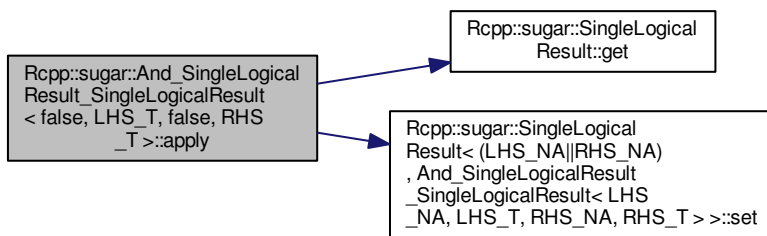
### 6.27.4 Member Function Documentation

6.27.4.1 `template<typename LHS_T, typename RHS_T > void Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::apply ( ) [inline]`

Definition at line 153 of file and.h.

References `Rcpp::sugar::SingleLogicalResult< NA, T >::get()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`, and `Rcpp::sugar::SingleLogicalResult< (LHS_NA||RHS_NA), And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > >::set()`.

Here is the call graph for this function:



### 6.27.5 Member Data Documentation

6.27.5.1 `template<typename LHS_T, typename RHS_T > const LHS_TYPE& Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 163 of file and.h.

```
6.27.5.2 template<typename LHS_T , typename RHS_T > const RHS_TYPE& Rcpp::sugar::↔
And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::rhs
[private]
```

Definition at line 164 of file and.h.

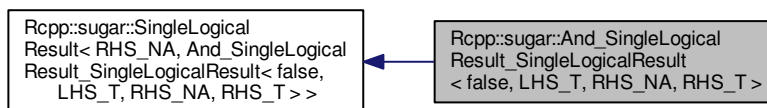
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/logical/and.h

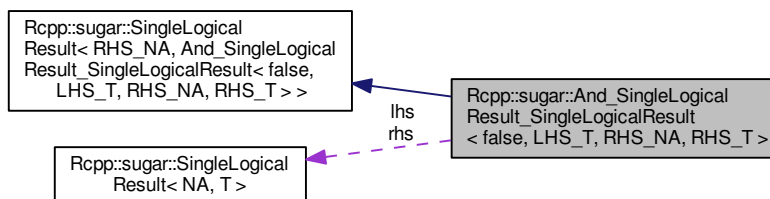
## 6.28 Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <and.h>
```

Inheritance diagram for Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [SingleLogicalResult< false, LHS\\_T >](#) **LHS\_TYPE**
- typedef [SingleLogicalResult< RHS\\_NA, RHS\\_T >](#) **RHS\_TYPE**
- typedef [SingleLogicalResult< RHS\\_NA, And\\_SingleLogicalResult\\_SingleLogicalResult< false, LHS\\_T, RHS\\_NA, RHS\\_T > >](#) **BASE**

## Public Member Functions

- [And\\_SingleLogicalResult\\_SingleLogicalResult](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- void [apply](#) ()

## Private Attributes

- const [LHS\\_TYPE](#) & lhs
- const [RHS\\_TYPE](#) & rhs

## Additional Inherited Members

### 6.28.1 Detailed Description

```
template<typename LHS_T, bool RHS_NA, typename RHS_T>  
class Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 101 of file and.h.

### 6.28.2 Member Typedef Documentation

```
6.28.2.1 template<typename LHS_T , bool RHS_NA, typename RHS_T > typedef SingleLogicalResult<  
RHS_NA, And_SingleLogicalResult_SingleLogicalResult<false,LHS_T,RHS_NA,RHS_T> >  
Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::BASE
```

Definition at line 113 of file and.h.

```
6.28.2.2 template<typename LHS_T , bool RHS_NA, typename RHS_T > typedef SingleLogicalResult<false,LHS_T>  
Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE
```

Definition at line 108 of file and.h.

```
6.28.2.3 template<typename LHS_T , bool RHS_NA, typename RHS_T > typedef SingleLogicalResult<RHS_NA,RHS_T>  
Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::RHS_TYPE
```

Definition at line 109 of file and.h.

### 6.28.3 Constructor & Destructor Documentation

```
6.28.3.1 template<typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::And_SingleLogicalResult_↔  
SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::And_SingleLogicalResult_SingleLogicalResult (  
const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]
```

Definition at line 115 of file and.h.

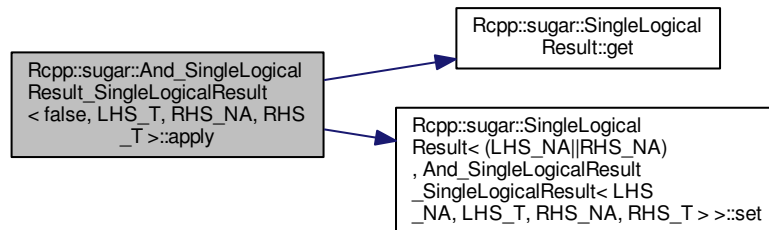
## 6.28.4 Member Function Documentation

6.28.4.1 `template<typename LHS_T , bool RHS_NA, typename RHS_T > void Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::apply ( )`  
`[inline]`

Definition at line 118 of file and.h.

References `Rcpp::sugar::SingleLogicalResult< NA, T >::get()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`, and `Rcpp::sugar::SingleLogicalResult< (LHS_NA||RHS_NA), And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > >::set()`.

Here is the call graph for this function:



## 6.28.5 Member Data Documentation

6.28.5.1 `template<typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_TYPE& Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::lhs`  
`[private]`

Definition at line 129 of file and.h.

6.28.5.2 `template<typename LHS_T , bool RHS_NA, typename RHS_T > const RHS_TYPE& Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::rhs`  
`[private]`

Definition at line 130 of file and.h.

The documentation for this class was generated from the following file:

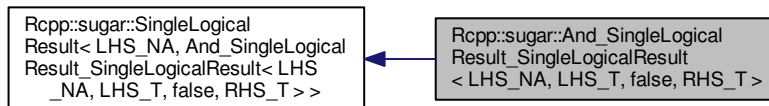
- `inst/include/Rcpp/sugar/logical/and.h`



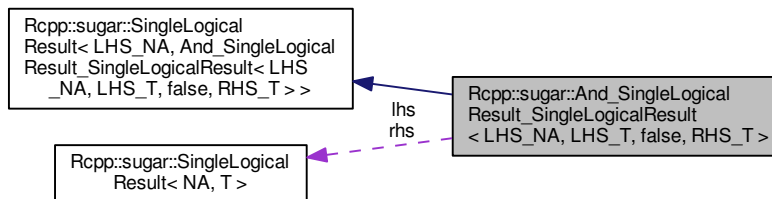
## 6.29 Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <and.h>
```

Inheritance diagram for Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [SingleLogicalResult< LHS\\_NA, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [SingleLogicalResult< false, RHS\\_T >](#) [RHS\\_TYPE](#)
- typedef [SingleLogicalResult< LHS\\_NA, And\\_SingleLogicalResult\\_SingleLogicalResult< LHS\\_NA, LHS\\_T, false, RHS\\_T > >](#) [BASE](#)

### Public Member Functions

- [And\\_SingleLogicalResult\\_SingleLogicalResult](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- void [apply](#) ()

### Private Attributes

- const [LHS\\_TYPE](#) & [lhs](#)
- const [RHS\\_TYPE](#) & [rhs](#)

## Additional Inherited Members

### 6.29.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, typename RHS_T>
class Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 65 of file and.h.

### 6.29.2 Member Typedef Documentation

```
6.29.2.1 template<bool LHS_NA, typename LHS_T , typename RHS_T > typedef SingleLogicalResult<
LHS_NA, And_SingleLogicalResult_SingleLogicalResult<LHS_NA,LHS_T,false,RHS_T> >
Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::BASE
```

Definition at line 77 of file and.h.

```
6.29.2.2 template<bool LHS_NA, typename LHS_T , typename RHS_T > typedef SingleLogicalResult<LHS_NA,LHS_T>
Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE
```

Definition at line 72 of file and.h.

```
6.29.2.3 template<bool LHS_NA, typename LHS_T , typename RHS_T > typedef SingleLogicalResult<false,RHS_T>
Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE
```

Definition at line 73 of file and.h.

### 6.29.3 Constructor & Destructor Documentation

```
6.29.3.1 template<bool LHS_NA, typename LHS_T , typename RHS_T > Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::And_SingleLogicalResult_SingleLogicalResult ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]
```

Definition at line 79 of file and.h.

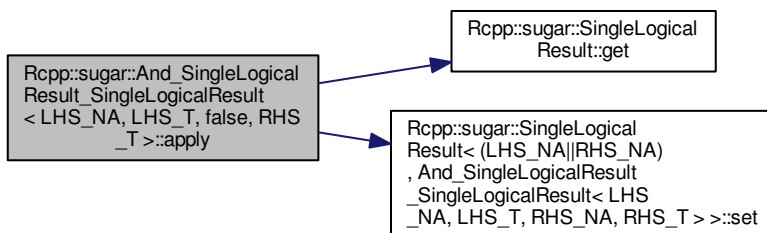
## 6.29.4 Member Function Documentation

6.29.4.1 `template<bool LHS_NA, typename LHS_T , typename RHS_T > void Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::apply ( )`  
`[inline]`

Definition at line 82 of file and.h.

References `Rcpp::sugar::SingleLogicalResult< NA, T >::get()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`, and `Rcpp::sugar::SingleLogicalResult< (LHS_NA||RHS_NA), And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > >::set()`.

Here is the call graph for this function:



## 6.29.5 Member Data Documentation

6.29.5.1 `template<bool LHS_NA, typename LHS_T , typename RHS_T > const LHS_TYPE& Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::lhs`  
`[private]`

Definition at line 93 of file and.h.

6.29.5.2 `template<bool LHS_NA, typename LHS_T , typename RHS_T > const RHS_TYPE& Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::rhs`  
`[private]`

Definition at line 94 of file and.h.

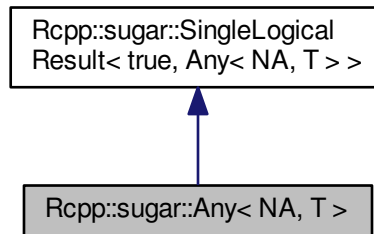
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/logical/and.h`

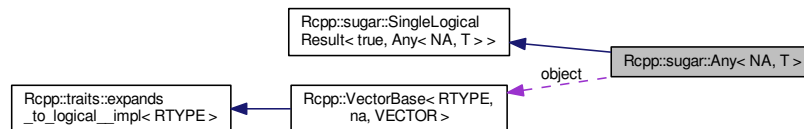
## 6.30 Rcpp::sugar::Any< NA, T > Class Template Reference

```
#include <any.h>
```

Inheritance diagram for Rcpp::sugar::Any< NA, T >:



Collaboration diagram for Rcpp::sugar::Any< NA, T >:



### Public Types

- typedef [Rcpp::VectorBase< LGLSXP, NA, T >](#) `VEC_TYPE`
- typedef [SingleLogicalResult< true, Any< NA, T > >](#) `PARENT`

### Public Member Functions

- [Any](#) (const [VEC\\_TYPE](#) &t)
- void [apply](#) ()

### Private Attributes

- const [VEC\\_TYPE](#) & `object`

## Additional Inherited Members

### 6.30.1 Detailed Description

```
template<bool NA, typename T>
class Rcpp::sugar::Any< NA, T >
```

Definition at line 29 of file any.h.

### 6.30.2 Member Typedef Documentation

6.30.2.1 `template<bool NA, typename T > typedef SingleLogicalResult< true , Any<NA,T> > Rcpp::sugar::Any< NA, T >::PARENT`

Definition at line 32 of file any.h.

6.30.2.2 `template<bool NA, typename T > typedef Rcpp::VectorBase<LGLSXP,NA,T> Rcpp::sugar::Any< NA, T >::VEC_TYPE`

Definition at line 31 of file any.h.

### 6.30.3 Constructor & Destructor Documentation

6.30.3.1 `template<bool NA, typename T > Rcpp::sugar::Any< NA, T >::Any ( const VEC_TYPE & t ) [inline]`

Definition at line 33 of file any.h.

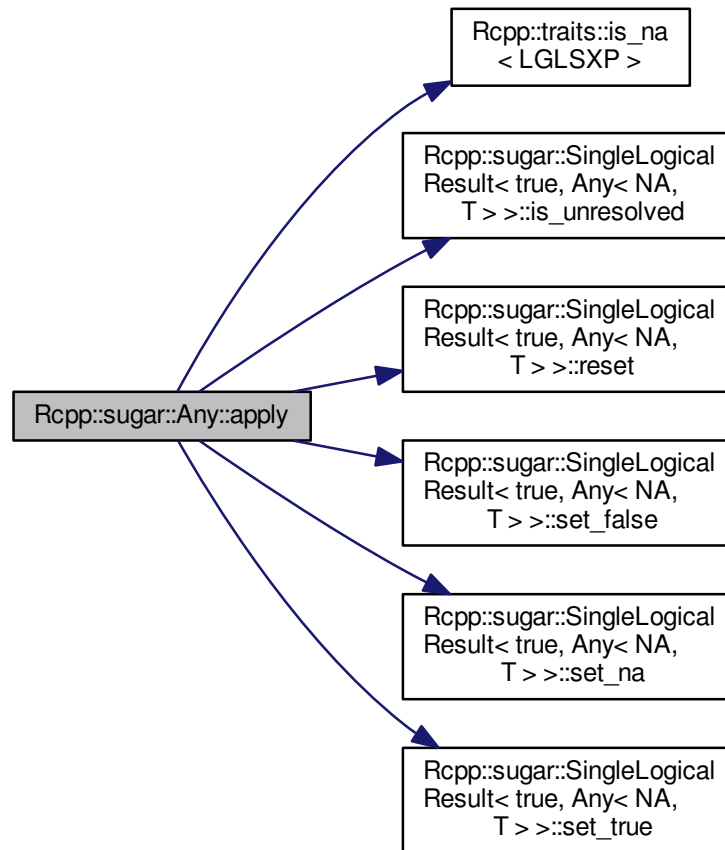
### 6.30.4 Member Function Documentation

6.30.4.1 `template<bool NA, typename T > void Rcpp::sugar::Any< NA, T >::apply ( ) [inline]`

Definition at line 35 of file any.h.

References `Rcpp::traits::is_na< LGLSXP >()`, `Rcpp::sugar::SingleLogicalResult< true, Any< NA, T > >::is_unresolved()`, `Rcpp::sugar::SingleLogicalResult< true, Any< NA, T > >::reset()`, `Rcpp::sugar::SingleLogicalResult< true, Any< NA, T > >::set_false()`, `Rcpp::sugar::SingleLogicalResult< true, Any< NA, T > >::set_na()`, and `Rcpp::sugar::SingleLogicalResult< true, Any< NA, T > >::set_true()`.

Here is the call graph for this function:



## 6.30.5 Member Data Documentation

6.30.5.1 `template<bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Any< NA, T >::object` [private]

Definition at line 54 of file `any.h`.

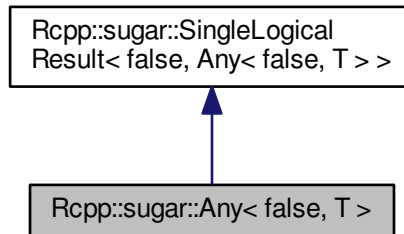
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/any.h`

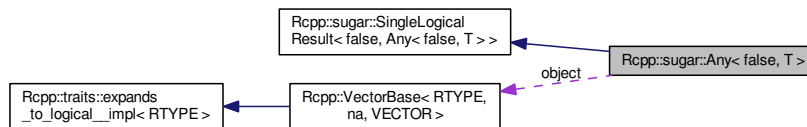
## 6.31 Rcpp::sugar::Any< false, T > Class Template Reference

```
#include <any.h>
```

Inheritance diagram for Rcpp::sugar::Any< false, T >:



Collaboration diagram for Rcpp::sugar::Any< false, T >:



### Public Types

- typedef `Rcpp::VectorBase< LGLSXP, false, T >` `VEC_TYPE`
- typedef `SingleLogicalResult< false, Any< false, T > >` `PARENT`

### Public Member Functions

- `Any` (const `VEC_TYPE` &t)
- void `apply` ()

### Private Attributes

- const `VEC_TYPE` & `object`

## Additional Inherited Members

### 6.31.1 Detailed Description

```
template<typename T>
class Rcpp::sugar::Any< false, T >
```

Definition at line 58 of file any.h.

### 6.31.2 Member Typedef Documentation

6.31.2.1 `template<typename T > typedef SingleLogicalResult< false , Any<false,T> > Rcpp::sugar::Any< false, T >::PARENT`

Definition at line 61 of file any.h.

6.31.2.2 `template<typename T > typedef Rcpp::VectorBase<LGLSXP,false,T> Rcpp::sugar::Any< false, T >::VEC_TYPE`

Definition at line 60 of file any.h.

### 6.31.3 Constructor & Destructor Documentation

6.31.3.1 `template<typename T > Rcpp::sugar::Any< false, T >::Any ( const VEC_TYPE & t ) [inline]`

Definition at line 62 of file any.h.

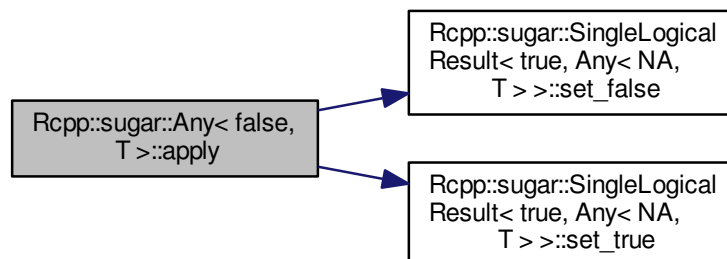
### 6.31.4 Member Function Documentation

6.31.4.1 `template<typename T > void Rcpp::sugar::Any< false, T >::apply ( ) [inline]`

Definition at line 64 of file any.h.

References `Rcpp::sugar::SingleLogicalResult< true, Any< NA, T > >::set_false()`, and `Rcpp::sugar::SingleLogicalResult< true, Any< NA, T > >::set_true()`.

Here is the call graph for this function:





### 6.31.5 Member Data Documentation

6.31.5.1 `template<typename T> const VEC_TYPE& Rcpp::sugar::Any< false, T >::object` [private]

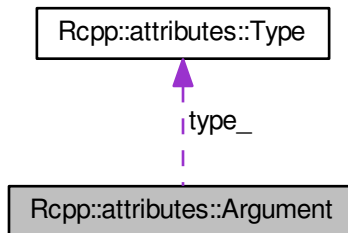
Definition at line 75 of file any.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/any.h](#)

## 6.32 Rcpp::attributes::Argument Class Reference

Collaboration diagram for Rcpp::attributes::Argument:



### Public Member Functions

- [Argument](#) ()
- [Argument](#) (const std::string &name, const [Type](#) &type, const std::string &defaultValue)
- bool [empty](#) () const
- bool [operator==](#) (const [Argument](#) &other) const
- bool [operator!=](#) (const [Argument](#) &other) const
- const std::string & [name](#) () const
- const [Type](#) & [type](#) () const
- const std::string & [defaultValue](#) () const

### Private Attributes

- std::string [name\\_](#)
- [Type](#) [type\\_](#)
- std::string [defaultValue\\_](#)

### 6.32.1 Detailed Description

Definition at line 203 of file attributes.cpp.

### 6.32.2 Constructor & Destructor Documentation

#### 6.32.2.1 `Rcpp::attributes::Argument::Argument ( ) [inline]`

Definition at line 205 of file attributes.cpp.

#### 6.32.2.2 `Rcpp::attributes::Argument::Argument ( const std::string & name, const Type & type, const std::string & defaultValue ) [inline]`

Definition at line 206 of file attributes.cpp.

### 6.32.3 Member Function Documentation

#### 6.32.3.1 `const std::string& Rcpp::attributes::Argument::defaultValue ( ) const [inline]`

Definition at line 228 of file attributes.cpp.

Referenced by `Rcpp::attributes::generateRArgList()`, and `Rcpp::attributes::printArgument()`.

#### 6.32.3.2 `bool Rcpp::attributes::Argument::empty ( ) const [inline]`

Definition at line 213 of file attributes.cpp.

Referenced by `Rcpp::attributes::printArgument()`.

#### 6.32.3.3 `const std::string& Rcpp::attributes::Argument::name ( ) const [inline]`

Definition at line 226 of file attributes.cpp.

Referenced by `Rcpp::attributes::generateCpp()`, `Rcpp::attributes::generateRArgList()`, and `Rcpp::attributes::printArgument()`.

#### 6.32.3.4 `bool Rcpp::attributes::Argument::operator!=( const Argument & other ) const [inline]`

Definition at line 221 of file attributes.cpp.

6.32.3.5 `bool Rcpp::attributes::Argument::operator==( const Argument & other ) const` `[inline]`

Definition at line 215 of file `attributes.cpp`.

References `defaultValue_`, `name_`, and `type_`.

6.32.3.6 `const Type& Rcpp::attributes::Argument::type( ) const` `[inline]`

Definition at line 227 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::generateCpp()`, `Rcpp::attributes::generateRArgList()`, and `Rcpp::attributes::print←Argument()`.

## 6.32.4 Member Data Documentation

6.32.4.1 `std::string Rcpp::attributes::Argument::defaultValue_` `[private]`

Definition at line 233 of file `attributes.cpp`.

Referenced by `operator==( )`.

6.32.4.2 `std::string Rcpp::attributes::Argument::name_` `[private]`

Definition at line 231 of file `attributes.cpp`.

Referenced by `operator==( )`.

6.32.4.3 `Type Rcpp::attributes::Argument::type_` `[private]`

Definition at line 232 of file `attributes.cpp`.

Referenced by `operator==( )`.

The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

## 6.33 Rcpp::Argument Class Reference

```
#include <Named.h>
```

## Public Member Functions

- [Argument](#) ()
- [Argument](#) (const std::string &name\_)
- `template<typename T >`  
[traits::named\\_object](#)< T > [operator=](#) (const T &t)

## Public Attributes

- std::string [name](#)

### 6.33.1 Detailed Description

Definition at line 27 of file Named.h.

### 6.33.2 Constructor & Destructor Documentation

#### 6.33.2.1 `Rcpp::Argument::Argument ( )` [inline]

Definition at line 29 of file Named.h.

Referenced by `Rcpp::Named()`, `Rcpp::internal::NamedPlaceholder::operator()()`, and `Rcpp::internal::NamedPlaceholder::operator[]()`.

#### 6.33.2.2 `Rcpp::Argument::Argument ( const std::string & name_ )` [inline]

Definition at line 30 of file Named.h.

### 6.33.3 Member Function Documentation

#### 6.33.3.1 `template<typename T > traits::named_object<T> Rcpp::Argument::operator= ( const T & t )` [inline]

Definition at line 33 of file Named.h.

References `name`.

### 6.33.4 Member Data Documentation

#### 6.33.4.1 `std::string Rcpp::Argument::name`

Definition at line 37 of file Named.h.

Referenced by `Rcpp::Named()`, and `operator=()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/Named.h`

## 6.34 Rcpp::Armor< T > Class Template Reference

```
#include <Armor.h>
```

### Public Member Functions

- [Armor](#) ()
- [template<typename U > Armor](#) (U x)
- [operator SEXP](#) () const
- [template<typename U > Armor & operator=](#) (const U &x)
- [~Armor](#) ()
- [template<typename U > Armor< T > & operator=](#) (const U &x)

### Private Member Functions

- void [init](#) (SEXP x)
- [Armor](#) (const [Armor](#) &)
- [Armor & operator=](#) (const [Armor](#) &)

### Private Attributes

- SEXP [data](#)
- PROTECT\_INDEX [index](#)

#### 6.34.1 Detailed Description

```
template<typename T>  
class Rcpp::Armor< T >
```

Definition at line 24 of file Armor.h.

#### 6.34.2 Constructor & Destructor Documentation

6.34.2.1 `template<typename T> Rcpp::Armor< T >::Armor ( )` [inline]

Definition at line 27 of file Armor.h.

References `Rcpp::Armor< T >::init()`.

Here is the call graph for this function:

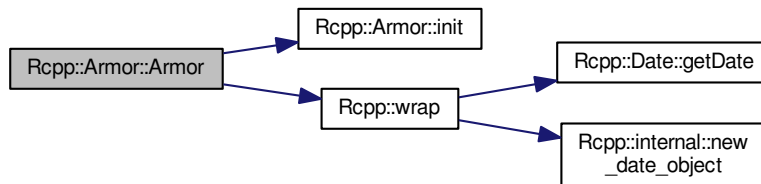


### 6.34.2.2 `template<typename T> template<typename U> Rcpp::Armor<T>::Armor ( U x )`

Definition at line 25 of file protection.h.

References `Rcpp::Armor<T>::init()`, and `Rcpp::wrap()`.

Here is the call graph for this function:



### 6.34.2.3 `template<typename T> Rcpp::Armor<T>::~~Armor ( ) [inline]`

Definition at line 40 of file Armor.h.

### 6.34.2.4 `template<typename T> Rcpp::Armor<T>::Armor ( const Armor<T> & ) [private]`

## 6.34.3 Member Function Documentation

### 6.34.3.1 `template<typename T> void Rcpp::Armor<T>::init ( SEXP x ) [inline], [private]`

Definition at line 45 of file Armor.h.

References `Rcpp::Armor<T>::data`, and `Rcpp::Armor<T>::index`.

Referenced by `Rcpp::Armor<T>::Armor()`.

### 6.34.3.2 `template<typename T> Rcpp::Armor<T>::operator SEXP ( ) const [inline]`

Definition at line 33 of file Armor.h.

References `Rcpp::Armor<T>::data`, and `Rcpp::Armor<T>::operator=()`.

Here is the call graph for this function:

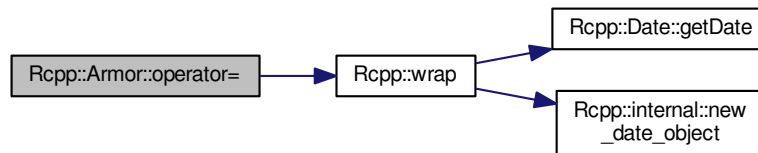


6.34.3.3 `template<typename T> template<typename U > Armor<T>& Rcpp::Armor< T >::operator=( const U & x )`  
`[inline]`

Definition at line 31 of file protection.h.

References `Rcpp::Armor< T >::data`, `Rcpp::Armor< T >::index`, and `Rcpp::wrap()`.

Here is the call graph for this function:



6.34.3.4 `template<typename T> template<typename U > Armor& Rcpp::Armor< T >::operator=( const U & x )`  
`[inline]`

Referenced by `Rcpp::Armor< T >::operator SEXP()`.

6.34.3.5 `template<typename T> Armor& Rcpp::Armor< T >::operator=( const Armor< T > & )` `[private]`

## 6.34.4 Member Data Documentation

6.34.4.1 `template<typename T> SEXP Rcpp::Armor< T >::data` `[private]`

Definition at line 49 of file Armor.h.

Referenced by `Rcpp::Armor< T >::init()`, `Rcpp::Armor< T >::operator SEXP()`, and `Rcpp::Armor< T >::operator=()`.

6.34.4.2 `template<typename T> PROTECT_INDEX Rcpp::Armor< T >::index` `[private]`

Definition at line 50 of file Armor.h.

Referenced by `Rcpp::Armor< T >::init()`, and `Rcpp::Armor< T >::operator=()`.

The documentation for this class was generated from the following files:

- [inst/include/Rcpp/protection/Armor.h](#)
- [inst/include/Rcpp/api/meat/protection.h](#)

## 6.35 Rcpp::attributes::Attribute Class Reference

### Public Member Functions

- [Attribute](#) ()
- [Attribute](#) (const std::string &name, const std::vector< [Param](#) > &params, const [Function](#) &function, const std::vector< std::string > &roxygen)
- bool [empty](#) () const
- bool [operator==](#) (const [Attribute](#) &other) const
- bool [operator!=](#) (const [Attribute](#) &other) const
- const std::string & [name](#) () const
- const std::vector< [Param](#) > & [params](#) () const
- [Param](#) [paramNamed](#) (const std::string &name) const
- bool [hasParameter](#) (const std::string &name) const
- const [Function](#) & [function](#) () const
- bool [isExportedFunction](#) () const
- std::string [exportedName](#) () const
- std::string [exportedCppName](#) () const
- bool [rng](#) () const
- const std::vector< std::string > & [roxygen](#) () const

### Private Attributes

- std::string [name\\_](#)
- std::vector< [Param](#) > [params\\_](#)
- [Function](#) [function\\_](#)
- std::vector< std::string > [roxygen\\_](#)

#### 6.35.1 Detailed Description

Definition at line 306 of file attributes.cpp.

#### 6.35.2 Constructor & Destructor Documentation

##### 6.35.2.1 Rcpp::attributes::Attribute::Attribute ( ) [inline]

Definition at line 308 of file attributes.cpp.

##### 6.35.2.2 Rcpp::attributes::Attribute::Attribute ( const std::string & name, const std::vector< [Param](#) > & params, const [Function](#) & function, const std::vector< std::string > & roxygen ) [inline]

Definition at line 309 of file attributes.cpp.



### 6.35.3 Member Function Documentation

#### 6.35.3.1 `bool Rcpp::attributes::Attribute::empty ( ) const [inline]`

Definition at line 317 of file attributes.cpp.

Referenced by `Rcpp::attributes::operator<<()`.

#### 6.35.3.2 `std::string Rcpp::attributes::Attribute::exportedCppName ( ) const [inline]`

Definition at line 365 of file attributes.cpp.

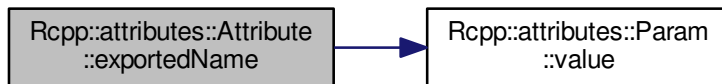
#### 6.35.3.3 `std::string Rcpp::attributes::Attribute::exportedName ( ) const [inline]`

Definition at line 347 of file attributes.cpp.

References `Rcpp::attributes::Param::value()`.

Referenced by `Rcpp::attributes::REExportsGenerator::doWriteFunctions()`, `Rcpp::attributes::isRoxygenCpp()`, and `Rcpp::attributes::CppExportsGenerator::writeEnd()`.

Here is the call graph for this function:



#### 6.35.3.4 `const Function& Rcpp::attributes::Attribute::function ( ) const [inline]`

Definition at line 341 of file attributes.cpp.

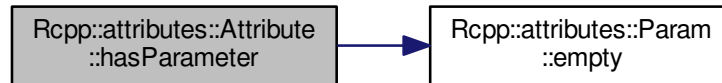
Referenced by `Rcpp::attributes::REExportsGenerator::doWriteFunctions()`, `Rcpp::attributes::generateCpp()`, `Rcpp::attributes::isRoxygenCpp()`, `Rcpp::attributes::operator<<()`, and `Rcpp::attributes::CppExportsGenerator::writeEnd()`.

6.35.3.5 `bool Rcpp::attributes::Attribute::hasParameter ( const std::string & name ) const` `[inline]`

Definition at line 337 of file `attributes.cpp`.

References `Rcpp::attributes::Param::empty()`.

Here is the call graph for this function:



6.35.3.6 `bool Rcpp::attributes::Attribute::isExportedFunction ( ) const` `[inline]`

Definition at line 343 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::REExportsGenerator::doWriteFunctions()`, `Rcpp::attributes::generateCpp()`, and `Rcpp::attributes::isRoxygenCpp()`.

6.35.3.7 `const std::string& Rcpp::attributes::Attribute::name ( ) const` `[inline]`

Definition at line 331 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::operator<<()`.

6.35.3.8 `bool Rcpp::attributes::Attribute::operator!= ( const Attribute & other ) const` `[inline]`

Definition at line 326 of file `attributes.cpp`.

6.35.3.9 `bool Rcpp::attributes::Attribute::operator== ( const Attribute & other ) const` `[inline]`

Definition at line 319 of file `attributes.cpp`.

References `function_`, `name_`, `params_`, and `roxygen_`.

6.35.3.10 `Param Rcpp::attributes::Attribute::paramNamed ( const std::string & name ) const`

Definition at line 1014 of file `attributes.cpp`.

6.35.3.11 `const std::vector<Param>& Rcpp::attributes::Attribute::params ( ) const [inline]`

Definition at line 333 of file attributes.cpp.

Referenced by `Rcpp::attributes::operator<<()`.

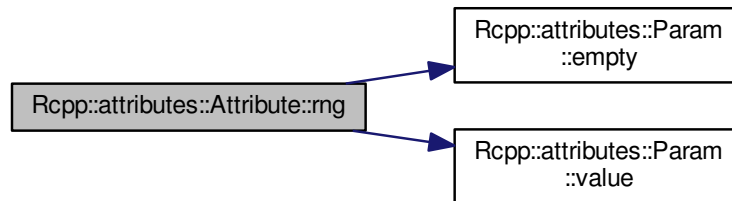
6.35.3.12 `bool Rcpp::attributes::Attribute::rng ( ) const [inline]`

Definition at line 371 of file attributes.cpp.

References `Rcpp::attributes::Param::empty()`, `Rcpp::attributes::kParamValueTRUE`, and `Rcpp::attributes::Param::value()`.

Referenced by `Rcpp::attributes::generateCpp()`.

Here is the call graph for this function:



6.35.3.13 `const std::vector<std::string>& Rcpp::attributes::Attribute::roxygen ( ) const [inline]`

Definition at line 380 of file attributes.cpp.

Referenced by `Rcpp::attributes::REExportsGenerator::doWriteFunctions()`.

## 6.35.4 Member Data Documentation

6.35.4.1 **Function** `Rcpp::attributes::Attribute::function_ [private]`

Definition at line 385 of file attributes.cpp.

Referenced by `operator==(())`.

#### 6.35.4.2 `std::string Rcpp::attributes::Attribute::name_` [private]

Definition at line 383 of file `attributes.cpp`.

Referenced by `operator==()`.

#### 6.35.4.3 `std::vector<Param> Rcpp::attributes::Attribute::params_` [private]

Definition at line 384 of file `attributes.cpp`.

Referenced by `operator==()`.

#### 6.35.4.4 `std::vector<std::string> Rcpp::attributes::Attribute::roxygen_` [private]

Definition at line 386 of file `attributes.cpp`.

Referenced by `operator==()`.

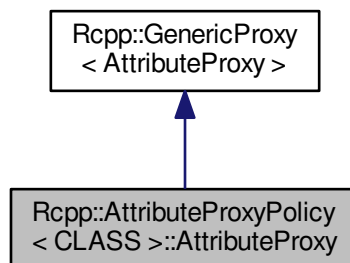
The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

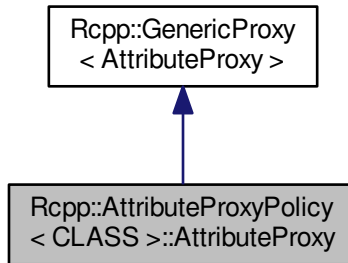
## 6.36 `Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy` Class Reference

```
#include <AttributeProxy.h>
```

Inheritance diagram for `Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy`:



Collaboration diagram for Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy:



### Public Member Functions

- [AttributeProxy](#) (CLASS &v, const std::string &name)
- [AttributeProxy](#) & [operator=](#) (const [AttributeProxy](#) &rhs)
- template<typename T >  
[AttributeProxy](#) & [operator=](#) (const T &rhs)
- template<typename T >  
[operator T](#) () const
- [operator SEXP](#) () const
- template<typename T >  
[AttributeProxyPolicy](#)< CLASS >::AttributeProxy & [operator=](#) (const T &rhs)

### Private Member Functions

- SEXP [get](#) () const
- void [set](#) (SEXP x)

### Private Attributes

- CLASS & [parent](#)
- SEXP [attr\\_name](#)

#### 6.36.1 Detailed Description

```

template<typename CLASS>
class Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy
  
```

Definition at line 27 of file AttributeProxy.h.

## 6.36.2 Constructor & Destructor Documentation

6.36.2.1 `template<typename CLASS> Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::AttributeProxy ( CLASS & v, const std::string & name ) [inline]`

Definition at line 29 of file AttributeProxy.h.

Referenced by `Rcpp::AttributeProxyPolicy< Vector< RTYPE, StoragePolicy > >::attr()`.

## 6.36.3 Member Function Documentation

6.36.3.1 `template<typename CLASS> SEXP Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::get ( ) const [inline],[private]`

Definition at line 48 of file AttributeProxy.h.

Referenced by `Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::operator=()`.

6.36.3.2 `template<typename CLASS > Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::operator SEXP ( ) const [inline]`

Definition at line 44 of file proxy.h.

6.36.3.3 `template<typename CLASS > template<typename T > Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::operator T ( ) const`

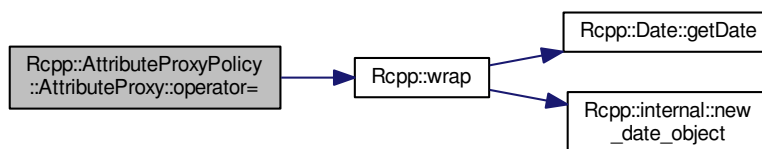
Definition at line 39 of file proxy.h.

6.36.3.4 `template<typename CLASS> template<typename T > AttributeProxyPolicy<CLASS>::AttributeProxy& Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::operator= ( const T & rhs )`

Definition at line 32 of file proxy.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:



6.36.3.5 `template<typename CLASS> AttributeProxy& Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::operator=( const AttributeProxy & rhs ) [inline]`

Definition at line 33 of file AttributeProxy.h.

References `Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::get()`.

Here is the call graph for this function:



6.36.3.6 `template<typename CLASS> template<typename T > AttributeProxy& Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::operator=( const T & rhs )`

6.36.3.7 `template<typename CLASS> void Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::set ( SEXP x ) [inline],[private]`

Definition at line 51 of file AttributeProxy.h.

## 6.36.4 Member Data Documentation

6.36.4.1 `template<typename CLASS> SEXP Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::attr_name [private]`

Definition at line 46 of file AttributeProxy.h.

6.36.4.2 `template<typename CLASS> CLASS& Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy::parent [private]`

Definition at line 45 of file AttributeProxy.h.

The documentation for this class was generated from the following files:

- [inst/include/Rcpp/proxy/AttributeProxy.h](#)
- [inst/include/Rcpp/api/meat/proxy.h](#)

## 6.37 Rcpp::AttributeProxyPolicy< CLASS > Class Template Reference

```
#include <AttributeProxy.h>
```

### Classes

- class [AttributeProxy](#)
- class [const\\_AttributeProxy](#)

### Public Member Functions

- [AttributeProxy attr](#) (const std::string &name)
- [const\\_AttributeProxy attr](#) (const std::string &name) const
- std::vector< std::string > [attributeNames](#) () const
- bool [hasAttribute](#) (const std::string &attr) const

#### 6.37.1 Detailed Description

```
template<typename CLASS>
class Rcpp::AttributeProxyPolicy< CLASS >
```

Definition at line 24 of file AttributeProxy.h.

#### 6.37.2 Member Function Documentation

6.37.2.1 `template<typename CLASS> AttributeProxy Rcpp::AttributeProxyPolicy< CLASS >::attr ( const std::string & name ) [inline]`

Definition at line 73 of file AttributeProxy.h.

Referenced by `Rcpp::DataFrame_Impl< StoragePolicy >::from_list()`, `Rcpp::sugar::na_omit_impl()`, `Rcpp::Timer< P >::operator SEXP()`, `Rcpp::internal::range_wrap_dispatch___impl__pair()`, `stack_trace()`, and `Rcpp::Vector< INTSEX< P >::Vector()`.

6.37.2.2 `template<typename CLASS> const_AttributeProxy Rcpp::AttributeProxyPolicy< CLASS >::attr ( const std::string & name ) const [inline]`

Definition at line 76 of file AttributeProxy.h.

6.37.2.3 `template<typename CLASS> std::vector<std::string> Rcpp::AttributeProxyPolicy< CLASS >::attributeNames ( ) const [inline]`

Definition at line 80 of file AttributeProxy.h.



```
6.37.2.4 template<typename CLASS> bool Rcpp::AttributeProxyPolicy< CLASS >::hasAttribute ( const std::string & attr )
const [inline]
```

Definition at line 90 of file AttributeProxy.h.

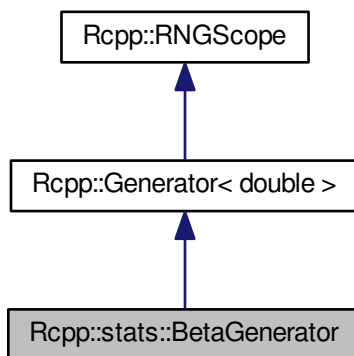
The documentation for this class was generated from the following file:

- inst/include/Rcpp/proxy/AttributeProxy.h

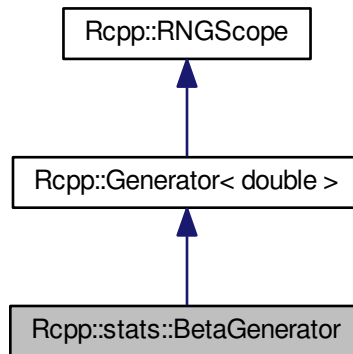
## 6.38 Rcpp::stats::BetaGenerator Class Reference

```
#include <rbeta.h>
```

Inheritance diagram for Rcpp::stats::BetaGenerator:



Collaboration diagram for Rcpp::stats::BetaGenerator:



### Public Member Functions

- [BetaGenerator](#) (double a\_, double b\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [a](#)
- double [b](#)

### Additional Inherited Members

#### 6.38.1 Detailed Description

Definition at line 28 of file rbeta.h.

#### 6.38.2 Constructor & Destructor Documentation

##### 6.38.2.1 Rcpp::stats::BetaGenerator::BetaGenerator ( double a\_, double b\_ ) [inline]

Definition at line 30 of file rbeta.h.

### 6.38.3 Member Function Documentation

6.38.3.1 `double Rcpp::stats::BetaGenerator::operator()( ) const [inline]`

Definition at line 32 of file `rbeta.h`.

References `a`, and `b`.

### 6.38.4 Member Data Documentation

6.38.4.1 `double Rcpp::stats::BetaGenerator::a [private]`

Definition at line 36 of file `rbeta.h`.

Referenced by `operator()`.

6.38.4.2 `double Rcpp::stats::BetaGenerator::b [private]`

Definition at line 36 of file `rbeta.h`.

Referenced by `operator()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rbeta.h`

## 6.39 Rcpp::traits::is\_convertible< T, U >::Big Struct Reference

### Public Attributes

- `char dummy [2]`

### 6.39.1 Detailed Description

```
template<typename T, typename U>
struct Rcpp::traits::is_convertible< T, U >::Big
```

Definition at line 32 of file `is_convertible.h`.

## 6.39.2 Member Data Documentation

### 6.39.2.1 `template<typename T, typename U > char Rcpp::traits::is_convertible< T, U >::Big::dummy[2]`

Definition at line 32 of file `is_convertible.h`.

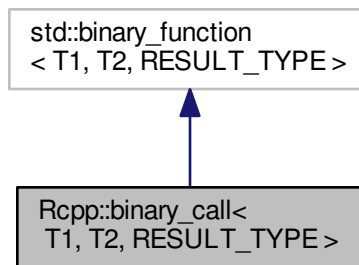
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/is_convertible.h`

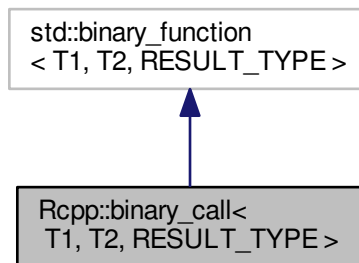
## 6.40 `Rcpp::binary_call< T1, T2, RESULT_TYPE >` Class Template Reference

```
#include <Language.h>
```

Inheritance diagram for `Rcpp::binary_call< T1, T2, RESULT_TYPE >`:



Collaboration diagram for `Rcpp::binary_call< T1, T2, RESULT_TYPE >`:



## Public Member Functions

- [binary\\_call](#) ([Language call\\_](#))
- [binary\\_call](#) ([Language call\\_](#), [R\\_xlen\\_t index1](#), [R\\_xlen\\_t index2](#))
- [binary\\_call](#) ([Function fun](#))
- [RESULT\\_TYPE operator\(\)](#) ([const T1 &o1](#), [const T2 &o2](#))

## Private Attributes

- [Language call](#)
- [Language::Proxy proxy1](#)
- [Language::Proxy proxy2](#)

### 6.40.1 Detailed Description

```
template<typename T1, typename T2, typename RESULT_TYPE = SEXP>
class Rcpp::binary_call< T1, T2, RESULT_TYPE >
```

Definition at line 197 of file [Language.h](#).

### 6.40.2 Constructor & Destructor Documentation

6.40.2.1 `template<typename T1, typename T2, typename RESULT_TYPE = SEXP> Rcpp::binary_call< T1, T2, RESULT_TYPE >::binary_call ( Language call\_ ) [inline]`

Definition at line 199 of file [Language.h](#).

6.40.2.2 `template<typename T1, typename T2, typename RESULT_TYPE = SEXP> Rcpp::binary_call< T1, T2, RESULT_TYPE >::binary_call ( Language call\_, R\_xlen\_t index1, R\_xlen\_t index2 ) [inline]`

Definition at line 200 of file [Language.h](#).

6.40.2.3 `template<typename T1, typename T2, typename RESULT_TYPE = SEXP> Rcpp::binary_call< T1, T2, RESULT_TYPE >::binary_call ( Function fun ) [inline]`

Definition at line 201 of file [Language.h](#).

### 6.40.3 Member Function Documentation

6.40.3.1 `template<typename T1, typename T2, typename RESULT_TYPE = SEXP> RESULT_TYPE Rcpp::binary_call< T1, T2, RESULT_TYPE >::operator() ( const T1 &o1, const T2 &o2 ) [inline]`

Definition at line 203 of file [Language.h](#).

References [Rcpp::fixed\\_call< RESULT\\_TYPE >::call](#).

### 6.40.4 Member Data Documentation

6.40.4.1 `template<typename T1 , typename T2 , typename RESULT_TYPE = SEXP> Language Rcpp::binary_call< T1, T2, RESULT_TYPE >::call` `[private]`

Definition at line 210 of file Language.h.

6.40.4.2 `template<typename T1 , typename T2 , typename RESULT_TYPE = SEXP> Language::Proxy Rcpp::binary_call< T1, T2, RESULT_TYPE >::proxy1` `[private]`

Definition at line 211 of file Language.h.

6.40.4.3 `template<typename T1 , typename T2 , typename RESULT_TYPE = SEXP> Language::Proxy Rcpp::binary_call< T1, T2, RESULT_TYPE >::proxy2` `[private]`

Definition at line 212 of file Language.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Language.h](#)

## 6.41 Rcpp::sugar::cbind\_impl::BindableExpression< RTYPE, E > Class Template Reference

```
#include <cbind.h>
```

### Public Types

- typedef [cbind\\_storage\\_type](#)< RTYPE >::type [stored\\_type](#)

### Public Member Functions

- [stored\\_type operator\[\]](#) (R\_xlen\_t i) const
- [stored\\_type operator\(\)](#) (R\_xlen\_t i, R\_xlen\_t j) const
- [R\\_xlen\\_t size](#) () const
- [R\\_xlen\\_t nrow](#) () const
- [R\\_xlen\\_t ncol](#) () const
- [operator E &](#) ()
- [operator const E &](#) () const

### 6.41.1 Detailed Description

```
template<int RTYPE, typename E>
class Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, E >
```

Definition at line 52 of file cbind.h.

### 6.41.2 Member Typedef Documentation

6.41.2.1 `template<int RTYPE, typename E> typedef cbind_storage_type<RTYPE>::type Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, E >::stored_type`

Definition at line 54 of file cbind.h.

### 6.41.3 Member Function Documentation

6.41.3.1 `template<int RTYPE, typename E> R_xlen_t Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, E >::ncol ( ) const [inline]`

Definition at line 72 of file cbind.h.

6.41.3.2 `template<int RTYPE, typename E> R_xlen_t Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, E >::nrow ( ) const [inline]`

Definition at line 68 of file cbind.h.

6.41.3.3 `template<int RTYPE, typename E> Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, E >::operator const E & ( ) const [inline]`

Definition at line 77 of file cbind.h.

6.41.3.4 `template<int RTYPE, typename E> Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, E >::operator E & ( ) [inline]`

Definition at line 76 of file cbind.h.

6.41.3.5 `template<int RTYPE, typename E> stored_type Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, E >::operator() ( R_xlen_t i, R_xlen_t j ) const [inline]`

Definition at line 60 of file cbind.h.

```
6.41.3.6 template<int RTYPE, typename E> stored_type Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, E
>::operator[]( R_xlen_t i ) const [inline]
```

Definition at line 56 of file cbind.h.

```
6.41.3.7 template<int RTYPE, typename E> R_xlen_t Rcpp::sugar::cbind_impl::BindableExpression< RTYPE, E >::size
( ) const [inline]
```

Definition at line 64 of file cbind.h.

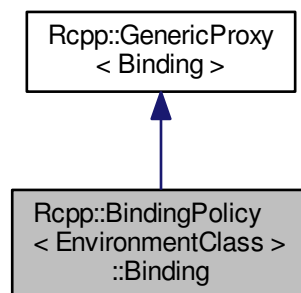
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

## 6.42 Rcpp::BindingPolicy< EnvironmentClass >::Binding Class Reference

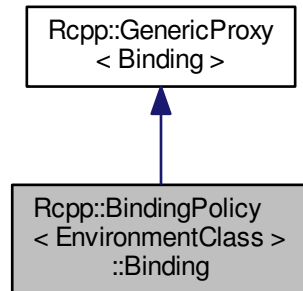
```
#include <Binding.h>
```

Inheritance diagram for Rcpp::BindingPolicy< EnvironmentClass >::Binding:





Collaboration diagram for Rcpp::BindingPolicy< EnvironmentClass >::Binding:



### Public Member Functions

- `Binding` (`EnvironmentClass &env_`, `const std::string &name_`)
- `bool active` () `const`
- `bool locked` () `const`
- `bool exists` () `const`
- `void lock` ()
- `void unlock` ()
- `Binding & operator=` (`const Binding &rhs`)
- `template<typename WRAPPABLE >`  
`Binding & operator=` (`const WRAPPABLE &rhs`)
- `template<typename T >`  
`operator T` () `const`
- `template<typename T >`  
`BindingPolicy< CLASS >::Binding & operator=` (`const T &rhs`)

### Private Member Functions

- `SEXP get` () `const`
- `void set` (`SEXP x`)

### Private Attributes

- `EnvironmentClass & env`
- `std::string name`

### 6.42.1 Detailed Description

```
template<typename EnvironmentClass>
class Rcpp::BindingPolicy< EnvironmentClass >::Binding
```

Definition at line 27 of file Binding.h.

### 6.42.2 Constructor & Destructor Documentation

6.42.2.1 `template<typename EnvironmentClass > Rcpp::BindingPolicy< EnvironmentClass >::Binding ( EnvironmentClass & env_, const std::string & name_ ) [inline]`

Definition at line 29 of file Binding.h.

Referenced by `Rcpp::BindingPolicy< EnvironmentClass >::operator[]()`.

### 6.42.3 Member Function Documentation

6.42.3.1 `template<typename EnvironmentClass > bool Rcpp::BindingPolicy< EnvironmentClass >::Binding::active ( ) const [inline]`

Definition at line 32 of file Binding.h.

References `Rcpp::BindingPolicy< EnvironmentClass >::Binding::env`, and `Rcpp::BindingPolicy< EnvironmentClass >::Binding::name`.

6.42.3.2 `template<typename EnvironmentClass > bool Rcpp::BindingPolicy< EnvironmentClass >::Binding::exists ( ) const [inline]`

Definition at line 38 of file Binding.h.

References `Rcpp::BindingPolicy< EnvironmentClass >::Binding::env`, and `Rcpp::BindingPolicy< EnvironmentClass >::Binding::name`.

6.42.3.3 `template<typename EnvironmentClass > SEXP Rcpp::BindingPolicy< EnvironmentClass >::Binding::get ( ) const [inline],[private]`

Definition at line 60 of file Binding.h.

References `Rcpp::BindingPolicy< EnvironmentClass >::Binding::env`, and `Rcpp::BindingPolicy< EnvironmentClass >::Binding::name`.

Referenced by `Rcpp::BindingPolicy< EnvironmentClass >::Binding::operator=()`.

```
6.42.3.4 template<typename EnvironmentClass > void Rcpp::BindingPolicy< EnvironmentClass >::Binding::lock ( )  
        [inline]
```

Definition at line 41 of file Binding.h.

References Rcpp::BindingPolicy< EnvironmentClass >::Binding::env, and Rcpp::BindingPolicy< EnvironmentClass >::Binding::name.

```
6.42.3.5 template<typename EnvironmentClass > bool Rcpp::BindingPolicy< EnvironmentClass >::Binding::locked ( )  
        const [inline]
```

Definition at line 35 of file Binding.h.

References Rcpp::BindingPolicy< EnvironmentClass >::Binding::env, and Rcpp::BindingPolicy< EnvironmentClass >::Binding::name.

```
6.42.3.6 template<typename CLASS > template<typename T > Rcpp::BindingPolicy< CLASS >::Binding::operator T ( )  
        const
```

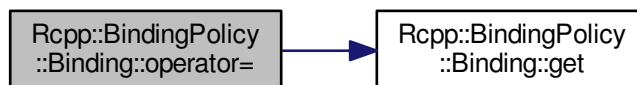
Definition at line 137 of file proxy.h.

```
6.42.3.7 template<typename EnvironmentClass > Binding& Rcpp::BindingPolicy< EnvironmentClass >::Binding::operator=  
        ( const Binding & rhs ) [inline]
```

Definition at line 47 of file Binding.h.

References Rcpp::BindingPolicy< EnvironmentClass >::Binding::get().

Here is the call graph for this function:



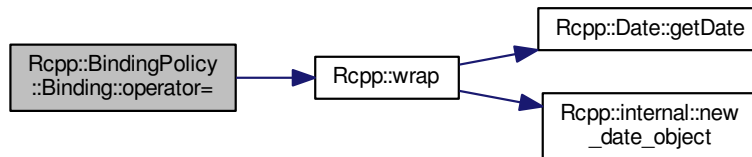
6.42.3.8 `template<typename EnvironmentClass > template<typename WRAPPABLE > Binding& Rcpp::BindingPolicy< EnvironmentClass >::Binding::operator= ( const WRAPPABLE & rhs )`

6.42.3.9 `template<typename EnvironmentClass > template<typename T > BindingPolicy<CLASS>::Binding& Rcpp::BindingPolicy< EnvironmentClass >::Binding::operator= ( const T & rhs )`

Definition at line 130 of file proxy.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:



6.42.3.10 `template<typename EnvironmentClass > void Rcpp::BindingPolicy< EnvironmentClass >::Binding::set ( SEXP x ) [inline], [private]`

Definition at line 64 of file Binding.h.

References `Rcpp::BindingPolicy< EnvironmentClass >::Binding::env`, and `Rcpp::BindingPolicy< EnvironmentClass >::Binding::name`.

6.42.3.11 `template<typename EnvironmentClass > void Rcpp::BindingPolicy< EnvironmentClass >::Binding::unlock ( ) [inline]`

Definition at line 44 of file Binding.h.

References `Rcpp::BindingPolicy< EnvironmentClass >::Binding::env`, and `Rcpp::BindingPolicy< EnvironmentClass >::Binding::name`.

## 6.42.4 Member Data Documentation

6.42.4.1 `template<typename EnvironmentClass > EnvironmentClass& Rcpp::BindingPolicy< EnvironmentClass >::Binding::env [private]`

Definition at line 68 of file Binding.h.

Referenced by `Rcpp::BindingPolicy< EnvironmentClass >::Binding::active()`, `Rcpp::BindingPolicy< EnvironmentClass >::const_Binding::active()`, `Rcpp::BindingPolicy< EnvironmentClass >::Binding::exists()`, `Rcpp::BindingPolicy< EnvironmentClass >::const_Binding::exists()`, `Rcpp::BindingPolicy< EnvironmentClass >::Binding::get()`, `Rcpp::BindingPolicy< EnvironmentClass >::const_Binding::get()`, `Rcpp::BindingPolicy< EnvironmentClass >::Binding::lock()`, `Rcpp::BindingPolicy< EnvironmentClass >::Binding::locked()`, `Rcpp::BindingPolicy< EnvironmentClass >::const_Binding::locked()`, `Rcpp::BindingPolicy< EnvironmentClass >::Binding::set()`, and `Rcpp::BindingPolicy< EnvironmentClass >::Binding::unlock()`.

```
6.42.4.2 template<typename EnvironmentClass > std::string Rcpp::BindingPolicy< EnvironmentClass >::Binding::name
    [private]
```

Definition at line 69 of file Binding.h.

Referenced by Rcpp::BindingPolicy< EnvironmentClass >::Binding::active(), Rcpp::BindingPolicy< EnvironmentClass >::const\_Binding::active(), Rcpp::BindingPolicy< EnvironmentClass >::Binding::exists(), Rcpp::BindingPolicy< EnvironmentClass >::const\_Binding::exists(), Rcpp::BindingPolicy< EnvironmentClass >::Binding::get(), Rcpp::BindingPolicy< EnvironmentClass >::const\_Binding::get(), Rcpp::BindingPolicy< EnvironmentClass >::Binding::lock(), Rcpp::BindingPolicy< EnvironmentClass >::Binding::locked(), Rcpp::BindingPolicy< EnvironmentClass >::const\_Binding::locked(), Rcpp::BindingPolicy< EnvironmentClass >::Binding::set(), and Rcpp::BindingPolicy< EnvironmentClass >::Binding::unlock().

The documentation for this class was generated from the following files:

- inst/include/Rcpp/proxy/Binding.h
- inst/include/Rcpp/api/meat/proxy.h

## 6.43 Rcpp::BindingPolicy< EnvironmentClass > Class Template Reference

```
#include <Binding.h>
```

### Classes

- class [Binding](#)
- class [const\\_Binding](#)

### Public Member Functions

- [const\\_Binding operator\[\]](#) (const std::string &name) const
- [Binding operator\[\]](#) (const std::string &name)

### 6.43.1 Detailed Description

```
template<typename EnvironmentClass>
class Rcpp::BindingPolicy< EnvironmentClass >
```

Definition at line 24 of file Binding.h.

### 6.43.2 Member Function Documentation

```
6.43.2.1 template<typename EnvironmentClass > const_Binding Rcpp::BindingPolicy< EnvironmentClass >::operator[] (
    const std::string & name ) const [inline]
```

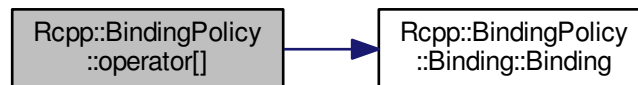
Definition at line 98 of file Binding.h.

6.43.2.2 `template<typename EnvironmentClass > Binding Rcpp::BindingPolicy< EnvironmentClass >::operator[] ( const std::string & name ) [inline]`

Definition at line 101 of file Binding.h.

References `Rcpp::BindingPolicy< EnvironmentClass >::Binding::Binding()`.

Here is the call graph for this function:



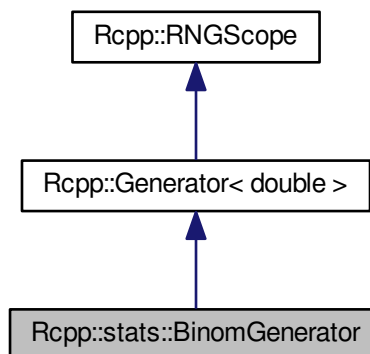
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/proxy/Binding.h](#)

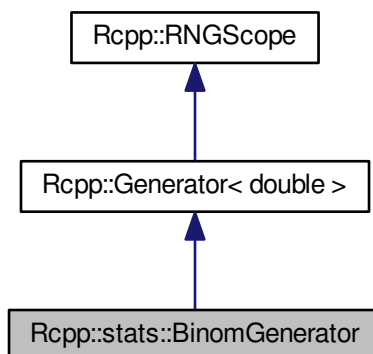
## 6.44 Rcpp::stats::BinomGenerator Class Reference

```
#include <rbinom.h>
```

Inheritance diagram for `Rcpp::stats::BinomGenerator`:



Collaboration diagram for Rcpp::stats::BinomGenerator:



### Public Member Functions

- [BinomGenerator](#) (double nin\_, double pp\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [nin](#)
- double [pp](#)

### Additional Inherited Members

#### 6.44.1 Detailed Description

Definition at line 28 of file rbinom.h.

#### 6.44.2 Constructor & Destructor Documentation

##### 6.44.2.1 Rcpp::stats::BinomGenerator::BinomGenerator ( double *nin\_*, double *pp\_* ) [inline]

Definition at line 30 of file rbinom.h.

### 6.44.3 Member Function Documentation

6.44.3.1 `double Rcpp::stats::BinomGenerator::operator()( ) const [inline]`

Definition at line 31 of file `rbinom.h`.

References `nin`, and `pp`.

### 6.44.4 Member Data Documentation

6.44.4.1 `double Rcpp::stats::BinomGenerator::nin [private]`

Definition at line 35 of file `rbinom.h`.

Referenced by `operator()`.

6.44.4.2 `double Rcpp::stats::BinomGenerator::pp [private]`

Definition at line 35 of file `rbinom.h`.

Referenced by `operator()`.

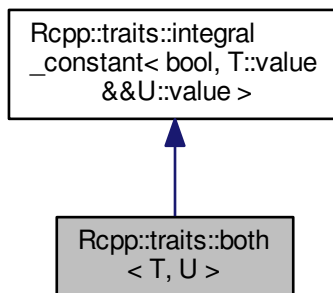
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rbinom.h](#)

## 6.45 Rcpp::traits::both< T, U > Struct Template Reference

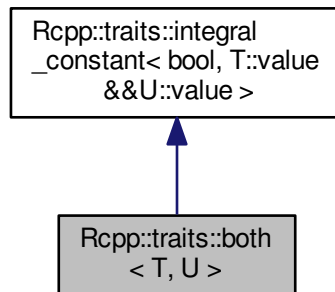
```
#include <integral_constant.h>
```

Inheritance diagram for `Rcpp::traits::both< T, U >`:





Collaboration diagram for `Rcpp::traits::both< T, U >`:



## Additional Inherited Members

### 6.45.1 Detailed Description

```
template<typename T, typename U>  
struct Rcpp::traits::both< T, U >
```

Definition at line 37 of file `integral_constant.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/integral\\_constant.h](#)

## 6.46 Cache Class Reference

```
#include <convolve10_cpp.h>
```

### Public Types

- typedef double & [proxy](#)
- typedef double \* [iterator](#)
- typedef double & [proxy](#)
- typedef double \* [iterator](#)

## Public Member Functions

- [Cache](#) (iterator data\_)
- [proxy ref](#) (int i)
- [proxy ref](#) (int i) const
- [Cache](#) (iterator data\_)
- [proxy ref](#) (int i)
- [proxy ref](#) (int i) const

## Private Attributes

- [iterator data](#)

### 6.46.1 Detailed Description

Definition at line 2 of file convolve10\_opp.h.

### 6.46.2 Member Typedef Documentation

#### 6.46.2.1 typedef double\* Cache::iterator

Definition at line 5 of file convolve10\_opp.h.

#### 6.46.2.2 typedef double\* Cache::iterator

Definition at line 18 of file convolve9\_opp.cpp.

#### 6.46.2.3 typedef double& Cache::proxy

Definition at line 4 of file convolve10\_opp.h.

#### 6.46.2.4 typedef double& Cache::proxy

Definition at line 17 of file convolve9\_opp.cpp.

### 6.46.3 Constructor & Destructor Documentation

#### 6.46.3.1 Cache::Cache ( iterator data\_ ) [inline]

Definition at line 7 of file convolve10\_opp.h.

### 6.46.3.2 Cache::Cache ( iterator *data\_* ) [inline]

Definition at line 20 of file convolve9\_cpp.cpp.

## 6.46.4 Member Function Documentation

### 6.46.4.1 proxy Cache::ref ( int *i* ) [inline]

Definition at line 9 of file convolve10\_cpp.h.

References data.

### 6.46.4.2 proxy Cache::ref ( int *i* ) const [inline]

Definition at line 10 of file convolve10\_cpp.h.

References data.

### 6.46.4.3 proxy Cache::ref ( int *i* ) [inline]

Definition at line 22 of file convolve9\_cpp.cpp.

References data.

### 6.46.4.4 proxy Cache::ref ( int *i* ) const [inline]

Definition at line 23 of file convolve9\_cpp.cpp.

References data.

## 6.46.5 Member Data Documentation

### 6.46.5.1 iterator Cache::data [private]

Definition at line 13 of file convolve10\_cpp.h.

Referenced by ref().

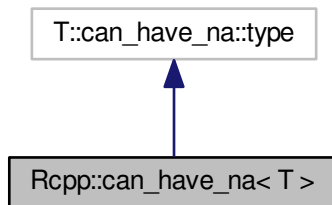
The documentation for this class was generated from the following files:

- inst/examples/ConvolveBenchmarks/[convolve10\\_cpp.h](#)
- inst/examples/ConvolveBenchmarks/[convolve9\\_cpp.cpp](#)

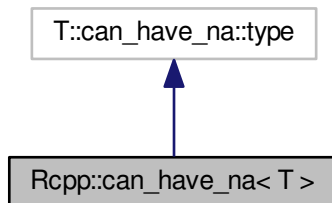
## 6.47 Rcpp::can\_have\_na< T > Struct Template Reference

```
#include <can_have_na.h>
```

Inheritance diagram for Rcpp::can\_have\_na< T >:



Collaboration diagram for Rcpp::can\_have\_na< T >:



### 6.47.1 Detailed Description

```
template<typename T>  
struct Rcpp::can_have_na< T >
```

Definition at line 28 of file can\_have\_na.h.

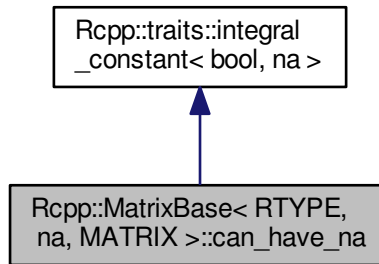
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/logical/can\\_have\\_na.h](#)

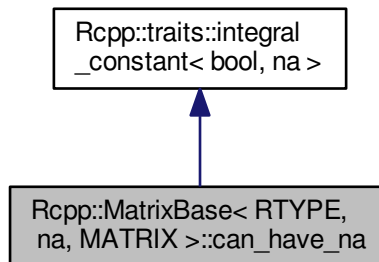
## 6.48 Rcpp::MatrixBase< RTYPE, na, MATRIX >::can\_have\_na Struct Reference

```
#include <MatrixBase.h>
```

Inheritance diagram for Rcpp::MatrixBase< RTYPE, na, MATRIX >::can\_have\_na:



Collaboration diagram for Rcpp::MatrixBase< RTYPE, na, MATRIX >::can\_have\_na:



### Additional Inherited Members

#### 6.48.1 Detailed Description

```
template<int RTYPE, bool na, typename MATRIX>
struct Rcpp::MatrixBase< RTYPE, na, MATRIX >::can_have_na
```

Definition at line 35 of file MatrixBase.h.

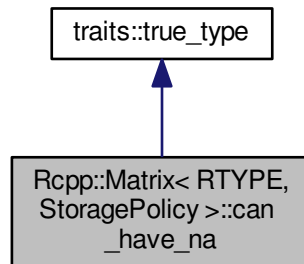
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/vector/[MatrixBase.h](#)

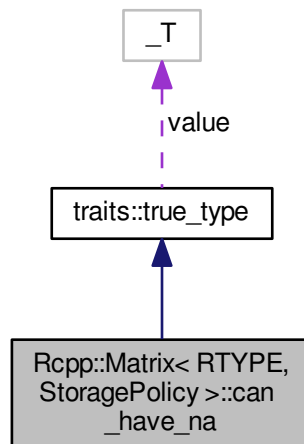
## 6.49 Rcpp::Matrix< RTYPE, StoragePolicy >::can\_have\_na Struct Reference

```
#include <Matrix.h>
```

Inheritance diagram for Rcpp::Matrix< RTYPE, StoragePolicy >::can\_have\_na:



Collaboration diagram for Rcpp::Matrix< RTYPE, StoragePolicy >::can\_have\_na:



### Additional Inherited Members

#### 6.49.1 Detailed Description

```
template<int RTYPE, template< class > class StoragePolicy = PreserveStorage>
struct Rcpp::Matrix< RTYPE, StoragePolicy >::can_have_na
```

Definition at line 33 of file Matrix.h.

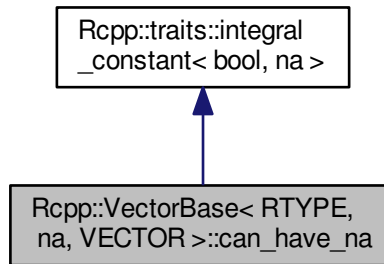
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/Matrix.h](#)

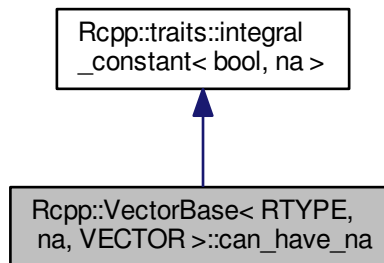
## 6.50 Rcpp::VectorBase< RTYPE, na, VECTOR >::can\_have\_na Struct Reference

```
#include <VectorBase.h>
```

Inheritance diagram for Rcpp::VectorBase< RTYPE, na, VECTOR >::can\_have\_na:



Collaboration diagram for Rcpp::VectorBase< RTYPE, na, VECTOR >::can\_have\_na:



## Additional Inherited Members

### 6.50.1 Detailed Description

```
template<int RTYPE, bool na, typename VECTOR>  
struct Rcpp::VectorBase< RTYPE, na, VECTOR >::can_have_na
```

Definition at line 33 of file VectorBase.h.

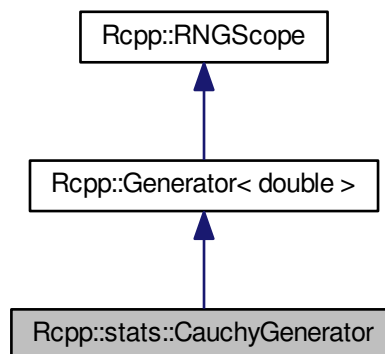
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/VectorBase.h](#)

## 6.51 Rcpp::stats::CauchyGenerator Class Reference

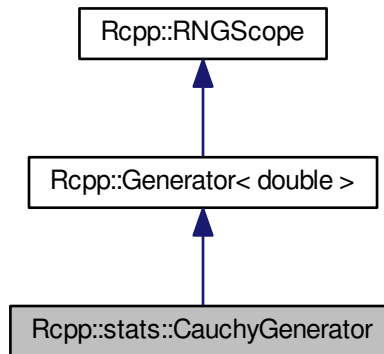
```
#include <rcauchy.h>
```

Inheritance diagram for Rcpp::stats::CauchyGenerator:





Collaboration diagram for Rcpp::stats::CauchyGenerator:



### Public Member Functions

- [CauchyGenerator](#) (double location\_, double scale\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [location](#)
- double [scale](#)

### Additional Inherited Members

#### 6.51.1 Detailed Description

Definition at line 28 of file rcauchy.h.

#### 6.51.2 Constructor & Destructor Documentation

##### 6.51.2.1 Rcpp::stats::CauchyGenerator::CauchyGenerator ( double *location\_*, double *scale\_* ) [inline]

Definition at line 31 of file rcauchy.h.

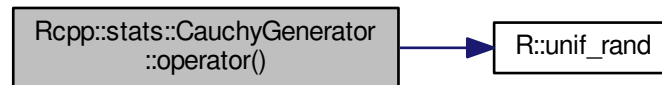
### 6.51.3 Member Function Documentation

6.51.3.1 `double Rcpp::stats::CauchyGenerator::operator() ( ) const` `[inline]`

Definition at line 34 of file `rcauchy.h`.

References `location`, `scale`, and `R::unif_rand()`.

Here is the call graph for this function:



### 6.51.4 Member Data Documentation

6.51.4.1 `double Rcpp::stats::CauchyGenerator::location` `[private]`

Definition at line 39 of file `rcauchy.h`.

Referenced by `operator()`, and `Rcpp::stats::CauchyGenerator_1::operator()`.

6.51.4.2 `double Rcpp::stats::CauchyGenerator::scale` `[private]`

Definition at line 39 of file `rcauchy.h`.

Referenced by `operator()`.

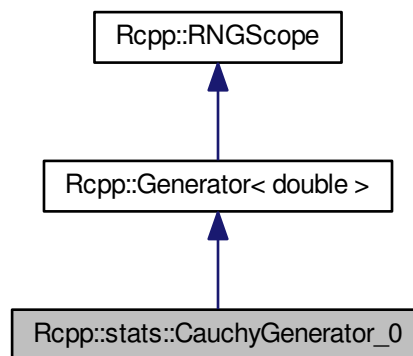
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rcauchy.h`

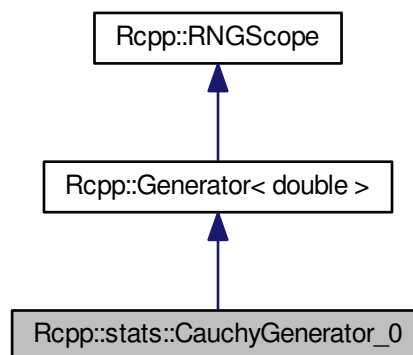
## 6.52 Rcpp::stats::CauchyGenerator\_0 Class Reference

```
#include <rcauchy.h>
```

Inheritance diagram for Rcpp::stats::CauchyGenerator\_0:



Collaboration diagram for Rcpp::stats::CauchyGenerator\_0:



### Public Member Functions

- [CauchyGenerator\\_0\(\)](#)
- `double operator()() const`

## Additional Inherited Members

### 6.52.1 Detailed Description

Definition at line 56 of file rcauchy.h.

### 6.52.2 Constructor & Destructor Documentation

#### 6.52.2.1 Rcpp::stats::CauchyGenerator\_0::CauchyGenerator\_0( ) [inline]

Definition at line 59 of file rcauchy.h.

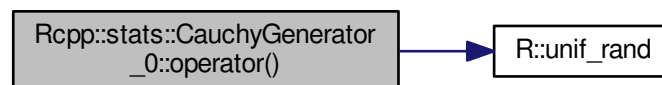
### 6.52.3 Member Function Documentation

#### 6.52.3.1 double Rcpp::stats::CauchyGenerator\_0::operator()( ) const [inline]

Definition at line 61 of file rcauchy.h.

References R::unif\_rand().

Here is the call graph for this function:



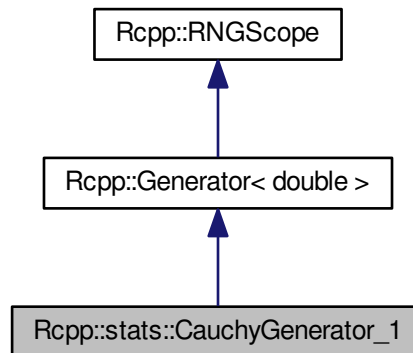
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rcauchy.h](#)

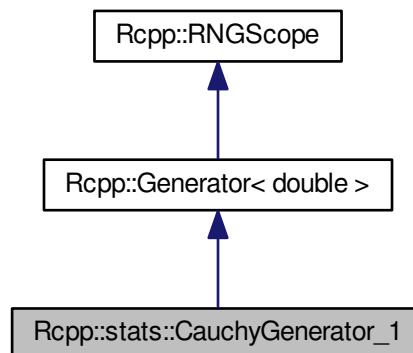
## 6.53 Rcpp::stats::CauchyGenerator\_1 Class Reference

```
#include <rcauchy.h>
```

Inheritance diagram for Rcpp::stats::CauchyGenerator\_1:



Collaboration diagram for Rcpp::stats::CauchyGenerator\_1:



### Public Member Functions

- [CauchyGenerator\\_1](#) (double location\_)
- `double operator() () const`

## Private Attributes

- double [location](#)

## Additional Inherited Members

### 6.53.1 Detailed Description

Definition at line 42 of file `rcauchy.h`.

### 6.53.2 Constructor & Destructor Documentation

6.53.2.1 `Rcpp::stats::CauchyGenerator_1::CauchyGenerator_1( double location_ )` `[inline]`

Definition at line 45 of file `rcauchy.h`.

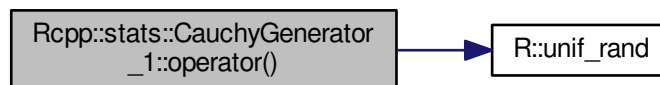
### 6.53.3 Member Function Documentation

6.53.3.1 `double Rcpp::stats::CauchyGenerator_1::operator()( ) const` `[inline]`

Definition at line 48 of file `rcauchy.h`.

References `Rcpp::stats::CauchyGenerator::location`, and `R::unif_rand()`.

Here is the call graph for this function:



### 6.53.4 Member Data Documentation

6.53.4.1 `double Rcpp::stats::CauchyGenerator_1::location` `[private]`

Definition at line 53 of file `rcauchy.h`.

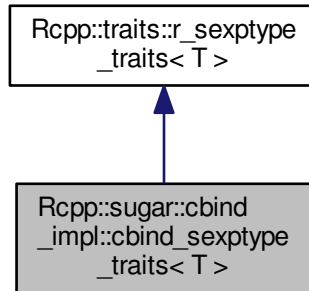
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rcauchy.h`

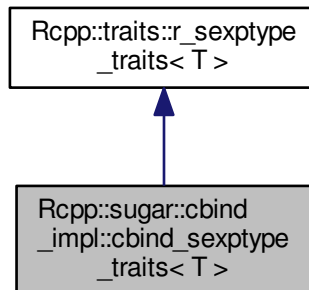
## 6.54 Rcpp::sugar::cbind\_impl::cbind\_sexptype\_traits< T > Struct Template Reference

```
#include <cbind.h>
```

Inheritance diagram for Rcpp::sugar::cbind\_impl::cbind\_sexptype\_traits< T >:



Collaboration diagram for Rcpp::sugar::cbind\_impl::cbind\_sexptype\_traits< T >:



### Additional Inherited Members

#### 6.54.1 Detailed Description

```
template<typename T>
struct Rcpp::sugar::cbind_impl::cbind_sexptype_traits< T >
```

Definition at line 31 of file cbind.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

## 6.55 Rcpp::sugar::cbind\_impl::cbind\_sexptype\_traits< SEXP > Struct Template Reference

```
#include <cbind.h>
```

### Public Types

- enum { `rtype` = STRSXP }

#### 6.55.1 Detailed Description

```
template<>  
struct Rcpp::sugar::cbind_impl::cbind_sexptype_traits< SEXP >
```

Definition at line 35 of file `cbind.h`.

#### 6.55.2 Member Enumeration Documentation

##### 6.55.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 36 of file `cbind.h`.

The documentation for this struct was generated from the following file:

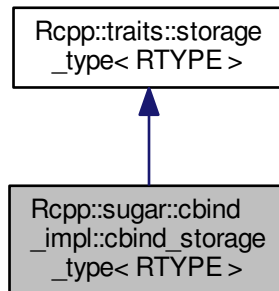
- [inst/include/Rcpp/sugar/functions/cbind.h](#)



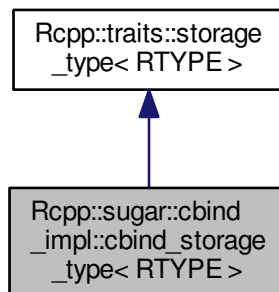
## 6.56 Rcpp::sugar::cbind\_impl::cbind\_storage\_type< RTYPE > Struct Template Reference

```
#include <cbind.h>
```

Inheritance diagram for Rcpp::sugar::cbind\_impl::cbind\_storage\_type< RTYPE >:



Collaboration diagram for Rcpp::sugar::cbind\_impl::cbind\_storage\_type< RTYPE >:



### Additional Inherited Members

#### 6.56.1 Detailed Description

```
template<int RTYPE>  
struct Rcpp::sugar::cbind_impl::cbind_storage_type< RTYPE >
```

Definition at line 41 of file cbind.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

## 6.57 Rcpp::sugar::cbind\_impl::cbind\_storage\_type< LGLSXP > Struct Template Reference

```
#include <cbind.h>
```

### Public Types

- typedef bool [type](#)

#### 6.57.1 Detailed Description

```
template<>  
struct Rcpp::sugar::cbind_impl::cbind_storage_type< LGLSXP >
```

Definition at line 45 of file [cbind.h](#).

#### 6.57.2 Member Typedef Documentation

6.57.2.1 typedef bool [Rcpp::sugar::cbind\\_impl::cbind\\_storage\\_type< LGLSXP >::type](#)

Definition at line 46 of file [cbind.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

## 6.58 Rcpp::traits::char\_type< T > Struct Template Reference

```
#include <char_type.h>
```

### Public Types

- typedef T::value\_type [type](#)

#### 6.58.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::char_type< T >
```

Definition at line 30 of file [char\\_type.h](#).

## 6.58.2 Member Typedef Documentation

### 6.58.2.1 `template<typename T> typedef T::value_type Rcpp::traits::char_type< T >::type`

Definition at line 31 of file `char_type.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/char\\_type.h](#)

## 6.59 Rcpp::traits::char\_type< const char \* > Struct Template Reference

```
#include <char_type.h>
```

### Public Types

- typedef char [type](#)

### 6.59.1 Detailed Description

```
template<>  
struct Rcpp::traits::char_type< const char * >
```

Definition at line 37 of file `char_type.h`.

## 6.59.2 Member Typedef Documentation

### 6.59.2.1 `typedef char Rcpp::traits::char_type< const char * >::type`

Definition at line 38 of file `char_type.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/char\\_type.h](#)

## 6.60 Rcpp::traits::char\_type< const wchar\_t \* > Struct Template Reference

```
#include <char_type.h>
```

## Public Types

- typedef wchar\_t [type](#)

### 6.60.1 Detailed Description

```
template<>
struct Rcpp::traits::char_type< const wchar_t * >
```

Definition at line 34 of file char\_type.h.

### 6.60.2 Member Typedef Documentation

#### 6.60.2.1 typedef wchar\_t Rcpp::traits::char\_type< const wchar\_t \* >::type

Definition at line 35 of file char\_type.h.

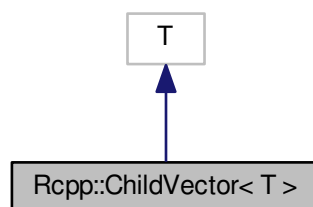
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[char\\_type.h](#)

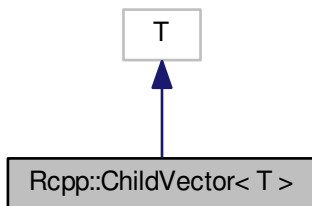
## 6.61 Rcpp::ChildVector< T > Class Template Reference

```
#include <ChildVector.h>
```

Inheritance diagram for Rcpp::ChildVector< T >:



Collaboration diagram for Rcpp::ChildVector< T >:



## Public Member Functions

- [ChildVector](#) (SEXP data\_, SEXP parent\_, R\_xlen\_t i\_)
- [ChildVector](#) (const [ChildVector](#) &other)
- [ChildVector](#) & [operator=](#) (const [ChildVector](#) &other)
- [ChildVector](#) & [operator=](#) (const T &other)
- `template<typename U >`  
[ChildVector](#) & [operator=](#) (const U &other)

## Private Attributes

- SEXP [parent](#)
- R\_xlen\_t [i](#)

### 6.61.1 Detailed Description

```
template<typename T>  
class Rcpp::ChildVector< T >
```

Definition at line 26 of file `ChildVector.h`.

### 6.61.2 Constructor & Destructor Documentation

6.61.2.1 `template<typename T> Rcpp::ChildVector< T >::ChildVector ( SEXP data_, SEXP parent_, R_xlen_t i_ )`  
`[inline]`

Definition at line 30 of file `ChildVector.h`.

6.61.2.2 `template<typename T> Rcpp::ChildVector< T >::ChildVector ( const ChildVector< T > & other )`  
`[inline]`

Definition at line 35 of file ChildVector.h.

### 6.61.3 Member Function Documentation

6.61.3.1 `template<typename T> ChildVector& Rcpp::ChildVector< T >::operator= ( const ChildVector< T > & other )`  
`[inline]`

Definition at line 40 of file ChildVector.h.

References `Rcpp::ChildVector< T >::i`, and `Rcpp::ChildVector< T >::parent`.

6.61.3.2 `template<typename T> ChildVector& Rcpp::ChildVector< T >::operator= ( const T & other )` `[inline]`

Definition at line 50 of file ChildVector.h.

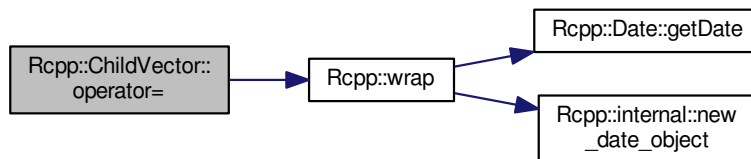
References `Rcpp::ChildVector< T >::i`, and `Rcpp::ChildVector< T >::parent`.

6.61.3.3 `template<typename T> template<typename U > ChildVector& Rcpp::ChildVector< T >::operator= ( const U & other )` `[inline]`

Definition at line 59 of file ChildVector.h.

References `Rcpp::ChildVector< T >::i`, `Rcpp::ChildVector< T >::parent`, and `Rcpp::wrap()`.

Here is the call graph for this function:



### 6.61.4 Member Data Documentation

6.61.4.1 `template<typename T> R_xlen_t Rcpp::ChildVector< T >::i` `[private]`

Definition at line 71 of file ChildVector.h.

Referenced by `Rcpp::ChildVector< T >::operator=()`.

6.61.4.2 `template<typename T> SEXP Rcpp::ChildVector< T >::parent` [private]

Definition at line 70 of file ChildVector.h.

Referenced by `Rcpp::ChildVector< T >::operator=()`.

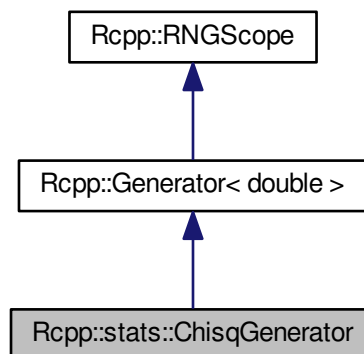
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/ChildVector.h](#)

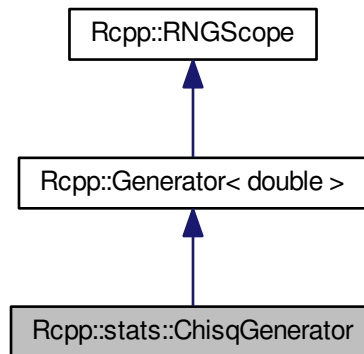
## 6.62 Rcpp::stats::ChisqGenerator Class Reference

```
#include <rchisq.h>
```

Inheritance diagram for `Rcpp::stats::ChisqGenerator`:



Collaboration diagram for Rcpp::stats::ChisqGenerator:



## Public Member Functions

- [ChisqGenerator](#) (double df\_)
- double [operator\(\)](#) () const

## Private Attributes

- double [df\\_2](#)

## Additional Inherited Members

### 6.62.1 Detailed Description

Definition at line 28 of file rchisq.h.

### 6.62.2 Constructor & Destructor Documentation

#### 6.62.2.1 Rcpp::stats::ChisqGenerator::ChisqGenerator ( double df\_ ) [inline]

Definition at line 31 of file rchisq.h.



### 6.62.3 Member Function Documentation

6.62.3.1 `double Rcpp::stats::ChisqGenerator::operator()( ) const [inline]`

Definition at line 33 of file `rchisq.h`.

References `df_2`.

### 6.62.4 Member Data Documentation

6.62.4.1 `double Rcpp::stats::ChisqGenerator::df_2 [private]`

Definition at line 38 of file `rchisq.h`.

Referenced by `operator()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rchisq.h`

## 6.63 Rcpp::sugar::clamp\_operator< RTYPE, NA > Struct Template Reference

```
#include <clamp.h>
```

### Public Types

- typedef `Rcpp::traits::storage_type< RTYPE >::type STORAGE`

### Public Member Functions

- `clamp_operator (STORAGE lhs_, STORAGE rhs_)`
- `STORAGE operator() (STORAGE x) const`

### Public Attributes

- `STORAGE lhs`
- `STORAGE rhs`

### 6.63.1 Detailed Description

```
template<int RTYPE, bool NA>  
struct Rcpp::sugar::clamp_operator< RTYPE, NA >
```

Definition at line 29 of file clamp.h.

### 6.63.2 Member Typedef Documentation

6.63.2.1 `template<int RTYPE, bool NA> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::clamp_operator< RTYPE, NA >::STORAGE`

Definition at line 30 of file clamp.h.

### 6.63.3 Constructor & Destructor Documentation

6.63.3.1 `template<int RTYPE, bool NA> Rcpp::sugar::clamp_operator< RTYPE, NA >::clamp_operator ( STORAGE lhs_, STORAGE rhs_ ) [inline]`

Definition at line 32 of file clamp.h.

### 6.63.4 Member Function Documentation

6.63.4.1 `template<int RTYPE, bool NA> STORAGE Rcpp::sugar::clamp_operator< RTYPE, NA >::operator() ( STORAGE x ) const [inline]`

Definition at line 34 of file clamp.h.

References `Rcpp::sugar::clamp_operator< RTYPE, NA >::rhs`.

### 6.63.5 Member Data Documentation

6.63.5.1 `template<int RTYPE, bool NA> STORAGE Rcpp::sugar::clamp_operator< RTYPE, NA >::lhs`

Definition at line 37 of file clamp.h.

Referenced by `Rcpp::clamp()`.

6.63.5.2 `template<int RTYPE, bool NA> STORAGE Rcpp::sugar::clamp_operator< RTYPE, NA >::rhs`

Definition at line 37 of file clamp.h.

Referenced by `Rcpp::clamp()`, `Rcpp::sugar::clamp_operator< RTYPE, NA >::operator()()`, and `Rcpp::sugar::clamp_↔operator<REALSXP, true >::operator()()`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/sugar/functions/clamp.h`

## 6.64 Rcpp::sugar::clamp\_operator<REALSXP, true > Struct Template Reference

```
#include <clamp.h>
```

### Public Member Functions

- `clamp_operator` (double lhs\_, double rhs\_)
- double `operator()` (double x) const

### Public Attributes

- double `lhs`
- double `rhs`

### 6.64.1 Detailed Description

```
template<>
struct Rcpp::sugar::clamp_operator<REALSXP, true >
```

Definition at line 41 of file clamp.h.

### 6.64.2 Constructor & Destructor Documentation

#### 6.64.2.1 `Rcpp::sugar::clamp_operator<REALSXP, true >::clamp_operator ( double lhs_, double rhs_ ) [inline]`

Definition at line 42 of file clamp.h.

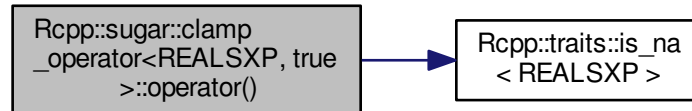
### 6.64.3 Member Function Documentation

6.64.3.1 `double Rcpp::sugar::clamp_operator<REALSXP, true >::operator() ( double x ) const` `[inline]`

Definition at line 44 of file clamp.h.

References `Rcpp::traits::is_na< REALSXP >()`, and `Rcpp::sugar::clamp_operator< RTYPE, NA >::rhs`.

Here is the call graph for this function:



### 6.64.4 Member Data Documentation

6.64.4.1 `double Rcpp::sugar::clamp_operator<REALSXP, true >::lhs`

Definition at line 48 of file clamp.h.

6.64.4.2 `double Rcpp::sugar::clamp_operator<REALSXP, true >::rhs`

Definition at line 48 of file clamp.h.

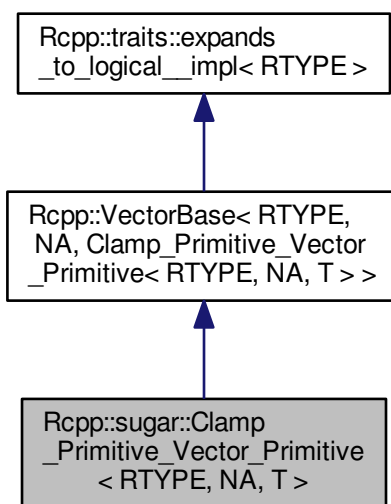
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/sugar/functions/clamp.h`

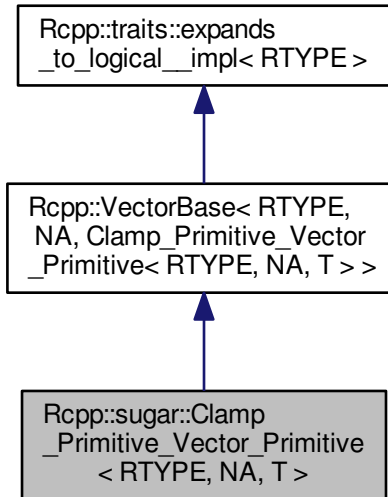
## 6.65 Rcpp::sugar::Clamp\_Primitive\_Vector\_Primitive< RTYPE, NA, T > Class Template Reference

```
#include <clamp.h>
```

Inheritance diagram for Rcpp::sugar::Clamp\_Primitive\_Vector\_Primitive< RTYPE, NA, T >:



Collaboration diagram for `Rcpp::sugar::Clamp_Primitive_Vector_Primitive< RTYPE, NA, T >`:



## Public Types

- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `clamp_operator<RTYPE, NA >` `OPERATOR`

## Public Member Functions

- `Clamp_Primitive_Vector_Primitive (STORAGE lhs_, const T &vec_, STORAGE rhs_)`
- `STORAGE operator[] (R_xlen_t i) const`
- `R_xlen_t size () const`

## Private Attributes

- `const T & vec`
- `OPERATOR op`

### 6.65.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Clamp_Primitive_Vector_Primitive< RTYPE, NA, T >
  
```

Definition at line 57 of file `clamp.h`.

## 6.65.2 Member Typedef Documentation

6.65.2.1 `template<int RTYPE, bool NA, typename T> typedef clamp_operator<RTYPE,NA>  
Rcpp::sugar::Clamp_Primitive_Vector_Primitive< RTYPE, NA, T >::OPERATOR`

Definition at line 64 of file clamp.h.

6.65.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::storage_type<RTYPE>::type  
Rcpp::sugar::Clamp_Primitive_Vector_Primitive< RTYPE, NA, T >::STORAGE`

Definition at line 63 of file clamp.h.

## 6.65.3 Constructor & Destructor Documentation

6.65.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Clamp_Primitive_Vector_Primitive< RTYPE, NA, T  
>::Clamp_Primitive_Vector_Primitive ( STORAGE lhs_, const T & vec_, STORAGE rhs_ ) [inline]`

Definition at line 66 of file clamp.h.

## 6.65.4 Member Function Documentation

6.65.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Clamp_Primitive_Vector_Primitive<  
RTYPE, NA, T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 68 of file clamp.h.

6.65.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Clamp_Primitive_Vector_Primitive< RTYPE,  
NA, T >::size ( ) const [inline]`

Definition at line 71 of file clamp.h.

## 6.65.5 Member Data Documentation

6.65.5.1 `template<int RTYPE, bool NA, typename T> OPERATOR Rcpp::sugar::Clamp_Primitive_Vector_Primitive<  
RTYPE, NA, T >::op [private]`

Definition at line 75 of file clamp.h.

6.65.5.2 `template<int RTYPE, bool NA, typename T> const T& Rcpp::sugar::Clamp_Primitive_Vector_Primitive< RTYPE, NA, T >::vec [private]`

Definition at line 74 of file clamp.h.

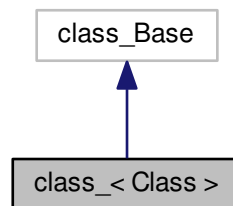
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/clamp.h](#)

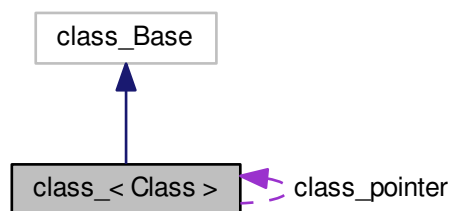
## 6.66 `class_< Class >` Class Template Reference

```
#include <class.h>
```

Inheritance diagram for `class_< Class >`:



Collaboration diagram for `class_< Class >`:





## Public Types

- typedef [class\\_ < Class > self](#)
- typedef [CppMethod < Class > method\\_class](#)
- typedef [SignedMethod < Class > signed\\_method\\_class](#)
- typedef [std::vector < signed\\_method\\_class \\* > vec\\_signed\\_method](#)
- typedef [std::map < std::string, vec\\_signed\\_method \\* > map\\_vec\\_signed\\_method](#)
- typedef [std::pair < std::string, vec\\_signed\\_method \\* > vec\\_signed\\_method\\_pair](#)
- typedef [std::map < std::string, method\\_class \\* > METHOD\\_MAP](#)
- typedef [std::pair < const std::string, method\\_class \\* > PAIR](#)
- typedef [Rcpp::XPtr < Class > XP](#)
- typedef [CppMethodFinalizer < Class > finalizer\\_class](#)
- typedef [Constructor\\_Base < Class > constructor\\_class](#)
- typedef [SignedConstructor < Class > signed\\_constructor\\_class](#)
- typedef [std::vector < signed\\_constructor\\_class \\* > vec\\_signed\\_constructor](#)
- typedef [Factory\\_Base < Class > factory\\_class](#)
- typedef [SignedFactory < Class > signed\\_factory\\_class](#)
- typedef [std::vector < signed\\_factory\\_class \\* > vec\\_signed\\_factory](#)
- typedef [CppMethodProperty < Class > prop\\_class](#)
- typedef [std::map < std::string, prop\\_class \\* > PROPERTY\\_MAP](#)
- typedef [std::pair < const std::string, prop\\_class \\* > PROP\\_PAIR](#)

## Public Member Functions

- [class\\_ \(const char \\*name\\_, const char \\*doc=0\)](#)
- [~class\\_ \(\)](#)
- [self & AddConstructor \(constructor\\_class \\*ctor, ValidConstructor valid, const char \\*docstring=0\)](#)
- [self & AddFactory \(factory\\_class \\*fact, ValidConstructor valid, const char \\*docstring=0\)](#)
- [self & default\\_constructor \(const char \\*docstring=0, ValidConstructor valid=&yes\\_arity < 0 >\)](#)
- [std::string get\\_typeinfo\\_name \(\)](#)
- [SEXP newInstance \(SEXP \\*args, int nargs\)](#)
- [bool has\\_default\\_constructor \(\)](#)
- [SEXP invoke \(SEXP method\\_xp, SEXP object, SEXP \\*args, int nargs\)](#)
- [SEXP invoke\\_void \(SEXP method\\_xp, SEXP object, SEXP \\*args, int nargs\)](#)
- [SEXP invoke\\_notvoid \(SEXP method\\_xp, SEXP object, SEXP \\*args, int nargs\)](#)
- [self & AddMethod \(const char \\*name\\_, method\\_class \\*m, ValidMethod valid=&yes, const char \\*docstring=0\)](#)
- [self & AddProperty \(const char \\*name\\_, prop\\_class \\*p\)](#)
- [bool has\\_method \(const std::string &m\)](#)
- [bool has\\_property \(const std::string &m\)](#)
- [bool property\\_is\\_readonly \(const std::string &p\)](#)
- [std::string property\\_class \(const std::string &p\)](#)
- [Rcpp::CharacterVector method\\_names \(\)](#)
- [Rcpp::IntegerVector methods\\_arity \(\)](#)
- [Rcpp::LogicalVector methods\\_voidness \(\)](#)
- [Rcpp::CharacterVector property\\_names \(\)](#)
- [Rcpp::List property\\_classes \(\)](#)
- [Rcpp::CharacterVector complete \(\)](#)
- [SEXP getProperty \(SEXP field\\_xp, SEXP object\)](#)
- [void setProperty \(SEXP field\\_xp, SEXP object, SEXP value\)](#)
- [Rcpp::List fields \(const XP\\_Class &class\\_xp\)](#)

- [Rcpp::List getMethods](#) (const [XP\\_Class](#) &class\_xp, std::string &buffer)
- [Rcpp::List getConstructors](#) (const [XP\\_Class](#) &class\_xp, std::string &buffer)
- [self & finalizer](#) (void(\*f)(Class \*))
- virtual void [run\\_finalizer](#) (SEXP object)
- void [SetFinalizer](#) ([finalizer\\_class](#) \*f)
- [class\\_](#) ()
- template<typename PARENT >  
[self & derives](#) (const char \*parent)

## Public Attributes

- [map\\_vec\\_signed\\_method](#) [vec\\_methods](#)
- [PROPERTY\\_MAP](#) [properties](#)
- [finalizer\\_class](#) \* [finalizer\\_pointer](#)
- int [specials](#)
- [vec\\_signed\\_constructor](#) [constructors](#)
- [vec\\_signed\\_factory](#) [factories](#)
- [self](#) \* [class\\_pointer](#)
- std::string [typeinfo\\_name](#)

## Private Member Functions

- [self](#) \* [get\\_instance](#) ()

### 6.66.1 Detailed Description

```
template<typename Class >
class class_ < Class >
```

Definition at line 26 of file class.h.

### 6.66.2 Member Typedef Documentation

6.66.2.1 `template<typename Class > typedef Constructor_Base<Class> class_ < Class >::constructor_class`

Definition at line 42 of file class.h.

6.66.2.2 `template<typename Class > typedef Factory_Base<Class> class_ < Class >::factory_class`

Definition at line 46 of file class.h.

6.66.2.3 `template<typename Class > typedef CppFinalizer<Class> class_< Class >::finalizer_class`

Definition at line 40 of file class.h.

6.66.2.4 `template<typename Class > typedef std::map<std::string,vec_signed_method*> class_< Class >::map_vec_signed_method`

Definition at line 33 of file class.h.

6.66.2.5 `template<typename Class > typedef CppMethod<Class> class_< Class >::method_class`

Definition at line 29 of file class.h.

6.66.2.6 `template<typename Class > typedef std::map<std::string,method_class*> class_< Class >::METHOD_MAP`

Definition at line 36 of file class.h.

6.66.2.7 `template<typename Class > typedef std::pair<const std::string,method_class*> class_< Class >::PAIR`

Definition at line 37 of file class.h.

6.66.2.8 `template<typename Class > typedef CppProperty<Class> class_< Class >::prop_class`

Definition at line 50 of file class.h.

6.66.2.9 `template<typename Class > typedef std::pair<const std::string,prop_class*> class_< Class >::PROP_PAIR`

Definition at line 52 of file class.h.

6.66.2.10 `template<typename Class > typedef std::map<std::string,prop_class*> class_< Class >::PROPERTY_MAP`

Definition at line 51 of file class.h.

6.66.2.11 `template<typename Class > typedef class_<Class> class_< Class >::self`

Definition at line 28 of file class.h.

6.66.2.12 `template<typename Class > typedef SignedConstructor<Class> class_< Class >::signed_constructor_class`

Definition at line 43 of file class.h.

6.66.2.13 `template<typename Class > typedef SignedFactory<Class> class_< Class >::signed_factory_class`

Definition at line 47 of file class.h.

6.66.2.14 `template<typename Class > typedef SignedMethod<Class> class_< Class >::signed_method_class`

Definition at line 31 of file class.h.

6.66.2.15 `template<typename Class > typedef std::vector<signed_constructor_class*> class_< Class >::vec_signed_constructor`

Definition at line 44 of file class.h.

6.66.2.16 `template<typename Class > typedef std::vector<signed_factory_class*> class_< Class >::vec_signed_factory`

Definition at line 48 of file class.h.

6.66.2.17 `template<typename Class > typedef std::vector<signed_method_class*> class_< Class >::vec_signed_method`

Definition at line 32 of file class.h.

6.66.2.18 `template<typename Class > typedef std::pair<std::string,vec_signed_method*> class_< Class >::vec_signed_method_pair`

Definition at line 34 of file class.h.

6.66.2.19 `template<typename Class > typedef Rcpp::XPtr<Class> class_< Class >::XP`

Definition at line 39 of file class.h.

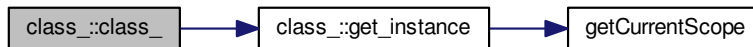
### 6.66.3 Constructor & Destructor Documentation

6.66.3.1 `template<typename Class > class_< Class >::class_( const char * name_, const char * doc = 0 ) [inline]`

Definition at line 54 of file class.h.

References `class_< Class >::class_pointer`, and `class_< Class >::get_instance()`.

Here is the call graph for this function:



6.66.3.2 `template<typename Class > class_< Class >::~~class_( ) [inline]`

Definition at line 98 of file class.h.

6.66.3.3 `template<typename Class > class_< Class >::class_( ) [inline]`

Definition at line 481 of file class.h.

### 6.66.4 Member Function Documentation

6.66.4.1 `template<typename Class > self& class_< Class >::AddConstructor ( constructor_class * ctor, ValidConstructor valid, const char * docstring = 0 ) [inline]`

Definition at line 100 of file class.h.

References `class_< Class >::class_pointer`, and `class_< Class >::constructors`.

6.66.4.2 `template<typename Class > self& class_< Class >::AddFactory ( factory_class * fact, ValidConstructor valid, const char * docstring = 0 ) [inline]`

Definition at line 105 of file class.h.

References `class_< Class >::class_pointer`, and `class_< Class >::factories`.

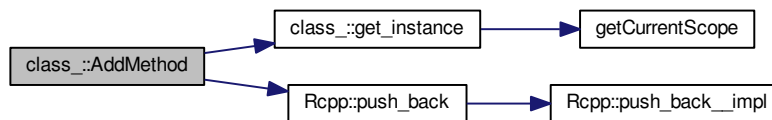
6.66.4.3 `template<typename Class > self& class_< Class >::AddMethod ( const char * name_, method_class * m, ValidMethod valid = &yes, const char * docstring = 0 ) [inline]`

Definition at line 239 of file class.h.

References `class_< Class >::get_instance()`, `Rcpp::push_back()`, and `RCPP_DEBUG_MODULE_1`.

Referenced by `class_< Class >::derives()`.

Here is the call graph for this function:



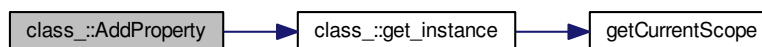
6.66.4.4 `template<typename Class > self& class_< Class >::AddProperty ( const char * name_, prop_class * p ) [inline]`

Definition at line 251 of file class.h.

References `class_< Class >::get_instance()`, and `class_< Class >::properties`.

Referenced by `class_< Class >::derives()`.

Here is the call graph for this function:



6.66.4.5 `template<typename Class > Rcpp::CharacterVector class_< Class >::complete ( ) [inline]`

Definition at line 368 of file class.h.

References `class_< Class >::properties`, `class_< Class >::specials`, and `class_< Class >::vec_methods`.

6.66.4.6 `template<typename Class > self& class_< Class >::default_constructor ( const char * docstring = 0, ValidConstructor valid = &yes_arity<0> ) [inline]`

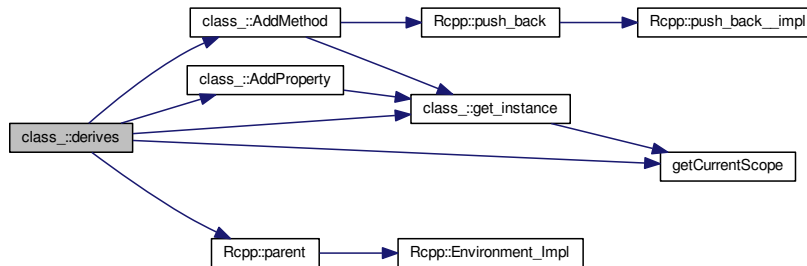
Definition at line 110 of file class.h.

6.66.4.7 `template<typename Class > template<typename PARENT > self& class_< Class >::derives ( const char * parent ) [inline]`

Definition at line 487 of file class.h.

References `class_< Class >::AddMethod()`, `class_< Class >::AddProperty()`, `class_< Class >::get_instance()`, `get←CurrentScope()`, `Rcpp::parent()`, and `class_< Class >::properties`.

Here is the call graph for this function:

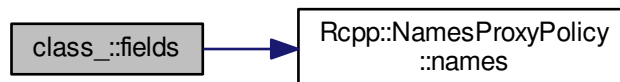


6.66.4.8 `template<typename Class > Rcpp::List class_< Class >::fields ( const XP_Class & class_xp ) [inline]`

Definition at line 409 of file class.h.

References `Rcpp::NamesProxyPolicy< CLASS >::names()`, and `class_< Class >::properties`.

Here is the call graph for this function:



6.66.4.9 `template<typename Class > self& class_< Class >::finalizer ( void(*)(Class *) f ) [inline]`

Definition at line 455 of file class.h.

References `class_< Class >::SetFinalizer()`.

Here is the call graph for this function:



6.66.4.10 `template<typename Class > self* class_< Class >::get_instance ( ) [inline], [private]`

Definition at line 70 of file class.h.

References `class_< Class >::class_pointer`, `DEMANGLE`, `class_< Class >::finalizer_pointer`, `getCurrentScope()`, `R←CPP_DEBUG_MODULE_2`, and `class_< Class >::typeinfo_name`.

Referenced by `class_< Class >::AddMethod()`, `class_< Class >::AddProperty()`, `class_< Class >::class_()`, `class_< Class >::derives()`, and `class_< Class >::SetFinalizer()`.

Here is the call graph for this function:



6.66.4.11 `template<typename Class > std::string class_< Class >::get_typeinfo_name ( ) [inline]`

Definition at line 119 of file class.h.

References `class_< Class >::typeinfo_name`.

6.66.4.12 `template<typename Class > Rcpp::List class_< Class >::getConstructors ( const XP_Class & class_xp, std::string & buffer ) [inline]`

Definition at line 441 of file class.h.

References `class_< Class >::constructors`.

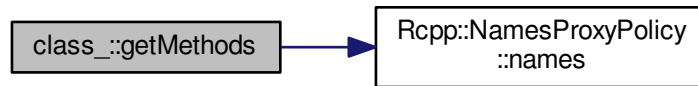


6.66.4.13 `template<typename Class > Rcpp::List class_< Class >::getMethods ( const XP_Class & class_xp, std::string & buffer ) [inline]`

Definition at line 422 of file class.h.

References `Rcpp::NamesProxyPolicy< CLASS >::names()`, `RCPPE_DEBUG_MODULE`, and `class_< Class >::vec_←` methods.

Here is the call graph for this function:



6.66.4.14 `template<typename Class > SEXP class_< Class >::getProperty ( SEXP field_xp, SEXP object ) [inline]`

Definition at line 394 of file class.h.

References `BEGIN_RCPP`, and `END_RCPP`.

6.66.4.15 `template<typename Class > bool class_< Class >::has_default_constructor ( ) [inline]`

Definition at line 151 of file class.h.

References `class_< Class >::constructors`, and `class_< Class >::factories`.

6.66.4.16 `template<typename Class > bool class_< Class >::has_method ( const std::string & m ) [inline]`

Definition at line 259 of file class.h.

References `class_< Class >::vec_methods`.

6.66.4.17 `template<typename Class > bool class_< Class >::has_property ( const std::string & m ) [inline]`

Definition at line 262 of file class.h.

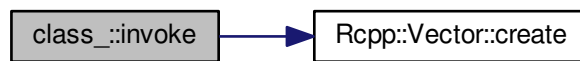
References `class_< Class >::properties`.

6.66.4.18 `template<typename Class > SEXP class_< Class >::invoke ( SEXP method_xp, SEXP object, SEXP * args, int nargs ) [inline]`

Definition at line 167 of file class.h.

References `BEGIN_RCPP`, `Rcpp::Vector< RTYPE, StoragePolicy >::create()`, and `END_RCPP`.

Here is the call graph for this function:



6.66.4.19 `template<typename Class > SEXP class_< Class >::invoke_notvoid ( SEXP method_xp, SEXP object, SEXP * args, int nargs ) [inline]`

Definition at line 216 of file class.h.

References `BEGIN_RCPP`, and `END_RCPP`.

6.66.4.20 `template<typename Class > SEXP class_< Class >::invoke_void ( SEXP method_xp, SEXP object, SEXP * args, int nargs ) [inline]`

Definition at line 194 of file class.h.

References `BEGIN_RCPP`, and `END_RCPP`.

6.66.4.21 `template<typename Class > Rcpp::CharacterVector class_< Class >::method_names ( ) [inline]`

Definition at line 276 of file class.h.

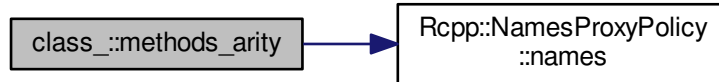
References `class_< Class >::vec_methods`.

6.66.4.22 `template<typename Class > Rcpp::IntegerVector class_< Class >::methods_arity ( ) [inline]`

Definition at line 296 of file class.h.

References `Rcpp::NamesProxyPolicy< CLASS >::names()`, and `class_< Class >::vec_methods`.

Here is the call graph for this function:

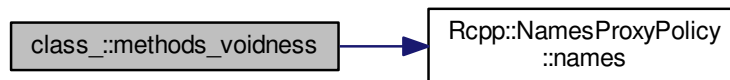


6.66.4.23 `template<typename Class > Rcpp::LogicalVector class_< Class >::methods_voidness ( ) [inline]`

Definition at line 320 of file class.h.

References `Rcpp::NamesProxyPolicy< CLASS >::names()`, and `class_< Class >::vec_methods`.

Here is the call graph for this function:



6.66.4.24 `template<typename Class > SEXP class_< Class >::newInstance ( SEXP * args, int nargs ) [inline]`

Definition at line 123 of file class.h.

References `BEGIN_RCPP`, `class_< Class >::constructors`, `END_RCPP`, and `class_< Class >::factories`.

6.66.4.25 `template<typename Class > std::string class_< Class >::property_class ( const std::string & p ) [inline]`

Definition at line 270 of file class.h.

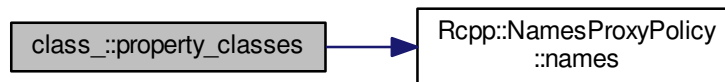
References `class_< Class >::properties`.

6.66.4.26 `template<typename Class > Rcpp::List class_< Class >::property_classes ( ) [inline]`

Definition at line 355 of file class.h.

References `Rcpp::NamesProxyPolicy< CLASS >::names()`, and `class_< Class >::properties`.

Here is the call graph for this function:



6.66.4.27 `template<typename Class > bool class_< Class >::property_is_readonly ( const std::string & p ) [inline]`

Definition at line 265 of file class.h.

References `class_< Class >::properties`.

6.66.4.28 `template<typename Class > Rcpp::CharacterVector class_< Class >::property_names ( ) [inline]`

Definition at line 345 of file class.h.

References `class_< Class >::properties`.

6.66.4.29 `template<typename Class > virtual void class_< Class >::run_finalizer ( SEXP object ) [inline], [virtual]`

Definition at line 460 of file class.h.

References `class_< Class >::finalizer_pointer`.

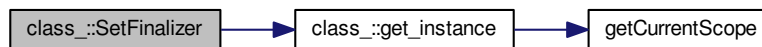
6.66.4.30 `template<typename Class > void class_< Class >::SetFinalizer ( finalizer_class * f ) [inline]`

Definition at line 464 of file class.h.

References `class_< Class >::get_instance()`.

Referenced by `class_< Class >::finalizer()`.

Here is the call graph for this function:



6.66.4.31 `template<typename Class > void class_< Class >::setProperty ( SEXP field_xp, SEXP object, SEXP value ) [inline]`

Definition at line 401 of file class.h.

References `BEGIN_RCPP`, and `VOID_END_RCPP`.

## 6.66.5 Member Data Documentation

6.66.5.1 `template<typename Class > self* class_< Class >::class_pointer`

Definition at line 477 of file class.h.

Referenced by `class_< Class >::AddConstructor()`, `class_< Class >::AddFactory()`, `class_< Class >::class_()`, and `class_< Class >::get_instance()`.

6.66.5.2 `template<typename Class > vec_signed_constructor class_< Class >::constructors`

Definition at line 475 of file class.h.

Referenced by `class_< Class >::AddConstructor()`, `class_< Class >::getConstructors()`, `class_< Class >::has_↔_default_constructor()`, and `class_< Class >::newInstance()`.

6.66.5.3 `template<typename Class > vec_signed_factory class_< Class >::factories`

Definition at line 476 of file class.h.

Referenced by `class_< Class >::AddFactory()`, `class_< Class >::has_default_constructor()`, and `class_< Class >↔::newInstance()`.

#### 6.66.5.4 `template<typename Class > finalizer_class* class_< Class >::finalizer_pointer`

Definition at line 473 of file class.h.

Referenced by `class_< Class >::get_instance()`, and `class_< Class >::run_finalizer()`.

#### 6.66.5.5 `template<typename Class > PROPERTY_MAP class_< Class >::properties`

Definition at line 471 of file class.h.

Referenced by `class_< Class >::AddProperty()`, `class_< Class >::complete()`, `class_< Class >::derives()`, `class_< Class >::fields()`, `class_< Class >::has_property()`, `class_< Class >::property_class()`, `class_< Class >::property_↔classes()`, `class_< Class >::property_is_readonly()`, and `class_< Class >::property_names()`.

#### 6.66.5.6 `template<typename Class > int class_< Class >::specials`

Definition at line 474 of file class.h.

Referenced by `class_< Class >::complete()`.

#### 6.66.5.7 `template<typename Class > std::string class_< Class >::typeid_name`

Definition at line 478 of file class.h.

Referenced by `class_< Class >::get_instance()`, and `class_< Class >::get_typeinfo_name()`.

#### 6.66.5.8 `template<typename Class > map_vec_signed_method class_< Class >::vec_methods`

Definition at line 470 of file class.h.

Referenced by `class_< Class >::complete()`, `class_< Class >::getMethods()`, `class_< Class >::has_method()`, `class_↔_< Class >::method_names()`, `class_< Class >::methods_arity()`, and `class_< Class >::methods_voidness()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/class.h](#)

## 6.67 `Rcpp::class_Base` Class Reference

```
#include <class_Base.h>
```

## Public Types

- typedef [Rcpp::XPtr](#)< [class\\_Base](#) > [XP\\_Class](#)
- typedef [std::map](#)< [std::string](#), [int](#) > [ENUM](#)
- typedef [std::map](#)< [std::string](#), [ENUM](#) > [ENUM\\_MAP](#)
- typedef [ENUM\\_MAP::value\\_type](#) [ENUM\\_MAP\\_PAIR](#)

## Public Member Functions

- [class\\_Base](#) ()
- [class\\_Base](#) (const char \*name\_, const char \*doc)
- virtual [Rcpp::List](#) [fields](#) (const [XP\\_Class](#) &)
- virtual [Rcpp::List](#) [getMethods](#) (const [XP\\_Class](#) &, [std::string](#) &)
- virtual [Rcpp::List](#) [getConstructors](#) (const [XP\\_Class](#) &, [std::string](#) &)
- virtual void [run\\_finalizer](#) (SEXP)
- virtual bool [has\\_default\\_constructor](#) ()
- virtual bool [has\\_method](#) (const [std::string](#) &)
- virtual bool [has\\_property](#) (const [std::string](#) &)
- virtual SEXP [newInstance](#) (SEXP \*, int)
- virtual SEXP [invoke](#) (SEXP, SEXP, SEXP \*, int)
- virtual SEXP [invoke\\_void](#) (SEXP, SEXP, SEXP \*, int)
- virtual SEXP [invoke\\_notvoid](#) (SEXP, SEXP, SEXP \*, int)
- virtual [Rcpp::CharacterVector](#) [method\\_names](#) ()
- virtual [Rcpp::CharacterVector](#) [property\\_names](#) ()
- virtual bool [property\\_is\\_readonly](#) (const [std::string](#) &)
- virtual [std::string](#) [property\\_class](#) (const [std::string](#) &)
- virtual [Rcpp::IntegerVector](#) [methods\\_arity](#) ()
- virtual [Rcpp::LogicalVector](#) [methods\\_voidness](#) ()
- virtual [Rcpp::List](#) [property\\_classes](#) ()
- virtual [Rcpp::CharacterVector](#) [complete](#) ()
- virtual [~class\\_Base](#) ()
- virtual SEXP [getProperty](#) (SEXP, SEXP)
- virtual void [setProperty](#) (SEXP, SEXP, SEXP)
- virtual [std::string](#) [get\\_typeinfo\\_name](#) ()
- bool [has\\_typeinfo\\_name](#) (const [std::string](#) &name\_)
- void [add\\_enum](#) (const [std::string](#) &enum\_name, const [std::map](#)< [std::string](#), [int](#) > &value)

## Public Attributes

- [std::string](#) [name](#)
- [std::string](#) [docstring](#)
- [ENUM\\_MAP](#) [enums](#)
- [std::vector](#)< [std::string](#) > [parents](#)

### 6.67.1 Detailed Description

Definition at line 26 of file [class\\_Base.h](#).

## 6.67.2 Member Typedef Documentation

### 6.67.2.1 `typedef std::map< std::string, int > Rcpp::class_Base::ENUM`

Definition at line 88 of file `class_Base.h`.

### 6.67.2.2 `typedef std::map< std::string, ENUM > Rcpp::class_Base::ENUM_MAP`

Definition at line 89 of file `class_Base.h`.

### 6.67.2.3 `typedef ENUM_MAP::value_type Rcpp::class_Base::ENUM_MAP_PAIR`

Definition at line 90 of file `class_Base.h`.

### 6.67.2.4 `typedef Rcpp::XPtr<class_Base> Rcpp::class_Base::XP_Class`

Definition at line 28 of file `class_Base.h`.

## 6.67.3 Constructor & Destructor Documentation

### 6.67.3.1 `Rcpp::class_Base::class_Base ( )` `[inline]`

Definition at line 30 of file `class_Base.h`.

### 6.67.3.2 `Rcpp::class_Base::class_Base ( const char * name_, const char * doc )` `[inline]`

Definition at line 31 of file `class_Base.h`.

### 6.67.3.3 `virtual Rcpp::class_Base::~class_Base ( )` `[inline]`, `[virtual]`

Definition at line 69 of file `class_Base.h`.

## 6.67.4 Member Function Documentation

### 6.67.4.1 `void Rcpp::class_Base::add_enum ( const std::string & enum_name, const std::map< std::string, int > & value )` `[inline]`

Definition at line 81 of file `class_Base.h`.

References `enums`.

Referenced by `Rcpp::Module::add_enum()`.



6.67.4.2 `virtual Rcpp::CharacterVector Rcpp::class_Base::complete ( ) [inline],[virtual]`

Definition at line 68 of file `class_Base.h`.

6.67.4.3 `virtual Rcpp::List Rcpp::class_Base::fields ( const XP_Class & ) [inline],[virtual]`

Definition at line 34 of file `class_Base.h`.

Referenced by `Rcpp::CppClass::CppClass()`.

6.67.4.4 `virtual std::string Rcpp::class_Base::get_typeinfo_name ( ) [inline],[virtual]`

Definition at line 77 of file `class_Base.h`.

Referenced by `Rcpp::CppClass::CppClass()`, and `has_typeinfo_name()`.

6.67.4.5 `virtual Rcpp::List Rcpp::class_Base::getConstructors ( const XP_Class & , std::string & ) [inline],[virtual]`

Definition at line 36 of file `class_Base.h`.

Referenced by `Rcpp::CppClass::CppClass()`.

6.67.4.6 `virtual Rcpp::List Rcpp::class_Base::getMethods ( const XP_Class & , std::string & ) [inline],[virtual]`

Definition at line 35 of file `class_Base.h`.

Referenced by `Rcpp::CppClass::CppClass()`.

6.67.4.7 `virtual SEXP Rcpp::class_Base::getProperty ( SEXP , SEXP ) [inline],[virtual]`

Definition at line 71 of file `class_Base.h`.

6.67.4.8 `virtual bool Rcpp::class_Base::has_default_constructor ( ) [inline],[virtual]`

Definition at line 40 of file `class_Base.h`.

6.67.4.9 `virtual bool Rcpp::class_Base::has_method ( const std::string & ) [inline],[virtual]`

Definition at line 41 of file `class_Base.h`.

6.67.4.10 `virtual bool Rcpp::class_Base::has_property ( const std::string & ) [inline],[virtual]`

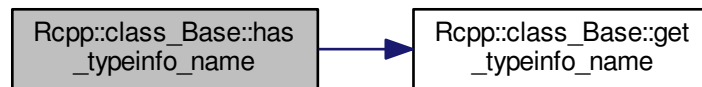
Definition at line 44 of file `class_Base.h`.

6.67.4.11 `bool Rcpp::class_Base::has_typeinfo_name ( const std::string & name_ ) [inline]`

Definition at line 78 of file `class_Base.h`.

References `get_typeinfo_name()`.

Here is the call graph for this function:



6.67.4.12 `virtual SEXP Rcpp::class_Base::invoke ( SEXP , SEXP , SEXP *, int ) [inline],[virtual]`

Definition at line 50 of file `class_Base.h`.

6.67.4.13 `virtual SEXP Rcpp::class_Base::invoke_notvoid ( SEXP , SEXP , SEXP *, int ) [inline],[virtual]`

Definition at line 56 of file `class_Base.h`.

6.67.4.14 `virtual SEXP Rcpp::class_Base::invoke_void ( SEXP , SEXP , SEXP *, int ) [inline],[virtual]`

Definition at line 53 of file `class_Base.h`.

6.67.4.15 `virtual Rcpp::CharacterVector Rcpp::class_Base::method_names ( ) [inline],[virtual]`

Definition at line 60 of file `class_Base.h`.

6.67.4.16 `virtual Rcpp::IntegerVector Rcpp::class_Base::methods_arity ( ) [inline],[virtual]`

Definition at line 64 of file `class_Base.h`.

6.67.4.17 `virtual Rcpp::LogicalVector Rcpp::class_Base::methods_voidness ( ) [inline],[virtual]`

Definition at line 65 of file `class_Base.h`.

6.67.4.18 `virtual SEXP Rcpp::class_Base::newInstance ( SEXP *, int ) [inline],[virtual]`

Definition at line 47 of file `class_Base.h`.

6.67.4.19 `virtual std::string Rcpp::class_Base::property_class ( const std::string & ) [inline],[virtual]`

Definition at line 63 of file `class_Base.h`.

6.67.4.20 `virtual Rcpp::List Rcpp::class_Base::property_classes ( ) [inline],[virtual]`

Definition at line 66 of file `class_Base.h`.

6.67.4.21 `virtual bool Rcpp::class_Base::property_is_readonly ( const std::string & ) [inline],[virtual]`

Definition at line 62 of file `class_Base.h`.

6.67.4.22 `virtual Rcpp::CharacterVector Rcpp::class_Base::property_names ( ) [inline],[virtual]`

Definition at line 61 of file `class_Base.h`.

6.67.4.23 `virtual void Rcpp::class_Base::run_finalizer ( SEXP ) [inline],[virtual]`

Definition at line 38 of file `class_Base.h`.

6.67.4.24 `virtual void Rcpp::class_Base::setProperty ( SEXP , SEXP , SEXP ) [inline],[virtual]`

Definition at line 74 of file `class_Base.h`.

## 6.67.5 Member Data Documentation

6.67.5.1 `std::string Rcpp::class_Base::docstring`

Definition at line 86 of file `class_Base.h`.

Referenced by `Rcpp::CppClass::CppClass()`.

### 6.67.5.2 ENUM\_MAP Rcpp::class\_Base::enums

Definition at line 91 of file class\_Base.h.

Referenced by add\_enum(), and Rcpp::CppClass::CppClass().

### 6.67.5.3 std::string Rcpp::class\_Base::name

Definition at line 85 of file class\_Base.h.

Referenced by Rcpp::CppClass::CppClass().

### 6.67.5.4 std::vector<std::string> Rcpp::class\_Base::parents

Definition at line 92 of file class\_Base.h.

Referenced by Rcpp::CppClass::CppClass().

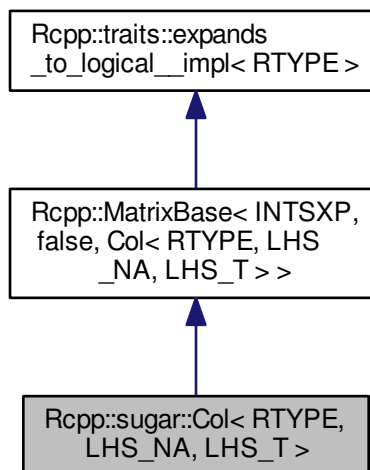
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/class\\_Base.h](#)

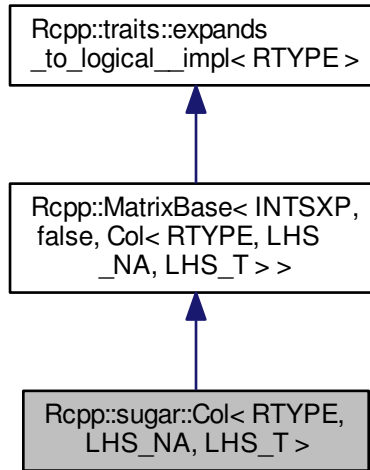
## 6.68 Rcpp::sugar::Col< RTYPE, LHS\_NA, LHS\_T > Class Template Reference

```
#include <col.h>
```

Inheritance diagram for Rcpp::sugar::Col< RTYPE, LHS\_NA, LHS\_T >:



Collaboration diagram for Rcpp::sugar::Col< RTYPE, LHS\_NA, LHS\_T >:



## Public Types

- typedef [Rcpp::MatrixBase](#)< RTYPE, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)

## Public Member Functions

- [Col](#) (const [LHS\\_TYPE](#) &lhs)
- int [operator\(\)](#) (int i, int j) const
- [R\\_xlen\\_t size](#) () const
- int [nrow](#) () const
- int [ncol](#) () const

## Private Attributes

- int [nr](#)
- int [nc](#)

### 6.68.1 Detailed Description

```

template<int RTYPE, bool LHS_NA, typename LHS_T>
class Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >
  
```

Definition at line 29 of file col.h.

## 6.68.2 Member Typedef Documentation

6.68.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > typedef Rcpp::MatrixBase<RTYPE,LHS_NA,LHS_T>  
Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::LHS_TYPE`

Definition at line 35 of file col.h.

## 6.68.3 Constructor & Destructor Documentation

6.68.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::Col ( const  
LHS_TYPE & lhs ) [inline]`

Definition at line 37 of file col.h.

## 6.68.4 Member Function Documentation

6.68.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > int Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::ncol ( )  
const [inline]`

Definition at line 45 of file col.h.

References `Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::nc`.

6.68.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T > int Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::nrow ( )  
const [inline]`

Definition at line 44 of file col.h.

References `Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::nr`.

6.68.4.3 `template<int RTYPE, bool LHS_NA, typename LHS_T > int Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::operator() (   
int i, int j ) const [inline]`

Definition at line 39 of file col.h.

6.68.4.4 `template<int RTYPE, bool LHS_NA, typename LHS_T > R_xlen_t Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::size (   
) const [inline]`

Definition at line 43 of file col.h.

References `Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::nc`, and `Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::nr`.

### 6.68.5 Member Data Documentation

6.68.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > int Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::nc`  
`[private]`

Definition at line 48 of file col.h.

Referenced by `Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::ncol()`, and `Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::size()`.

6.68.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T > int Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::nr`  
`[private]`

Definition at line 48 of file col.h.

Referenced by `Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::nrow()`, and `Rcpp::sugar::Col< RTYPE, LHS_NA, LHS_T >::size()`.

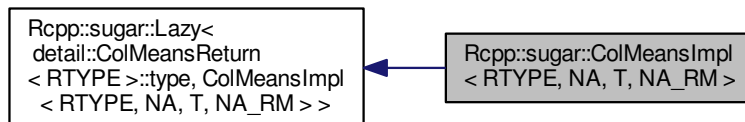
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/matrix/col.h](#)

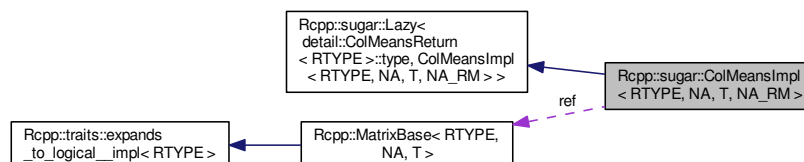
## 6.69 Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA\_RM > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for `Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA_RM >`:



Collaboration diagram for `Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA_RM >`:



## Public Member Functions

- [ColMeansImpl](#) (const [MatrixBase](#)< RTYPE, NA, T > &ref\_)
- [return\\_vector](#) get () const

## Private Types

- typedef [detail::ColMeansReturn](#)< RTYPE > [return\\_traits](#)
- typedef [return\\_traits::type](#) [return\\_vector](#)
- typedef [traits::storage\\_type](#)< [return\\_traits::rtype](#) >::type [stored\\_type](#)

## Private Attributes

- const [MatrixBase](#)< RTYPE, NA, T > & [ref](#)

### 6.69.1 Detailed Description

```
template<int RTYPE, bool NA, typename T, bool NA_RM = false>
class Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA_RM >
```

Definition at line 716 of file rowSums.h.

### 6.69.2 Member Typedef Documentation

6.69.2.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef detail::ColMeansReturn<RTYPE> Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA_RM >::return_traits [private]`

Definition at line 721 of file rowSums.h.

6.69.2.2 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef return_traits::type Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA_RM >::return_vector [private]`

Definition at line 722 of file rowSums.h.

6.69.2.3 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef traits::storage_type<return_traits::rtype>::type Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA_RM >::stored_type [private]`

Definition at line 723 of file rowSums.h.



### 6.69.3 Constructor & Destructor Documentation

6.69.3.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA_RM >::ColMeansImpl ( const MatrixBase< RTYPE, NA, T > & ref_ ) [inline]`

Definition at line 726 of file rowSums.h.

### 6.69.4 Member Function Documentation

6.69.4.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> return_vector Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA_RM >::get ( ) const [inline]`

Definition at line 730 of file rowSums.h.

### 6.69.5 Member Data Documentation

6.69.5.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> const MatrixBase<RTYPE, NA, T>& Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA_RM >::ref [private]`

Definition at line 719 of file rowSums.h.

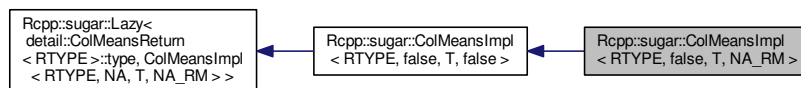
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rowSums.h](#)

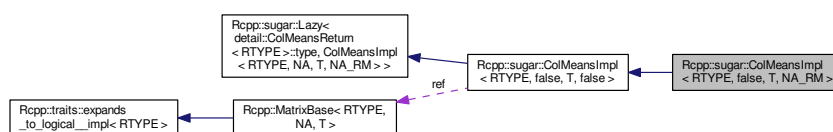
## 6.70 Rcpp::sugar::ColMeansImpl< RTYPE, false, T, NA\_RM > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::ColMeansImpl< RTYPE, false, T, NA\_RM >:



Collaboration diagram for Rcpp::sugar::ColMeansImpl< RTYPE, false, T, NA\_RM >:



## Additional Inherited Members

### 6.70.1 Detailed Description

```
template<int RTYPE, typename T, bool NA_RM>
class Rcpp::sugar::ColMeansImpl< RTYPE, false, T, NA_RM >
```

Definition at line 915 of file rowSums.h.

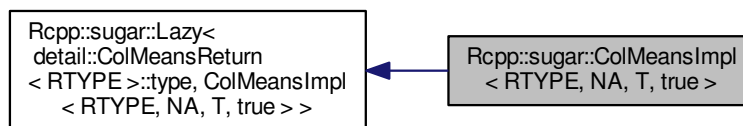
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rowSums.h](#)

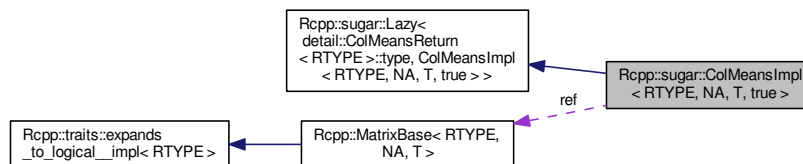
## 6.71 Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >:



Collaboration diagram for Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >:



## Public Member Functions

- `ColMeansImpl` (const `MatrixBase< RTYPE, NA, T >` &ref\_)
- `return_vector get` () const

## Private Types

- typedef [detail::ColMeansReturn< RTYPE > return\\_traits](#)
- typedef [return\\_traits::type return\\_vector](#)
- typedef [traits::storage\\_type< return\\_traits::rtype >::type stored\\_type](#)

## Private Attributes

- const [MatrixBase< RTYPE, NA, T > & ref](#)

### 6.71.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>  
class Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >
```

Definition at line 812 of file rowSums.h.

### 6.71.2 Member Typedef Documentation

6.71.2.1 `template<int RTYPE, bool NA, typename T > typedef detail::ColMeansReturn<RTYPE>  
Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >::return_traits [private]`

Definition at line 817 of file rowSums.h.

6.71.2.2 `template<int RTYPE, bool NA, typename T > typedef return_traits::type Rcpp::sugar::ColMeansImpl< RTYPE,  
NA, T, true >::return_vector [private]`

Definition at line 818 of file rowSums.h.

6.71.2.3 `template<int RTYPE, bool NA, typename T > typedef traits::storage_type<return_traits::rtype>::type  
Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >::stored_type [private]`

Definition at line 819 of file rowSums.h.

### 6.71.3 Constructor & Destructor Documentation

6.71.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >::ColMeansImpl  
( const MatrixBase< RTYPE, NA, T > & ref_ ) [inline]`

Definition at line 822 of file rowSums.h.

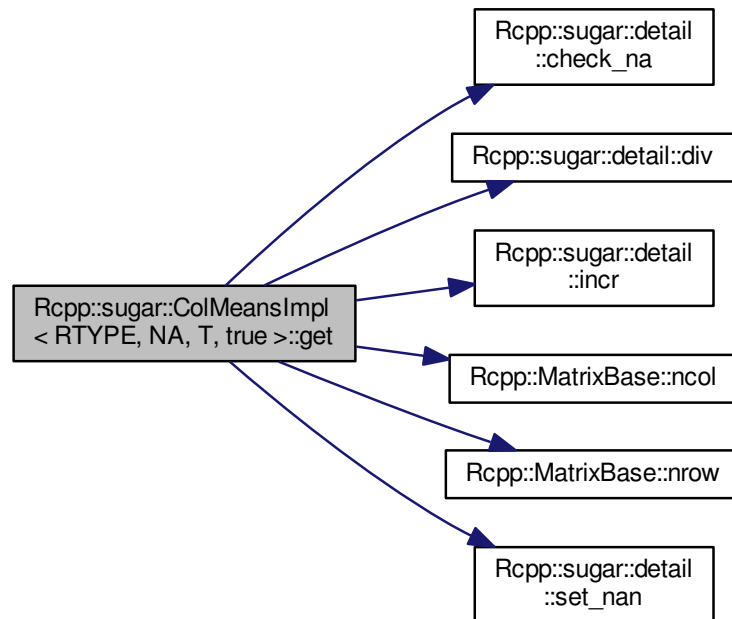
## 6.71.4 Member Function Documentation

6.71.4.1 `template<int RTYPE, bool NA, typename T > return_vector Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >::get ( ) const [inline]`

Definition at line 826 of file rowSums.h.

References `Rcpp::sugar::detail::check_na()`, `Rcpp::sugar::detail::div()`, `Rcpp::sugar::detail::incr()`, `Rcpp::MatrixBase< RTYPE, na, MATRIX >::ncol()`, `Rcpp::MatrixBase< RTYPE, na, MATRIX >::nrow()`, and `Rcpp::sugar::detail::set_nan()`.

Here is the call graph for this function:



## 6.71.5 Member Data Documentation

6.71.5.1 `template<int RTYPE, bool NA, typename T > const MatrixBase<RTYPE, NA, T>& Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >::ref [private]`

Definition at line 815 of file rowSums.h.

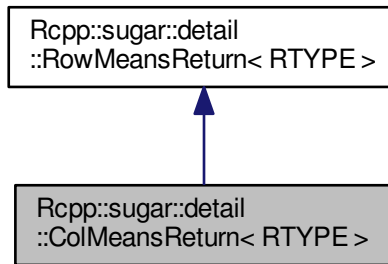
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rowSums.h](#)

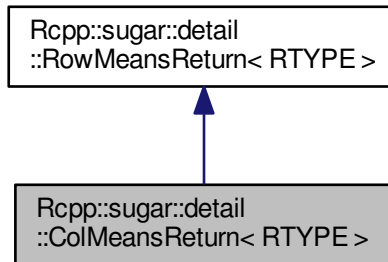
## 6.72 Rcpp::sugar::detail::ColMeansReturn< RTYPE > Struct Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::detail::ColMeansReturn< RTYPE >:



Collaboration diagram for Rcpp::sugar::detail::ColMeansReturn< RTYPE >:



### Additional Inherited Members

#### 6.72.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::sugar::detail::ColMeansReturn< RTYPE >
```

Definition at line 115 of file rowSums.h.

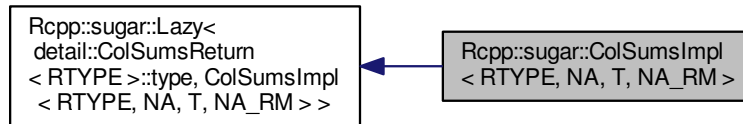
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[rowSums.h](#)

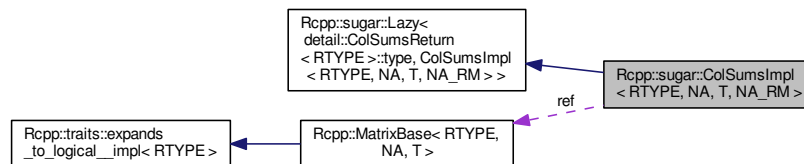
## 6.73 Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA\_RM > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA\_RM >:



Collaboration diagram for Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA\_RM >:



### Public Member Functions

- `ColSumsImpl` (const `MatrixBase< RTYPE, NA, T >` &ref\_)
- `return_vector get` () const

### Private Types

- typedef `detail::ColSumsReturn< RTYPE >` `return_traits`
- typedef `return_traits::type` `return_vector`
- typedef `traits::storage_type< return_traits::rtype >::type` `stored_type`

### Private Attributes

- const `MatrixBase< RTYPE, NA, T >` &ref

### 6.73.1 Detailed Description

```
template<int RTYPE, bool NA, typename T, bool NA_RM = false>
class Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA_RM >
```

Definition at line 320 of file rowSums.h.

### 6.73.2 Member Typedef Documentation

6.73.2.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef detail::ColSumsReturn<RTYPE> Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA_RM >::return_traits [private]`

Definition at line 325 of file rowSums.h.

6.73.2.2 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef return_traits::type Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA_RM >::return_vector [private]`

Definition at line 326 of file rowSums.h.

6.73.2.3 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef traits::storage_type<return_traits::rtype>::type Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA_RM >::stored_type [private]`

Definition at line 327 of file rowSums.h.

### 6.73.3 Constructor & Destructor Documentation

6.73.3.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA_RM >::ColSumsImpl ( const MatrixBase< RTYPE, NA, T > & ref_ ) [inline]`

Definition at line 330 of file rowSums.h.

### 6.73.4 Member Function Documentation

6.73.4.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> return_vector Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA_RM >::get ( ) const [inline]`

Definition at line 334 of file rowSums.h.

## 6.73.5 Member Data Documentation

6.73.5.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> const MatrixBase<RTYPE, NA, T>& Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA_RM >::ref [private]`

Definition at line 323 of file rowSums.h.

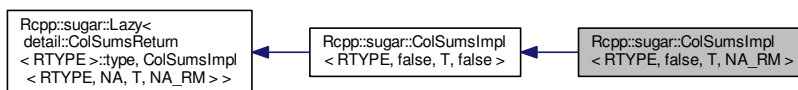
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/rowSums.h`

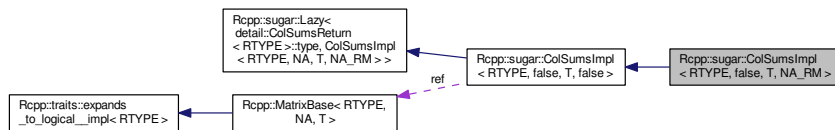
## 6.74 Rcpp::sugar::ColSumsImpl< RTYPE, false, T, NA\_RM > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for `Rcpp::sugar::ColSumsImpl< RTYPE, false, T, NA_RM >`:



Collaboration diagram for `Rcpp::sugar::ColSumsImpl< RTYPE, false, T, NA_RM >`:



## Additional Inherited Members

### 6.74.1 Detailed Description

```
template<int RTYPE, typename T, bool NA_RM>
class Rcpp::sugar::ColSumsImpl< RTYPE, false, T, NA_RM >
```

Definition at line 494 of file rowSums.h.

The documentation for this class was generated from the following file:

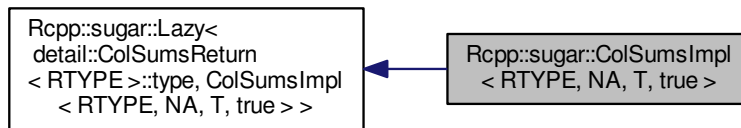
- `inst/include/Rcpp/sugar/functions/rowSums.h`



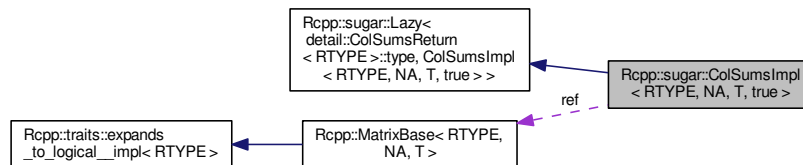
## 6.75 Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >:



Collaboration diagram for Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >:



### Public Member Functions

- [ColSumsImpl](#) (const [MatrixBase](#)< RTYPE, NA, T > &ref\_)
- [return\\_vector](#) get () const

### Private Types

- typedef [detail::ColSumsReturn](#)< RTYPE > [return\\_traits](#)
- typedef [return\\_traits::type](#) [return\\_vector](#)
- typedef [traits::storage\\_type](#)< [return\\_traits::rtype](#) >::type [stored\\_type](#)

### Private Attributes

- const [MatrixBase](#)< RTYPE, NA, T > & [ref](#)

### 6.75.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>  
class Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >
```

Definition at line 410 of file rowSums.h.

### 6.75.2 Member Typedef Documentation

6.75.2.1 `template<int RTYPE, bool NA, typename T > typedef detail::ColSumsReturn<RTYPE>  
Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >::return_traits [private]`

Definition at line 415 of file rowSums.h.

6.75.2.2 `template<int RTYPE, bool NA, typename T > typedef return_traits::type Rcpp::sugar::ColSumsImpl< RTYPE,  
NA, T, true >::return_vector [private]`

Definition at line 416 of file rowSums.h.

6.75.2.3 `template<int RTYPE, bool NA, typename T > typedef traits::storage_type<return_traits::rtype>::type  
Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >::stored_type [private]`

Definition at line 417 of file rowSums.h.

### 6.75.3 Constructor & Destructor Documentation

6.75.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >::ColSumsImpl (  
const MatrixBase< RTYPE, NA, T > & ref_ ) [inline]`

Definition at line 420 of file rowSums.h.

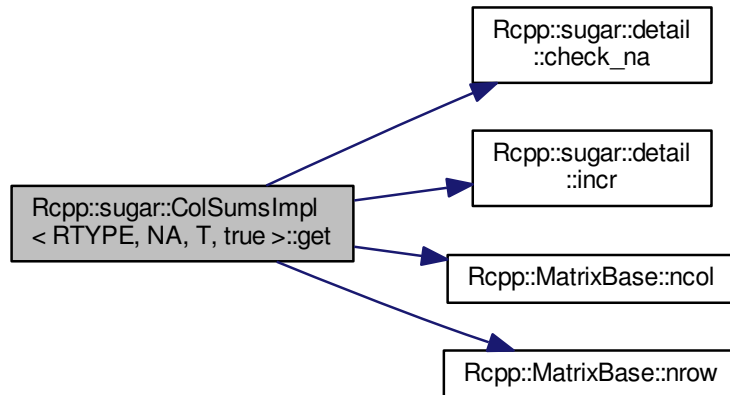
## 6.75.4 Member Function Documentation

6.75.4.1 `template<int RTYPE, bool NA, typename T > return_vector Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >::get ( ) const [inline]`

Definition at line 424 of file rowSums.h.

References `Rcpp::sugar::detail::check_na()`, `Rcpp::sugar::detail::incr()`, `Rcpp::MatrixBase< RTYPE, na, MATRIX >::ncol()`, and `Rcpp::MatrixBase< RTYPE, na, MATRIX >::nrow()`.

Here is the call graph for this function:



## 6.75.5 Member Data Documentation

6.75.5.1 `template<int RTYPE, bool NA, typename T > const MatrixBase<RTYPE, NA, T>& Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >::ref [private]`

Definition at line 413 of file rowSums.h.

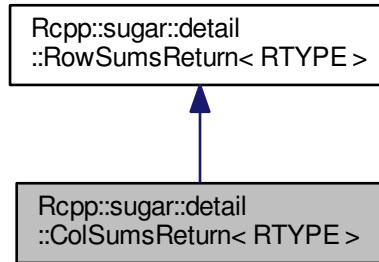
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rowSums.h](#)

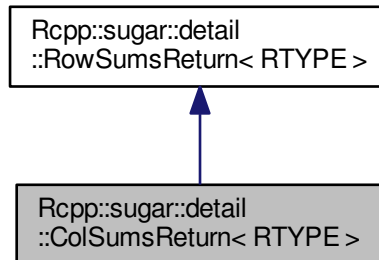
## 6.76 Rcpp::sugar::detail::ColSumsReturn< RTYPE > Struct Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::detail::ColSumsReturn< RTYPE >:



Collaboration diagram for Rcpp::sugar::detail::ColSumsReturn< RTYPE >:



### Additional Inherited Members

#### 6.76.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::sugar::detail::ColSumsReturn< RTYPE >
```

Definition at line 98 of file rowSums.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[rowSums.h](#)

## 6.77 Rcpp::attributes::CommentState Class Reference

### Public Member Functions

- [CommentState](#) ()
- bool [inComment](#) () const
- void [submitLine](#) (const std::string &line)
- void [reset](#) ()

### Private Member Functions

- [CommentState](#) (const [CommentState](#) &)
- [CommentState](#) & [operator=](#) (const [CommentState](#) &)

### Private Attributes

- bool [inComment\\_](#)

#### 6.77.1 Detailed Description

Definition at line 429 of file attributes.cpp.

#### 6.77.2 Constructor & Destructor Documentation

6.77.2.1 `Rcpp::attributes::CommentState::CommentState ( ) [inline]`

Definition at line 431 of file attributes.cpp.

6.77.2.2 `Rcpp::attributes::CommentState::CommentState ( const CommentState & ) [private]`

#### 6.77.3 Member Function Documentation

6.77.3.1 `bool Rcpp::attributes::CommentState::inComment ( ) const [inline]`

Definition at line 437 of file attributes.cpp.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::SourceFileAttributesParser()`.

6.77.3.2 `CommentState& Rcpp::attributes::CommentState::operator= ( const CommentState & ) [private]`

6.77.3.3 `void Rcpp::attributes::CommentState::reset ( ) [inline]`

Definition at line 439 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::SourceFileAttributesParser()`.

6.77.3.4 `void Rcpp::attributes::CommentState::submitLine ( const std::string & line )`

Definition at line 1683 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::SourceFileAttributesParser()`.

## 6.77.4 Member Data Documentation

6.77.4.1 `bool Rcpp::attributes::CommentState::inComment_ [private]`

Definition at line 441 of file `attributes.cpp`.

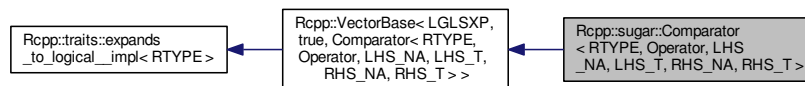
The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

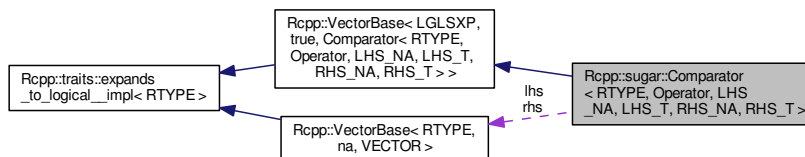
## 6.78 Rcpp::sugar::Comparator< RTYPE, Operator, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <Comparator.h>
```

Inheritance diagram for `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >`:



Collaboration diagram for `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >`:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)

## Public Member Functions

- [Comparator](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [LHS\\_TYPE](#) & [lhs](#)
- const [RHS\\_TYPE](#) & [rhs](#)
- Operator [op](#)

### 6.78.1 Detailed Description

```
template<int RTYPE, typename Operator, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 29 of file Comparator.h.

### 6.78.2 Member Typedef Documentation

6.78.2.1 `template<int RTYPE, typename Operator , bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,LHS_NA,LHS_T> Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 33 of file Comparator.h.

6.78.2.2 `template<int RTYPE, typename Operator , bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 34 of file Comparator.h.

6.78.2.3 `template<int RTYPE, typename Operator , bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 35 of file Comparator.h.

### 6.78.3 Constructor & Destructor Documentation

6.78.3.1 `template<int RTYPE, typename Operator , bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::Comparator ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 37 of file Comparator.h.

### 6.78.4 Member Function Documentation

6.78.4.1 `template<int RTYPE, typename Operator , bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > int Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 40 of file Comparator.h.

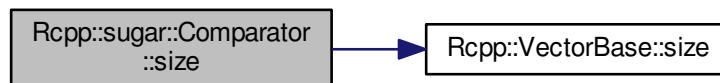
References `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::op`, and `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.78.4.2 `template<int RTYPE, typename Operator , bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 48 of file Comparator.h.

References `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.78.5 Member Data Documentation

6.78.5.1 `template<int RTYPE, typename Operator , bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_TYPE& Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 51 of file Comparator.h.

Referenced by `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::size()`, and `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >::size()`.



## 6.79 Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS\_T, false, RHS\_T > Class Template Reference 493

6.78.5.2 `template<int RTYPE, typename Operator , bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > Operator Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::op [private]`

Definition at line 53 of file Comparator.h.

Referenced by `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::operator[]()`, and `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >::operator[]()`.

6.78.5.3 `template<int RTYPE, typename Operator , bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > const RHS_TYPE& Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 52 of file Comparator.h.

Referenced by `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::operator[]()`, and `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >::operator[]()`.

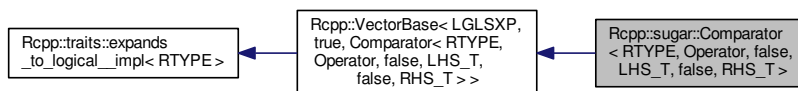
The documentation for this class was generated from the following file:

- <inst/include/Rcpp/sugar/operators/Comparator.h>

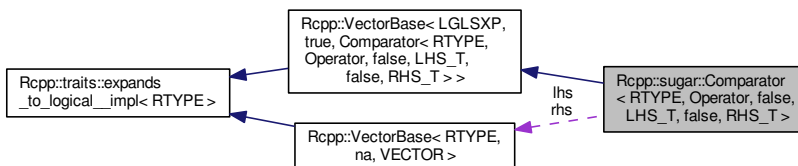
## 6.79 Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <Comparator.h>
```

Inheritance diagram for `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >`:



Collaboration diagram for `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >`:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)

## Public Member Functions

- [Comparator](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [LHS\\_TYPE](#) &lhs
- const [RHS\\_TYPE](#) &rhs
- Operator [op](#)

### 6.79.1 Detailed Description

```
template<int RTYPE, typename Operator, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >
```

Definition at line 88 of file Comparator.h.

### 6.79.2 Member Typedef Documentation

6.79.2.1 `template<int RTYPE, typename Operator , typename LHS_T , typename RHS_T > typedef Rcpp::Vector↔  
Base<RTYPE,false,LHS_T> Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T  
>::LHS_TYPE`

Definition at line 92 of file Comparator.h.

6.79.2.2 `template<int RTYPE, typename Operator , typename LHS_T , typename RHS_T > typedef Rcpp::Vector↔  
Base<RTYPE,false,RHS_T> Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T  
>::RHS_TYPE`

Definition at line 93 of file Comparator.h.

6.79.2.3 `template<int RTYPE, typename Operator , typename LHS_T , typename RHS_T > typedef  
traits::storage_type<RTYPE>::type Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T  
>::STORAGE`

Definition at line 94 of file Comparator.h.

### 6.79.3 Constructor & Destructor Documentation

6.79.3.1 `template<int RTYPE, typename Operator , typename LHS_T , typename RHS_T > Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >::Comparator ( const LHS_TYPE & lhs_ , const RHS_TYPE & rhs_ )`  
`[inline]`

Definition at line 96 of file Comparator.h.

### 6.79.4 Member Function Documentation

6.79.4.1 `template<int RTYPE, typename Operator , typename LHS_T , typename RHS_T > int Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const` `[inline]`

Definition at line 99 of file Comparator.h.

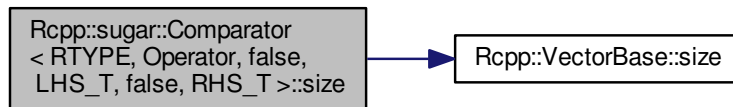
References `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::op`, and `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.79.4.2 `template<int RTYPE, typename Operator , typename LHS_T , typename RHS_T > R_xlen_t Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >::size ( ) const` `[inline]`

Definition at line 103 of file Comparator.h.

References `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.79.5 Member Data Documentation

6.79.5.1 `template<int RTYPE, typename Operator , typename LHS_T , typename RHS_T > const LHS_TYPE& Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >::lhs` `[private]`

Definition at line 106 of file Comparator.h.

6.79.5.2 `template<int RTYPE, typename Operator , typename LHS_T , typename RHS_T > Operator  
Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >::op` [private]

Definition at line 108 of file Comparator.h.

6.79.5.3 `template<int RTYPE, typename Operator , typename LHS_T , typename RHS_T > const RHS_TYPE&  
Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >::rhs` [private]

Definition at line 107 of file Comparator.h.

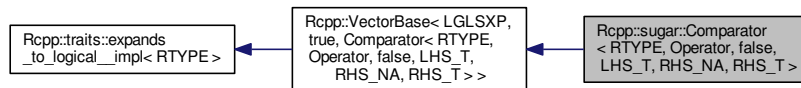
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/Comparator.h](#)

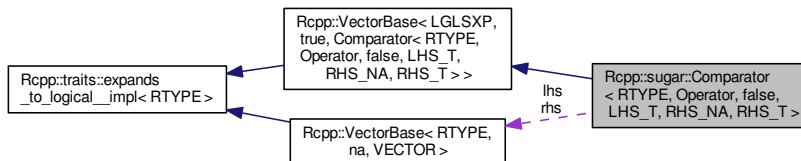
## 6.80 Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <Comparator.h>
```

Inheritance diagram for Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, false, LHS_T >` `LHS_TYPE`
- typedef `Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T >` `RHS_TYPE`
- typedef `traits::storage_type< RTYPE >::type` `STORAGE`

## Public Member Functions

- [Comparator](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [LHS\\_TYPE](#) & lhs
- const [RHS\\_TYPE](#) & rhs
- Operator [op](#)

### 6.80.1 Detailed Description

```
template<int RTYPE, typename Operator, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 60 of file Comparator.h.

### 6.80.2 Member Typedef Documentation

6.80.2.1 `template<int RTYPE, typename Operator , typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,false,LHS_T> Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 64 of file Comparator.h.

6.80.2.2 `template<int RTYPE, typename Operator , typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 65 of file Comparator.h.

6.80.2.3 `template<int RTYPE, typename Operator , typename LHS_T , bool RHS_NA, typename RHS_T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 66 of file Comparator.h.

### 6.80.3 Constructor & Destructor Documentation

6.80.3.1 `template<int RTYPE, typename Operator , typename LHS_T , bool RHS_NA, typename RHS_T >`  
`Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::Comparator ( const LHS_TYPE`  
`& lhs_ , const RHS_TYPE & rhs_ ) [inline]`

Definition at line 68 of file Comparator.h.

### 6.80.4 Member Function Documentation

6.80.4.1 `template<int RTYPE, typename Operator , typename LHS_T , bool RHS_NA, typename RHS_T > int`  
`Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const`  
`[inline]`

Definition at line 71 of file Comparator.h.

References `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::op`, and `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.80.4.2 `template<int RTYPE, typename Operator , typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t`  
`Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 77 of file Comparator.h.

References `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.80.5 Member Data Documentation

6.80.5.1 `template<int RTYPE, typename Operator , typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_TYPE&`  
`Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 80 of file Comparator.h.

6.80.5.2 `template<int RTYPE, typename Operator , typename LHS_T , bool RHS_NA, typename RHS_T > Operator Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::op [private]`

Definition at line 82 of file Comparator.h.

6.80.5.3 `template<int RTYPE, typename Operator , typename LHS_T , bool RHS_NA, typename RHS_T > const RHS_TYPE& Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 81 of file Comparator.h.

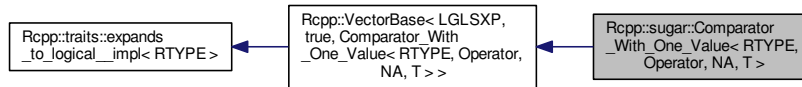
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/Comparator.h](#)

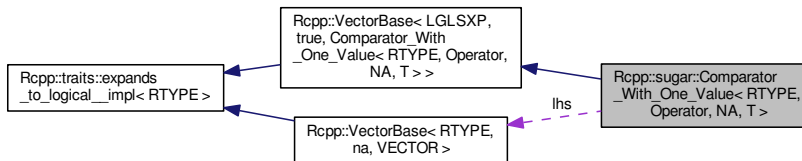
## 6.81 Rcpp::sugar::Comparator\_With\_One\_Value< RTYPE, Operator, NA, T > Class Template Reference

```
#include <Comparator_With_One_Value.h>
```

Inheritance diagram for Rcpp::sugar::Comparator\_With\_One\_Value< RTYPE, Operator, NA, T >:



Collaboration diagram for Rcpp::sugar::Comparator\_With\_One\_Value< RTYPE, Operator, NA, T >:



### Public Types

- typedef [Rcpp::VectorBase< RTYPE, NA, T >](#) [VEC\\_TYPE](#)
- typedef [traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)
- typedef `int(Comparator_With_One_Value::* METHOD) (int) const`

## Public Member Functions

- [Comparator\\_With\\_One\\_Value](#) (const [VEC\\_TYPE](#) &lhs\_, [STORAGE](#) rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Member Functions

- int [rhs\\_is\\_na](#) (int i) const
- int [rhs\\_is\\_not\\_na](#) (int i) const

## Private Attributes

- const [VEC\\_TYPE](#) & lhs
- [STORAGE](#) rhs
- [METHOD](#) m
- Operator op

### 6.81.1 Detailed Description

```
template<int RTYPE, typename Operator, bool NA, typename T>
class Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >
```

Definition at line 29 of file `Comparator_With_One_Value.h`.

### 6.81.2 Member Typedef Documentation

6.81.2.1 `template<int RTYPE, typename Operator , bool NA, typename T > typedef int(Comparator_With_One_Value::* Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::METHOD) (int) const`

Definition at line 33 of file `Comparator_With_One_Value.h`.

6.81.2.2 `template<int RTYPE, typename Operator , bool NA, typename T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::STORAGE`

Definition at line 32 of file `Comparator_With_One_Value.h`.

6.81.2.3 `template<int RTYPE, typename Operator , bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::VEC_TYPE`

Definition at line 31 of file `Comparator_With_One_Value.h`.



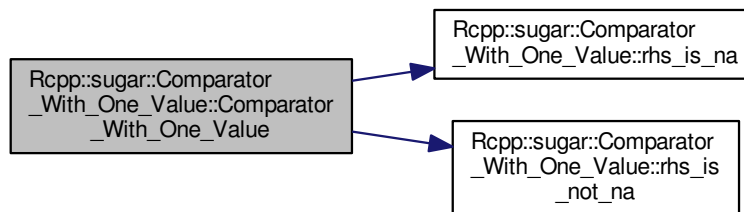
### 6.81.3 Constructor & Destructor Documentation

6.81.3.1 `template<int RTYPE, typename Operator , bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::Comparator_With_One_Value ( const VEC_TYPE & lhs, STORAGE rhs_ )`  
`[inline]`

Definition at line 35 of file Comparator\_With\_One\_Value.h.

References `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::m`, `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::rhs`, `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::rhs_is_na()`, and `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::rhs_is_not_na()`.

Here is the call graph for this function:



### 6.81.4 Member Function Documentation

6.81.4.1 `template<int RTYPE, typename Operator , bool NA, typename T > int Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::operator[] ( R_xlen_t i ) const`  
`[inline]`

Definition at line 44 of file Comparator\_With\_One\_Value.h.

References `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::m`.

6.81.4.2 `template<int RTYPE, typename Operator , bool NA, typename T > int Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::rhs_is_na ( int i ) const` `[inline]`,  
`[private]`

Definition at line 56 of file Comparator\_With\_One\_Value.h.

References `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::rhs`.

Referenced by `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::Comparator_With_One_Value()`, and `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::Comparator_With_One_Value()`.

6.81.4.3 `template<int RTYPE, typename Operator , bool NA, typename T > int Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::rhs_is_not_na ( int i ) const [inline], [private]`

Definition at line 57 of file `Comparator_With_One_Value.h`.

References `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::op`.

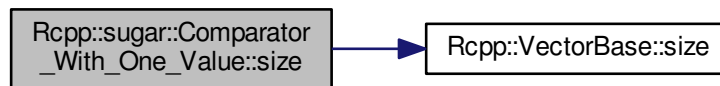
Referenced by `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::Comparator_With_One_Value()`, and `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::Comparator_With_One_Value()`.

6.81.4.4 `template<int RTYPE, typename Operator , bool NA, typename T > R_xlen_t Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::size ( ) const [inline]`

Definition at line 48 of file `Comparator_With_One_Value.h`.

References `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::lhs`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



## 6.81.5 Member Data Documentation

6.81.5.1 `template<int RTYPE, typename Operator , bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::lhs [private]`

Definition at line 51 of file `Comparator_With_One_Value.h`.

Referenced by `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::size()`, and `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::size()`.

6.81.5.2 `template<int RTYPE, typename Operator , bool NA, typename T > METHOD Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::m [private]`

Definition at line 53 of file `Comparator_With_One_Value.h`.

Referenced by `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::Comparator_With_One_Value()`, `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::Comparator_With_One_Value()`, `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::operator[]()`, and `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::operator[]()`.

6.81.5.3 `template<int RTYPE, typename Operator , bool NA, typename T > Operator Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::op [private]`

Definition at line 54 of file Comparator\_With\_One\_Value.h.

Referenced by `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::rhs_is_not_na()`, and `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::rhs_is_not_na()`.

6.81.5.4 `template<int RTYPE, typename Operator , bool NA, typename T > STORAGE Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::rhs [private]`

Definition at line 52 of file Comparator\_With\_One\_Value.h.

Referenced by `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::Comparator_With_One_Value()`, `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::Comparator_With_One_Value()`, `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::rhs_is_na()`, and `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::rhs_is_na()`.

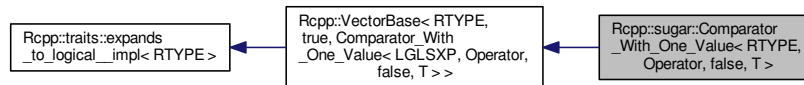
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/Comparator\\_With\\_One\\_Value.h](#)

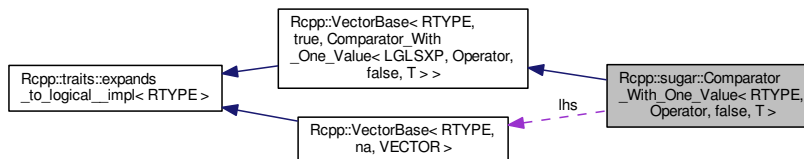
## 6.82 Rcpp::sugar::Comparator\_With\_One\_Value< RTYPE, Operator, false, T > Class Template Reference

```
#include <Comparator_With_One_Value.h>
```

Inheritance diagram for `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >`:



Collaboration diagram for `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >`:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, false, T > [VEC\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef int([Comparator\\_With\\_One\\_Value::\\*](#) [METHOD](#)) (int) const

## Public Member Functions

- [Comparator\\_With\\_One\\_Value](#) (const [VEC\\_TYPE](#) &lhs\_, [STORAGE](#) rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Member Functions

- int [rhs\\_is\\_na](#) (int i) const
- int [rhs\\_is\\_not\\_na](#) (int i) const

## Private Attributes

- const [VEC\\_TYPE](#) & lhs
- [STORAGE](#) rhs
- [METHOD](#) m
- Operator op

### 6.82.1 Detailed Description

```
template<int RTYPE, typename Operator, typename T>
class Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >
```

Definition at line 66 of file [Comparator\\_With\\_One\\_Value.h](#).

### 6.82.2 Member Typedef Documentation

6.82.2.1 `template<int RTYPE, typename Operator , typename T > typedef int(Comparator_With_One_Value::*`  
`Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::METHOD) (int) const`

Definition at line 72 of file [Comparator\\_With\\_One\\_Value.h](#).

6.82.2.2 `template<int RTYPE, typename Operator , typename T > typedef traits::storage_type<RTYPE>::type`  
`Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::STORAGE`

Definition at line 71 of file [Comparator\\_With\\_One\\_Value.h](#).

6.82.2.3 `template<int RTYPE, typename Operator , typename T > typedef Rcpp::VectorBase<RTYPE,false,T>  
Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::VEC_TYPE`

Definition at line 70 of file Comparator\_With\_One\_Value.h.

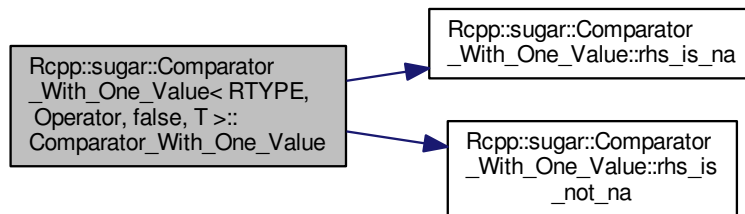
### 6.82.3 Constructor & Destructor Documentation

6.82.3.1 `template<int RTYPE, typename Operator , typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE,  
Operator, false, T >::Comparator_With_One_Value ( const VEC_TYPE & lhs_, STORAGE rhs_ ) [inline]`

Definition at line 74 of file Comparator\_With\_One\_Value.h.

References Rcpp::sugar::Comparator\_With\_One\_Value< RTYPE, Operator, NA, T >::m, Rcpp::sugar::Comparator\_With\_One\_Value< RTYPE, Operator, NA, T >::rhs, Rcpp::sugar::Comparator\_With\_One\_Value< RTYPE, Operator, NA, T >::rhs\_is\_na(), and Rcpp::sugar::Comparator\_With\_One\_Value< RTYPE, Operator, NA, T >::rhs\_is\_not\_na().

Here is the call graph for this function:



### 6.82.4 Member Function Documentation

6.82.4.1 `template<int RTYPE, typename Operator , typename T > int Rcpp::sugar::Comparator_With_One_Value<  
RTYPE, Operator, false, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 83 of file Comparator\_With\_One\_Value.h.

References Rcpp::sugar::Comparator\_With\_One\_Value< RTYPE, Operator, NA, T >::m.

6.82.4.2 `template<int RTYPE, typename Operator , typename T > int Rcpp::sugar::Comparator_With_One_Value<  
RTYPE, Operator, false, T >::rhs_is_na ( int i ) const [inline],[private]`

Definition at line 95 of file Comparator\_With\_One\_Value.h.

References Rcpp::sugar::Comparator\_With\_One\_Value< RTYPE, Operator, NA, T >::rhs.

6.82.4.3 `template<int RTYPE, typename Operator , typename T > int Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::rhs_is_not_na( int i ) const [inline], [private]`

Definition at line 96 of file `Comparator_With_One_Value.h`.

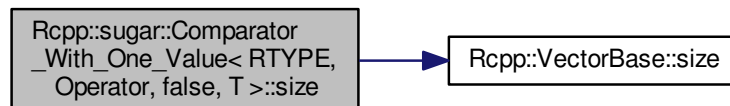
References `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::op`.

6.82.4.4 `template<int RTYPE, typename Operator , typename T > R_xlen_t Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::size( ) const [inline]`

Definition at line 87 of file `Comparator_With_One_Value.h`.

References `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::lhs`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



## 6.82.5 Member Data Documentation

6.82.5.1 `template<int RTYPE, typename Operator , typename T > const VEC_TYPE& Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::lhs [private]`

Definition at line 90 of file `Comparator_With_One_Value.h`.

6.82.5.2 `template<int RTYPE, typename Operator , typename T > METHOD Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::m [private]`

Definition at line 92 of file `Comparator_With_One_Value.h`.

6.82.5.3 `template<int RTYPE, typename Operator , typename T > Operator Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::op [private]`

Definition at line 93 of file `Comparator_With_One_Value.h`.

6.82.5.4 `template<int RTYPE, typename Operator , typename T > STORAGE Rcpp::sugar::Comparator_With_One_↔  
Value< RTYPE, Operator, false, T >::rhs [private]`

Definition at line 91 of file `Comparator_With_One_Value.h`.

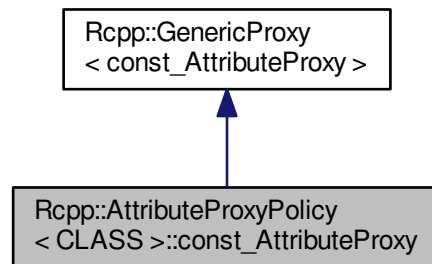
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/Comparator\\_With\\_One\\_Value.h](#)

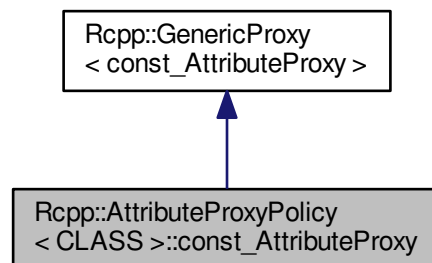
## 6.83 Rcpp::AttributeProxyPolicy< CLASS >::const\_AttributeProxy Class Reference

```
#include <AttributeProxy.h>
```

Inheritance diagram for Rcpp::AttributeProxyPolicy< CLASS >::const\_AttributeProxy:



Collaboration diagram for Rcpp::AttributeProxyPolicy< CLASS >::const\_AttributeProxy:



## Public Member Functions

- [const\\_AttributeProxy](#) (const CLASS &v, const std::string &name)
- `template<typename T >`  
[operator T](#) () const
- [operator SEXP](#) () const

## Private Member Functions

- [SEXP get](#) () const

## Private Attributes

- const CLASS & [parent](#)
- SEXP [attr\\_name](#)

### 6.83.1 Detailed Description

```
template<typename CLASS>
class Rcpp::AttributeProxyPolicy< CLASS >::const_AttributeProxy
```

Definition at line 56 of file AttributeProxy.h.

### 6.83.2 Constructor & Destructor Documentation

6.83.2.1 `template<typename CLASS> Rcpp::AttributeProxyPolicy< CLASS >::const_AttributeProxy::const_AttributeProxy ( const CLASS & v, const std::string & name ) [inline]`

Definition at line 58 of file AttributeProxy.h.

### 6.83.3 Member Function Documentation

6.83.3.1 `template<typename CLASS> SEXP Rcpp::AttributeProxyPolicy< CLASS >::const_AttributeProxy::get ( ) const [inline], [private]`

Definition at line 68 of file AttributeProxy.h.

6.83.3.2 `template<typename CLASS > Rcpp::AttributeProxyPolicy< CLASS >::const_AttributeProxy::operator SEXP ( ) const [inline]`

Definition at line 55 of file proxy.h.



6.83.3.3 `template<typename CLASS > template<typename T > Rcpp::AttributeProxyPolicy< CLASS >::const_AttributeProxy::operator T ( ) const`

Definition at line 50 of file proxy.h.

#### 6.83.4 Member Data Documentation

6.83.4.1 `template<typename CLASS> SEXP Rcpp::AttributeProxyPolicy< CLASS >::const_AttributeProxy::attr_name`  
[private]

Definition at line 66 of file AttributeProxy.h.

6.83.4.2 `template<typename CLASS> const CLASS& Rcpp::AttributeProxyPolicy< CLASS >::const_AttributeProxy::parent`  
[private]

Definition at line 65 of file AttributeProxy.h.

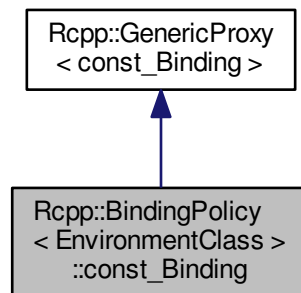
The documentation for this class was generated from the following files:

- [inst/include/Rcpp/proxy/AttributeProxy.h](#)
- [inst/include/Rcpp/api/meat/proxy.h](#)

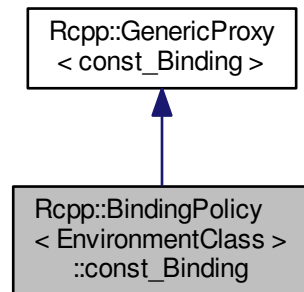
## 6.84 Rcpp::BindingPolicy< EnvironmentClass >::const\_Binding Class Reference

```
#include <Binding.h>
```

Inheritance diagram for Rcpp::BindingPolicy< EnvironmentClass >::const\_Binding:



Collaboration diagram for Rcpp::BindingPolicy< EnvironmentClass >::const\_Binding:



## Public Member Functions

- `const_Binding` (const EnvironmentClass &env\_, const std::string &name\_)
- bool `active` () const
- bool `locked` () const
- bool `exists` () const
- template<typename T >  
  `operator T` () const

## Private Member Functions

- SEXP `get` () const

## Private Attributes

- const EnvironmentClass & `env`
- std::string `name`

### 6.84.1 Detailed Description

```
template<typename EnvironmentClass>
class Rcpp::BindingPolicy< EnvironmentClass >::const_Binding
```

Definition at line 72 of file Binding.h.

## 6.84.2 Constructor & Destructor Documentation

6.84.2.1 `template<typename EnvironmentClass > Rcpp::BindingPolicy< EnvironmentClass >::const_Binding::const_Binding ( const EnvironmentClass & env_, const std::string & name_ ) [inline]`

Definition at line 74 of file Binding.h.

## 6.84.3 Member Function Documentation

6.84.3.1 `template<typename EnvironmentClass > bool Rcpp::BindingPolicy< EnvironmentClass >::const_Binding::active ( ) const [inline]`

Definition at line 77 of file Binding.h.

References `Rcpp::BindingPolicy< EnvironmentClass >::Binding::env`, and `Rcpp::BindingPolicy< EnvironmentClass >::Binding::name`.

6.84.3.2 `template<typename EnvironmentClass > bool Rcpp::BindingPolicy< EnvironmentClass >::const_Binding::exists ( ) const [inline]`

Definition at line 83 of file Binding.h.

References `Rcpp::BindingPolicy< EnvironmentClass >::Binding::env`, and `Rcpp::BindingPolicy< EnvironmentClass >::Binding::name`.

6.84.3.3 `template<typename EnvironmentClass > SEXP Rcpp::BindingPolicy< EnvironmentClass >::const_Binding::get ( ) const [inline],[private]`

Definition at line 90 of file Binding.h.

References `Rcpp::BindingPolicy< EnvironmentClass >::Binding::env`, and `Rcpp::BindingPolicy< EnvironmentClass >::Binding::name`.

6.84.3.4 `template<typename EnvironmentClass > bool Rcpp::BindingPolicy< EnvironmentClass >::const_Binding::locked ( ) const [inline]`

Definition at line 80 of file Binding.h.

References `Rcpp::BindingPolicy< EnvironmentClass >::Binding::env`, and `Rcpp::BindingPolicy< EnvironmentClass >::Binding::name`.

6.84.3.5 `template<typename CLASS > template<typename T > Rcpp::BindingPolicy< CLASS >::const_Binding::operator T ( ) const`

Definition at line 143 of file proxy.h.

## 6.84.4 Member Data Documentation

6.84.4.1 `template<typename EnvironmentClass > const EnvironmentClass& Rcpp::BindingPolicy< EnvironmentClass >::const_Binding::env [private]`

Definition at line 94 of file Binding.h.

6.84.4.2 `template<typename EnvironmentClass > std::string Rcpp::BindingPolicy< EnvironmentClass >::const_Binding::name [private]`

Definition at line 95 of file Binding.h.

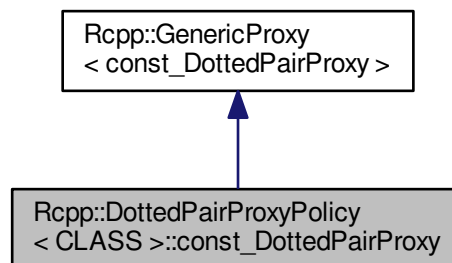
The documentation for this class was generated from the following files:

- [inst/include/Rcpp/proxy/Binding.h](#)
- [inst/include/Rcpp/api/meat/proxy.h](#)

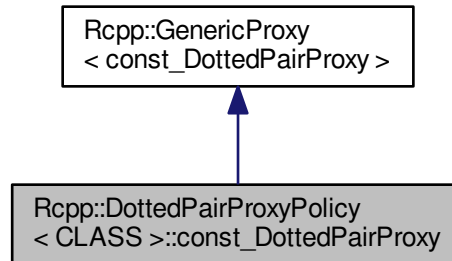
## 6.85 Rcpp::DottedPairProxyPolicy< CLASS >::const\_DottedPairProxy Class Reference

```
#include <DottedPairProxy.h>
```

Inheritance diagram for Rcpp::DottedPairProxyPolicy< CLASS >::const\_DottedPairProxy:



Collaboration diagram for Rcpp::DottedPairProxyPolicy< CLASS >::const\_DottedPairProxy:



## Public Member Functions

- [const\\_DottedPairProxy](#) (const CLASS &v, int index\_)
- [template<typename T > operator T \(\) const](#)
- [SEXP get \(\) const](#)
- [operator SEXP \(\) const](#)

## Private Attributes

- [SEXP node](#)

### 6.85.1 Detailed Description

```

template<typename CLASS>
class Rcpp::DottedPairProxyPolicy< CLASS >::const_DottedPairProxy
  
```

Definition at line 72 of file DottedPairProxy.h.

### 6.85.2 Constructor & Destructor Documentation

6.85.2.1 [template<typename CLASS > Rcpp::DottedPairProxyPolicy< CLASS >::const\\_DottedPairProxy::const\\_DottedPairProxy \( const CLASS & v, int index\\_ \) \[inline\]](#)

Definition at line 74 of file DottedPairProxy.h.

References [Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::node](#).

### 6.85.3 Member Function Documentation

6.85.3.1 `template<typename CLASS > SEXP Rcpp::DottedPairProxyPolicy< CLASS >::const_DottedPairProxy::get ( )  
const [inline]`

Definition at line 83 of file DottedPairProxy.h.

References Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::node.

6.85.3.2 `template<typename CLASS > Rcpp::DottedPairProxyPolicy< CLASS >::const_DottedPairProxy::operator SEXP ( )  
const [inline]`

Definition at line 86 of file DottedPairProxy.h.

6.85.3.3 `template<typename CLASS > template<typename T > Rcpp::DottedPairProxyPolicy< CLASS  
>::const_DottedPairProxy::operator T ( ) const`

Definition at line 171 of file proxy.h.

### 6.85.4 Member Data Documentation

6.85.4.1 `template<typename CLASS > SEXP Rcpp::DottedPairProxyPolicy< CLASS >::const_DottedPairProxy::node  
[private]`

Definition at line 91 of file DottedPairProxy.h.

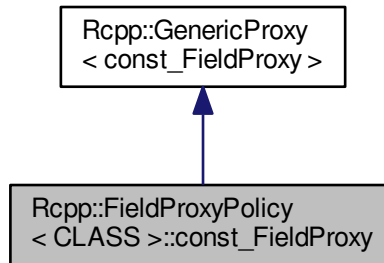
The documentation for this class was generated from the following files:

- [inst/include/Rcpp/proxy/DottedPairProxy.h](#)
- [inst/include/Rcpp/api/meat/proxy.h](#)

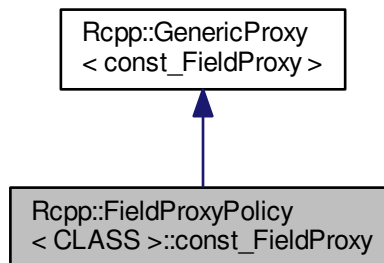
## 6.86 Rcpp::FieldProxyPolicy< CLASS >::const\_FieldProxy Class Reference

```
#include <FieldProxy.h>
```

Inheritance diagram for Rcpp::FieldProxyPolicy< CLASS >::const\_FieldProxy:



Collaboration diagram for Rcpp::FieldProxyPolicy< CLASS >::const\_FieldProxy:



### Public Member Functions

- [const\\_FieldProxy](#) (const CLASS &v, const std::string &name)
- `template<typename T >`  
[operator T](#) () const
- [operator SEXP](#) () const

### Private Member Functions

- [SEXP](#) [get](#) () const

## Private Attributes

- const CLASS & [parent](#)
- const std::string & [field\\_name](#)

### 6.86.1 Detailed Description

```
template<typename CLASS>
class Rcpp::FieldProxyPolicy< CLASS >::const_FieldProxy
```

Definition at line 54 of file FieldProxy.h.

### 6.86.2 Constructor & Destructor Documentation

6.86.2.1 `template<typename CLASS > Rcpp::FieldProxyPolicy< CLASS >::const_FieldProxy::const_FieldProxy ( const CLASS & v, const std::string & name ) [inline]`

Definition at line 56 of file FieldProxy.h.

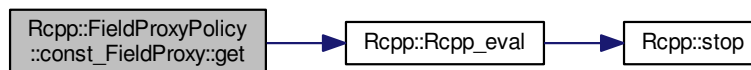
### 6.86.3 Member Function Documentation

6.86.3.1 `template<typename CLASS > SEXP Rcpp::FieldProxyPolicy< CLASS >::const_FieldProxy::get ( ) const [inline], [private]`

Definition at line 68 of file FieldProxy.h.

References `Rcpp::Rcpp_eval()`.

Here is the call graph for this function:



6.86.3.2 `template<typename CLASS > Rcpp::FieldProxyPolicy< CLASS >::const_FieldProxy::operator SEXP ( ) const [inline]`

Definition at line 60 of file FieldProxy.h.



6.86.3.3 `template<typename CLASS > template<typename T > Rcpp::FieldProxyPolicy< CLASS >::const_FieldProxy::operator T ( ) const`

Definition at line 201 of file proxy.h.

#### 6.86.4 Member Data Documentation

6.86.4.1 `template<typename CLASS > const std::string& Rcpp::FieldProxyPolicy< CLASS >::const_FieldProxy::field_name [private]`

Definition at line 66 of file FieldProxy.h.

6.86.4.2 `template<typename CLASS > const CLASS& Rcpp::FieldProxyPolicy< CLASS >::const_FieldProxy::parent [private]`

Definition at line 65 of file FieldProxy.h.

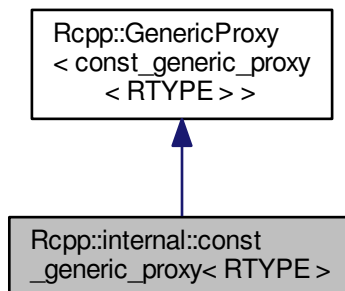
The documentation for this class was generated from the following files:

- inst/include/Rcpp/proxy/[FieldProxy.h](#)
- inst/include/Rcpp/api/meat/[proxy.h](#)

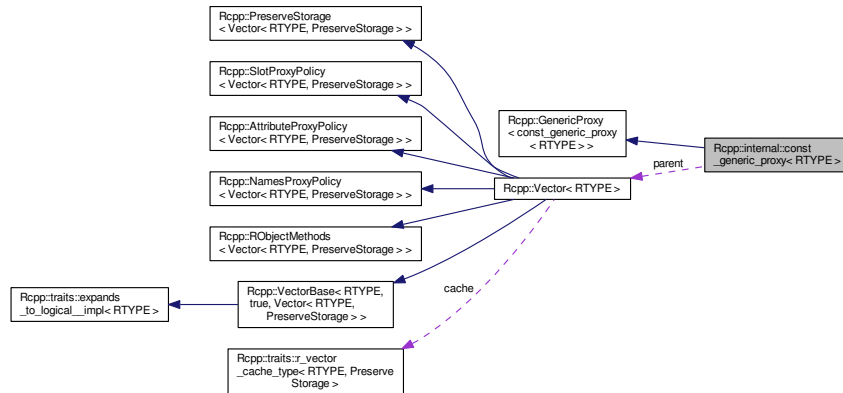
## 6.87 Rcpp::internal::const\_generic\_proxy< RTYPE > Class Template Reference

```
#include <00_forward_proxy.h>
```

Inheritance diagram for Rcpp::internal::const\_generic\_proxy< RTYPE >:



Collaboration diagram for `Rcpp::internal::const_generic_proxy< RTYPE >`:



## Public Types

- typedef `::Rcpp::Vector< RTYPE >` `VECTOR`

## Public Member Functions

- `const_generic_proxy ()`
- `const_generic_proxy (const const_generic_proxy &other)`
- `const_generic_proxy (const VECTOR &v, R_xlen_t i)`
- `operator SEXP () const`
- `template<typename U > operator U () const`
- `operator bool () const`
- `operator int () const`
- `void move (R_xlen_t n)`

## Public Attributes

- const `VECTOR * parent`
- `R_xlen_t index`

## Private Member Functions

- `SEXP get () const`

### 6.87.1 Detailed Description

```
template<int RTYPE>  
class Rcpp::internal::const_generic_proxy< RTYPE >
```

Definition at line 31 of file 00\_forward\_proxy.h.

### 6.87.2 Member Typedef Documentation

6.87.2.1 `template<int RTYPE> typedef ::Rcpp::Vector<RTYPE> Rcpp::internal::const_generic_proxy< RTYPE >::VECTOR`

Definition at line 29 of file const\_generic\_proxy.h.

### 6.87.3 Constructor & Destructor Documentation

6.87.3.1 `template<int RTYPE> Rcpp::internal::const_generic_proxy< RTYPE >::const_generic_proxy ( )`  
[inline]

Definition at line 31 of file const\_generic\_proxy.h.

6.87.3.2 `template<int RTYPE> Rcpp::internal::const_generic_proxy< RTYPE >::const_generic_proxy ( const const_generic_proxy< RTYPE > & other )` [inline]

Definition at line 33 of file const\_generic\_proxy.h.

6.87.3.3 `template<int RTYPE> Rcpp::internal::const_generic_proxy< RTYPE >::const_generic_proxy ( const VECTOR & v, R_xlen_t i )` [inline]

Definition at line 36 of file const\_generic\_proxy.h.

### 6.87.4 Member Function Documentation

6.87.4.1 `template<int RTYPE> SEXP Rcpp::internal::const_generic_proxy< RTYPE >::get ( ) const` [inline],  
[private]

Definition at line 57 of file const\_generic\_proxy.h.

6.87.4.2 `template<int RTYPE> void Rcpp::internal::const_generic_proxy< RTYPE >::move ( R_xlen_t n )` `[inline]`

Definition at line 50 of file `const_generic_proxy.h`.

References `Rcpp::internal::const_generic_proxy< RTYPE >::index`.

6.87.4.3 `template<int RTYPE> Rcpp::internal::const_generic_proxy< RTYPE >::operator bool ( ) const` `[inline]`

Definition at line 47 of file `const_generic_proxy.h`.

6.87.4.4 `template<int RTYPE> Rcpp::internal::const_generic_proxy< RTYPE >::operator int ( ) const` `[inline]`

Definition at line 48 of file `const_generic_proxy.h`.

6.87.4.5 `template<int RTYPE> Rcpp::internal::const_generic_proxy< RTYPE >::operator SEXP ( ) const` `[inline]`

Definition at line 38 of file `const_generic_proxy.h`.

6.87.4.6 `template<int RTYPE> template<typename U > Rcpp::internal::const_generic_proxy< RTYPE >::operator U ( ) const` `[inline]`

Definition at line 42 of file `const_generic_proxy.h`.

## 6.87.5 Member Data Documentation

6.87.5.1 `template<int RTYPE> R_xlen_t Rcpp::internal::const_generic_proxy< RTYPE >::index`

Definition at line 53 of file `const_generic_proxy.h`.

Referenced by `Rcpp::internal::const_generic_proxy< RTYPE >::move()`.

6.87.5.2 `template<int RTYPE> const VECTOR* Rcpp::internal::const_generic_proxy< RTYPE >::parent`

Definition at line 52 of file `const_generic_proxy.h`.

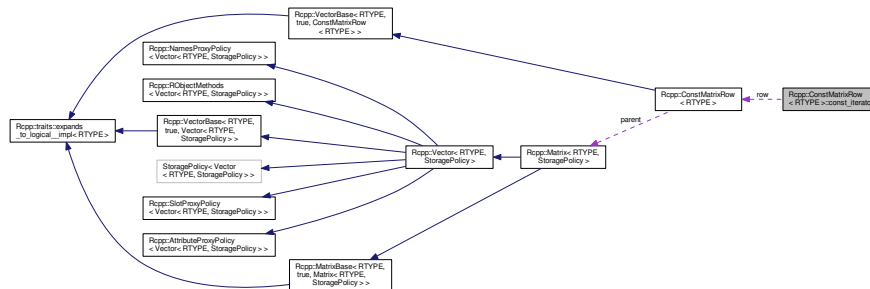
The documentation for this class was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/const\\_generic\\_proxy.h](#)

## 6.88 Rcpp::ConstMatrixRow< RTYPE >::const\_iterator Class Reference

```
#include <MatrixRow.h>
```

Collaboration diagram for Rcpp::ConstMatrixRow< RTYPE >::const\_iterator:



### Public Types

- typedef `traits::r_vector_iterator< RTYPE >::type` `vector_iterator`
- typedef `int` `difference_type`
- typedef `traits::r_vector_const_proxy< RTYPE >::type` `value_type`
- typedef `traits::r_vector_const_proxy< RTYPE >::type` `reference`
- typedef `std::iterator_traits< vector_iterator >::pointer` `pointer`
- typedef `std::random_access_iterator_tag` `iterator_category`

### Public Member Functions

- `const_iterator` (`const const_iterator &other`)
- `const_iterator` (`const ConstMatrixRow &row_`, `int index_`)
- `const_iterator & operator++` ()
- `const_iterator operator++` (`int`)
- `const_iterator & operator--` ()
- `const_iterator operator--` (`int`)
- `const_iterator operator+` (`difference_type n`) `const`
- `const_iterator operator-` (`difference_type n`) `const`
- `difference_type operator-` (`const const_iterator &other`) `const`
- `const_iterator & operator+=` (`difference_type n`)
- `const_iterator & operator-=` (`difference_type n`)
- `const reference operator*` ()
- `const pointer operator->` ()
- `bool operator==` (`const const_iterator &other`)
- `bool operator!=` (`const const_iterator &other`)
- `bool operator<` (`const const_iterator &other`)
- `bool operator>` (`const const_iterator &other`)
- `bool operator<=` (`const const_iterator &other`)
- `bool operator>=` (`const const_iterator &other`)
- `const reference operator[]` (`int i`) `const`
- `difference_type operator-` (`const const_iterator &other`)

## Private Attributes

- const [ConstMatrixRow](#) & [row](#)
- int [index](#)

### 6.88.1 Detailed Description

```
template<int RTYPE>
class Rcpp::ConstMatrixRow< RTYPE >::const_iterator
```

Definition at line 181 of file MatrixRow.h.

### 6.88.2 Member Typedef Documentation

6.88.2.1 `template<int RTYPE> typedef int Rcpp::ConstMatrixRow< RTYPE >::const_iterator::difference_type`

Definition at line 185 of file MatrixRow.h.

6.88.2.2 `template<int RTYPE> typedef std::random_access_iterator_tag Rcpp::ConstMatrixRow< RTYPE >::const_iterator::iterator_category`

Definition at line 190 of file MatrixRow.h.

6.88.2.3 `template<int RTYPE> typedef std::iterator_traits<vector_iterator>::pointer Rcpp::ConstMatrixRow< RTYPE >::const_iterator::pointer`

Definition at line 188 of file MatrixRow.h.

6.88.2.4 `template<int RTYPE> typedef traits::r_vector_const_proxy<RTYPE>::type Rcpp::ConstMatrixRow< RTYPE >::const_iterator::reference`

Definition at line 187 of file MatrixRow.h.

6.88.2.5 `template<int RTYPE> typedef traits::r_vector_const_proxy<RTYPE>::type Rcpp::ConstMatrixRow< RTYPE >::const_iterator::value_type`

Definition at line 186 of file MatrixRow.h.

6.88.2.6 `template<int RTYPE> typedef traits::r_vector_iterator<RTYPE>::type Rcpp::ConstMatrixRow< RTYPE >::const_iterator::vector_iterator`

Definition at line 183 of file MatrixRow.h.

### 6.88.3 Constructor & Destructor Documentation

6.88.3.1 `template<int RTYPE> Rcpp::ConstMatrixRow< RTYPE >::const_iterator::const_iterator ( const const_iterator & other ) [inline]`

Definition at line 192 of file MatrixRow.h.

6.88.3.2 `template<int RTYPE> Rcpp::ConstMatrixRow< RTYPE >::const_iterator::const_iterator ( const ConstMatrixRow & row_, int index_ ) [inline]`

Definition at line 193 of file MatrixRow.h.

### 6.88.4 Member Function Documentation

6.88.4.1 `template<int RTYPE> bool Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator!= ( const const_iterator & other ) [inline]`

Definition at line 230 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::ConstMatrixRow< RTYPE >::const_iterator↔::index`.

6.88.4.2 `template<int RTYPE> const reference Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator* ( ) [inline]`

Definition at line 222 of file MatrixRow.h.

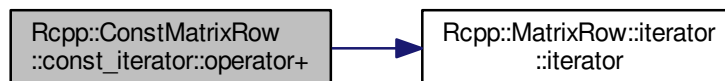
References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::MatrixRow< RTYPE >::iterator::row`.

6.88.4.3 `template<int RTYPE> const_iterator Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator+ ( difference_type n ) const [inline]`

Definition at line 215 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, `Rcpp::MatrixRow< RTYPE >::iterator::iterator()`, and `Rcpp↔::MatrixRow< RTYPE >::iterator::row`.

Here is the call graph for this function:



6.88.4.4 `template<int RTYPE> const_iterator& Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator++ ( )`  
`[inline]`

Definition at line 195 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.88.4.5 `template<int RTYPE> const_iterator Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator++ ( int )`  
`[inline]`

Definition at line 199 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.88.4.6 `template<int RTYPE> const_iterator& Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator+=(`  
`difference_type n ) [inline]`

Definition at line 219 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.88.4.7 `template<int RTYPE> const_iterator Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator-`  
`( difference_type n ) const [inline]`

Definition at line 216 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, `Rcpp::MatrixRow< RTYPE >::iterator::iterator()`, and `Rcpp::MatrixRow< RTYPE >::iterator::row`.

Here is the call graph for this function:



6.88.4.8 `template<int RTYPE> difference_type Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator-`  
`( const const_iterator & other ) const [inline]`

Definition at line 217 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::index`.



6.88.4.9 `template<int RTYPE> difference_type Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator- ( const const_iterator & other ) [inline]`

Definition at line 240 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::index`.

6.88.4.10 `template<int RTYPE> const_iterator& Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator-- ( ) [inline]`

Definition at line 205 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.88.4.11 `template<int RTYPE> const_iterator Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator-- ( int ) [inline]`

Definition at line 209 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.88.4.12 `template<int RTYPE> const_iterator& Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator-= ( difference_type n ) [inline]`

Definition at line 220 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.88.4.13 `template<int RTYPE> const pointer Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator-> ( ) [inline]`

Definition at line 225 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::MatrixRow< RTYPE >::iterator::row`.

6.88.4.14 `template<int RTYPE> bool Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator< ( const const_iterator & other ) [inline]`

Definition at line 231 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::index`.

**6.88.4.15** `template<int RTYPE> bool Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator<= ( const const_iterator & other ) [inline]`

Definition at line 233 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::ConstMatrixRow< RTYPE >::const_iterator<::index`.

**6.88.4.16** `template<int RTYPE> bool Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator==( const const_iterator & other ) [inline]`

Definition at line 229 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::ConstMatrixRow< RTYPE >::const_iterator<::index`.

**6.88.4.17** `template<int RTYPE> bool Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator> ( const const_iterator & other ) [inline]`

Definition at line 232 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::ConstMatrixRow< RTYPE >::const_iterator<::index`.

**6.88.4.18** `template<int RTYPE> bool Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator>= ( const const_iterator & other ) [inline]`

Definition at line 234 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::ConstMatrixRow< RTYPE >::const_iterator<::index`.

**6.88.4.19** `template<int RTYPE> const reference Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator[]( int i ) const [inline]`

Definition at line 236 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::MatrixRow< RTYPE >::iterator::row`.

## 6.88.5 Member Data Documentation

**6.88.5.1** `template<int RTYPE> int Rcpp::ConstMatrixRow< RTYPE >::const_iterator::index [private]`

Definition at line 246 of file MatrixRow.h.

Referenced by `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator!=(, Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator-(, Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator<(), Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator<=(), Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator==(, Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator>(), and Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator>=()`.

6.88.5.2 `template<int RTYPE> const ConstMatrixRow& Rcpp::ConstMatrixRow< RTYPE >::const_iterator::row`  
[private]

Definition at line 245 of file MatrixRow.h.

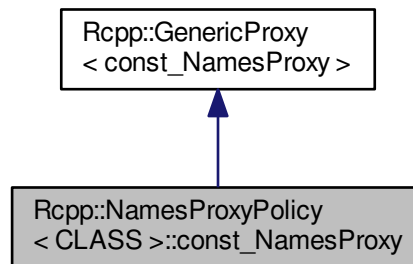
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/MatrixRow.h](#)

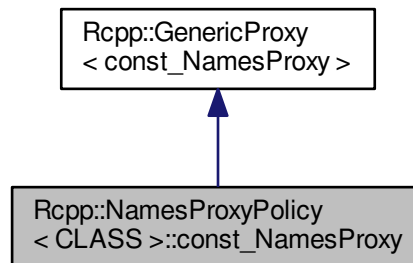
## 6.89 Rcpp::NamesProxyPolicy< CLASS >::const\_NamesProxy Class Reference

```
#include <NamesProxy.h>
```

Inheritance diagram for Rcpp::NamesProxyPolicy< CLASS >::const\_NamesProxy:



Collaboration diagram for Rcpp::NamesProxyPolicy< CLASS >::const\_NamesProxy:



## Public Member Functions

- [const\\_NamesProxy](#) (const CLASS &v)
- `template<typename T >`  
[operator T \(\)](#) const

## Private Member Functions

- SEXP [get \(\)](#) const

## Private Attributes

- const CLASS & [parent](#)

### 6.89.1 Detailed Description

```
template<typename CLASS >  
class Rcpp::NamesProxyPolicy< CLASS >::const_NamesProxy
```

Definition at line 65 of file NamesProxy.h.

### 6.89.2 Constructor & Destructor Documentation

6.89.2.1 `template<typename CLASS > Rcpp::NamesProxyPolicy< CLASS >::const_NamesProxy::const_NamesProxy (`  
`const CLASS & v )` [`inline`]

Definition at line 67 of file NamesProxy.h.

### 6.89.3 Member Function Documentation

6.89.3.1 `template<typename CLASS > SEXP Rcpp::NamesProxyPolicy< CLASS >::const_NamesProxy::get ( )` const  
[`inline`], [`private`]

Definition at line 74 of file NamesProxy.h.

References RCPP\_GET\_NAMES.

6.89.3.2 `template<typename CLASS > template<typename T > Rcpp::NamesProxyPolicy< CLASS`  
`>::const_NamesProxy::operator T ( )` const

Definition at line 76 of file proxy.h.

## 6.89.4 Member Data Documentation

6.89.4.1 `template<typename CLASS> const CLASS& Rcpp::NamesProxyPolicy< CLASS >::const_NamesProxy::parent`  
`[private]`

Definition at line 72 of file NamesProxy.h.

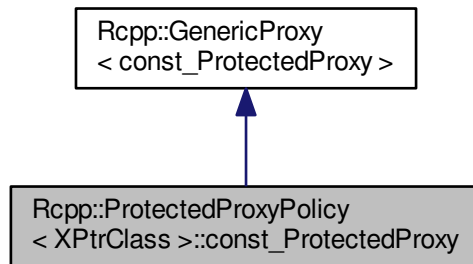
The documentation for this class was generated from the following files:

- [inst/include/Rcpp/proxy/NamesProxy.h](#)
- [inst/include/Rcpp/api/meat/proxy.h](#)

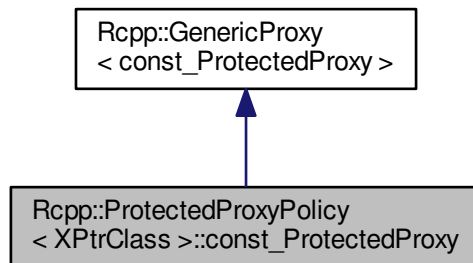
## 6.90 Rcpp::ProtectedProxyPolicy< XPtrClass >::const\_ProtectedProxy Class Reference

```
#include <ProtectedProxy.h>
```

Inheritance diagram for Rcpp::ProtectedProxyPolicy< XPtrClass >::const\_ProtectedProxy:



Collaboration diagram for Rcpp::ProtectedProxyPolicy< XPtrClass >::const\_ProtectedProxy:



## Public Member Functions

- [const\\_ProtectedProxy](#) (const XPtrClass &xp\_)
- `template<typename U >`  
[operator U](#) () const
- [operator SEXP](#) () const

## Private Member Functions

- [SEXP get](#) () const

## Private Attributes

- const XPtrClass & [xp](#)

### 6.90.1 Detailed Description

```
template<class XPtrClass>
class Rcpp::ProtectedProxyPolicy< XPtrClass >::const_ProtectedProxy
```

Definition at line 61 of file ProtectedProxy.h.

### 6.90.2 Constructor & Destructor Documentation

6.90.2.1 `template<class XPtrClass> Rcpp::ProtectedProxyPolicy< XPtrClass >::const_ProtectedProxy(const XPtrClass & xp_)` `[inline]`

Definition at line 63 of file ProtectedProxy.h.

### 6.90.3 Member Function Documentation

6.90.3.1 `template<class XPtrClass> SEXP Rcpp::ProtectedProxyPolicy< XPtrClass >::const_ProtectedProxy::get()` `const` `[inline]`, `[private]`

Definition at line 77 of file ProtectedProxy.h.

6.90.3.2 `template<class XPtrClass> Rcpp::ProtectedProxyPolicy< XPtrClass >::const_ProtectedProxy::operator SEXP()` `const` `[inline]`

Definition at line 70 of file ProtectedProxy.h.

```
6.90.3.3 template<class XPtrClass> template<typename U > Rcpp::ProtectedProxyPolicy< XPtrClass
>::const_ProtectedProxy::operator U ( ) const [inline]
```

Definition at line 66 of file ProtectedProxy.h.

## 6.90.4 Member Data Documentation

```
6.90.4.1 template<class XPtrClass> const XPtrClass& Rcpp::ProtectedProxyPolicy< XPtrClass
>::const_ProtectedProxy::xp [private]
```

Definition at line 75 of file ProtectedProxy.h.

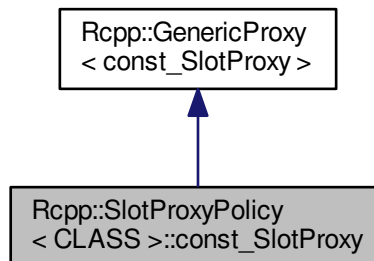
The documentation for this class was generated from the following file:

- inst/include/Rcpp/proxy/ProtectedProxy.h

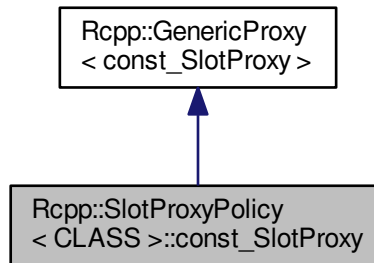
## 6.91 Rcpp::SlotProxyPolicy< CLASS >::const\_SlotProxy Class Reference

```
#include <SlotProxy.h>
```

Inheritance diagram for Rcpp::SlotProxyPolicy< CLASS >::const\_SlotProxy:



Collaboration diagram for Rcpp::SlotProxyPolicy< CLASS >::const\_SlotProxy:



### Public Member Functions

- [const\\_SlotProxy](#) (const CLASS &v, const std::string &name)
- [template<typename T > operator T \(\) const](#)
- [operator SEXP \(\) const](#)

### Private Member Functions

- [SEXP get \(\) const](#)

### Private Attributes

- const CLASS & [parent](#)
- SEXP [slot\\_name](#)

#### 6.91.1 Detailed Description

```

template<typename CLASS>
class Rcpp::SlotProxyPolicy< CLASS >::const_SlotProxy
  
```

Definition at line 59 of file SlotProxy.h.

#### 6.91.2 Constructor & Destructor Documentation

6.91.2.1 `template<typename CLASS> Rcpp::SlotProxyPolicy< CLASS >::const_SlotProxy::const_SlotProxy ( const CLASS & v, const std::string & name ) [inline]`

Definition at line 61 of file SlotProxy.h.

References `Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::slot_name`.



### 6.91.3 Member Function Documentation

6.91.3.1 `template<typename CLASS> SEXP Rcpp::SlotProxyPolicy< CLASS >::const_SlotProxy::get ( ) const`  
`[inline], [private]`

Definition at line 78 of file SlotProxy.h.

6.91.3.2 `template<typename CLASS> Rcpp::SlotProxyPolicy< CLASS >::const_SlotProxy::operator SEXP ( ) const`  
`[inline]`

Definition at line 70 of file SlotProxy.h.

6.91.3.3 `template<typename CLASS> template<typename T > Rcpp::SlotProxyPolicy< CLASS >::const_SlotProxy::operator T ( ) const` `[inline]`

Definition at line 67 of file SlotProxy.h.

### 6.91.4 Member Data Documentation

6.91.4.1 `template<typename CLASS> const CLASS& Rcpp::SlotProxyPolicy< CLASS >::const_SlotProxy::parent`  
`[private]`

Definition at line 75 of file SlotProxy.h.

6.91.4.2 `template<typename CLASS> SEXP Rcpp::SlotProxyPolicy< CLASS >::const_SlotProxy::slot_name`  
`[private]`

Definition at line 76 of file SlotProxy.h.

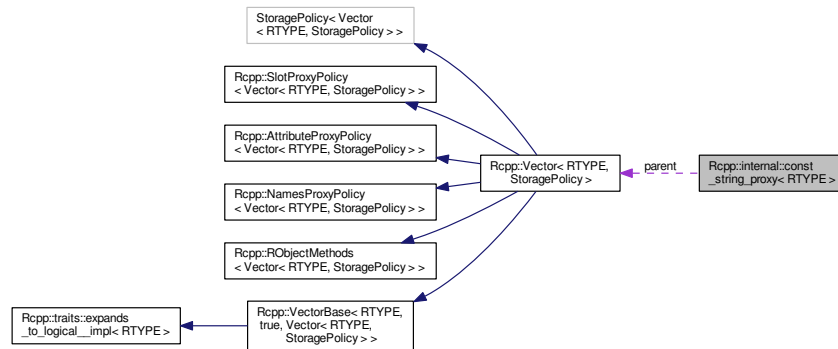
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/proxy/SlotProxy.h`

## 6.92 Rcpp::internal::const\_string\_proxy< RTYPE > Class Template Reference

```
#include <00_forward_proxy.h>
```

Collaboration diagram for Rcpp::internal::const\_string\_proxy< RTYPE >:



### Public Types

- typedef `::Rcpp::Vector< RTYPE >` `VECTOR`
- typedef const char \* `iterator`
- typedef const char & `reference`

### Public Member Functions

- `const_string_proxy ()`
- `const_string_proxy (const VECTOR &v, R_xlen_t index_)`
- `const_string_proxy (SEXP x)`
- `const_string_proxy (const const_string_proxy &other)`
- `void import (const const_string_proxy &other)`
- `operator SEXP () const`
- `operator char * () const`
- `void move (R_xlen_t n)`
- `SEXP get () const`
- `iterator begin () const`
- `iterator end () const`
- `R_xlen_t size () const`
- `bool empty () const`
- `reference operator[] (R_xlen_t n)`
- `bool operator== (const char *other)`
- `bool operator!= (const char *other)`
- `bool operator== (const const_string_proxy &other)`
- `bool operator!= (const const_string_proxy &other)`
- `bool operator== (SEXP other) const`
- `bool operator!= (SEXP other) const`

## Public Attributes

- const VECTOR \* parent
- R\_xlen\_t index

## Static Private Attributes

- static std::string buffer

## Friends

- template<int RT>  
std::ostream & operator<< (std::ostream &os, const const\_string\_proxy< RT > &proxy)
- template<int RT>  
std::string operator+ (const std::string &x, const const\_string\_proxy< RT > &proxy)

### 6.92.1 Detailed Description

```
template<int RTYPE>
class Rcpp::internal::const_string_proxy< RTYPE >
```

Definition at line 29 of file 00\_forward\_proxy.h.

### 6.92.2 Member Typedef Documentation

6.92.2.1 `template<int RTYPE> typedef const char* Rcpp::internal::const_string_proxy< RTYPE >::iterator`

Definition at line 32 of file const\_string\_proxy.h.

6.92.2.2 `template<int RTYPE> typedef const char& Rcpp::internal::const_string_proxy< RTYPE >::reference`

Definition at line 33 of file const\_string\_proxy.h.

6.92.2.3 `template<int RTYPE> typedef ::Rcpp::Vector<RTYPE> Rcpp::internal::const_string_proxy< RTYPE >::VECTOR`

Definition at line 31 of file const\_string\_proxy.h.

### 6.92.3 Constructor & Destructor Documentation

6.92.3.1 `template<int RTYPE> Rcpp::internal::const_string_proxy< RTYPE >::const_string_proxy( ) [inline]`

Definition at line 35 of file const\_string\_proxy.h.

6.92.3.2 `template<int RTYPE> Rcpp::internal::const_string_proxy< RTYPE >::const_string_proxy( const VECTOR & v, R_xlen_t index_ ) [inline]`

Creates a proxy

## Parameters

<i>v</i>	reference to the associated character vector
<i>index</i>	index

Definition at line 43 of file const\_string\_proxy.h.

**6.92.3.3** `template<int RTYPE> Rcpp::internal::const_string_proxy< RTYPE >::const_string_proxy ( SEXP x )`  
`[inline]`

Definition at line 45 of file const\_string\_proxy.h.

References `Rcpp::internal::const_string_proxy< RTYPE >::parent`.

**6.92.3.4** `template<int RTYPE> Rcpp::internal::const_string_proxy< RTYPE >::const_string_proxy ( const`  
`const_string_proxy< RTYPE > & other ) [inline]`

Definition at line 50 of file const\_string\_proxy.h.

## 6.92.4 Member Function Documentation

**6.92.4.1** `template<int RTYPE> iterator Rcpp::internal::const_string_proxy< RTYPE >::begin ( ) const [inline]`

Definition at line 93 of file const\_string\_proxy.h.

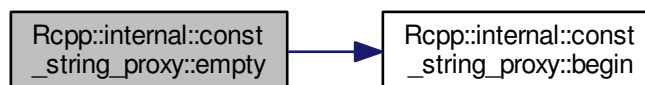
Referenced by `Rcpp::internal::const_string_proxy< RTYPE >::empty()`, `Rcpp::internal::const_string_proxy< RTYPE >::end()`, `Rcpp::internal::const_string_proxy< RTYPE >::operator!=()`, `Rcpp::internal::const_string_proxy< RTYPE >::operator==()`, `Rcpp::internal::const_string_proxy< RTYPE >::operator[]()`, and `Rcpp::internal::const_string_proxy< RTYPE >::size()`.

**6.92.4.2** `template<int RTYPE> bool Rcpp::internal::const_string_proxy< RTYPE >::empty ( ) const [inline]`

Definition at line 96 of file const\_string\_proxy.h.

References `Rcpp::internal::const_string_proxy< RTYPE >::begin()`.

Here is the call graph for this function:

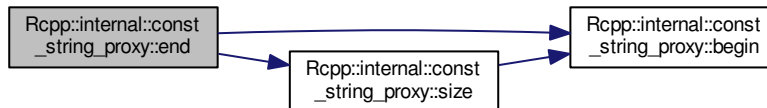


6.92.4.3 `template<int RTYPE> iterator Rcpp::internal::const_string_proxy< RTYPE >::end ( ) const [inline]`

Definition at line 94 of file `const_string_proxy.h`.

References `Rcpp::internal::const_string_proxy< RTYPE >::begin()`, and `Rcpp::internal::const_string_proxy< RTYPE >::size()`.

Here is the call graph for this function:



6.92.4.4 `template<int RTYPE> SEXP Rcpp::internal::const_string_proxy< RTYPE >::get ( ) const [inline]`

Definition at line 89 of file `const_string_proxy.h`.

Referenced by `Rcpp::String::operator!=()`, and `Rcpp::String::operator==()`.

6.92.4.5 `template<int RTYPE> void Rcpp::internal::const_string_proxy< RTYPE >::import ( const const_string_proxy< RTYPE > & other ) [inline]`

Definition at line 53 of file `const_string_proxy.h`.

References `Rcpp::internal::const_string_proxy< RTYPE >::index`, and `Rcpp::internal::const_string_proxy< RTYPE >::parent`.

6.92.4.6 `template<int RTYPE> void Rcpp::internal::const_string_proxy< RTYPE >::move ( R_xlen_t n ) [inline]`

Definition at line 87 of file `const_string_proxy.h`.

6.92.4.7 `template<int RTYPE> Rcpp::internal::const_string_proxy< RTYPE >::operator char * ( ) const [inline]`

rhs use. Retrieves the current value of the element this proxy refers to and convert it to a C string

Definition at line 71 of file `const_string_proxy.h`.

References `Rcpp::internal::const_string_proxy< RTYPE >::operator+`.

6.92.4.8 `template<int RTYPE> Rcpp::internal::const_string_proxy< RTYPE >::operator SEXP ( )const [inline]`

rhs use. Retrieves the current value of the element this proxy refers to.

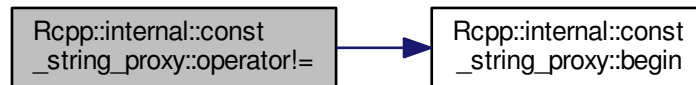
Definition at line 62 of file `const_string_proxy.h`.

6.92.4.9 `template<int RTYPE> bool Rcpp::internal::const_string_proxy< RTYPE >::operator!= ( const char * other ) [inline]`

Definition at line 102 of file `const_string_proxy.h`.

References `Rcpp::internal::const_string_proxy< RTYPE >::begin()`.

Here is the call graph for this function:

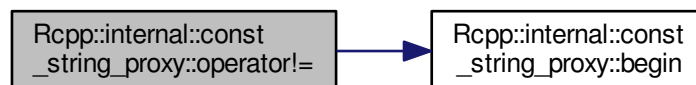


6.92.4.10 `template<int RTYPE> bool Rcpp::internal::const_string_proxy< RTYPE >::operator!= ( const const_string_proxy< RTYPE > & other ) [inline]`

Definition at line 109 of file `const_string_proxy.h`.

References `Rcpp::internal::const_string_proxy< RTYPE >::begin()`.

Here is the call graph for this function:



6.92.4.11 `template<int RTYPE> bool Rcpp::internal::const_string_proxy< RTYPE >::operator!=( SEXP other ) const`  
`[inline]`

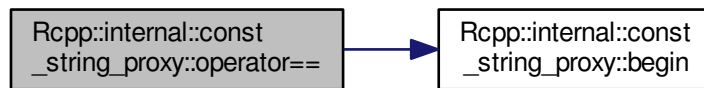
Definition at line 117 of file `const_string_proxy.h`.

6.92.4.12 `template<int RTYPE> bool Rcpp::internal::const_string_proxy< RTYPE >::operator==( const char * other )`  
`[inline]`

Definition at line 99 of file `const_string_proxy.h`.

References `Rcpp::internal::const_string_proxy< RTYPE >::begin()`.

Here is the call graph for this function:

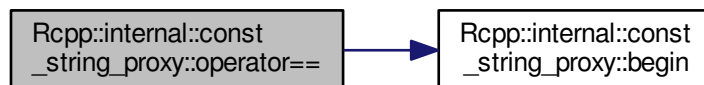


6.92.4.13 `template<int RTYPE> bool Rcpp::internal::const_string_proxy< RTYPE >::operator==( const const_string_proxy< RTYPE > & other )` `[inline]`

Definition at line 106 of file `const_string_proxy.h`.

References `Rcpp::internal::const_string_proxy< RTYPE >::begin()`.

Here is the call graph for this function:



6.92.4.14 `template<int RTYPE> bool Rcpp::internal::const_string_proxy< RTYPE >::operator==( SEXP other ) const`  
`[inline]`

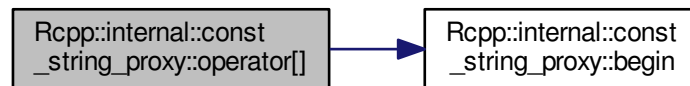
Definition at line 113 of file `const_string_proxy.h`.

6.92.4.15 `template<int RTYPE> reference Rcpp::internal::const_string_proxy< RTYPE >::operator[]( R_xlen_t n )`  
`[inline]`

Definition at line 97 of file `const_string_proxy.h`.

References `Rcpp::internal::const_string_proxy< RTYPE >::begin()`.

Here is the call graph for this function:



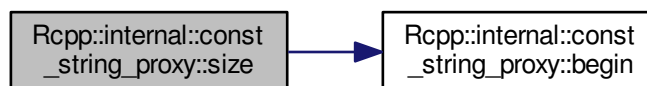
6.92.4.16 `template<int RTYPE> R_xlen_t Rcpp::internal::const_string_proxy< RTYPE >::size( ) const` `[inline]`

Definition at line 95 of file `const_string_proxy.h`.

References `Rcpp::internal::const_string_proxy< RTYPE >::begin()`.

Referenced by `Rcpp::internal::const_string_proxy< RTYPE >::end()`.

Here is the call graph for this function:





### 6.92.5 Friends And Related Function Documentation

6.92.5.1 `template<int RTYPE> template<int RT> std::string operator+ ( const std::string & x, const const_string_proxy< RT > & proxy ) [friend]`

Referenced by `Rcpp::internal::const_string_proxy< RTYPE >::operator char *()`.

6.92.5.2 `template<int RTYPE> template<int RT> std::ostream& operator<< ( std::ostream & os, const const_string_proxy< RT > & proxy ) [friend]`

Prints the element this proxy refers to to an output stream

### 6.92.6 Member Data Documentation

6.92.6.1 `template<int RTYPE> std::string Rcpp::internal::const_string_proxy< RTYPE >::buffer [static], [private]`

Definition at line 122 of file `const_string_proxy.h`.

6.92.6.2 `template<int RTYPE> R_xlen_t Rcpp::internal::const_string_proxy< RTYPE >::index`

Definition at line 86 of file `const_string_proxy.h`.

Referenced by `Rcpp::internal::const_string_proxy< RTYPE >::import()`, and `Rcpp::internal::string_proxy< RTYPE >::import()`.

6.92.6.3 `template<int RTYPE> const VECTOR* Rcpp::internal::const_string_proxy< RTYPE >::parent`

Definition at line 85 of file `const_string_proxy.h`.

Referenced by `Rcpp::internal::const_string_proxy< RTYPE >::const_string_proxy()`, `Rcpp::internal::const_string_proxy< RTYPE >::import()`, and `Rcpp::internal::string_proxy< RTYPE >::import()`.

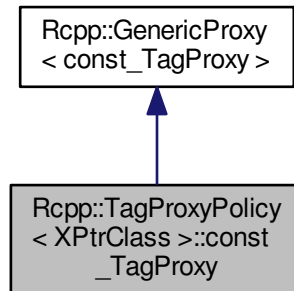
The documentation for this class was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/const\\_string\\_proxy.h](#)

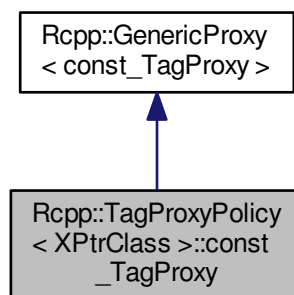
## 6.93 Rcpp::TagProxyPolicy< XPtrClass >::const\_TagProxy Class Reference

```
#include <TagProxy.h>
```

Inheritance diagram for Rcpp::TagProxyPolicy< XPtrClass >::const\_TagProxy:



Collaboration diagram for Rcpp::TagProxyPolicy< XPtrClass >::const\_TagProxy:



### Public Member Functions

- [const\\_TagProxy](#) (XPtrClass &xp\_)
- [template<typename U > operator U](#) () const
- [operator SEXP](#) () const

## Private Member Functions

- SEXP [get](#) () const

## Private Attributes

- XPtrClass & [xp](#)

### 6.93.1 Detailed Description

```
template<typename XPtrClass>
class Rcpp::TagProxyPolicy< XPtrClass >::const_TagProxy
```

Definition at line 53 of file TagProxy.h.

### 6.93.2 Constructor & Destructor Documentation

6.93.2.1 `template<typename XPtrClass> Rcpp::TagProxyPolicy< XPtrClass >::const_TagProxy::const_TagProxy ( XPtrClass & xp_ ) [inline]`

Definition at line 55 of file TagProxy.h.

### 6.93.3 Member Function Documentation

6.93.3.1 `template<typename XPtrClass> SEXP Rcpp::TagProxyPolicy< XPtrClass >::const_TagProxy::get ( ) const [inline],[private]`

Definition at line 66 of file TagProxy.h.

6.93.3.2 `template<typename CLASS > Rcpp::TagProxyPolicy< CLASS >::const_TagProxy::operator SEXP ( ) const`

Definition at line 122 of file proxy.h.

6.93.3.3 `template<typename XPtrClass> template<typename U > Rcpp::TagProxyPolicy< XPtrClass >::const_TagProxy::operator U ( ) const`

### 6.93.4 Member Data Documentation

6.93.4.1 `template<typename XPtrClass> XPtrClass& Rcpp::TagProxyPolicy< XPtrClass >::const_TagProxy::xp [private]`

Definition at line 64 of file TagProxy.h.

The documentation for this class was generated from the following files:

- [inst/include/Rcpp/proxy/TagProxy.h](#)
- [inst/include/Rcpp/api/meat/proxy.h](#)

## 6.94 Rcpp::ConstInputParameter< T > Class Template Reference

```
#include <InputParameter.h>
```

### Public Types

- typedef const T [const\\_nonref](#)

### Public Member Functions

- [ConstInputParameter](#) (SEXP x\_)
- [operator const\\_nonref](#) ()

### Private Attributes

- T [obj](#)

#### 6.94.1 Detailed Description

```
template<typename T>  
class Rcpp::ConstInputParameter< T >
```

Definition at line 56 of file InputParameter.h.

#### 6.94.2 Member Typedef Documentation

6.94.2.1 `template<typename T > typedef const T Rcpp::ConstInputParameter< T >::const_nonref`

Definition at line 58 of file InputParameter.h.

#### 6.94.3 Constructor & Destructor Documentation

6.94.3.1 `template<typename T > Rcpp::ConstInputParameter< T >::ConstInputParameter ( SEXP x_ ) [inline]`

Definition at line 59 of file InputParameter.h.

#### 6.94.4 Member Function Documentation

6.94.4.1 `template<typename T > Rcpp::ConstInputParameter< T >::operator const_nonref ( ) [inline]`

Definition at line 61 of file InputParameter.h.

### 6.94.5 Member Data Documentation

#### 6.94.5.1 `template<typename T> T Rcpp::ConstInputParameter< T >::obj` [private]

Definition at line 64 of file InputParameter.h.

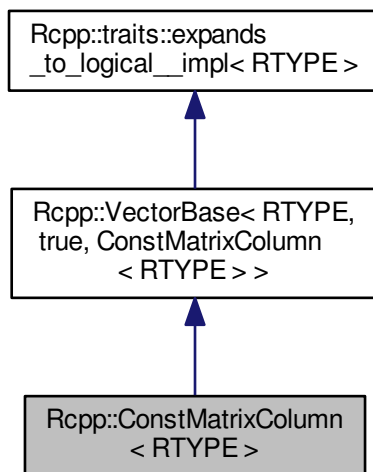
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/InputParameter.h](#)

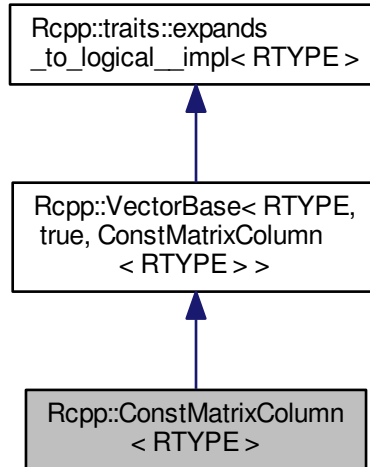
## 6.95 Rcpp::ConstMatrixColumn< RTYPE > Class Template Reference

```
#include <MatrixColumn.h>
```

Inheritance diagram for Rcpp::ConstMatrixColumn< RTYPE >:



Collaboration diagram for `Rcpp::ConstMatrixColumn< RTYPE >`:



## Public Types

- typedef `Matrix< RTYPE > MATRIX`
- typedef `MATRIX::const_Proxy const_Proxy`
- typedef `MATRIX::value_type value_type`
- typedef `MATRIX::const_iterator const_iterator`

## Public Member Functions

- `ConstMatrixColumn` (const `MATRIX` &parent, int i)
- `ConstMatrixColumn` (const `ConstMatrixColumn` &other)
- `const_Proxy operator[]` (int i) const
- `const_iterator begin` () const
- `const_iterator end` () const
- int `size` () const

## Private Attributes

- const int n
- `const_iterator const_start`

### 6.95.1 Detailed Description

```
template<int RTYPE>
class Rcpp::ConstMatrixColumn< RTYPE >
```

Definition at line 107 of file MatrixColumn.h.

### 6.95.2 Member Typedef Documentation

6.95.2.1 `template<int RTYPE> typedef MATRIX::const_iterator Rcpp::ConstMatrixColumn< RTYPE >::const_iterator`

Definition at line 112 of file MatrixColumn.h.

6.95.2.2 `template<int RTYPE> typedef MATRIX::const_Proxy Rcpp::ConstMatrixColumn< RTYPE >::const_Proxy`

Definition at line 110 of file MatrixColumn.h.

6.95.2.3 `template<int RTYPE> typedef Matrix<RTYPE> Rcpp::ConstMatrixColumn< RTYPE >::MATRIX`

Definition at line 109 of file MatrixColumn.h.

6.95.2.4 `template<int RTYPE> typedef MATRIX::value_type Rcpp::ConstMatrixColumn< RTYPE >::value_type`

Definition at line 111 of file MatrixColumn.h.

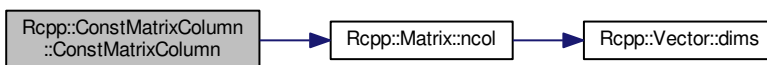
### 6.95.3 Constructor & Destructor Documentation

6.95.3.1 `template<int RTYPE> Rcpp::ConstMatrixColumn< RTYPE >::ConstMatrixColumn ( const MATRIX & parent, int i ) [inline]`

Definition at line 114 of file MatrixColumn.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`.

Here is the call graph for this function:



6.95.3.2 `template<int RTYPE> Rcpp::ConstMatrixColumn< RTYPE >::ConstMatrixColumn ( const ConstMatrixColumn< RTYPE > & other ) [inline]`

Definition at line 121 of file MatrixColumn.h.

## 6.95.4 Member Function Documentation

6.95.4.1 `template<int RTYPE> const_iterator Rcpp::ConstMatrixColumn< RTYPE >::begin ( ) const [inline]`

Definition at line 129 of file MatrixColumn.h.

References `Rcpp::MatrixColumn< RTYPE >::const_start`.

6.95.4.2 `template<int RTYPE> const_iterator Rcpp::ConstMatrixColumn< RTYPE >::end ( ) const [inline]`

Definition at line 133 of file MatrixColumn.h.

References `Rcpp::MatrixColumn< RTYPE >::const_start`, and `Rcpp::MatrixColumn< RTYPE >::n`.

6.95.4.3 `template<int RTYPE> const_Proxy Rcpp::ConstMatrixColumn< RTYPE >::operator[] ( int i ) const [inline]`

Definition at line 125 of file MatrixColumn.h.

References `Rcpp::MatrixColumn< RTYPE >::const_start`.

6.95.4.4 `template<int RTYPE> int Rcpp::ConstMatrixColumn< RTYPE >::size ( ) const [inline]`

Definition at line 137 of file MatrixColumn.h.

References `Rcpp::MatrixColumn< RTYPE >::n`.

## 6.95.5 Member Data Documentation

6.95.5.1 `template<int RTYPE> const_iterator Rcpp::ConstMatrixColumn< RTYPE >::const_start [private]`

Definition at line 143 of file MatrixColumn.h.



6.95.5.2 `template<int RTYPE> const int Rcpp::ConstMatrixColumn< RTYPE >::n` [private]

Definition at line 142 of file MatrixColumn.h.

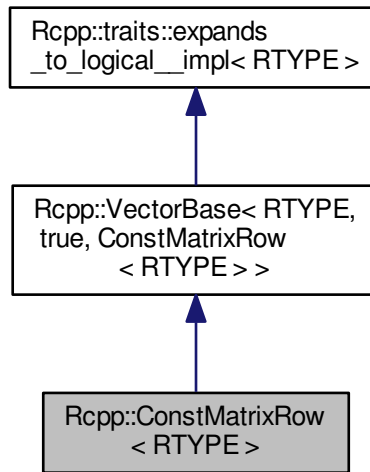
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/vector/MatrixColumn.h`

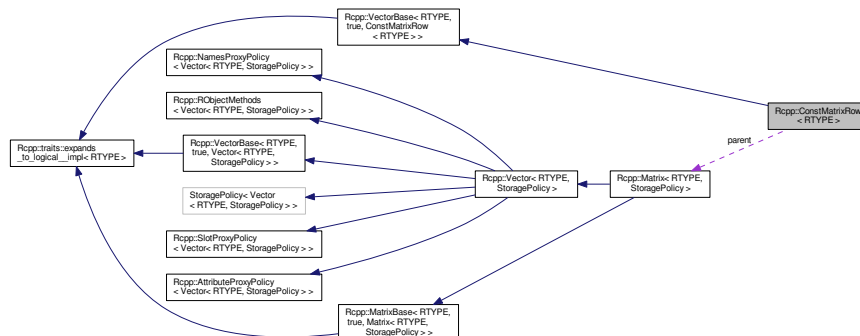
## 6.96 Rcpp::ConstMatrixRow< RTYPE > Class Template Reference

```
#include <MatrixRow.h>
```

Inheritance diagram for Rcpp::ConstMatrixRow< RTYPE >:



Collaboration diagram for Rcpp::ConstMatrixRow< RTYPE >:



## Classes

- class [const\\_iterator](#)

## Public Types

- typedef [Matrix](#)< RTYPE > [MATRIX](#)
- typedef [MATRIX::const\\_Proxy](#) [const\\_reference](#)
- typedef [MATRIX::value\\_type](#) [value\\_type](#)
- typedef [const\\_iterator](#) [iterator](#)

## Public Member Functions

- [ConstMatrixRow](#) (const [MATRIX](#) &object, int i)
- [ConstMatrixRow](#) (const [ConstMatrixRow](#) &other)
- [const\\_reference operator\[\]](#) (int i) const
- [const\\_iterator begin](#) () const
- [const\\_iterator end](#) () const
- int [size](#) () const

## Private Member Functions

- int [get\\_parent\\_index](#) (int i) const

## Private Attributes

- const [MATRIX](#) & [parent](#)
- [MATRIX::const\\_iterator](#) [start](#)
- int [parent\\_nrow](#)
- int [row](#)

### 6.96.1 Detailed Description

```
template<int RTYPE>  
class Rcpp::ConstMatrixRow< RTYPE >
```

Definition at line 175 of file MatrixRow.h.

### 6.96.2 Member Typedef Documentation

6.96.2.1 `template<int RTYPE> typedef MATRIX::const\_Proxy Rcpp::ConstMatrixRow< RTYPE >::const\_reference`

Definition at line 178 of file MatrixRow.h.

6.96.2.2 `template<int RTYPE> typedef const_iterator Rcpp::ConstMatrixRow< RTYPE >::iterator`

Definition at line 249 of file MatrixRow.h.

6.96.2.3 `template<int RTYPE> typedef Matrix<RTYPE> Rcpp::ConstMatrixRow< RTYPE >::MATRIX`

Definition at line 177 of file MatrixRow.h.

6.96.2.4 `template<int RTYPE> typedef MATRIX::value_type Rcpp::ConstMatrixRow< RTYPE >::value_type`

Definition at line 179 of file MatrixRow.h.

### 6.96.3 Constructor & Destructor Documentation

6.96.3.1 `template<int RTYPE> Rcpp::ConstMatrixRow< RTYPE >::ConstMatrixRow ( const MATRIX & object, int i )`  
[`inline`]

Definition at line 251 of file MatrixRow.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::nrow()`, and `Rcpp::MatrixRow< RTYPE >::parent`.

Here is the call graph for this function:



6.96.3.2 `template<int RTYPE> Rcpp::ConstMatrixRow< RTYPE >::ConstMatrixRow ( const ConstMatrixRow< RTYPE > & other )` [`inline`]

Definition at line 260 of file MatrixRow.h.

### 6.96.4 Member Function Documentation

6.96.4.1 `template<int RTYPE> const_iterator Rcpp::ConstMatrixRow< RTYPE >::begin ( ) const` [`inline`]

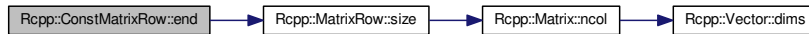
Definition at line 271 of file MatrixRow.h.

6.96.4.2 `template<int RTYPE> const_iterator Rcpp::ConstMatrixRow< RTYPE >::end ( ) const` `[inline]`

Definition at line 275 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::size()`.

Here is the call graph for this function:



6.96.4.3 `template<int RTYPE> int Rcpp::ConstMatrixRow< RTYPE >::get_parent_index ( int i ) const` `[inline]`,  
`[private]`

Definition at line 289 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::parent_nrow`, and `RCPP_DEBUG_4`.

6.96.4.4 `template<int RTYPE> const_reference Rcpp::ConstMatrixRow< RTYPE >::operator[] ( int i ) const`  
`[inline]`

Definition at line 267 of file MatrixRow.h.

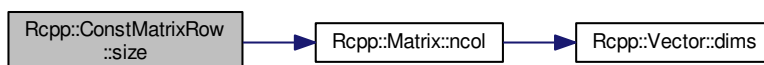
References `Rcpp::MatrixRow< RTYPE >::parent`, `Rcpp::MatrixRow< RTYPE >::parent_nrow`, and `Rcpp::MatrixRow< RTYPE >::iterator::row`.

6.96.4.5 `template<int RTYPE> int Rcpp::ConstMatrixRow< RTYPE >::size ( ) const` `[inline]`

Definition at line 279 of file MatrixRow.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`, and `Rcpp::MatrixRow< RTYPE >::parent`.

Here is the call graph for this function:



## 6.96.5 Member Data Documentation

6.96.5.1 `template<int RTYPE> const MATRIX& Rcpp::ConstMatrixRow< RTYPE >::parent` [private]

Definition at line 284 of file MatrixRow.h.

6.96.5.2 `template<int RTYPE> int Rcpp::ConstMatrixRow< RTYPE >::parent_nrow` [private]

Definition at line 286 of file MatrixRow.h.

6.96.5.3 `template<int RTYPE> int Rcpp::ConstMatrixRow< RTYPE >::row` [private]

Definition at line 287 of file MatrixRow.h.

6.96.5.4 `template<int RTYPE> MATRIX::const_iterator Rcpp::ConstMatrixRow< RTYPE >::start` [private]

Definition at line 285 of file MatrixRow.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/MatrixRow.h](#)

## 6.97 Rcpp::ConstReferenceInputParameter< T > Class Template Reference

```
#include <InputParameter.h>
```

### Public Types

- `typedef const T & const\_reference`

### Public Member Functions

- `ConstReferenceInputParameter (SEXP x_)`
- `operator const\_reference ()`

### Private Attributes

- `T obj`

### 6.97.1 Detailed Description

```
template<typename T>
class Rcpp::ConstReferenceInputParameter< T >
```

Definition at line 69 of file InputParameter.h.

### 6.97.2 Member Typedef Documentation

6.97.2.1 `template<typename T > typedef const T& Rcpp::ConstReferenceInputParameter< T >::const_reference`

Definition at line 71 of file InputParameter.h.

### 6.97.3 Constructor & Destructor Documentation

6.97.3.1 `template<typename T > Rcpp::ConstReferenceInputParameter< T >::ConstReferenceInputParameter ( SEXP x_ ) [inline]`

Definition at line 72 of file InputParameter.h.

### 6.97.4 Member Function Documentation

6.97.4.1 `template<typename T > Rcpp::ConstReferenceInputParameter< T >::operator const_reference ( ) [inline]`

Definition at line 74 of file InputParameter.h.

### 6.97.5 Member Data Documentation

6.97.5.1 `template<typename T > T Rcpp::ConstReferenceInputParameter< T >::obj [private]`

Definition at line 77 of file InputParameter.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/InputParameter.h](#)

## 6.98 Rcpp::traits::container\_exporter< Container, double > Struct Template Reference

```
#include <export.h>
```

## Public Types

- typedef [ContainerExporter](#)< Container, double > [type](#)

### 6.98.1 Detailed Description

```
template<template< class, class > class Container>
struct Rcpp::traits::container_exporter< Container, double >
```

Definition at line 65 of file export.h.

### 6.98.2 Member Typedef Documentation

6.98.2.1 `template<template< class, class > class Container> typedef ContainerExporter< Container, double > Rcpp::traits::container_exporter< Container, double >::type`

Definition at line 66 of file export.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/api/meat/export.h](#)

## 6.99 Rcpp::traits::container\_exporter< Container, int > Struct Template Reference

```
#include <export.h>
```

## Public Types

- typedef [ContainerExporter](#)< Container, int > [type](#)

### 6.99.1 Detailed Description

```
template<template< class, class > class Container>
struct Rcpp::traits::container_exporter< Container, int >
```

Definition at line 62 of file export.h.

## 6.99.2 Member Typedef Documentation

6.99.2.1 `template<template< class, class > class Container> typedef ContainerExporter< Container, int >  
Rcpp::traits::container_exporter< Container, int >::type`

Definition at line 63 of file `export.h`.

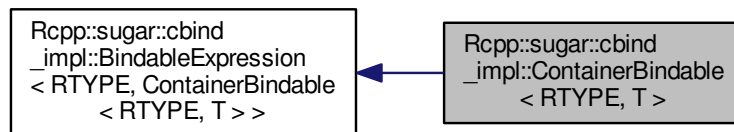
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/api/meat/export.h`

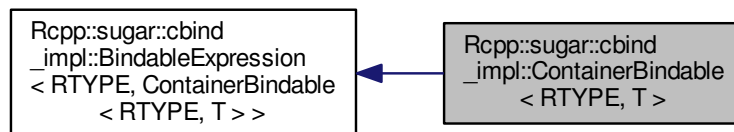
## 6.100 Rcpp::sugar::cbind\_impl::ContainerBindable< RTYPE, T > Class Template Reference

```
#include <cbind.h>
```

Inheritance diagram for `Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >`:



Collaboration diagram for `Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >`:



### Public Types

- typedef `cbind_storage_type< RTYPE >::type` `stored_type`



## Public Member Functions

- [ContainerBindable](#) (const [Rcpp::Matrix](#)< RTYPE > &vec\_)
- [ContainerBindable](#) (const [Rcpp::Vector](#)< RTYPE > &vec\_)
- `template<typename S >`  
[ContainerBindable](#) (const [BindableExpression](#)< RTYPE, S > &e)
- [R\\_xlen\\_t size](#) () const
- [R\\_xlen\\_t nrow](#) () const
- [R\\_xlen\\_t ncol](#) () const
- [stored\\_type operator\[\]](#) (R\_xlen\_t i) const
- [stored\\_type operator\(\)](#) (R\_xlen\_t i, R\_xlen\_t j) const

## Private Attributes

- T [vec](#)
- [R\\_xlen\\_t len](#)
- [R\\_xlen\\_t nr](#)
- [R\\_xlen\\_t nc](#)

### 6.100.1 Detailed Description

```
template<int RTYPE, typename T>
class Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >
```

Definition at line 82 of file `cbind.h`.

### 6.100.2 Member Typedef Documentation

6.100.2.1 `template<int RTYPE, typename T > typedef cbind_storage_type<RTYPE>::type`  
`Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::stored_type`

Definition at line 85 of file `cbind.h`.

### 6.100.3 Constructor & Destructor Documentation

6.100.3.1 `template<int RTYPE, typename T > Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::ContainerBindable ( const Rcpp::Matrix< RTYPE > & vec_ ) [inline]`

Definition at line 92 of file `cbind.h`.

6.100.3.2 `template<int RTYPE, typename T > Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::ContainerBindable ( const Rcpp::Vector< RTYPE > & vec_ ) [inline]`

Definition at line 97 of file `cbind.h`.

6.100.3.3 `template<int RTYPE, typename T > template<typename S > Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::ContainerBindable ( const BindableExpression< RTYPE, S > & e ) [inline]`

Definition at line 103 of file cbind.h.

## 6.100.4 Member Function Documentation

6.100.4.1 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::ncol ( ) const [inline]`

Definition at line 116 of file cbind.h.

6.100.4.2 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::nrow ( ) const [inline]`

Definition at line 114 of file cbind.h.

6.100.4.3 `template<int RTYPE, typename T > stored_type Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::operator()( R_xlen_t i, R_xlen_t j ) const [inline]`

Definition at line 122 of file cbind.h.

6.100.4.4 `template<int RTYPE, typename T > stored_type Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 118 of file cbind.h.

6.100.4.5 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::size ( ) const [inline]`

Definition at line 112 of file cbind.h.

## 6.100.5 Member Data Documentation

6.100.5.1 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::len [private]`

Definition at line 89 of file cbind.h.

6.100.5.2 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::nc`  
`[private]`

Definition at line 89 of file `cbind.h`.

6.100.5.3 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::nr`  
`[private]`

Definition at line 89 of file `cbind.h`.

6.100.5.4 `template<int RTYPE, typename T > T Rcpp::sugar::cbind_impl::ContainerBindable< RTYPE, T >::vec`  
`[private]`

Definition at line 88 of file `cbind.h`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/cbind.h`

## 6.101 Rcpp::traits::ContainerExporter< ContainerTemplate, T > Class Template Reference

```
#include <export.h>
```

### Public Types

- `typedef ContainerTemplate< T, std::allocator< T > > Container`

### Public Member Functions

- `ContainerExporter` (SEXP x)
- `~ContainerExporter` ()
- `Container` `get` ()

### Static Public Attributes

- `static const int RTYPE = Rcpp::traits::r_sexptype_traits<T>::rtype`

### Private Attributes

- SEXP `object`

### 6.101.1 Detailed Description

```
template<template< class, class > class ContainerTemplate, typename T>  
class Rcpp::traits::ContainerExporter< ContainerTemplate, T >
```

Definition at line 41 of file export.h.

### 6.101.2 Member Typedef Documentation

```
6.101.2.1 template<template< class, class > class ContainerTemplate, typename T > typedef ContainerTemplate<T,  
std::allocator<T> > Rcpp::traits::ContainerExporter< ContainerTemplate, T >::Container
```

Definition at line 43 of file export.h.

### 6.101.3 Constructor & Destructor Documentation

```
6.101.3.1 template<template< class, class > class ContainerTemplate, typename T > Rcpp::traits::ContainerExporter<  
ContainerTemplate, T >::ContainerExporter ( SEXP x ) [inline]
```

Definition at line 46 of file export.h.

```
6.101.3.2 template<template< class, class > class ContainerTemplate, typename T > Rcpp::traits::ContainerExporter<  
ContainerTemplate, T >::~~ContainerExporter ( ) [inline]
```

Definition at line 47 of file export.h.

### 6.101.4 Member Function Documentation

```
6.101.4.1 template<template< class, class > class ContainerTemplate, typename T > Container  
Rcpp::traits::ContainerExporter< ContainerTemplate, T >::get ( ) [inline]
```

Definition at line 49 of file export.h.

### 6.101.5 Member Data Documentation

```
6.101.5.1 template<template< class, class > class ContainerTemplate, typename T > SEXP  
Rcpp::traits::ContainerExporter< ContainerTemplate, T >::object [private]
```

Definition at line 60 of file export.h.

```
6.101.5.2 template<template< class, class > class ContainerTemplate, typename T > const int Rcpp::traits::←
ContainerExporter< ContainerTemplate, T >::RTYPE = Rcpp::traits::r_sexptype_traits<T>::rtype
[static]
```

Definition at line 44 of file export.h.

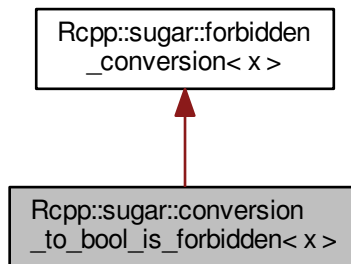
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/api/meat/export.h](#)

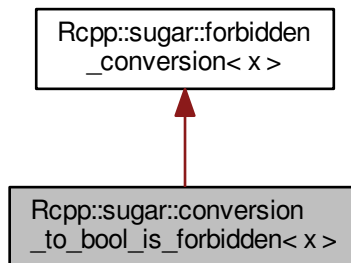
## 6.102 Rcpp::sugar::conversion\_to\_bool\_is\_forbidden< x > Class Template Reference

```
#include <SingleLogicalResult.h>
```

Inheritance diagram for Rcpp::sugar::conversion\_to\_bool\_is\_forbidden< x >:



Collaboration diagram for Rcpp::sugar::conversion\_to\_bool\_is\_forbidden< x >:



## Public Member Functions

- void [touch](#) ()

### 6.102.1 Detailed Description

```
template<bool x>
class Rcpp::sugar::conversion_to_bool_is_forbidden< x >
```

Definition at line 35 of file SingleLogicalResult.h.

### 6.102.2 Member Function Documentation

6.102.2.1 `template<bool x> void Rcpp::sugar::conversion_to_bool_is_forbidden< x >::touch ( ) [inline]`

Definition at line 38 of file SingleLogicalResult.h.

Referenced by `Rcpp::sugar::SingleLogicalResult< false, Any< false, T > >::operator bool()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/logical/SingleLogicalResult.h](#)

## 6.103 `tinyformat::detail::convertToInt< T, convertible >` Struct Template Reference

```
#include <tinyformat.h>
```

### Static Public Member Functions

- static int [invoke](#) (const T &)

### 6.103.1 Detailed Description

```
template<typename T, bool convertible = is_convertible<T,int>::value>
struct tinyformat::detail::convertToInt< T, convertible >
```

Definition at line 262 of file tinyformat.h.

### 6.103.2 Member Function Documentation

6.103.2.1 `template<typename T , bool convertible = is_convertible<T,int>::value> static int tinyformat::detail::convertToInt< T, convertible >::invoke ( const T & ) [inline],[static]`

Definition at line 264 of file `tinyformat.h`.

References `TINYFORMAT_ERROR`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/utis/tinyformat.h](#)

## 6.104 `tinyformat::detail::convertToInt< T, true >` Struct Template Reference

```
#include <tinyformat.h>
```

### Static Public Member Functions

- static int [invoke](#) (const T &value)

### 6.104.1 Detailed Description

```
template<typename T>  
struct tinyformat::detail::convertToInt< T, true >
```

Definition at line 273 of file `tinyformat.h`.

### 6.104.2 Member Function Documentation

6.104.2.1 `template<typename T > static int tinyformat::detail::convertToInt< T, true >::invoke ( const T & value ) [inline],[static]`

Definition at line 275 of file `tinyformat.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/utis/tinyformat.h](#)

## 6.105 `Rcpp::sugar::CountInserter< HASH, STORAGE >` Class Template Reference

```
#include <table.h>
```

## Public Member Functions

- [CountInserter](#) (HASH &hash\_)
- void [operator\(\)](#) (STORAGE value)

## Private Attributes

- HASH & [hash](#)

### 6.105.1 Detailed Description

```
template<typename HASH, typename STORAGE>  
class Rcpp::sugar::CountInserter< HASH, STORAGE >
```

Definition at line 29 of file table.h.

### 6.105.2 Constructor & Destructor Documentation

6.105.2.1 `template<typename HASH , typename STORAGE > Rcpp::sugar::CountInserter< HASH, STORAGE >::CountInserter ( HASH & hash_ ) [inline]`

Definition at line 31 of file table.h.

### 6.105.3 Member Function Documentation

6.105.3.1 `template<typename HASH , typename STORAGE > void Rcpp::sugar::CountInserter< HASH, STORAGE >::operator() ( STORAGE value ) [inline]`

Definition at line 33 of file table.h.

References `Rcpp::sugar::CountInserter< HASH, STORAGE >::hash`.

### 6.105.4 Member Data Documentation

6.105.4.1 `template<typename HASH , typename STORAGE > HASH& Rcpp::sugar::CountInserter< HASH, STORAGE >::hash [private]`

Definition at line 38 of file table.h.

Referenced by `Rcpp::sugar::CountInserter< HASH, STORAGE >::operator()()`, and `Rcpp::sugar::Table< RTYPE, T↔ABLE_T >::Table()`.

The documentation for this class was generated from the following file:

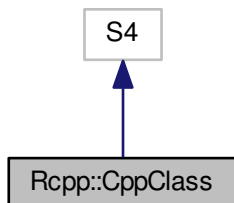
- `inst/include/Rcpp/sugar/functions/table.h`



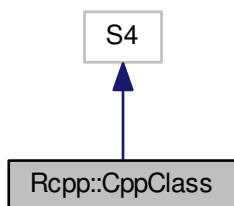
## 6.106 Rcpp::CppClass Class Reference

```
#include <Module.h>
```

Inheritance diagram for Rcpp::CppClass:



Collaboration diagram for Rcpp::CppClass:



### Public Types

- typedef [XPtr< class\\_Base > XP\\_Class](#)
- typedef [Rcpp::XPtr< Rcpp::Module > XP](#)

### Public Member Functions

- [CppClass](#) (SEXP x)
- [CppClass](#) (Module \*p, class\_Base \*cl, std::string &buffer)

## Private Types

- typedef [S4 Base](#)

### 6.106.1 Detailed Description

Definition at line 382 of file Module.h.

### 6.106.2 Member Typedef Documentation

6.106.2.1 `typedef S4 Rcpp::CppClass::Base` `[private]`

Definition at line 383 of file Module.h.

6.106.2.2 `typedef Rcpp::XPtr<Rcpp::Module> Rcpp::CppClass::XP`

Definition at line 386 of file Module.h.

6.106.2.3 `typedef XPtr<class_Base> Rcpp::CppClass::XP_Class`

Definition at line 385 of file Module.h.

### 6.106.3 Constructor & Destructor Documentation

6.106.3.1 `Rcpp::CppClass::CppClass ( SEXP x )` `[inline]`

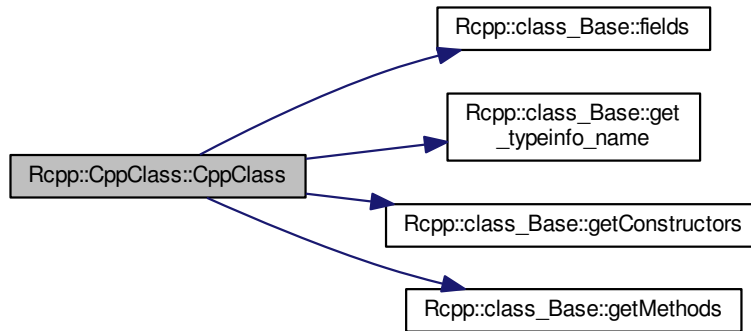
Definition at line 387 of file Module.h.

6.106.3.2 Rcpp::CppClass::CppClass ( Module \* *p*, class\_Base \* *cl*, std::string & *buffer* ) [inline]

Definition at line 389 of file Module.h.

References Rcpp::class\_Base::docstring, Rcpp::class\_Base::enums, Rcpp::class\_Base::fields(), Rcpp::class\_Base::get\_typeinfo\_name(), Rcpp::class\_Base::getConstructors(), Rcpp::class\_Base::getMethods(), Rcpp::class\_Base::name, Rcpp::class\_Base::parents, and RCPP\_CTOR\_ASSIGN\_WITH\_BASE.

Here is the call graph for this function:

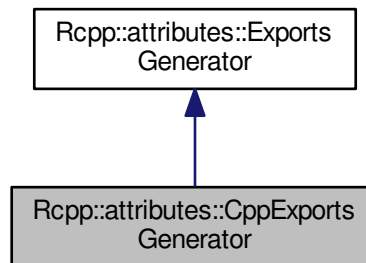


The documentation for this class was generated from the following file:

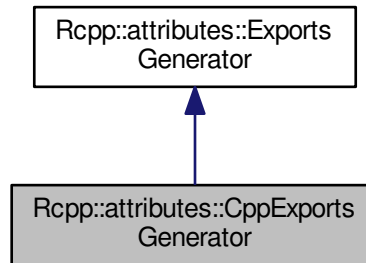
- [inst/include/Rcpp/Module.h](#)

## 6.107 Rcpp::attributes::CppExportsGenerator Class Reference

Inheritance diagram for Rcpp::attributes::CppExportsGenerator:



Collaboration diagram for Rcpp::attributes::CppExportsGenerator:



### Public Member Functions

- [CppExportsGenerator](#) (const std::string &packageDir, const std::string &package, const std::string &fileSep)
- virtual void [writeBegin](#) ()
- virtual void [writeEnd](#) ()
- virtual bool [commit](#) (const std::vector< std::string > &includes)

### Private Member Functions

- virtual void [doWriteFunctions](#) (const [SourceFileAttributes](#) &attributes, bool verbose)
- std::string [registerCCallable](#) (size\_t indent, const std::string &exportedName, const std::string &name) const

### Private Attributes

- std::vector< [Attribute](#) > [cppExports\\_](#)

### Additional Inherited Members

#### 6.107.1 Detailed Description

Definition at line 644 of file attributes.cpp.

#### 6.107.2 Constructor & Destructor Documentation

6.107.2.1 `Rcpp::attributes::CppExportsGenerator::CppExportsGenerator ( const std::string & packageDir, const std::string & package, const std::string & fileSep ) [explicit]`

Definition at line 1807 of file attributes.cpp.

### 6.107.3 Member Function Documentation

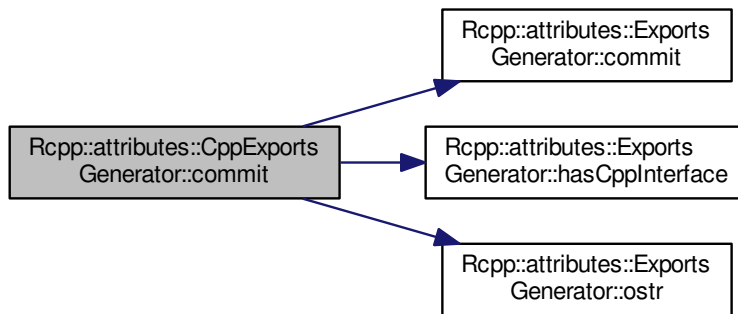
6.107.3.1 `bool Rcpp::attributes::CppExportsGenerator::commit ( const std::vector< std::string > & includes ) [virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 1920 of file `attributes.cpp`.

References [Rcpp::attributes::ExportsGenerator::commit\(\)](#), [Rcpp::attributes::ExportsGenerator::hasCppInterface\(\)](#), and [Rcpp::attributes::ExportsGenerator::ostr\(\)](#).

Here is the call graph for this function:



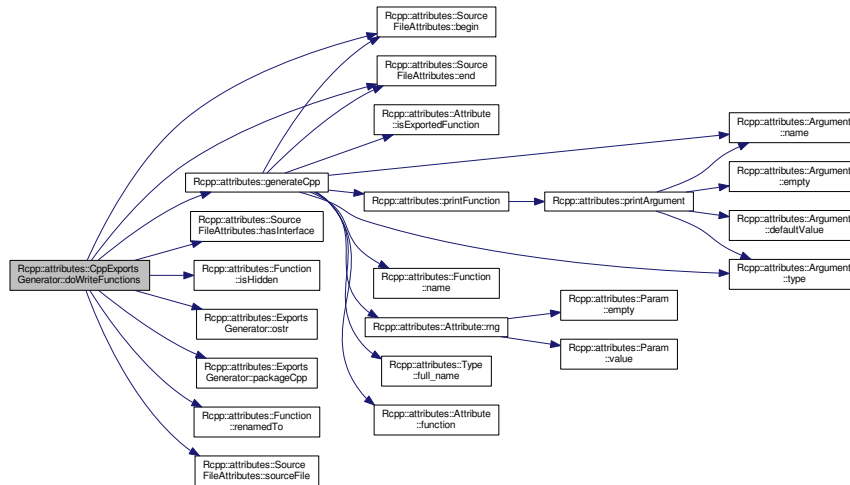
6.107.3.2 `void Rcpp::attributes::CppExportsGenerator::doWriteFunctions ( const SourceFileAttributes & attributes, bool verbose ) [private], [virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 1817 of file `attributes.cpp`.

References [Rcpp::attributes::SourceFileAttributes::begin\(\)](#), [cppExports\\_](#), [Rcpp::attributes::SourceFileAttributes::end\(\)](#), [Rcpp::attributes::generateCpp\(\)](#), [Rcpp::attributes::SourceFileAttributes::hasInterface\(\)](#), [Rcpp::attributes::Function<...>::isHidden\(\)](#), [Rcpp::attributes::kInterfaceCpp](#), [Rcpp::attributes::ExportsGenerator::ostr\(\)](#), [Rcpp::attributes::ExportsGenerator::packageCpp\(\)](#), [Rcpp::Rcout](#), [Rcpp::attributes::Function::renamedTo\(\)](#), and [Rcpp::attributes::SourceFileAttributes::sourceFile\(\)](#).

Here is the call graph for this function:



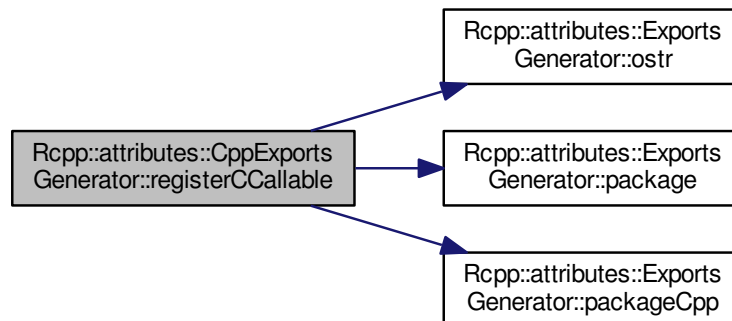
6.107.3.3 `std::string Rcpp::attributes::CppExportsGenerator::registerCCallable ( size_t indent, const std::string & exportedName, const std::string & name ) const` [private]

Definition at line 1908 of file `attributes.cpp`.

References `Rcpp::attributes::ExportsGenerator::ostr()`, `Rcpp::attributes::ExportsGenerator::package()`, and `Rcpp::attributes::ExportsGenerator::packageCpp()`.

Referenced by `writeEnd()`.

Here is the call graph for this function:



6.107.3.4 virtual void Rcpp::attributes::CppExportsGenerator::writeBegin ( ) [inline],[virtual]

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 650 of file attributes.cpp.

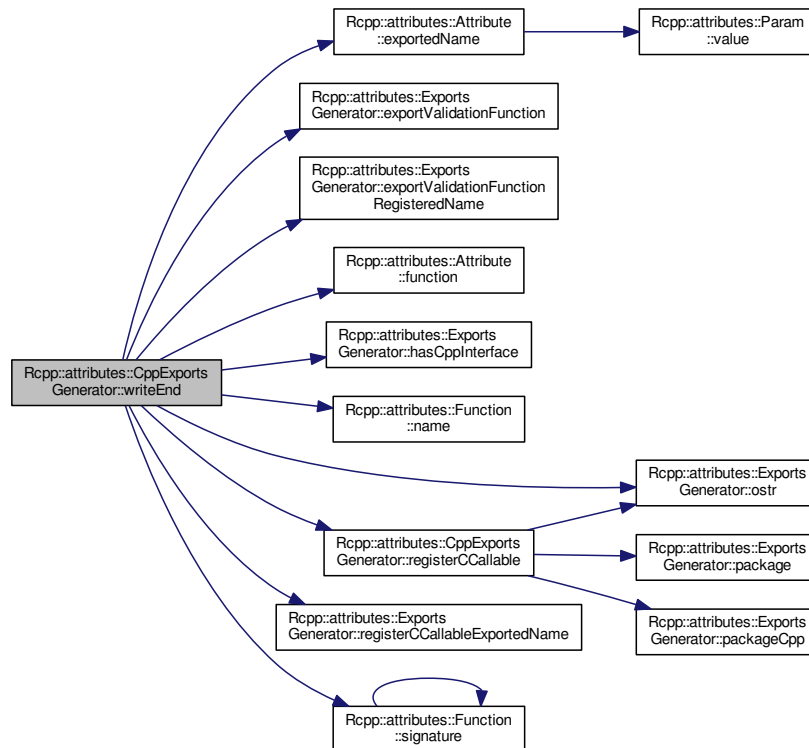
6.107.3.5 void Rcpp::attributes::CppExportsGenerator::writeEnd ( ) [virtual]

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 1855 of file attributes.cpp.

References `cppExports_`, `Rcpp::attributes::Attribute::exportedName()`, `Rcpp::attributes::ExportsGenerator::exportValidationFunction()`, `Rcpp::attributes::ExportsGenerator::exportValidationFunctionRegisteredName()`, `Rcpp::attributes::Attribute::function()`, `Rcpp::attributes::ExportsGenerator::hasCppInterface()`, `Rcpp::attributes::Function::name()`, `Rcpp::attributes::ExportsGenerator::ostr()`, `registerCCallable()`, `Rcpp::attributes::ExportsGenerator::registerCCallableExportedName()`, and `Rcpp::attributes::Function::signature()`.

Here is the call graph for this function:



## 6.107.4 Member Data Documentation

### 6.107.4.1 `std::vector<Attribute> Rcpp::attributes::CppExportsGenerator::cppExports_` [private]

Definition at line 663 of file `attributes.cpp`.

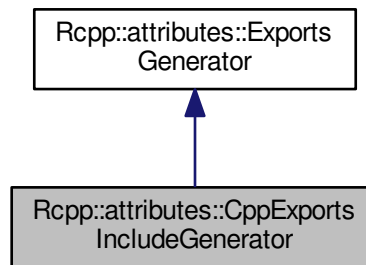
Referenced by `doWriteFunctions()`, and `writeEnd()`.

The documentation for this class was generated from the following file:

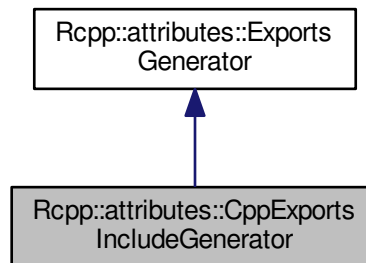
- [src/attributes.cpp](#)

## 6.108 Rcpp::attributes::CppExportsIncludeGenerator Class Reference

Inheritance diagram for `Rcpp::attributes::CppExportsIncludeGenerator`:



Collaboration diagram for `Rcpp::attributes::CppExportsIncludeGenerator`:





## Public Member Functions

- [CppExportsIncludeGenerator](#) (const std::string &packageDir, const std::string &package, const std::string &fileSep)
- virtual void [writeBegin](#) ()
- virtual void [writeEnd](#) ()
- virtual bool [commit](#) (const std::vector< std::string > &includes)

## Private Member Functions

- virtual void [doWriteFunctions](#) (const [SourceFileAttributes](#) &attributes, bool verbose)
- std::string [getCCallable](#) (const std::string &function) const
- std::string [getHeaderGuard](#) () const

## Private Attributes

- std::string [includeDir\\_](#)

## Additional Inherited Members

### 6.108.1 Detailed Description

Definition at line 667 of file attributes.cpp.

### 6.108.2 Constructor & Destructor Documentation

6.108.2.1 Rcpp::attributes::CppExportsIncludeGenerator::CppExportsIncludeGenerator ( const std::string & *packageDir*, const std::string & *package*, const std::string & *fileSep* )

Definition at line 1941 of file attributes.cpp.

References [includeDir\\_](#).

### 6.108.3 Member Function Documentation

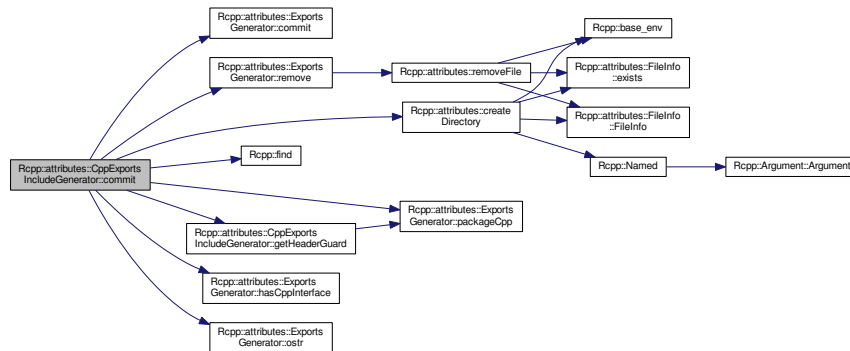
6.108.3.1 `bool Rcpp::attributes::CppExportsIncludeGenerator::commit ( const std::vector< std::string > & includes )`  
`[virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 2090 of file `attributes.cpp`.

References [Rcpp::attributes::ExportsGenerator::commit\(\)](#), [Rcpp::attributes::createDirectory\(\)](#), [Rcpp::find\(\)](#), [getHeaderGuard\(\)](#), [Rcpp::attributes::ExportsGenerator::hasCppInterface\(\)](#), [includeDir\\_](#), [Rcpp::attributes::ExportsGenerator::ostr\(\)](#), [Rcpp::attributes::ExportsGenerator::packageCpp\(\)](#), and [Rcpp::attributes::ExportsGenerator::remove\(\)](#).

Here is the call graph for this function:



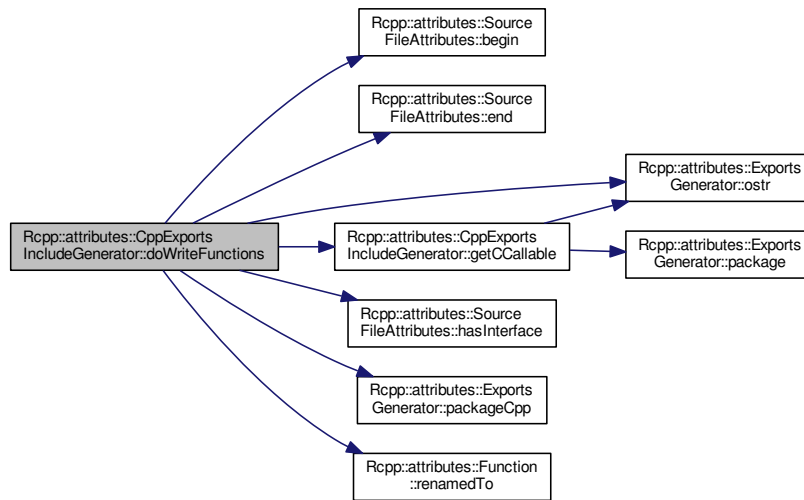
6.108.3.2 `void Rcpp::attributes::CppExportsIncludeGenerator::doWriteFunctions ( const SourceFileAttributes & attributes, bool verbose )`  
`[private], [virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 2003 of file `attributes.cpp`.

References [Rcpp::attributes::SourceFileAttributes::begin\(\)](#), [Rcpp::attributes::SourceFileAttributes::end\(\)](#), [getCallable\(\)](#), [Rcpp::attributes::SourceFileAttributes::hasInterface\(\)](#), [Rcpp::attributes::kInterfaceCpp](#), [Rcpp::attributes::ExportsGenerator::ostr\(\)](#), [Rcpp::attributes::ExportsGenerator::packageCpp\(\)](#), and [Rcpp::attributes::Function::renamedTo\(\)](#).

Here is the call graph for this function:



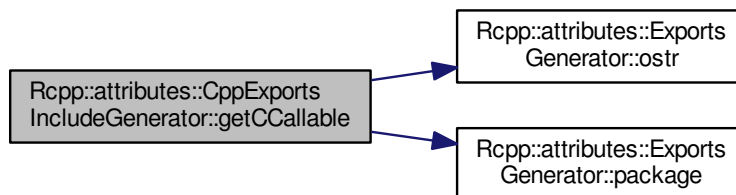
### 6.108.3.3 `std::string Rcpp::attributes::CppExportsIncludeGenerator::getCCallable ( const std::string & function ) const` `[private]`

Definition at line 2142 of file `attributes.cpp`.

References `Rcpp::attributes::ExportsGenerator::ostr()`, and `Rcpp::attributes::ExportsGenerator::package()`.

Referenced by `doWriteFunctions()`, and `writeBegin()`.

Here is the call graph for this function:



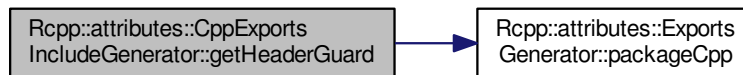
#### 6.108.3.4 `std::string Rcpp::attributes::CppExportsIncludeGenerator::getHeaderGuard ( ) const` `[private]`

Definition at line 2151 of file `attributes.cpp`.

References `Rcpp::attributes::ExportsGenerator::packageCpp()`.

Referenced by `commit()`, and `writeEnd()`.

Here is the call graph for this function:



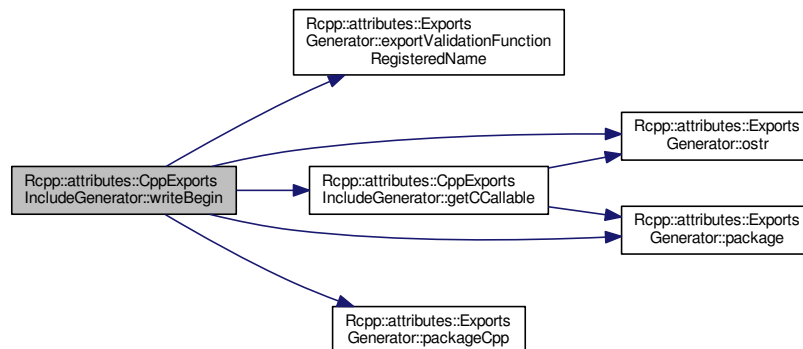
#### 6.108.3.5 `void Rcpp::attributes::CppExportsIncludeGenerator::writeBegin ( )` `[virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 1954 of file `attributes.cpp`.

References `Rcpp::attributes::ExportsGenerator::exportValidationFunctionRegisteredName()`, `getCCallable()`, `Rcpp::attributes::ExportsGenerator::ostr()`, `Rcpp::attributes::ExportsGenerator::package()`, and `Rcpp::attributes::ExportsGenerator::packageCpp()`.

Here is the call graph for this function:



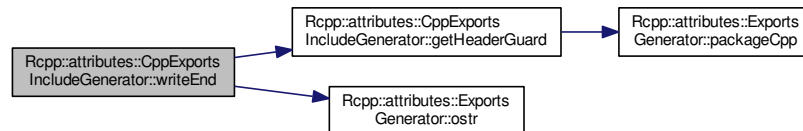
6.108.3.6 void Rcpp::attributes::CppExportsIncludeGenerator::writeEnd ( ) [virtual]

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 2084 of file attributes.cpp.

References [getHeaderGuard\(\)](#), and [Rcpp::attributes::ExportsGenerator::ostr\(\)](#).

Here is the call graph for this function:



## 6.108.4 Member Data Documentation

6.108.4.1 `std::string Rcpp::attributes::CppExportsIncludeGenerator::includeDir_` [private]

Definition at line 684 of file attributes.cpp.

Referenced by `commit()`, and `CppExportsIncludeGenerator()`.

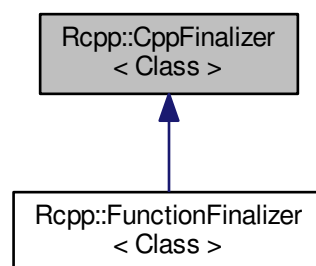
The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

## 6.109 Rcpp::CppFinalizer< Class > Class Template Reference

```
#include <Module.h>
```

Inheritance diagram for `Rcpp::CppFinalizer< Class >`:



## Public Member Functions

- [CppClassFinalizer](#) ()
- virtual void [run](#) (Class \*)

### 6.109.1 Detailed Description

```
template<typename Class >  
class Rcpp::CppClassFinalizer< Class >
```

Definition at line 300 of file Module.h.

### 6.109.2 Constructor & Destructor Documentation

6.109.2.1 `template<typename Class > Rcpp::CppClassFinalizer< Class >::CppClassFinalizer ( ) [inline]`

Definition at line 302 of file Module.h.

### 6.109.3 Member Function Documentation

6.109.3.1 `template<typename Class > virtual void Rcpp::CppClassFinalizer< Class >::run ( Class * ) [inline], [virtual]`

Reimplemented in [Rcpp::FunctionFinalizer< Class >](#).

Definition at line 303 of file Module.h.

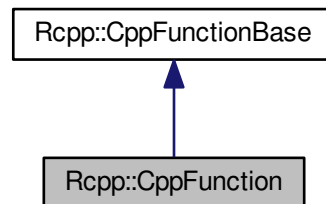
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

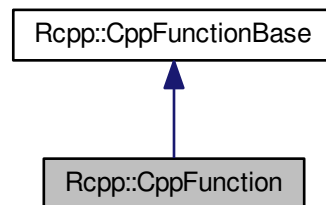
## 6.110 Rcpp::CppClass Class Reference

```
#include <CppClass.h>
```

Inheritance diagram for Rcpp::CppClass:



Collaboration diagram for Rcpp::CppClass:



### Public Member Functions

- [CppClass](#) (const char \*doc=0)
- virtual [~CppClass](#) ()
- virtual int [nargs](#) ()
- virtual bool [is\\_void](#) ()
- virtual void [signature](#) (std::string &, const char \*)
- virtual SEXP [get\\_formals](#) ()
- virtual DL\_FUNC [get\\_function\\_ptr](#) ()=0

### Public Attributes

- std::string [docstring](#)

### 6.110.1 Detailed Description

base class of all exported C++ functions. Template deduction in the `Module_generated_function.h` file creates an instance of a class that derives [CppClassFunction](#) (see `Module_generated_CppFunction.h` for all the definitions)

Definition at line 52 of file `CppClassFunction.h`.

### 6.110.2 Constructor & Destructor Documentation

6.110.2.1 `Rcpp::CppClassFunction::CppClassFunction ( const char * doc = 0 ) [inline]`

Definition at line 54 of file `CppClassFunction.h`.

6.110.2.2 `virtual Rcpp::CppClassFunction::~~CppClassFunction ( ) [inline],[virtual]`

Definition at line 55 of file `CppClassFunction.h`.

### 6.110.3 Member Function Documentation

6.110.3.1 `virtual SEXP Rcpp::CppClassFunction::get_formals ( ) [inline],[virtual]`

formal arguments

Definition at line 75 of file `CppClassFunction.h`.

Referenced by `Rcpp::Module::get_function()`.

6.110.3.2 `virtual DL_FUNC Rcpp::CppClassFunction::get_function_ptr ( ) [pure virtual]`

The actual function pointer, as a catch all function pointer (see `Rdynload.h` for definition of `DL_FUNC`)

Referenced by `Rcpp::Module::Add()`, and `Rcpp::Module::get_function_ptr()`.

6.110.3.3 `virtual bool Rcpp::CppClassFunction::is_void ( ) [inline],[virtual]`

voidness

Definition at line 65 of file `CppClassFunction.h`.

Referenced by `Rcpp::Module::get_function()`, and `Rcpp::Module::invoke()`.



6.110.3.4 `virtual int Rcpp::CppMethod::nargs ( ) [inline],[virtual]`

The number of arguments of the function

Definition at line 60 of file CppFunction.h.

Referenced by `Rcpp::Module::get_function()`, and `Rcpp::Module::invoke()`.

6.110.3.5 `virtual void Rcpp::CppMethod::signature ( std::string & , const char * ) [inline],[virtual]`

Human readable function signature (demangled if possible)

Definition at line 70 of file CppFunction.h.

Referenced by `Rcpp::Module::get_function()`.

## 6.110.4 Member Data Documentation

6.110.4.1 `std::string Rcpp::CppMethod::docstring`

description of the function

Definition at line 86 of file CppFunction.h.

Referenced by `Rcpp::Module::get_function()`.

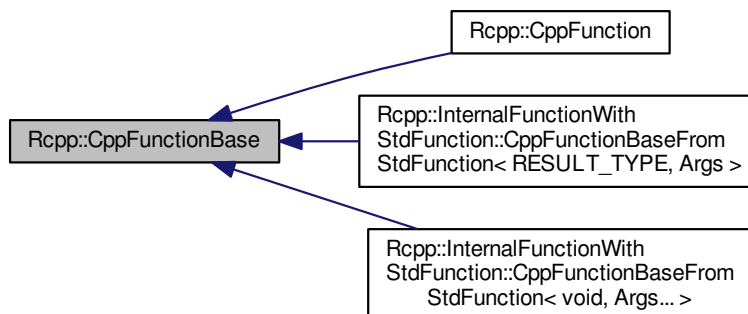
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/CppMethod.h](#)

## 6.111 Rcpp::CppMethodBase Class Reference

```
#include <CppMethod.h>
```

Inheritance diagram for `Rcpp::CppMethodBase`:



## Public Member Functions

- [CppClassFunctionBase](#) ()
- virtual [~CppClassFunctionBase](#) ()
- virtual SEXP [operator\(\)](#) (SEXP \*)

### 6.111.1 Detailed Description

base class for a callable function. This limited functionality is just barely enough for an InternalFunction, nothing more.

Definition at line 31 of file CppFunction.h.

### 6.111.2 Constructor & Destructor Documentation

#### 6.111.2.1 Rcpp::CppClassFunctionBase::CppClassFunctionBase ( ) [inline]

Definition at line 33 of file CppFunction.h.

#### 6.111.2.2 virtual Rcpp::CppClassFunctionBase::~~CppClassFunctionBase ( ) [inline],[virtual]

Definition at line 34 of file CppFunction.h.

### 6.111.3 Member Function Documentation

#### 6.111.3.1 virtual SEXP Rcpp::CppClassFunctionBase::operator() ( SEXP \* ) [inline],[virtual]

modules call the function with this interface. input: an array of SEXP output: a SEXP.

Reimplemented in [Rcpp::InternalFunctionWithStdFunction::CppClassFunctionBaseFromStdFunction< void, Args... >](#), and [Rcpp::InternalFunctionWithStdFunction::CppClassFunctionBaseFromStdFunction< RESULT\\_TYPE, Args >](#).

Definition at line 40 of file CppFunction.h.

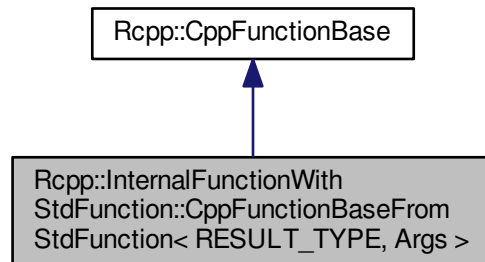
The documentation for this class was generated from the following file:

- inst/include/Rcpp/module/[CppClassFunction.h](#)

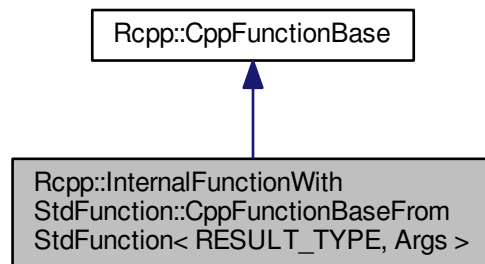
## 6.112 Rcpp::InternalFunctionWithStdFunction::CppClassFunctionBaseFromStdFunction< RESULT\_TYPE, Args > Class Template Reference

```
#include <InternalFunctionWithStdFunction.h>
```

Inheritance diagram for Rcpp::InternalFunctionWithStdFunction::CppClassFunctionBaseFromStdFunction< RESULT\_TYPE, Args >:



Collaboration diagram for Rcpp::InternalFunctionWithStdFunction::CppClassFunctionBaseFromStdFunction< RESULT\_TYPE, Args >:



### Public Member Functions

- [CppClassFunctionBaseFromStdFunction](#) (const std::function< RESULT\_TYPE(Args...)> &fun)
- virtual [~CppClassFunctionBaseFromStdFunction](#) ()
- [operator\(\)](#) (SEXP \*args)

## Private Attributes

- `const std::function< RESULT_TYPE(Args...)> fun`

### 6.112.1 Detailed Description

```
template<typename RESULT_TYPE, typename... Args>
class Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< RESULT_TYPE, Args >
```

Definition at line 35 of file InternalFunctionWithStdFunction.h.

### 6.112.2 Constructor & Destructor Documentation

6.112.2.1 `template<typename RESULT_TYPE , typename... Args> Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< RESULT_TYPE, Args >::CppFunctionBaseFromStdFunction ( const std::function< RESULT_TYPE(Args...)> & fun ) [inline]`

Definition at line 37 of file InternalFunctionWithStdFunction.h.

6.112.2.2 `template<typename RESULT_TYPE , typename... Args> virtual Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< RESULT_TYPE, Args >::~~CppFunctionBaseFromStdFunction ( ) [inline], [virtual]`

Definition at line 38 of file InternalFunctionWithStdFunction.h.

### 6.112.3 Member Function Documentation

6.112.3.1 `template<typename RESULT_TYPE , typename... Args> SEXP Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< RESULT_TYPE, Args >::operator() ( SEXP * ) [inline], [virtual]`

modules call the function with this interface. input: an array of SEXP output: a SEXP.

Reimplemented from [Rcpp::CppFunctionBase](#).

Definition at line 40 of file InternalFunctionWithStdFunction.h.

References [BEGIN\\_RCPP](#), [END\\_RCPP](#), and [Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< RESULT\\_TYPE, Args >::fun](#).

## 6.112.4 Member Data Documentation

6.112.4.1 `template<typename RESULT_TYPE , typename... Args> const std::function<RESULT_TYPE(Args...)>  
Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< RESULT_TYPE, Args  
>::fun [private]`

Definition at line 48 of file InternalFunctionWithStdFunction.h.

Referenced by `Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< RESULT_TYPE, Args  
>::operator()`, and `Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< void, Args... >::operator()`.

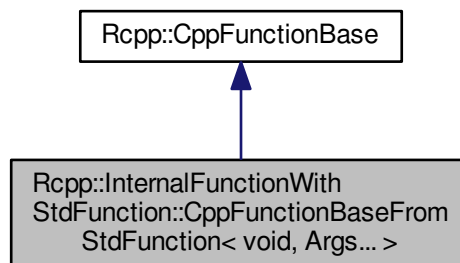
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/InternalFunctionWithStdFunction.h`

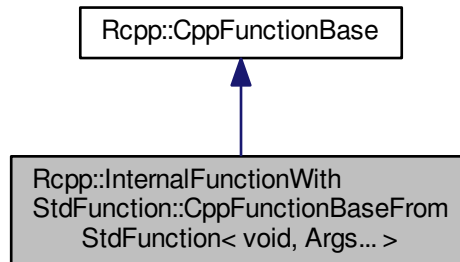
## 6.113 Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< void, Args... > Class Template Reference

```
#include <InternalFunctionWithStdFunction.h>
```

Inheritance diagram for Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< void, Args... >:



Collaboration diagram for `Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< void, Args... >`:



## Public Member Functions

- [CppFunctionBaseFromStdFunction](#) (const std::function< void(Args...)> &fun)
- virtual [~CppFunctionBaseFromStdFunction](#) ()
- SEXP [operator\(\)](#) (SEXP \*args)

## Private Attributes

- const std::function< void(Args...)> fun

### 6.113.1 Detailed Description

```

template<typename... Args>
class Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< void, Args... >
  
```

Definition at line 52 of file `InternalFunctionWithStdFunction.h`.

### 6.113.2 Constructor & Destructor Documentation

6.113.2.1 `template<typename... Args> Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< void, Args... >::CppFunctionBaseFromStdFunction ( const std::function< void(Args...)> & fun )`  
`[inline]`

Definition at line 54 of file `InternalFunctionWithStdFunction.h`.

```
6.113.2.2 template<typename... Args> virtual Rcpp::InternalFunctionWithStdFunction::CppFunctionBase<
  FromStdFunction< void, Args... >::~~CppFunctionBaseFromStdFunction ( ) [inline],
  [virtual]
```

Definition at line 55 of file InternalFunctionWithStdFunction.h.

### 6.113.3 Member Function Documentation

```
6.113.3.1 template<typename... Args> SEXP Rcpp::InternalFunctionWithStdFunction::Cpp<
  FunctionBaseFromStdFunction< void, Args... >::operator() ( SEXP * ) [inline],
  [virtual]
```

modules call the function with this interface. input: an array of SEXP output: a SEXP.

Reimplemented from [Rcpp::CppFunctionBase](#).

Definition at line 57 of file InternalFunctionWithStdFunction.h.

References `BEGIN_RCPP`, `END_RCPP`, and `Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< RESULT_TYPE, Args >::fun`.

### 6.113.4 Member Data Documentation

```
6.113.4.1 template<typename... Args> const std::function<void(Args...)> Rcpp::InternalFunctionWithStdFunction::
  CppFunctionBaseFromStdFunction< void, Args... >::fun [private]
```

Definition at line 64 of file InternalFunctionWithStdFunction.h.

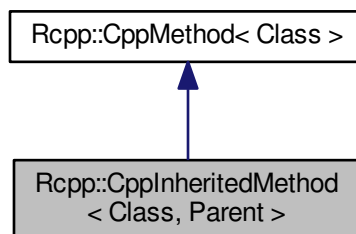
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/InternalFunctionWithStdFunction.h](#)

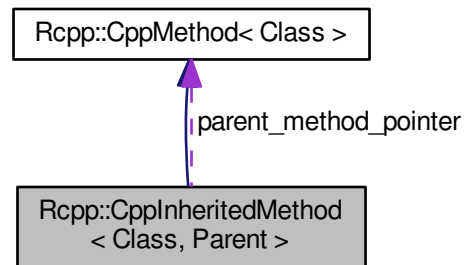
## 6.114 Rcpp::CppInheritedMethod< Class, Parent > Class Template Reference

```
#include <Module.h>
```

Inheritance diagram for `Rcpp::CppInheritedMethod< Class, Parent >`:



Collaboration diagram for `Rcpp::CppInheritedMethod< Class, Parent >`:



## Public Types

- typedef `Rcpp::XPtr< Class > XP`
- typedef `CppMethod< Parent > ParentMethod`

## Public Member Functions

- `CppInheritedMethod (ParentMethod *parent_method_pointer_)`
- `SEXP operator() (Class *object, SEXP *args)`
- `int nargs ()`
- `bool is_void ()`
- `bool is_const ()`
- `void signature (std::string &s, const char *name)`

## Private Attributes

- `ParentMethod * parent_method_pointer`

### 6.114.1 Detailed Description

```

template<typename Class, typename Parent>
class Rcpp::CppInheritedMethod< Class, Parent >

```

Definition at line 112 of file `Module.h`.



## 6.114.2 Member Typedef Documentation

6.114.2.1 `template<typename Class , typename Parent > typedef CppMethod<Parent> Rcpp::CppInheritedMethod< Class, Parent >::ParentMethod`

Definition at line 115 of file Module.h.

6.114.2.2 `template<typename Class , typename Parent > typedef Rcpp::XPtr<Class> Rcpp::CppInheritedMethod< Class, Parent >::XP`

Definition at line 114 of file Module.h.

## 6.114.3 Constructor & Destructor Documentation

6.114.3.1 `template<typename Class , typename Parent > Rcpp::CppInheritedMethod< Class, Parent >::CppInheritedMethod ( ParentMethod * parent_method_pointer_ ) [inline]`

Definition at line 117 of file Module.h.

## 6.114.4 Member Function Documentation

6.114.4.1 `template<typename Class , typename Parent > bool Rcpp::CppInheritedMethod< Class, Parent >::is_const ( ) [inline], [virtual]`

Reimplemented from [Rcpp::CppMethod< Class >](#).

Definition at line 126 of file Module.h.

6.114.4.2 `template<typename Class , typename Parent > bool Rcpp::CppInheritedMethod< Class, Parent >::is_void ( ) [inline], [virtual]`

Reimplemented from [Rcpp::CppMethod< Class >](#).

Definition at line 125 of file Module.h.

6.114.4.3 `template<typename Class , typename Parent > int Rcpp::CppInheritedMethod< Class, Parent >::nargs ( ) [inline], [virtual]`

Reimplemented from [Rcpp::CppMethod< Class >](#).

Definition at line 124 of file Module.h.

6.114.4.4 `template<typename Class , typename Parent > SEXP Rcpp::CplInheritedMethod< Class, Parent >::operator() ( Class * object, SEXP * args ) [inline],[virtual]`

Reimplemented from [Rcpp::CppMethod< Class >](#).

Definition at line 121 of file Module.h.

6.114.4.5 `template<typename Class , typename Parent > void Rcpp::CplInheritedMethod< Class, Parent >::signature ( std::string & s, const char * name ) [inline],[virtual]`

Reimplemented from [Rcpp::CppMethod< Class >](#).

Definition at line 127 of file Module.h.

## 6.114.5 Member Data Documentation

6.114.5.1 `template<typename Class , typename Parent > ParentMethod* Rcpp::CplInheritedMethod< Class, Parent >::parent_method_pointer [private]`

Definition at line 130 of file Module.h.

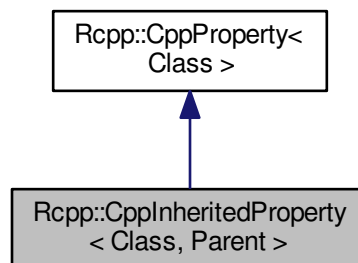
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

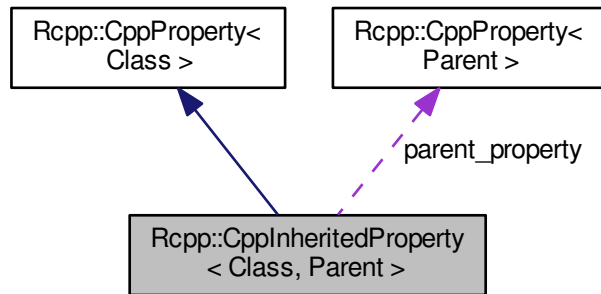
## 6.115 Rcpp::CplInheritedProperty< Class, Parent > Class Template Reference

```
#include <Module.h>
```

Inheritance diagram for `Rcpp::CplInheritedProperty< Class, Parent >`:



Collaboration diagram for Rcpp::CppInheritedProperty< Class, Parent >:



## Public Types

- typedef [CppProperty](#)< Class > [Base](#)

## Public Member Functions

- [CppInheritedProperty](#) ([CppProperty](#)< Parent > \*parent\_property\_)
- SEXP [get](#) (Class \*obj)
- void [set](#) (Class \*obj, SEXP s)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [CppProperty](#)< Parent > \* [parent\\_property](#)

## Additional Inherited Members

### 6.115.1 Detailed Description

```

template<typename Class, typename Parent>
class Rcpp::CppInheritedProperty< Class, Parent >

```

Definition at line 281 of file Module.h.

## 6.115.2 Member Typedef Documentation

6.115.2.1 `template<typename Class , typename Parent > typedef CppProperty<Class> Rcpp::CplInheritedProperty<Class, Parent >::Base`

Definition at line 283 of file Module.h.

## 6.115.3 Constructor & Destructor Documentation

6.115.3.1 `template<typename Class , typename Parent > Rcpp::CplInheritedProperty< Class, Parent >::CplInheritedProperty ( CppProperty< Parent > * parent_property_ ) [inline]`

Definition at line 285 of file Module.h.

## 6.115.4 Member Function Documentation

6.115.4.1 `template<typename Class , typename Parent > SEXP Rcpp::CplInheritedProperty< Class, Parent >::get ( Class * obj ) [inline],[virtual]`

Reimplemented from [Rcpp::CppProperty< Class >](#).

Definition at line 290 of file Module.h.

6.115.4.2 `template<typename Class , typename Parent > std::string Rcpp::CplInheritedProperty< Class, Parent >::get_class ( ) [inline],[virtual]`

Reimplemented from [Rcpp::CppProperty< Class >](#).

Definition at line 293 of file Module.h.

6.115.4.3 `template<typename Class , typename Parent > bool Rcpp::CplInheritedProperty< Class, Parent >::is_readonly ( ) [inline],[virtual]`

Reimplemented from [Rcpp::CppProperty< Class >](#).

Definition at line 292 of file Module.h.

6.115.4.4 `template<typename Class , typename Parent > void Rcpp::CplInheritedProperty< Class, Parent >::set ( Class * obj, SEXP s ) [inline],[virtual]`

Reimplemented from [Rcpp::CppProperty< Class >](#).

Definition at line 291 of file Module.h.

### 6.115.5 Member Data Documentation

6.115.5.1 `template<typename Class , typename Parent > CppProperty<Parent>* Rcpp::CppInheritedProperty< Class, Parent >::parent_property [private]`

Definition at line 296 of file Module.h.

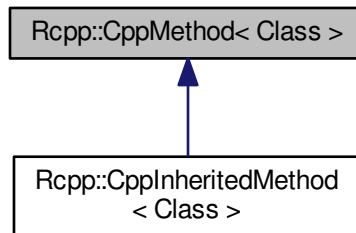
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

## 6.116 Rcpp::CppMethod< Class > Class Template Reference

```
#include <Module.h>
```

Inheritance diagram for Rcpp::CppMethod< Class >:



### Public Types

- typedef [Rcpp::XPtr< Class > XP](#)

### Public Member Functions

- [CppMethod \(\)](#)
- virtual SEXP [operator\(\)](#) (Class \*object, SEXP \*args)
- virtual [~CppMethod \(\)](#)
- virtual int [nargs \(\)](#)
- virtual bool [is\\_void \(\)](#)
- virtual bool [is\\_const \(\)](#)
- virtual void [signature](#) (std::string &s, const char \*name)

### 6.116.1 Detailed Description

```
template<typename Class>  
class Rcpp::CppMethod< Class >
```

Definition at line 98 of file Module.h.

### 6.116.2 Member Typedef Documentation

6.116.2.1 `template<typename Class > typedef Rcpp::XPtr<Class> Rcpp::CppMethod< Class >::XP`

Definition at line 100 of file Module.h.

### 6.116.3 Constructor & Destructor Documentation

6.116.3.1 `template<typename Class > Rcpp::CppMethod< Class >::CppMethod ( ) [inline]`

Definition at line 102 of file Module.h.

6.116.3.2 `template<typename Class > virtual Rcpp::CppMethod< Class >::~CppMethod ( ) [inline],  
[virtual]`

Definition at line 104 of file Module.h.

### 6.116.4 Member Function Documentation

6.116.4.1 `template<typename Class > virtual bool Rcpp::CppMethod< Class >::is_const ( ) [inline],[virtual]`

Reimplemented in [Rcpp::CplInheritedMethod< Class, Parent >](#).

Definition at line 107 of file Module.h.

Referenced by [Rcpp::SignedMethod< Class >::is\\_const\(\)](#).

6.116.4.2 `template<typename Class > virtual bool Rcpp::CppMethod< Class >::is_void ( ) [inline],[virtual]`

Reimplemented in [Rcpp::CplInheritedMethod< Class, Parent >](#).

Definition at line 106 of file Module.h.

Referenced by [Rcpp::SignedMethod< Class >::is\\_void\(\)](#).

6.116.4.3 `template<typename Class > virtual int Rcpp::CppMethod< Class >::nargs ( ) [inline],[virtual]`

Reimplemented in [Rcpp::CppInheritedMethod< Class, Parent >](#).

Definition at line 105 of file Module.h.

Referenced by `Rcpp::SignedMethod< Class >::nargs()`.

6.116.4.4 `template<typename Class > virtual SEXP Rcpp::CppMethod< Class >::operator() ( Class * object, SEXP * args ) [inline],[virtual]`

Reimplemented in [Rcpp::CppInheritedMethod< Class, Parent >](#).

Definition at line 103 of file Module.h.

6.116.4.5 `template<typename Class > virtual void Rcpp::CppMethod< Class >::signature ( std::string & s, const char * name ) [inline],[virtual]`

Reimplemented in [Rcpp::CppInheritedMethod< Class, Parent >](#).

Definition at line 108 of file Module.h.

Referenced by `Rcpp::SignedMethod< Class >::signature()`.

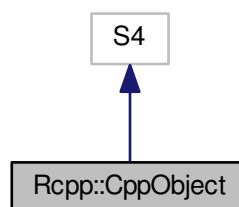
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

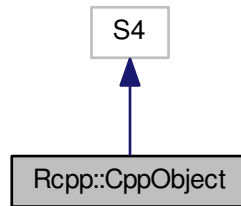
## 6.117 Rcpp::CppObject Class Reference

```
#include <Module.h>
```

Inheritance diagram for `Rcpp::CppObject`:



Collaboration diagram for Rcpp::CppObject:



## Public Types

- typedef `Rcpp::XPtr< Rcpp::Module > XP`

## Public Member Functions

- `CppObject` (`Module *p`, `class_Base *clazz`, `SEXP xp`)

## Private Types

- typedef `S4 Base`

### 6.117.1 Detailed Description

Definition at line 412 of file `Module.h`.

### 6.117.2 Member Typedef Documentation

#### 6.117.2.1 typedef `S4 Rcpp::CppObject::Base` `[private]`

Definition at line 413 of file `Module.h`.

#### 6.117.2.2 typedef `Rcpp::XPtr<Rcpp::Module> Rcpp::CppObject::XP`

Definition at line 415 of file `Module.h`.



### 6.117.3 Constructor & Destructor Documentation

#### 6.117.3.1 Rcpp::CppObject::CppObject ( Module \* p, class\_Base \* clazz, SEXP xp ) [inline]

Definition at line 416 of file Module.h.

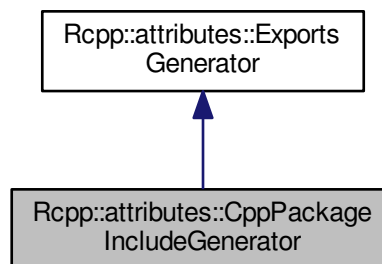
References RCPP\_CTOR\_ASSIGN\_WITH\_BASE.

The documentation for this class was generated from the following file:

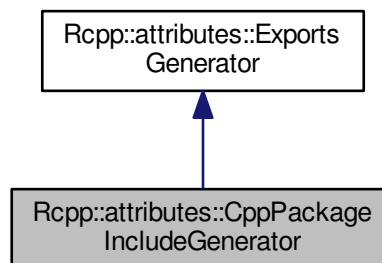
- inst/include/Rcpp/Module.h

## 6.118 Rcpp::attributes::CppPackageIncludeGenerator Class Reference

Inheritance diagram for Rcpp::attributes::CppPackageIncludeGenerator:



Collaboration diagram for Rcpp::attributes::CppPackageIncludeGenerator:



## Public Member Functions

- [CppPackageIncludeGenerator](#) (const std::string &packageDir, const std::string &package, const std::string &fileSep)
- virtual void [writeBegin](#) ()
- virtual void [writeEnd](#) ()
- virtual bool [commit](#) (const std::vector< std::string > &includes)

## Private Member Functions

- virtual void [doWriteFunctions](#) (const [SourceFileAttributes](#) &attributes, bool verbose)
- std::string [getHeaderGuard](#) () const

## Private Attributes

- std::string [includeDir\\_](#)

## Additional Inherited Members

### 6.118.1 Detailed Description

Definition at line 688 of file attributes.cpp.

### 6.118.2 Constructor & Destructor Documentation

6.118.2.1 `Rcpp::attributes::CppPackageIncludeGenerator::CppPackageIncludeGenerator ( const std::string & packageDir, const std::string & package, const std::string & fileSep )`

Definition at line 2155 of file attributes.cpp.

References [includeDir\\_](#).

### 6.118.3 Member Function Documentation

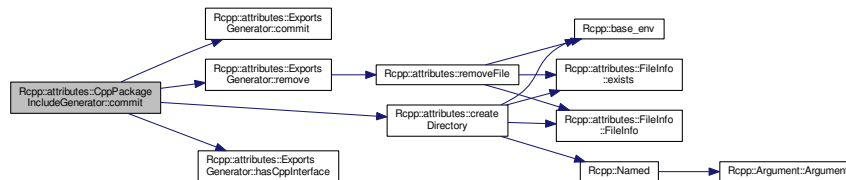
6.118.3.1 `bool Rcpp::attributes::CppPackageIncludeGenerator::commit ( const std::vector< std::string > & includes )`  
`[virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 2183 of file `attributes.cpp`.

References [Rcpp::attributes::ExportsGenerator::commit\(\)](#), [Rcpp::attributes::createDirectory\(\)](#), [Rcpp::attributes::ExportsGenerator::hasCplInterface\(\)](#), [includeDir\\_](#), and [Rcpp::attributes::ExportsGenerator::remove\(\)](#).

Here is the call graph for this function:



6.118.3.2 `virtual void Rcpp::attributes::CppPackageIncludeGenerator::doWriteFunctions ( const SourceFileAttributes & attributes, bool verbose )` `[inline]`, `[private]`, `[virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 699 of file `attributes.cpp`.

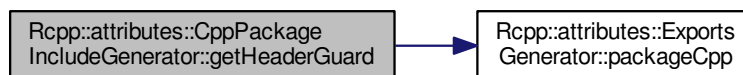
6.118.3.3 `std::string Rcpp::attributes::CppPackageIncludeGenerator::getHeaderGuard ( ) const` `[private]`

Definition at line 2199 of file `attributes.cpp`.

References [Rcpp::attributes::ExportsGenerator::packageCpp\(\)](#).

Referenced by `writeEnd()`.

Here is the call graph for this function:



6.118.3.4 `virtual void Rcpp::attributes::CppPackageIncludeGenerator::writeBegin ( ) [inline],[virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 694 of file `attributes.cpp`.

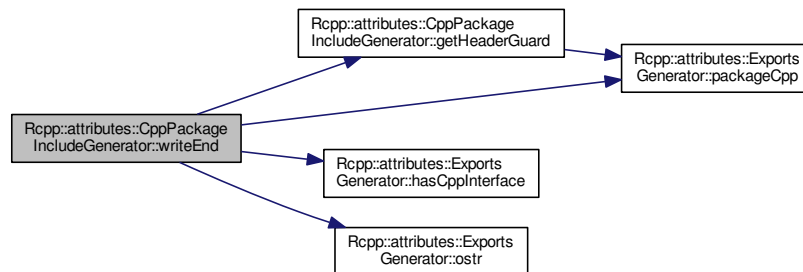
6.118.3.5 `void Rcpp::attributes::CppPackageIncludeGenerator::writeEnd ( ) [virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 2168 of file `attributes.cpp`.

References `getHeaderGuard()`, `Rcpp::attributes::ExportsGenerator::hasCppInterface()`, `Rcpp::attributes::ExportsGenerator::ostr()`, and `Rcpp::attributes::ExportsGenerator::packageCpp()`.

Here is the call graph for this function:



## 6.118.4 Member Data Documentation

6.118.4.1 `std::string Rcpp::attributes::CppPackageIncludeGenerator::includeDir_ [private]`

Definition at line 704 of file `attributes.cpp`.

Referenced by `commit()`, and `CppPackageIncludeGenerator()`.

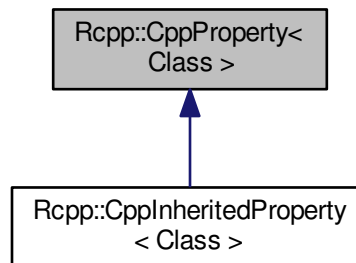
The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

## 6.119 Rcpp::CppClassProperty< Class > Class Template Reference

```
#include <Module.h>
```

Inheritance diagram for Rcpp::CppClassProperty< Class >:



### Public Types

- typedef [Rcpp::XPtr< Class > XP](#)

### Public Member Functions

- [CppClassProperty](#) (const char \*doc=0)
- virtual [~CppClassProperty](#) ()
- virtual SEXP [get](#) (Class \*)
- virtual void [set](#) (Class \*, SEXP)
- virtual bool [is\\_readonly](#) ()
- virtual std::string [get\\_class](#) ()

### Public Attributes

- std::string [docstring](#)

### 6.119.1 Detailed Description

```
template<typename Class>  
class Rcpp::CppClassProperty< Class >
```

Definition at line 266 of file Module.h.

## 6.119.2 Member Typedef Documentation

6.119.2.1 `template<typename Class> typedef Rcpp::XPtr<Class> Rcpp::CppClassProperty< Class >::XP`

Definition at line 268 of file Module.h.

## 6.119.3 Constructor & Destructor Documentation

6.119.3.1 `template<typename Class> Rcpp::CppClassProperty< Class >::CppClassProperty ( const char * doc = 0 ) [inline]`

Definition at line 270 of file Module.h.

6.119.3.2 `template<typename Class> virtual Rcpp::CppClassProperty< Class >::~CppClassProperty ( ) [inline],  
[virtual]`

Definition at line 271 of file Module.h.

## 6.119.4 Member Function Documentation

6.119.4.1 `template<typename Class> virtual SEXP Rcpp::CppClassProperty< Class >::get ( Class * ) [inline],  
[virtual]`

Reimplemented in [Rcpp::CplInheritedProperty< Class, Parent >](#).

Definition at line 272 of file Module.h.

6.119.4.2 `template<typename Class> virtual std::string Rcpp::CppClassProperty< Class >::get_class ( ) [inline],  
[virtual]`

Reimplemented in [Rcpp::CplInheritedProperty< Class, Parent >](#).

Definition at line 275 of file Module.h.

Referenced by `Rcpp::S4_field< Class >::S4_field()`.

6.119.4.3 `template<typename Class> virtual bool Rcpp::CppClassProperty< Class >::is_readonly ( ) [inline],  
[virtual]`

Reimplemented in [Rcpp::CplInheritedProperty< Class, Parent >](#).

Definition at line 274 of file Module.h.

Referenced by `Rcpp::S4_field< Class >::S4_field()`.

```
6.119.4.4 template<typename Class> virtual void Rcpp::CppProperty< Class >::set ( Class *, SEXP ) [inline],  
[virtual]
```

Reimplemented in [Rcpp::CppInheritedProperty< Class, Parent >](#).

Definition at line 273 of file Module.h.

## 6.119.5 Member Data Documentation

```
6.119.5.1 template<typename Class> std::string Rcpp::CppProperty< Class >::docstring
```

Definition at line 277 of file Module.h.

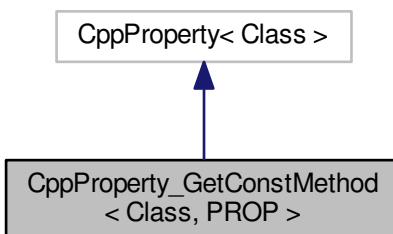
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

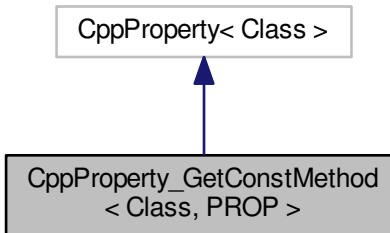
## 6.120 CppProperty\_GetConstMethod< Class, PROP > Class Template Reference

```
#include <Module_Property.h>
```

Inheritance diagram for CppProperty\_GetConstMethod< Class, PROP >:



Collaboration diagram for CppProperty\_GetConstMethod< Class, PROP >:



## Public Types

- typedef PROP(Class::\* [GetMethod](#)) (void) const
- typedef CppProperty< Class > [prop\\_class](#)

## Public Member Functions

- [CppProperty\\_GetConstMethod](#) ([GetMethod](#) getter\_, const char \*doc=0)
- SEXP [get](#) (Class \*object)
- void [set](#) (Class \*, SEXP)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [GetMethod](#) [getter](#)
- std::string [class\\_name](#)

### 6.120.1 Detailed Description

```

template<typename Class, typename PROP>
class CppProperty_GetConstMethod< Class, PROP >

```

Definition at line 48 of file `Module_Property.h`.



## 6.120.2 Member Typedef Documentation

6.120.2.1 `template<typename Class , typename PROP > typedef PROP(Class::* CppProperty_GetConstMethod< Class, PROP >::GetMethod) (void) const`

Definition at line 50 of file Module\_Property.h.

6.120.2.2 `template<typename Class , typename PROP > typedef CppProperty<Class> CppProperty_GetConstMethod< Class, PROP >::prop_class`

Definition at line 51 of file Module\_Property.h.

## 6.120.3 Constructor & Destructor Documentation

6.120.3.1 `template<typename Class , typename PROP > CppProperty_GetConstMethod< Class, PROP >::CppProperty_GetConstMethod ( GetMethod getter_, const char * doc = 0 ) [inline]`

Definition at line 53 of file Module\_Property.h.

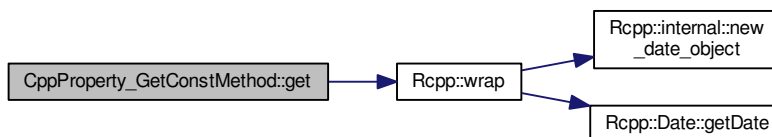
## 6.120.4 Member Function Documentation

6.120.4.1 `template<typename Class , typename PROP > SEXP CppProperty_GetConstMethod< Class, PROP >::get ( Class * object ) [inline]`

Definition at line 56 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::getter, and Rcpp::wrap().

Here is the call graph for this function:



6.120.4.2 `template<typename Class , typename PROP > std::string CppProperty_GetConstMethod< Class, PROP >::get_class ( ) [inline]`

Definition at line 59 of file `Module_Property.h`.

References `CppProperty_GetMethod< Class, PROP >::class_name`.

6.120.4.3 `template<typename Class , typename PROP > bool CppProperty_GetConstMethod< Class, PROP >::is_readonly ( ) [inline]`

Definition at line 58 of file `Module_Property.h`.

6.120.4.4 `template<typename Class , typename PROP > void CppProperty_GetConstMethod< Class, PROP >::set ( Class *, SEXP ) [inline]`

Definition at line 57 of file `Module_Property.h`.

## 6.120.5 Member Data Documentation

6.120.5.1 `template<typename Class , typename PROP > std::string CppProperty_GetConstMethod< Class, PROP >::class_name [private]`

Definition at line 63 of file `Module_Property.h`.

6.120.5.2 `template<typename Class , typename PROP > GetMethod CppProperty_GetConstMethod< Class, PROP >::getter [private]`

Definition at line 62 of file `Module_Property.h`.

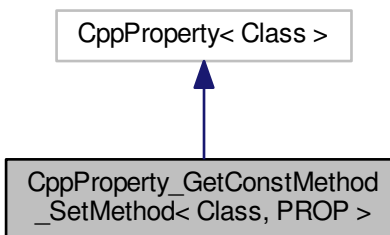
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/Module\\_Property.h](#)

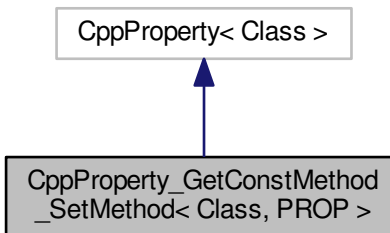
## 6.121 CppProperty\_GetConstMethod\_SetMethod< Class, PROP > Class Template Reference

```
#include <Module_Property.h>
```

Inheritance diagram for CppProperty\_GetConstMethod\_SetMethod< Class, PROP >:



Collaboration diagram for CppProperty\_GetConstMethod\_SetMethod< Class, PROP >:



### Public Types

- typedef PROP(Class::\* [GetMethod](#)) (void) const
- typedef void(Class::\* [SetMethod](#)) (PROP)
- typedef CppProperty< Class > [prop\\_class](#)

## Public Member Functions

- [CppClassProperty\\_GetConstMethod\\_SetMethod](#) ([GetMethod](#) getter\_, [SetMethod](#) setter\_, const char \*doc=0)
- SEXP [get](#) (Class \*object)
- void [set](#) (Class \*object, SEXP value)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [GetMethod](#) *getter*
- [SetMethod](#) *setter*
- std::string *class\_name*

### 6.121.1 Detailed Description

```
template<typename Class, typename PROP>
class CppProperty_GetConstMethod_SetMethod< Class, PROP >
```

Definition at line 117 of file Module\_Property.h.

### 6.121.2 Member Typedef Documentation

6.121.2.1 `template<typename Class , typename PROP > typedef PROP(Class::* CppProperty_GetConstMethod_SetMethod< Class, PROP >::GetMethod) (void) const`

Definition at line 119 of file Module\_Property.h.

6.121.2.2 `template<typename Class , typename PROP > typedef CppProperty<Class> CppProperty_GetConstMethod_SetMethod< Class, PROP >::prop_class`

Definition at line 121 of file Module\_Property.h.

6.121.2.3 `template<typename Class , typename PROP > typedef void(Class::* CppProperty_GetConstMethod_SetMethod< Class, PROP >::SetMethod) (PROP)`

Definition at line 120 of file Module\_Property.h.

### 6.121.3 Constructor & Destructor Documentation

6.121.3.1 `template<typename Class , typename PROP > CppProperty_GetConstMethod_SetMethod< Class, PROP >::CppClassProperty_GetConstMethod_SetMethod ( GetMethod getter_, SetMethod setter_, const char * doc = 0 ) [inline]`

Definition at line 123 of file Module\_Property.h.

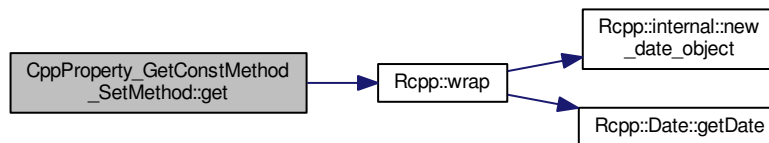
### 6.121.4 Member Function Documentation

6.121.4.1 `template<typename Class , typename PROP > SEXP CppProperty_GetConstMethod_SetMethod< Class, PROP >::get ( Class * object ) [inline]`

Definition at line 126 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::getter, and Rcpp::wrap().

Here is the call graph for this function:



6.121.4.2 `template<typename Class , typename PROP > std::string CppProperty_GetConstMethod_SetMethod< Class, PROP >::get_class ( ) [inline]`

Definition at line 135 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::class\_name.

6.121.4.3 `template<typename Class , typename PROP > bool CppProperty_GetConstMethod_SetMethod< Class, PROP >::is_readonly ( ) [inline]`

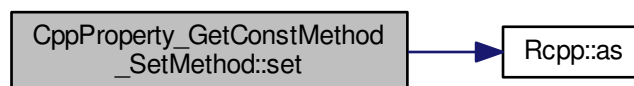
Definition at line 134 of file Module\_Property.h.

6.121.4.4 `template<typename Class , typename PROP > void CppProperty_GetConstMethod_SetMethod< Class, PROP >::set ( Class * object, SEXP value ) [inline]`

Definition at line 129 of file Module\_Property.h.

References Rcpp::as().

Here is the call graph for this function:



### 6.121.5 Member Data Documentation

6.121.5.1 `template<typename Class , typename PROP > std::string CppProperty_GetConstMethod_SetMethod< Class, PROP >::class_name [private]`

Definition at line 140 of file Module\_Property.h.

6.121.5.2 `template<typename Class , typename PROP > GetMethod CppProperty_GetConstMethod_SetMethod< Class, PROP >::getter [private]`

Definition at line 138 of file Module\_Property.h.

6.121.5.3 `template<typename Class , typename PROP > SetMethod CppProperty_GetConstMethod_SetMethod< Class, PROP >::setter [private]`

Definition at line 139 of file Module\_Property.h.

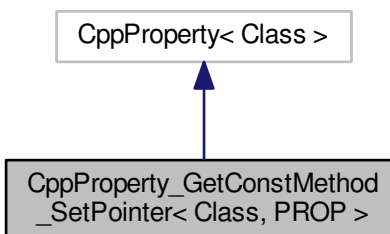
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/Module\\_Property.h](#)

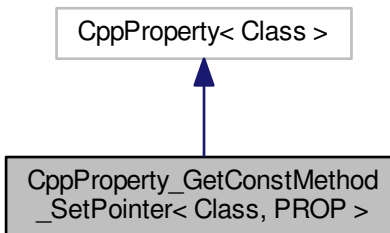
## 6.122 CppProperty\_GetConstMethod\_SetPointer< Class, PROP > Class Template Reference

```
#include <Module_Property.h>
```

Inheritance diagram for CppProperty\_GetConstMethod\_SetPointer< Class, PROP >:



Collaboration diagram for CppProperty\_GetConstMethod\_SetPointer< Class, PROP >:



## Public Types

- typedef PROP(Class::\* [GetMethod](#)) (void) const
- typedef void(\* [SetMethod](#)) (Class \*, PROP)
- typedef CppProperty< Class > [prop\\_class](#)

## Public Member Functions

- [CppProperty\\_GetConstMethod\\_SetPointer](#) ([GetMethod](#) getter\_, [SetMethod](#) setter\_, const char \*doc=0)
- SEXP [get](#) (Class \*object)
- void [set](#) (Class \*object, SEXP value)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [GetMethod](#) [getter](#)
- [SetMethod](#) [setter](#)
- std::string [class\\_name](#)

### 6.122.1 Detailed Description

```
template<typename Class, typename PROP>
class CppProperty_GetConstMethod_SetPointer< Class, PROP >
```

Definition at line 176 of file Module\_Property.h.

## 6.122.2 Member Typedef Documentation

6.122.2.1 `template<typename Class , typename PROP > typedef PROP(Class::* CppProperty_GetConstMethod_SetPointer< Class, PROP >::GetMethod) (void) const`

Definition at line 178 of file Module\_Property.h.

6.122.2.2 `template<typename Class , typename PROP > typedef CppProperty<Class> CppProperty_GetConstMethod_SetPointer< Class, PROP >::prop_class`

Definition at line 180 of file Module\_Property.h.

6.122.2.3 `template<typename Class , typename PROP > typedef void(* CppProperty_GetConstMethod_SetPointer< Class, PROP >::SetMethod) (Class *, PROP)`

Definition at line 179 of file Module\_Property.h.

## 6.122.3 Constructor & Destructor Documentation

6.122.3.1 `template<typename Class , typename PROP > CppProperty_GetConstMethod_SetPointer< Class, PROP >::CppMethod_GetConstMethod_SetPointer ( GetMethod getter_, SetMethod setter_, const char * doc = 0 ) [inline]`

Definition at line 182 of file Module\_Property.h.

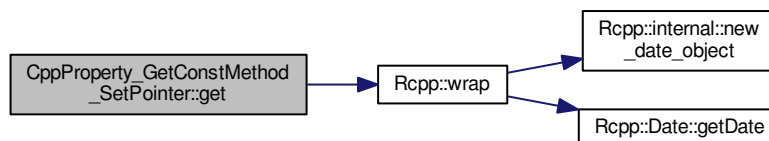
## 6.122.4 Member Function Documentation

6.122.4.1 `template<typename Class , typename PROP > SEXP CppProperty_GetConstMethod_SetPointer< Class, PROP >::get ( Class * object ) [inline]`

Definition at line 185 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::getter, and Rcpp::wrap().

Here is the call graph for this function:





6.122.4.2 `template<typename Class , typename PROP > std::string CppProperty_GetConstMethod_SetPointer< Class, PROP >::get_class ( ) [inline]`

Definition at line 194 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::class\_name.

6.122.4.3 `template<typename Class , typename PROP > bool CppProperty_GetConstMethod_SetPointer< Class, PROP >::is_readonly ( ) [inline]`

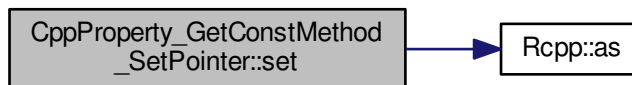
Definition at line 193 of file Module\_Property.h.

6.122.4.4 `template<typename Class , typename PROP > void CppProperty_GetConstMethod_SetPointer< Class, PROP >::set ( Class * object, SEXP value ) [inline]`

Definition at line 188 of file Module\_Property.h.

References Rcpp::as().

Here is the call graph for this function:



## 6.122.5 Member Data Documentation

6.122.5.1 `template<typename Class , typename PROP > std::string CppProperty_GetConstMethod_SetPointer< Class, PROP >::class_name [private]`

Definition at line 199 of file Module\_Property.h.

6.122.5.2 `template<typename Class , typename PROP > GetMethod CppProperty_GetConstMethod_SetPointer< Class, PROP >::getter [private]`

Definition at line 197 of file Module\_Property.h.

6.122.5.3 `template<typename Class , typename PROP > SetMethod CppProperty_GetConstMethod_SetPointer< Class, PROP >::setter [private]`

Definition at line 198 of file `Module_Property.h`.

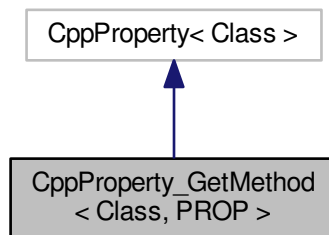
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/Module\\_Property.h](#)

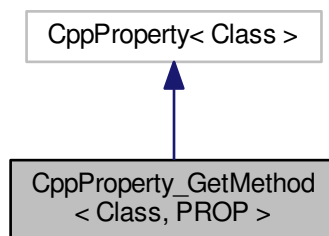
## 6.123 CppProperty\_GetMethod< Class, PROP > Class Template Reference

```
#include <Module_Property.h>
```

Inheritance diagram for `CppProperty_GetMethod< Class, PROP >`:



Collaboration diagram for `CppProperty_GetMethod< Class, PROP >`:



## Public Types

- typedef PROP(Class::\* [GetMethod](#)) (void)
- typedef CppProperty< Class > [prop\\_class](#)

## Public Member Functions

- [CppProperty\\_GetMethod](#) ([GetMethod](#) getter\_, const char \*doc=0)
- SEXP [get](#) (Class \*object)
- void [set](#) (Class \*, SEXP)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [GetMethod](#) [getter](#)
- std::string [class\\_name](#)

### 6.123.1 Detailed Description

```
template<typename Class, typename PROP>
class CppProperty_GetMethod< Class, PROP >
```

Definition at line 27 of file Module\_Property.h.

### 6.123.2 Member Typedef Documentation

6.123.2.1 `template<typename Class , typename PROP > typedef PROP(Class::* CppProperty_GetMethod< Class, PROP >::GetMethod) (void)`

Definition at line 29 of file Module\_Property.h.

6.123.2.2 `template<typename Class , typename PROP > typedef CppProperty<Class> CppProperty_GetMethod< Class, PROP >::prop_class`

Definition at line 30 of file Module\_Property.h.

### 6.123.3 Constructor & Destructor Documentation

6.123.3.1 `template<typename Class , typename PROP > CppProperty_GetMethod< Class, PROP >::CppProperty_GetMethod ( GetMethod getter_, const char * doc = 0 ) [inline]`

Definition at line 32 of file Module\_Property.h.

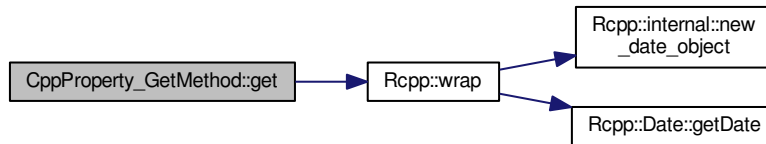
### 6.123.4 Member Function Documentation

6.123.4.1 `template<typename Class , typename PROP > SEXP CppProperty_GetMethod< Class, PROP >::get ( Class * object ) [inline]`

Definition at line 35 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::getter, and Rcpp::wrap().

Here is the call graph for this function:



6.123.4.2 `template<typename Class , typename PROP > std::string CppProperty_GetMethod< Class, PROP >::get_class ( ) [inline]`

Definition at line 38 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::class\_name.

6.123.4.3 `template<typename Class , typename PROP > bool CppProperty_GetMethod< Class, PROP >::is_readonly ( ) [inline]`

Definition at line 37 of file Module\_Property.h.

6.123.4.4 `template<typename Class , typename PROP > void CppProperty_GetMethod< Class, PROP >::set ( Class * , SEXP ) [inline]`

Definition at line 36 of file Module\_Property.h.

### 6.123.5 Member Data Documentation

6.123.5.1 `template<typename Class , typename PROP > std::string CppProperty_GetMethod< Class, PROP >::class_name`  
`[private]`

Definition at line 42 of file `Module_Property.h`.

Referenced by `CppProperty_GetMethod< Class, PROP >::get_class()`, `CppProperty_GetConstMethod< Class, PROP >::get_class()`, `CppProperty_GetPointerMethod< Class, PROP >::get_class()`, `CppProperty_GetMethod_↵_SetMethod< Class, PROP >::get_class()`, `CppProperty_GetConstMethod_SetMethod< Class, PROP >::get_class()`, `CppProperty_GetMethod_SetPointer< Class, PROP >::get_class()`, `CppProperty_GetConstMethod_SetPointer< Class, PROP >::get_class()`, `CppProperty_GetPointer_SetMethod< Class, PROP >::get_class()`, and `CppProperty_↵_GetPointer_SetPointer< Class, PROP >::get_class()`.

6.123.5.2 `template<typename Class , typename PROP > GetMethod CppProperty_GetMethod< Class, PROP >::getter`  
`[private]`

Definition at line 41 of file `Module_Property.h`.

Referenced by `CppProperty_GetMethod< Class, PROP >::get()`, `CppProperty_GetConstMethod< Class, PROP >_↵::get()`, `CppProperty_GetPointerMethod< Class, PROP >::get()`, `CppProperty_GetMethod_SetMethod< Class, PROP >::get()`, `CppProperty_GetConstMethod_SetMethod< Class, PROP >::get()`, `CppProperty_GetMethod_SetPointer< Class, PROP >::get()`, `CppProperty_GetConstMethod_SetPointer< Class, PROP >::get()`, `CppProperty_GetPointer_↵_SetMethod< Class, PROP >::get()`, and `CppProperty_GetPointer_SetPointer< Class, PROP >::get()`.

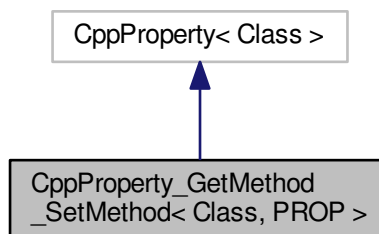
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/module/Module_Property.h`

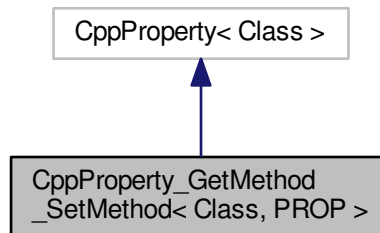
## 6.124 CppProperty\_GetMethod\_SetMethod< Class, PROP > Class Template Reference

```
#include <Module_Property.h>
```

Inheritance diagram for `CppProperty_GetMethod_SetMethod< Class, PROP >`:



Collaboration diagram for CppProperty\_GetMethod\_SetMethod< Class, PROP >:



## Public Types

- typedef PROP(Class::\* [GetMethod](#)) (void)
- typedef void(Class::\* [SetMethod](#)) (PROP)
- typedef CppProperty< Class > [prop\\_class](#)

## Public Member Functions

- [CppProperty\\_GetMethod\\_SetMethod](#) ([GetMethod](#) getter\_, [SetMethod](#) setter\_, const char \*doc=0)
- SEXP [get](#) (Class \*object)
- void [set](#) (Class \*object, SEXP value) throw (std::range\_error,Rcpp::not\_compatible)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [GetMethod](#) [getter](#)
- [SetMethod](#) [setter](#)
- std::string [class\\_name](#)

### 6.124.1 Detailed Description

```

template<typename Class, typename PROP>
class CppProperty_GetMethod_SetMethod< Class, PROP >

```

Definition at line 91 of file Module\_Property.h.

## 6.124.2 Member Typedef Documentation

6.124.2.1 `template<typename Class , typename PROP > typedef PROP(Class::* CppProperty_GetMethod_SetMethod< Class, PROP >::GetMethod) (void)`

Definition at line 93 of file Module\_Property.h.

6.124.2.2 `template<typename Class , typename PROP > typedef CppProperty<Class> CppProperty_GetMethod_SetMethod< Class, PROP >::prop_class`

Definition at line 95 of file Module\_Property.h.

6.124.2.3 `template<typename Class , typename PROP > typedef void(Class::* CppProperty_GetMethod_SetMethod< Class, PROP >::SetMethod) (PROP)`

Definition at line 94 of file Module\_Property.h.

## 6.124.3 Constructor & Destructor Documentation

6.124.3.1 `template<typename Class , typename PROP > CppProperty_GetMethod_SetMethod< Class, PROP >::CppMethod_GetMethod_SetMethod ( GetMethod getter_, SetMethod setter_, const char * doc = 0 ) [inline]`

Definition at line 97 of file Module\_Property.h.

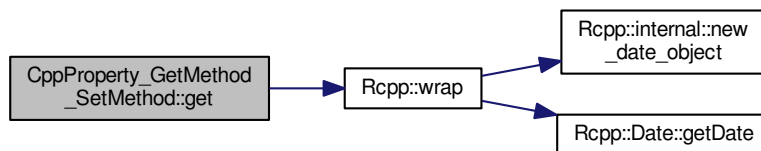
## 6.124.4 Member Function Documentation

6.124.4.1 `template<typename Class , typename PROP > SEXP CppProperty_GetMethod_SetMethod< Class, PROP >::get ( Class * object ) [inline]`

Definition at line 100 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::getter, and Rcpp::wrap().

Here is the call graph for this function:



6.124.4.2 `template<typename Class , typename PROP > std::string CppProperty_GetMethod_SetMethod< Class, PROP >::get_class( ) [inline]`

Definition at line 109 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::class\_name.

6.124.4.3 `template<typename Class , typename PROP > bool CppProperty_GetMethod_SetMethod< Class, PROP >::is_readonly( ) [inline]`

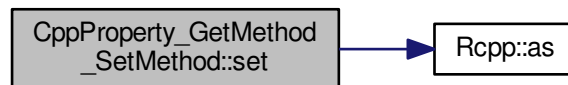
Definition at line 108 of file Module\_Property.h.

6.124.4.4 `template<typename Class , typename PROP > void CppProperty_GetMethod_SetMethod< Class, PROP >::set ( Class * object, SEXP value ) throw std::range_error, Rcpp::not_compatible) [inline]`

Definition at line 103 of file Module\_Property.h.

References Rcpp::as().

Here is the call graph for this function:



## 6.124.5 Member Data Documentation

6.124.5.1 `template<typename Class , typename PROP > std::string CppProperty_GetMethod_SetMethod< Class, PROP >::class_name [private]`

Definition at line 114 of file Module\_Property.h.

6.124.5.2 `template<typename Class , typename PROP > GetMethod CppProperty_GetMethod_SetMethod< Class, PROP >::getter [private]`

Definition at line 112 of file Module\_Property.h.



6.124.5.3 `template<typename Class , typename PROP > SetMethod CppProperty_GetMethod_SetMethod< Class, PROP >::setter [private]`

Definition at line 113 of file Module\_Property.h.

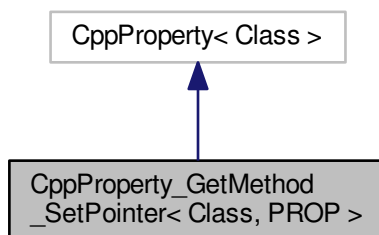
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/Module\\_Property.h](#)

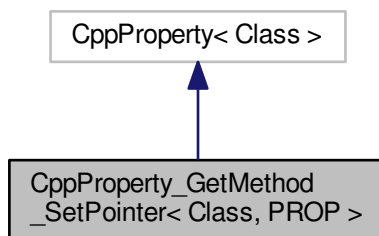
## 6.125 CppProperty\_GetMethod\_SetPointer< Class, PROP > Class Template Reference

```
#include <Module_Property.h>
```

Inheritance diagram for CppProperty\_GetMethod\_SetPointer< Class, PROP >:



Collaboration diagram for CppProperty\_GetMethod\_SetPointer< Class, PROP >:



## Public Types

- typedef PROP(Class::\* [GetMethod](#)) (void)
- typedef void(\* [SetMethod](#)) (Class \*, PROP)
- typedef CppProperty< Class > [prop\\_class](#)

## Public Member Functions

- [CppProperty\\_GetMethod\\_SetPointer](#) ([GetMethod](#) getter\_, [SetMethod](#) setter\_, const char \*doc=0)
- SEXP [get](#) (Class \*object)
- void [set](#) (Class \*object, SEXP value) throw (std::range\_error,Rcpp::not\_compatible)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [GetMethod](#) [getter](#)
- [SetMethod](#) [setter](#)
- std::string [class\\_name](#)

### 6.125.1 Detailed Description

```
template<typename Class, typename PROP>
class CppProperty_GetMethod_SetPointer< Class, PROP >
```

Definition at line 149 of file Module\_Property.h.

### 6.125.2 Member Typedef Documentation

6.125.2.1 `template<typename Class , typename PROP > typedef PROP(Class::* CppProperty\_GetMethod\_SetPointer< Class, PROP >::GetMethod) (void)`

Definition at line 151 of file Module\_Property.h.

6.125.2.2 `template<typename Class , typename PROP > typedef CppProperty<Class> CppProperty\_GetMethod\_SetPointer< Class, PROP >::prop_class`

Definition at line 153 of file Module\_Property.h.

6.125.2.3 `template<typename Class , typename PROP > typedef void(* CppProperty\_GetMethod\_SetPointer< Class, PROP >::SetMethod) (Class *, PROP)`

Definition at line 152 of file Module\_Property.h.

### 6.125.3 Constructor & Destructor Documentation

6.125.3.1 `template<typename Class , typename PROP > CppProperty_GetMethod_SetPointer< Class, PROP >::CppClass_GetMethod_SetPointer ( GetMethod getter_, SetMethod setter_, const char * doc = 0 ) [inline]`

Definition at line 155 of file Module\_Property.h.

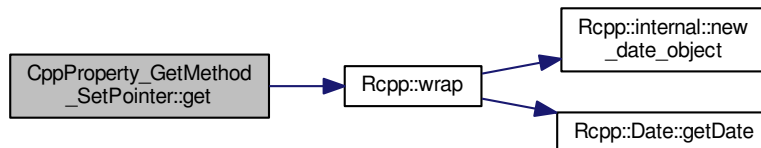
### 6.125.4 Member Function Documentation

6.125.4.1 `template<typename Class , typename PROP > SEXP CppProperty_GetMethod_SetPointer< Class, PROP >::get ( Class * object ) [inline]`

Definition at line 158 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::getter, and Rcpp::wrap().

Here is the call graph for this function:



6.125.4.2 `template<typename Class , typename PROP > std::string CppProperty_GetMethod_SetPointer< Class, PROP >::get_class ( ) [inline]`

Definition at line 167 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::class\_name.

6.125.4.3 `template<typename Class , typename PROP > bool CppProperty_GetMethod_SetPointer< Class, PROP >::is_readonly ( ) [inline]`

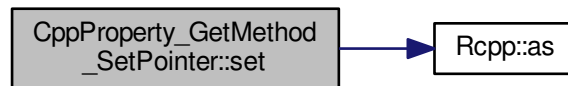
Definition at line 166 of file Module\_Property.h.

6.125.4.4 `template<typename Class , typename PROP > void CppProperty_GetMethod_SetPointer< Class, PROP >::set ( Class * object, SEXP value ) throw std::range_error, Rcpp::not_compatible) [inline]`

Definition at line 161 of file Module\_Property.h.

References Rcpp::as().

Here is the call graph for this function:



## 6.125.5 Member Data Documentation

6.125.5.1 `template<typename Class , typename PROP > std::string CppProperty_GetMethod_SetPointer< Class, PROP >::class_name [private]`

Definition at line 172 of file Module\_Property.h.

6.125.5.2 `template<typename Class , typename PROP > GetMethod CppProperty_GetMethod_SetPointer< Class, PROP >::getter [private]`

Definition at line 170 of file Module\_Property.h.

6.125.5.3 `template<typename Class , typename PROP > SetMethod CppProperty_GetMethod_SetPointer< Class, PROP >::setter [private]`

Definition at line 171 of file Module\_Property.h.

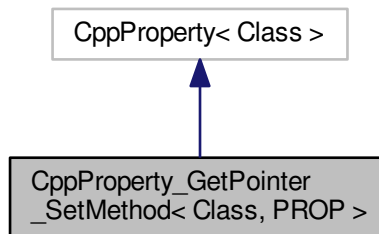
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/Module\\_Property.h](#)

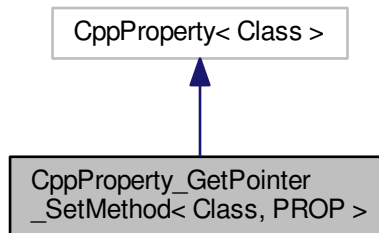
## 6.126 CppProperty\_GetPointer\_SetMethod< Class, PROP > Class Template Reference

```
#include <Module_Property.h>
```

Inheritance diagram for CppProperty\_GetPointer\_SetMethod< Class, PROP >:



Collaboration diagram for CppProperty\_GetPointer\_SetMethod< Class, PROP >:



### Public Types

- typedef PROP(\* [GetMethod](#)) (Class \*)
- typedef void(Class::\* [SetMethod](#)) (PROP)
- typedef CppProperty< Class > [prop\\_class](#)

### Public Member Functions

- [CppProperty\\_GetPointer\\_SetMethod](#) ([GetMethod](#) getter\_, [SetMethod](#) setter\_, const char \*doc=0)
- SEXP [get](#) (Class \*object)
- void [set](#) (Class \*object, SEXP value)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [GetMethod](#) getter
- [SetMethod](#) setter
- `std::string` `class_name`

### 6.126.1 Detailed Description

```
template<typename Class, typename PROP>
class CppProperty_GetPointer_SetMethod< Class, PROP >
```

Definition at line 205 of file `Module_Property.h`.

### 6.126.2 Member Typedef Documentation

6.126.2.1 `template<typename Class , typename PROP > typedef PROP(* CppProperty_GetPointer_SetMethod< Class, PROP >::GetMethod) (Class *)`

Definition at line 207 of file `Module_Property.h`.

6.126.2.2 `template<typename Class , typename PROP > typedef CppProperty<Class> CppProperty_GetPointer_SetMethod< Class, PROP >::prop_class`

Definition at line 209 of file `Module_Property.h`.

6.126.2.3 `template<typename Class , typename PROP > typedef void(Class::* CppProperty_GetPointer_SetMethod< Class, PROP >::SetMethod) (PROP)`

Definition at line 208 of file `Module_Property.h`.

### 6.126.3 Constructor & Destructor Documentation

6.126.3.1 `template<typename Class , typename PROP > CppProperty_GetPointer_SetMethod< Class, PROP >::CppClass_GetPointer_SetMethod ( GetMethod getter_, SetMethod setter_, const char * doc = 0 )`  
`[inline]`

Definition at line 211 of file `Module_Property.h`.

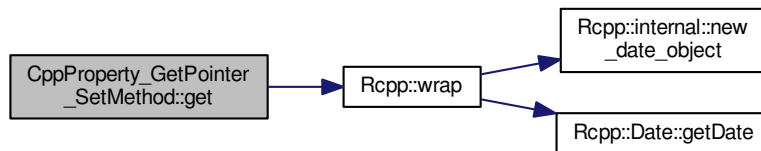
### 6.126.4 Member Function Documentation

6.126.4.1 `template<typename Class , typename PROP > SEXP CppProperty_GetPointer_SetMethod< Class, PROP >::get ( Class * object ) [inline]`

Definition at line 214 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::getter, and Rcpp::wrap().

Here is the call graph for this function:



6.126.4.2 `template<typename Class , typename PROP > std::string CppProperty_GetPointer_SetMethod< Class, PROP >::get_class ( ) [inline]`

Definition at line 223 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::class\_name.

6.126.4.3 `template<typename Class , typename PROP > bool CppProperty_GetPointer_SetMethod< Class, PROP >::is_readonly ( ) [inline]`

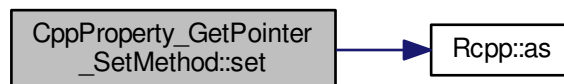
Definition at line 222 of file Module\_Property.h.

6.126.4.4 `template<typename Class , typename PROP > void CppProperty_GetPointer_SetMethod< Class, PROP >::set ( Class * object, SEXP value ) [inline]`

Definition at line 217 of file Module\_Property.h.

References Rcpp::as().

Here is the call graph for this function:



### 6.126.5 Member Data Documentation

6.126.5.1 `template<typename Class , typename PROP > std::string CppProperty_GetPointer_SetMethod< Class, PROP >::class_name [private]`

Definition at line 228 of file Module\_Property.h.

6.126.5.2 `template<typename Class , typename PROP > GetMethod CppProperty_GetPointer_SetMethod< Class, PROP >::getter [private]`

Definition at line 226 of file Module\_Property.h.

6.126.5.3 `template<typename Class , typename PROP > SetMethod CppProperty_GetPointer_SetMethod< Class, PROP >::setter [private]`

Definition at line 227 of file Module\_Property.h.

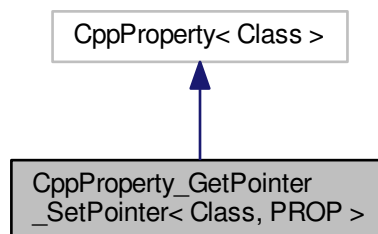
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/Module\\_Property.h](#)

## 6.127 CppProperty\_GetPointer\_SetPointer< Class, PROP > Class Template Reference

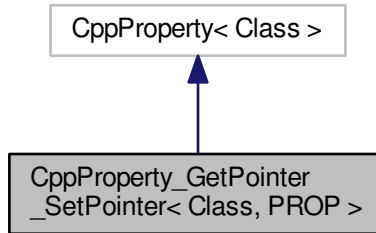
```
#include <Module_Property.h>
```

Inheritance diagram for CppProperty\_GetPointer\_SetPointer< Class, PROP >:





Collaboration diagram for CppProperty\_GetPointer\_SetPointer< Class, PROP >:



## Public Types

- typedef PROP(\* [GetMethod](#)) (Class \*)
- typedef void(\* [SetMethod](#)) (Class \*, PROP)
- typedef CppProperty< Class > [prop\\_class](#)

## Public Member Functions

- [CppProperty\\_GetPointer\\_SetPointer](#) ([GetMethod](#) getter\_, [SetMethod](#) setter\_, const char \*doc=0)
- SEXP [get](#) (Class \*object)
- void [set](#) (Class \*object, SEXP value)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [GetMethod](#) [getter](#)
- [SetMethod](#) [setter](#)
- std::string [class\\_name](#)

### 6.127.1 Detailed Description

```
template<typename Class, typename PROP>
class CppProperty_GetPointer_SetPointer< Class, PROP >
```

Definition at line 235 of file Module\_Property.h.

## 6.127.2 Member Typedef Documentation

6.127.2.1 `template<typename Class , typename PROP > typedef PROP(* CppProperty_GetPointer_SetPointer< Class, PROP >::GetMethod) (Class *)`

Definition at line 237 of file Module\_Property.h.

6.127.2.2 `template<typename Class , typename PROP > typedef CppProperty<Class> CppProperty_GetPointer_SetPointer< Class, PROP >::prop_class`

Definition at line 239 of file Module\_Property.h.

6.127.2.3 `template<typename Class , typename PROP > typedef void(* CppProperty_GetPointer_SetPointer< Class, PROP >::SetMethod) (Class *, PROP)`

Definition at line 238 of file Module\_Property.h.

## 6.127.3 Constructor & Destructor Documentation

6.127.3.1 `template<typename Class , typename PROP > CppProperty_GetPointer_SetPointer< Class, PROP >::CppMethod_GetPointer_SetPointer ( GetMethod getter_, SetMethod setter_, const char * doc = 0 ) [inline]`

Definition at line 241 of file Module\_Property.h.

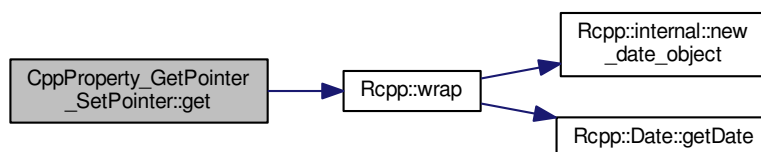
## 6.127.4 Member Function Documentation

6.127.4.1 `template<typename Class , typename PROP > SEXP CppProperty_GetPointer_SetPointer< Class, PROP >::get ( Class * object ) [inline]`

Definition at line 244 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::getter, and Rcpp::wrap().

Here is the call graph for this function:



6.127.4.2 `template<typename Class , typename PROP > std::string CppProperty_GetPointer_SetPointer< Class, PROP >::get_class( ) [inline]`

Definition at line 253 of file Module\_Property.h.

References CppProperty\_GetMethod< Class, PROP >::class\_name.

6.127.4.3 `template<typename Class , typename PROP > bool CppProperty_GetPointer_SetPointer< Class, PROP >::is_readonly( ) [inline]`

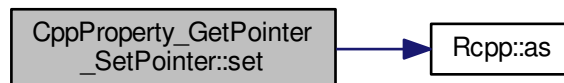
Definition at line 252 of file Module\_Property.h.

6.127.4.4 `template<typename Class , typename PROP > void CppProperty_GetPointer_SetPointer< Class, PROP >::set ( Class * object, SEXP value ) [inline]`

Definition at line 247 of file Module\_Property.h.

References Rcpp::as().

Here is the call graph for this function:



## 6.127.5 Member Data Documentation

6.127.5.1 `template<typename Class , typename PROP > std::string CppProperty_GetPointer_SetPointer< Class, PROP >::class_name [private]`

Definition at line 258 of file Module\_Property.h.

6.127.5.2 `template<typename Class , typename PROP > GetMethod CppProperty_GetPointer_SetPointer< Class, PROP >::getter [private]`

Definition at line 256 of file Module\_Property.h.

6.127.5.3 `template<typename Class , typename PROP > SetProperty_CppProperty_GetPointer_SetPointer< Class, PROP >::setter [private]`

Definition at line 257 of file Module\_Property.h.

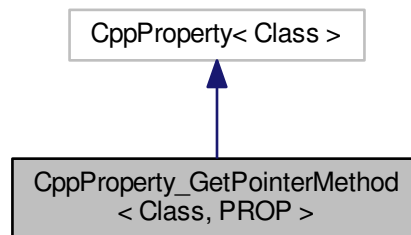
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/Module\\_Property.h](#)

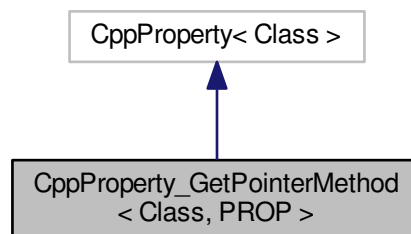
## 6.128 CppProperty\_GetPointerMethod< Class, PROP > Class Template Reference

```
#include <Module_Property.h>
```

Inheritance diagram for CppProperty\_GetPointerMethod< Class, PROP >:



Collaboration diagram for CppProperty\_GetPointerMethod< Class, PROP >:



## Public Types

- typedef PROP(\* [GetMethod](#)) (Class \*)
- typedef CppProperty< Class > [prop\\_class](#)

## Public Member Functions

- [CppProperty\\_GetPointerMethod](#) (GetMethod getter\_, const char \*doc=0)
- SEXP [get](#) (Class \*object)
- void [set](#) (Class \*, SEXP)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [GetMethod](#) [getter](#)
- std::string [class\\_name](#)

### 6.128.1 Detailed Description

```
template<typename Class, typename PROP>
class CppProperty_GetPointerMethod< Class, PROP >
```

Definition at line 70 of file Module\_Property.h.

### 6.128.2 Member Typedef Documentation

6.128.2.1 `template<typename Class , typename PROP > typedef PROP(* CppProperty\_GetPointerMethod< Class, PROP >::GetMethod) (Class *)`

Definition at line 72 of file Module\_Property.h.

6.128.2.2 `template<typename Class , typename PROP > typedef CppProperty<Class> CppProperty\_GetPointerMethod< Class, PROP >::prop\_class`

Definition at line 73 of file Module\_Property.h.

### 6.128.3 Constructor & Destructor Documentation

6.128.3.1 `template<typename Class , typename PROP > CppProperty\_GetPointerMethod< Class, PROP >::CppProperty\_GetPointerMethod ( GetMethod getter_, const char * doc = 0 ) [inline]`

Definition at line 75 of file Module\_Property.h.

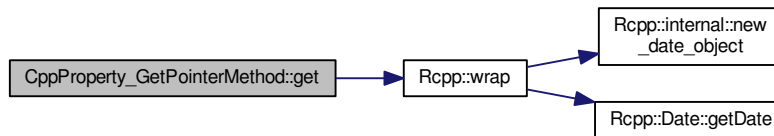
## 6.128.4 Member Function Documentation

6.128.4.1 `template<typename Class , typename PROP > SEXP CppProperty_GetPointerMethod< Class, PROP >::get ( Class * object ) [inline]`

Definition at line 78 of file `Module_Property.h`.

References `CppProperty_GetMethod< Class, PROP >::getter`, and `Rcpp::wrap()`.

Here is the call graph for this function:



6.128.4.2 `template<typename Class , typename PROP > std::string CppProperty_GetPointerMethod< Class, PROP >::get_class ( ) [inline]`

Definition at line 81 of file `Module_Property.h`.

References `CppProperty_GetMethod< Class, PROP >::class_name`.

6.128.4.3 `template<typename Class , typename PROP > bool CppProperty_GetPointerMethod< Class, PROP >::is_readonly ( ) [inline]`

Definition at line 80 of file `Module_Property.h`.

6.128.4.4 `template<typename Class , typename PROP > void CppProperty_GetPointerMethod< Class, PROP >::set ( Class *, SEXP ) [inline]`

Definition at line 79 of file `Module_Property.h`.

## 6.128.5 Member Data Documentation

6.128.5.1 `template<typename Class , typename PROP > std::string CppProperty_GetPointerMethod< Class, PROP >::class_name [private]`

Definition at line 85 of file `Module_Property.h`.

6.128.5.2 `template<typename Class , typename PROP > GetMethod CppProperty_GetPointerMethod< Class, PROP >::getter [private]`

Definition at line 84 of file `Module_Property.h`.

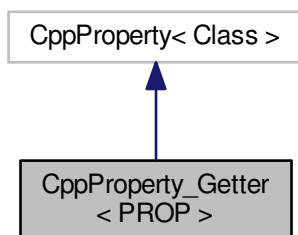
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/Module\\_Property.h](#)

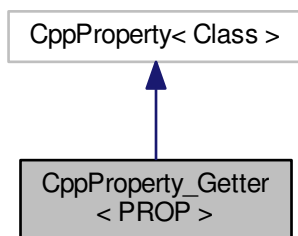
## 6.129 CppProperty\_Getter< PROP > Class Template Reference

```
#include <Module_Field.h>
```

Inheritance diagram for `CppProperty_Getter< PROP >`:



Collaboration diagram for `CppProperty_Getter< PROP >`:



## Public Types

- typedef PROP Class::\* [pointer](#)
- typedef CppProperty< Class > [prop\\_class](#)

## Public Member Functions

- [CppProperty\\_Getter](#) ([pointer](#) ptr\_, const char \*doc=0)
- SEXP [get](#) (Class \*object)
- void [set](#) (Class \*object, SEXP value)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [pointer](#) ptr
- std::string [class\\_name](#)

### 6.129.1 Detailed Description

```
template<typename PROP>
class CppProperty_Getter< PROP >
```

Definition at line 48 of file Module\_Field.h.

### 6.129.2 Member Typedef Documentation

6.129.2.1 `template<typename PROP > typedef PROP Class::* CppProperty_Getter< PROP >::pointer`

Definition at line 50 of file Module\_Field.h.

6.129.2.2 `template<typename PROP > typedef CppProperty<Class> CppProperty_Getter< PROP >::prop_class`

Definition at line 51 of file Module\_Field.h.

### 6.129.3 Constructor & Destructor Documentation

6.129.3.1 `template<typename PROP > CppProperty_Getter< PROP >::CppProperty_Getter ( pointer ptr_, const char * doc = 0 ) [inline]`

Definition at line 53 of file Module\_Field.h.



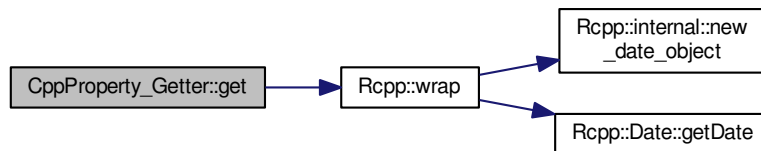
### 6.129.4 Member Function Documentation

6.129.4.1 `template<typename PROP > SEXP CppProperty_Getter< PROP >::get ( Class * object )` `[inline]`

Definition at line 56 of file `Module_Field.h`.

References `CppProperty_Getter_Setter< PROP >::ptr`, and `Rcpp::wrap()`.

Here is the call graph for this function:



6.129.4.2 `template<typename PROP > std::string CppProperty_Getter< PROP >::get_class ( )` `[inline]`

Definition at line 59 of file `Module_Field.h`.

References `CppProperty_Getter_Setter< PROP >::class_name`.

6.129.4.3 `template<typename PROP > bool CppProperty_Getter< PROP >::is_readonly ( )` `[inline]`

Definition at line 58 of file `Module_Field.h`.

6.129.4.4 `template<typename PROP > void CppProperty_Getter< PROP >::set ( Class * object, SEXP value )` `[inline]`

Definition at line 57 of file `Module_Field.h`.

### 6.129.5 Member Data Documentation

6.129.5.1 `template<typename PROP > std::string CppProperty_Getter< PROP >::class_name` `[private]`

Definition at line 63 of file `Module_Field.h`.

6.129.5.2 `template<typename PROP > pointer CppProperty_Getter< PROP >::ptr` [`private`]

Definition at line 62 of file `Module_Field.h`.

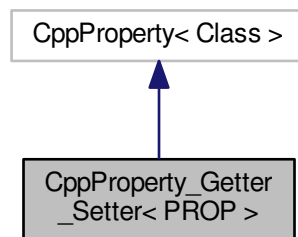
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/module/Module_Field.h`

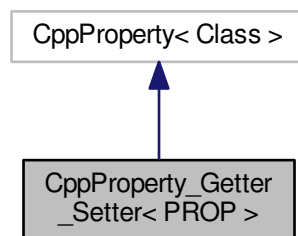
## 6.130 CppProperty\_Getter\_Setter< PROP > Class Template Reference

```
#include <Module_Field.h>
```

Inheritance diagram for `CppProperty_Getter_Setter< PROP >`:



Collaboration diagram for `CppProperty_Getter_Setter< PROP >`:



## Public Types

- typedef PROP Class::\* [pointer](#)
- typedef CppProperty< Class > [prop\\_class](#)

## Public Member Functions

- [CppProperty\\_Getter\\_Setter](#) ([pointer](#) ptr\_, const char \*doc)
- SEXP [get](#) (Class \*object)
- void [set](#) (Class \*object, SEXP value)
- bool [is\\_readonly](#) ()
- std::string [get\\_class](#) ()

## Private Attributes

- [pointer](#) ptr
- std::string [class\\_name](#)

### 6.130.1 Detailed Description

```
template<typename PROP>
class CppProperty_Getter_Setter< PROP >
```

Definition at line 27 of file Module\_Field.h.

### 6.130.2 Member Typedef Documentation

6.130.2.1 `template<typename PROP > typedef PROP Class::* CppProperty_Getter_Setter< PROP >::pointer`

Definition at line 29 of file Module\_Field.h.

6.130.2.2 `template<typename PROP > typedef CppProperty<Class> CppProperty_Getter_Setter< PROP >::prop_class`

Definition at line 30 of file Module\_Field.h.

### 6.130.3 Constructor & Destructor Documentation

6.130.3.1 `template<typename PROP > CppProperty_Getter_Setter< PROP >::CppProperty_Getter_Setter ( pointer ptr_, const char * doc ) [inline]`

Definition at line 32 of file Module\_Field.h.

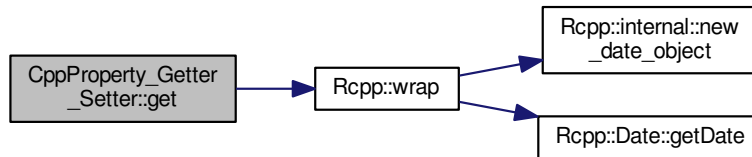
### 6.130.4 Member Function Documentation

6.130.4.1 `template<typename PROP > SEXP CppProperty_Getter_Setter< PROP >::get ( Class * object )` `[inline]`

Definition at line 35 of file `Module_Field.h`.

References `CppProperty_Getter_Setter< PROP >::ptr`, and `Rcpp::wrap()`.

Here is the call graph for this function:



6.130.4.2 `template<typename PROP > std::string CppProperty_Getter_Setter< PROP >::get_class ( )` `[inline]`

Definition at line 38 of file `Module_Field.h`.

References `CppProperty_Getter_Setter< PROP >::class_name`.

6.130.4.3 `template<typename PROP > bool CppProperty_Getter_Setter< PROP >::is_readonly ( )` `[inline]`

Definition at line 37 of file `Module_Field.h`.

6.130.4.4 `template<typename PROP > void CppProperty_Getter_Setter< PROP >::set ( Class * object, SEXP value )`  
`[inline]`

Definition at line 36 of file `Module_Field.h`.

References `CppProperty_Getter_Setter< PROP >::ptr`.

### 6.130.5 Member Data Documentation

6.130.5.1 `template<typename PROP > std::string CppProperty_Getter_Setter< PROP >::class_name` `[private]`

Definition at line 42 of file `Module_Field.h`.

Referenced by `CppProperty_Getter_Setter< PROP >::get_class()`, and `CppProperty_Getter< PROP >::get_class()`.

6.130.5.2 `template<typename PROP > pointer CppProperty_Getter_Setter< PROP >::ptr` [private]

Definition at line 41 of file `Module_Field.h`.

Referenced by `CppProperty_Getter_Setter< PROP >::get()`, `CppProperty_Getter< PROP >::get()`, and `CppProperty_Getter_Setter< PROP >::set()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/module/Module\\_Field.h](#)

## 6.131 Rcpp::algorithm::helpers::ctype< T > Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef `ctype_helper< sizeof(test(make())) >::type` type

### Static Public Member Functions

- static `CTYPE_CHAR test` (const char &)
- static `CTYPE_SHORT test` (const short &)
- static `CTYPE_INT test` (const int &)
- static `CTYPE_LONG test` (const long &)
- static `CTYPE_FLOAT test` (const float &)
- static `CTYPE_DOUBLE test` (const double &)
- static `CTYPE_LONG_DOUBLE test` (const long double &)
- static `CTYPE_STRING test` (const std::string &)
- static `CTYPE_UNSIGNED_CHAR test` (const unsigned char &)
- static `CTYPE_UNSIGNED_SHORT test` (const unsigned short &)
- static `CTYPE_UNSIGNED_INT test` (const unsigned int &)
- static `CTYPE_UNSIGNED_LONG test` (const unsigned long &)
- static `CTYPE_UNKNOWN test` (...)
- static `T make` ()

### 6.131.1 Detailed Description

```
template<typename T>
struct Rcpp::algorithm::helpers::ctype< T >
```

Definition at line 82 of file `algorithm.h`.

## 6.131.2 Member Typedef Documentation

6.131.2.1 `template<typename T> typedef ctype_helper< sizeof(test(make()))>::type Rcpp::algorithm::helpers::ctype< T>::type`

Definition at line 106 of file `algorithm.h`.

## 6.131.3 Member Function Documentation

6.131.3.1 `template<typename T> static T Rcpp::algorithm::helpers::ctype< T>::make( ) [static]`

6.131.3.2 `template<typename T> static CTYPE_CHAR Rcpp::algorithm::helpers::ctype< T>::test( const char & ) [static]`

6.131.3.3 `template<typename T> static CTYPE_SHORT Rcpp::algorithm::helpers::ctype< T>::test( const short & ) [static]`

6.131.3.4 `template<typename T> static CTYPE_INT Rcpp::algorithm::helpers::ctype< T>::test( const int & ) [static]`

6.131.3.5 `template<typename T> static CTYPE_LONG Rcpp::algorithm::helpers::ctype< T>::test( const long & ) [static]`

6.131.3.6 `template<typename T> static CTYPE_FLOAT Rcpp::algorithm::helpers::ctype< T>::test( const float & ) [static]`

6.131.3.7 `template<typename T> static CTYPE_DOUBLE Rcpp::algorithm::helpers::ctype< T>::test( const double & ) [static]`

6.131.3.8 `template<typename T> static CTYPE_LONG_DOUBLE Rcpp::algorithm::helpers::ctype< T>::test( const long double & ) [static]`

6.131.3.9 `template<typename T> static CTYPE_STRING Rcpp::algorithm::helpers::ctype< T>::test( const std::string & ) [static]`

6.131.3.10 `template<typename T> static CTYPE_UNSIGNED_CHAR Rcpp::algorithm::helpers::ctype< T>::test( const unsigned char & ) [static]`

6.131.3.11 `template<typename T> static CTYPE_UNSIGNED_SHORT Rcpp::algorithm::helpers::ctype< T>::test( const unsigned short & ) [static]`

6.131.3.12 `template<typename T> static CTYPE_UNSIGNED_INT Rcpp::algorithm::helpers::ctype< T>::test( const unsigned int & ) [static]`

6.131.3.13 `template<typename T> static CTYPE_UNSIGNED_LONG Rcpp::algorithm::helpers::ctype< T>::test( const unsigned long & ) [static]`

6.131.3.14 `template<typename T> static CTYPE_UNKNOWN Rcpp::algorithm::helpers::ctype< T>::test( ... ) [static]`

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/algorithm.h`

## 6.132 Rcpp::algorithm::helpers::CTYPE\_CHAR Struct Reference

```
#include <algorithm.h>
```

### Public Attributes

- char [a](#) [1]

#### 6.132.1 Detailed Description

Definition at line 11 of file `algorithm.h`.

#### 6.132.2 Member Data Documentation

##### 6.132.2.1 char Rcpp::algorithm::helpers::CTYPE\_CHAR::a[1]

Definition at line 11 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.133 Rcpp::algorithm::helpers::CTYPE\_DOUBLE Struct Reference

```
#include <algorithm.h>
```

### Public Attributes

- char [a](#) [7]

#### 6.133.1 Detailed Description

Definition at line 19 of file `algorithm.h`.

#### 6.133.2 Member Data Documentation

##### 6.133.2.1 char Rcpp::algorithm::helpers::CTYPE\_DOUBLE::a[7]

Definition at line 19 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.134 Rcpp::algorithm::helpers::CTYPE\_FLOAT Struct Reference

```
#include <algorithm.h>
```

### Public Attributes

- char [a](#) [6]

### 6.134.1 Detailed Description

Definition at line 18 of file `algorithm.h`.

### 6.134.2 Member Data Documentation

#### 6.134.2.1 char Rcpp::algorithm::helpers::CTYPE\_FLOAT::a[6]

Definition at line 18 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.135 Rcpp::algorithm::helpers::ctype\_helper< I > Struct Template Reference

```
#include <algorithm.h>
```

### Static Public Attributes

- static const bool [value](#) = false

### 6.135.1 Detailed Description

```
template<std::size_t I>  
struct Rcpp::algorithm::helpers::ctype_helper< I >
```

Definition at line 32 of file `algorithm.h`.



## 6.135.2 Member Data Documentation

6.135.2.1 `template<std::size_t I> const bool Rcpp::algorithm::helpers::ctype_helper< I >::value = false` [static]

Definition at line 32 of file `algorithm.h`.

Referenced by `Rcpp::algorithm::max()`, `Rcpp::algorithm::max_nona()`, `Rcpp::algorithm::mean()`, `Rcpp::algorithm::min()`, `Rcpp::algorithm::min_nona()`, `Rcpp::algorithm::helpers::sqrt::operator()`, `Rcpp::algorithm::prod()`, `Rcpp::algorithm::prod_nona()`, `Rcpp::algorithm::sum()`, and `Rcpp::algorithm::sum_nona()`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.136 Rcpp::algorithm::helpers::ctype\_helper< sizeof(CTYPE\_CHAR) > Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef char [type](#)

### Static Public Attributes

- static const bool [value](#) = true

### 6.136.1 Detailed Description

```
template<>
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_CHAR) >
```

Definition at line 35 of file `algorithm.h`.

### 6.136.2 Member Typedef Documentation

6.136.2.1 `typedef char Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_CHAR) >::type`

Definition at line 35 of file `algorithm.h`.

### 6.136.3 Member Data Documentation

6.136.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_CHAR) >::value = true` `[static]`

Definition at line 35 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/algorithm.h`

## 6.137 `Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_DOUBLE) >` Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef double `type`

### Static Public Attributes

- static const bool `value = true`

### 6.137.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_DOUBLE) >
```

Definition at line 55 of file `algorithm.h`.

### 6.137.2 Member Typedef Documentation

6.137.2.1 `typedef double Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_DOUBLE) >::type`

Definition at line 55 of file `algorithm.h`.

### 6.137.3 Member Data Documentation

6.137.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_DOUBLE) >::value = true` `[static]`

Definition at line 55 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/algorithm.h`

## 6.138 Rcpp::algorithm::helpers::ctype\_helper< sizeof(CTYPE\_FLOAT) > Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef float `type`

### Static Public Attributes

- static const bool `value = true`

### 6.138.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_FLOAT) >
```

Definition at line 52 of file `algorithm.h`.

### 6.138.2 Member Typedef Documentation

6.138.2.1 `typedef float Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_FLOAT) >::type`

Definition at line 52 of file `algorithm.h`.

### 6.138.3 Member Data Documentation

6.138.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_FLOAT) >::value = true` `[static]`

Definition at line 52 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/algorithm.h`

## 6.139 `Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_INT) >` Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef int `type`

### Static Public Attributes

- static const bool `value` = true

### 6.139.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_INT) >
```

Definition at line 41 of file `algorithm.h`.

### 6.139.2 Member Typedef Documentation

6.139.2.1 `typedef int Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_INT) >::type`

Definition at line 41 of file `algorithm.h`.

### 6.139.3 Member Data Documentation

6.139.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_INT) >::value = true` `[static]`

Definition at line 41 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/algorithm.h`

## 6.140 Rcpp::algorithm::helpers::ctype\_helper< sizeof(CTYPE\_LONG) > Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef long `type`

### Static Public Attributes

- static const bool `value = true`

### 6.140.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_LONG) >
```

Definition at line 44 of file `algorithm.h`.

### 6.140.2 Member Typedef Documentation

6.140.2.1 `typedef long Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_LONG) >::type`

Definition at line 44 of file `algorithm.h`.

### 6.140.3 Member Data Documentation

6.140.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_LONG) >::value = true` `[static]`

Definition at line 44 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/algorithm.h`

## 6.141 `Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_LONG_DOUBLE) >` Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef long double `type`

### Static Public Attributes

- static const bool `value = true`

### 6.141.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_LONG_DOUBLE) >
```

Definition at line 58 of file `algorithm.h`.

### 6.141.2 Member Typedef Documentation

6.141.2.1 typedef long double `Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_LONG_DOUBLE) >::type`

Definition at line 58 of file `algorithm.h`.

### 6.141.3 Member Data Documentation

6.141.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_LONG_DOUBLE) >::value = true`  
[static]

Definition at line 58 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.142 Rcpp::algorithm::helpers::ctype\_helper< sizeof(CTYPE\_SHORT) > Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef short [type](#)

### Static Public Attributes

- static const bool [value](#) = true

### 6.142.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_SHORT) >
```

Definition at line 38 of file `algorithm.h`.

### 6.142.2 Member Typedef Documentation

6.142.2.1 `typedef short Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_SHORT) >::type`

Definition at line 38 of file `algorithm.h`.

### 6.142.3 Member Data Documentation

6.142.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_SHORT) >::value = true` `[static]`

Definition at line 38 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/algorithm.h`

## 6.143 `Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_STRING) >` Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- `typedef std::string type`

### Static Public Attributes

- `static const bool value = true`

### 6.143.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_STRING) >
```

Definition at line 61 of file `algorithm.h`.

### 6.143.2 Member Typedef Documentation

6.143.2.1 `typedef std::string Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_STRING) >::type`

Definition at line 61 of file `algorithm.h`.



### 6.143.3 Member Data Documentation

6.143.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_STRING) >::value = true` `[static]`

Definition at line 61 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/algorithm.h`

## 6.144 Rcpp::algorithm::helpers::ctype\_helper< sizeof(CTYPE\_UNSIGNED\_CHAR) > Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef unsigned char `type`

### Static Public Attributes

- static const bool `value = true`

### 6.144.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_CHAR) >
```

Definition at line 64 of file `algorithm.h`.

### 6.144.2 Member Typedef Documentation

6.144.2.1 `typedef unsigned char Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_CHAR) >::type`

Definition at line 64 of file `algorithm.h`.

### 6.144.3 Member Data Documentation

6.144.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_CHAR) >::value = true`  
[static]

Definition at line 64 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.145 Rcpp::algorithm::helpers::ctype\_helper< sizeof(CTYPE\_UNSIGNED\_INT) > Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef unsigned int [type](#)

### Static Public Attributes

- static const bool [value](#) = true

### 6.145.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_INT) >
```

Definition at line 70 of file `algorithm.h`.

### 6.145.2 Member Typedef Documentation

6.145.2.1 typedef unsigned int `Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_INT) >::type`

Definition at line 70 of file `algorithm.h`.

### 6.145.3 Member Data Documentation

6.145.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_INT) >::value = true`  
[static]

Definition at line 70 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.146 Rcpp::algorithm::helpers::ctype\_helper< sizeof(CTYPE\_UNSIGNED\_LONG) > Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef unsigned long `type`

### Static Public Attributes

- static const bool `value` = true

### 6.146.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_LONG) >
```

Definition at line 73 of file `algorithm.h`.

### 6.146.2 Member Typedef Documentation

6.146.2.1 `typedef unsigned long Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_LONG) >::type`

Definition at line 73 of file `algorithm.h`.

### 6.146.3 Member Data Documentation

6.146.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_LONG) >::value = true`  
[static]

Definition at line 73 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.147 Rcpp::algorithm::helpers::ctype\_helper< sizeof(CTYPE\_UNSIGNED\_SHORT) > Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef unsigned short [type](#)

### Static Public Attributes

- static const bool [value](#) = true

### 6.147.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_SHORT) >
```

Definition at line 67 of file `algorithm.h`.

### 6.147.2 Member Typedef Documentation

6.147.2.1 `typedef unsigned short Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_SHORT) >::type`

Definition at line 67 of file `algorithm.h`.

### 6.147.3 Member Data Documentation

6.147.3.1 `const bool Rcpp::algorithm::helpers::ctype_helper< sizeof(CTYPE_UNSIGNED_SHORT) >::value = true`  
[static]

Definition at line 67 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.148 Rcpp::algorithm::helpers::CTYPE\_INT Struct Reference

```
#include <algorithm.h>
```

### Public Attributes

- char `a` [3]

### 6.148.1 Detailed Description

Definition at line 13 of file `algorithm.h`.

### 6.148.2 Member Data Documentation

6.148.2.1 `char Rcpp::algorithm::helpers::CTYPE_INT::a[3]`

Definition at line 13 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.149 Rcpp::algorithm::helpers::CTYPE\_LONG Struct Reference

```
#include <algorithm.h>
```

### Public Attributes

- char `a` [4]

### 6.149.1 Detailed Description

Definition at line 14 of file algorithm.h.

### 6.149.2 Member Data Documentation

#### 6.149.2.1 char Rcpp::algorithm::helpers::CTYPE\_LONG::a[4]

Definition at line 14 of file algorithm.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.150 Rcpp::algorithm::helpers::CTYPE\_LONG\_DOUBLE Struct Reference

```
#include <algorithm.h>
```

### Public Attributes

- char [a](#) [8]

### 6.150.1 Detailed Description

Definition at line 20 of file algorithm.h.

### 6.150.2 Member Data Documentation

#### 6.150.2.1 char Rcpp::algorithm::helpers::CTYPE\_LONG\_DOUBLE::a[8]

Definition at line 20 of file algorithm.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.151 Rcpp::algorithm::helpers::CTYPE\_SHORT Struct Reference

```
#include <algorithm.h>
```

## Public Attributes

- char [a](#) [2]

### 6.151.1 Detailed Description

Definition at line 12 of file `algorithm.h`.

### 6.151.2 Member Data Documentation

#### 6.151.2.1 char Rcpp::algorithm::helpers::CTYPE\_SHORT::a[2]

Definition at line 12 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.152 Rcpp::algorithm::helpers::CTYPE\_STRING Struct Reference

```
#include <algorithm.h>
```

## Public Attributes

- char [a](#) [9]

### 6.152.1 Detailed Description

Definition at line 21 of file `algorithm.h`.

### 6.152.2 Member Data Documentation

#### 6.152.2.1 char Rcpp::algorithm::helpers::CTYPE\_STRING::a[9]

Definition at line 21 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.153 Rcpp::algorithm::helpers::CTYPE\_UNKNOWN Struct Reference

```
#include <algorithm.h>
```

### Public Attributes

- char [a](#) [128]

### 6.153.1 Detailed Description

Definition at line 29 of file `algorithm.h`.

### 6.153.2 Member Data Documentation

#### 6.153.2.1 char Rcpp::algorithm::helpers::CTYPE\_UNKNOWN::a[128]

Definition at line 29 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.154 Rcpp::algorithm::helpers::CTYPE\_UNSIGNED\_CHAR Struct Reference

```
#include <algorithm.h>
```

### Public Attributes

- char [a](#) [10]

### 6.154.1 Detailed Description

Definition at line 22 of file `algorithm.h`.

### 6.154.2 Member Data Documentation

#### 6.154.2.1 char Rcpp::algorithm::helpers::CTYPE\_UNSIGNED\_CHAR::a[10]

Definition at line 22 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)



## 6.155 Rcpp::algorithm::helpers::CTYPE\_UNSIGNED\_INT Struct Reference

```
#include <algorithm.h>
```

### Public Attributes

- char [a](#) [12]

#### 6.155.1 Detailed Description

Definition at line 24 of file `algorithm.h`.

#### 6.155.2 Member Data Documentation

##### 6.155.2.1 char Rcpp::algorithm::helpers::CTYPE\_UNSIGNED\_INT::a[12]

Definition at line 24 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.156 Rcpp::algorithm::helpers::CTYPE\_UNSIGNED\_LONG Struct Reference

```
#include <algorithm.h>
```

### Public Attributes

- char [a](#) [13]

#### 6.156.1 Detailed Description

Definition at line 25 of file `algorithm.h`.

#### 6.156.2 Member Data Documentation

##### 6.156.2.1 char Rcpp::algorithm::helpers::CTYPE\_UNSIGNED\_LONG::a[13]

Definition at line 25 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.157 Rcpp::algorithm::helpers::CTYPE\_UNSIGNED\_SHORT Struct Reference

```
#include <algorithm.h>
```

### Public Attributes

- char [a](#) [11]

### 6.157.1 Detailed Description

Definition at line 23 of file `algorithm.h`.

### 6.157.2 Member Data Documentation

#### 6.157.2.1 char Rcpp::algorithm::helpers::CTYPE\_UNSIGNED\_SHORT::a[11]

Definition at line 23 of file `algorithm.h`.

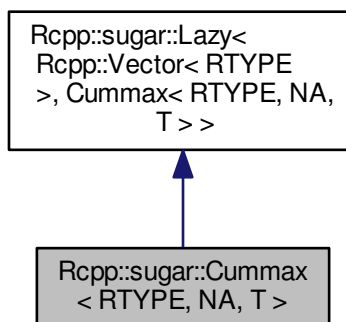
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

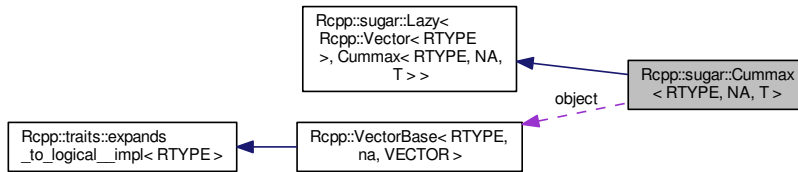
## 6.158 Rcpp::sugar::Cummax< RTYPE, NA, T > Class Template Reference

```
#include <cummax.h>
```

Inheritance diagram for `Rcpp::sugar::Cummax< RTYPE, NA, T >`:



Collaboration diagram for Rcpp::sugar::Cummax< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase< RTYPE, NA, T >](#) [VEC\\_TYPE](#)
- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)
- typedef [Rcpp::Vector< RTYPE >](#) [VECTOR](#)

## Public Member Functions

- [Cummax](#) (const [VEC\\_TYPE](#) &object\_)
- [VECTOR](#) [get](#) () const

## Private Attributes

- const [VEC\\_TYPE](#) & [object](#)

### 6.158.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Cummax< RTYPE, NA, T >
```

Definition at line 29 of file cummax.h.

### 6.158.2 Member Typedef Documentation

6.158.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Cummax< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file cummax.h.

6.158.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE, NA, T>  
Rcpp::sugar::Cummax< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file cummax.h.

6.158.2.3 `template<int RTYPE, bool NA, typename T > typedef Rcpp::Vector<RTYPE> Rcpp::sugar::Cummax< RTYPE,  
NA, T >::VECTOR`

Definition at line 33 of file cummax.h.

### 6.158.3 Constructor & Destructor Documentation

6.158.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Cummax< RTYPE, NA, T >::Cummax ( const  
VEC_TYPE & object_ ) [inline]`

Definition at line 35 of file cummax.h.

### 6.158.4 Member Function Documentation

6.158.4.1 `template<int RTYPE, bool NA, typename T > VECTOR Rcpp::sugar::Cummax< RTYPE, NA, T >::get ( ) const  
[inline]`

Definition at line 37 of file cummax.h.

### 6.158.5 Member Data Documentation

6.158.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Cummax< RTYPE, NA, T  
>::object [private]`

Definition at line 52 of file cummax.h.

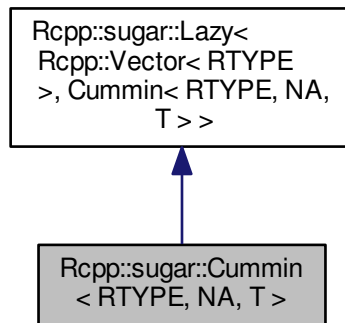
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cummax.h](#)

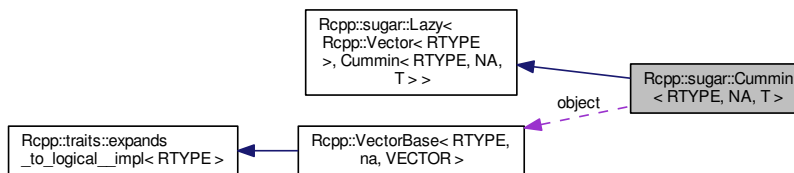
## 6.159 Rcpp::sugar::Cummin< RTYPE, NA, T > Class Template Reference

```
#include <cummin.h>
```

Inheritance diagram for Rcpp::sugar::Cummin< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Cummin< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::Vector< RTYPE >` `VECTOR`

### Public Member Functions

- `Cummin` (const `VEC_TYPE` &object\_)
- `VECTOR` `get` () const

## Private Attributes

- const `VEC_TYPE` & `object`

### 6.159.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Cummin< RTYPE, NA, T >
```

Definition at line 29 of file cummin.h.

### 6.159.2 Member Typedef Documentation

6.159.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Cummin< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file cummin.h.

6.159.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE, NA, T> Rcpp::sugar::Cummin< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file cummin.h.

6.159.2.3 `template<int RTYPE, bool NA, typename T > typedef Rcpp::Vector<RTYPE> Rcpp::sugar::Cummin< RTYPE, NA, T >::VECTOR`

Definition at line 33 of file cummin.h.

### 6.159.3 Constructor & Destructor Documentation

6.159.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Cummin< RTYPE, NA, T >::Cummin ( const VEC_TYPE & object_ ) [inline]`

Definition at line 35 of file cummin.h.

### 6.159.4 Member Function Documentation

6.159.4.1 `template<int RTYPE, bool NA, typename T > VECTOR Rcpp::sugar::Cummin< RTYPE, NA, T >::get ( ) const [inline]`

Definition at line 37 of file cummin.h.

## 6.159.5 Member Data Documentation

6.159.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Cummin< RTYPE, NA, T >::object [private]`

Definition at line 52 of file cummin.h.

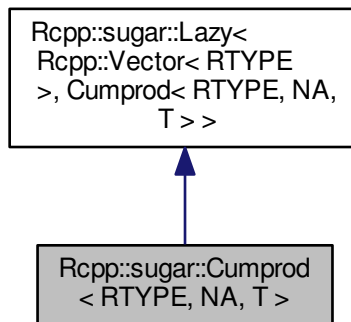
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cummin.h](#)

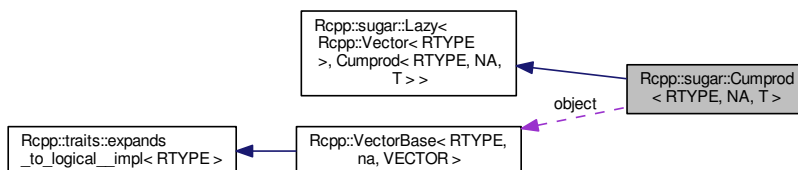
## 6.160 Rcpp::sugar::Cumprod&lt; RTYPE, NA, T &gt; Class Template Reference

```
#include <cumprod.h>
```

Inheritance diagram for Rcpp::sugar::Cumprod< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Cumprod< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, NA, T > [VEC\\_TYPE](#)
- typedef [Rcpp::traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::Vector](#)< RTYPE > [VECTOR](#)

## Public Member Functions

- [Cumprod](#) (const [VEC\\_TYPE](#) &object\_)
- [VECTOR](#) [get](#) () const

## Private Attributes

- const [VEC\\_TYPE](#) & [object](#)

### 6.160.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Cumprod< RTYPE, NA, T >
```

Definition at line 29 of file cumprod.h.

### 6.160.2 Member Typedef Documentation

6.160.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Cumprod< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file cumprod.h.

6.160.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE, NA, T> Rcpp::sugar::Cumprod< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file cumprod.h.

6.160.2.3 `template<int RTYPE, bool NA, typename T > typedef Rcpp::Vector<RTYPE> Rcpp::sugar::Cumprod< RTYPE, NA, T >::VECTOR`

Definition at line 33 of file cumprod.h.



### 6.160.3 Constructor & Destructor Documentation

6.160.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Cumprod< RTYPE, NA, T >::Cumprod ( const VEC_TYPE & object_ ) [inline]`

Definition at line 35 of file cumprod.h.

### 6.160.4 Member Function Documentation

6.160.4.1 `template<int RTYPE, bool NA, typename T > VECTOR Rcpp::sugar::Cumprod< RTYPE, NA, T >::get ( ) const [inline]`

Definition at line 37 of file cumprod.h.

### 6.160.5 Member Data Documentation

6.160.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Cumprod< RTYPE, NA, T >::object [private]`

Definition at line 52 of file cumprod.h.

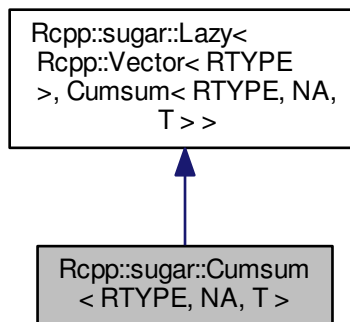
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cumprod.h](#)

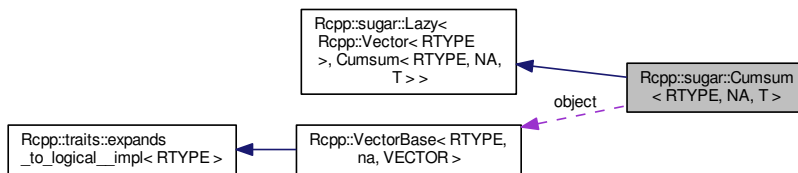
## 6.161 Rcpp::sugar::Cumsum< RTYPE, NA, T > Class Template Reference

```
#include <cumsum.h>
```

Inheritance diagram for Rcpp::sugar::Cumsum< RTYPE, NA, T >:



Collaboration diagram for `Rcpp::sugar::Cumsum< RTYPE, NA, T >`:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::Vector< RTYPE >` `VECTOR`

## Public Member Functions

- `Cumsum` (const `VEC_TYPE` &object\_)
- `VECTOR` `get` () const

## Private Attributes

- const `VEC_TYPE` & `object`

### 6.161.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Cumsum< RTYPE, NA, T >
  
```

Definition at line 29 of file `cumsum.h`.

### 6.161.2 Member Typedef Documentation

6.161.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Cumsum< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file `cumsum.h`.

6.161.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::Cumsum< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file cumsum.h.

6.161.2.3 `template<int RTYPE, bool NA, typename T > typedef Rcpp::Vector<RTYPE> Rcpp::sugar::Cumsum< RTYPE,  
NA, T >::VECTOR`

Definition at line 33 of file cumsum.h.

### 6.161.3 Constructor & Destructor Documentation

6.161.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Cumsum< RTYPE, NA, T >::Cumsum ( const  
VEC_TYPE & object_ ) [inline]`

Definition at line 35 of file cumsum.h.

### 6.161.4 Member Function Documentation

6.161.4.1 `template<int RTYPE, bool NA, typename T > VECTOR Rcpp::sugar::Cumsum< RTYPE, NA, T >::get ( ) const  
[inline]`

Definition at line 37 of file cumsum.h.

### 6.161.5 Member Data Documentation

6.161.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Cumsum< RTYPE, NA, T  
>::object [private]`

Definition at line 53 of file cumsum.h.

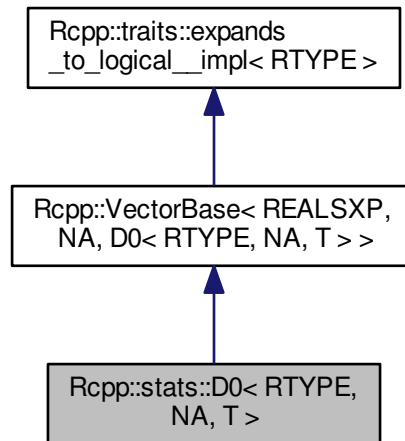
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cumsum.h](#)

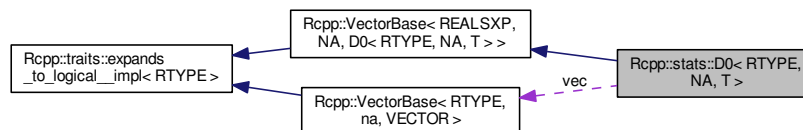
## 6.162 Rcpp::stats::D0< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::D0< RTYPE, NA, T >:



Collaboration diagram for Rcpp::stats::D0< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `double(* FunPtr)` `(double, int)`

### Public Member Functions

- `D0` (`FunPtr ptr_`, `const VEC_TYPE &vec_`, `bool log_`)
- `double operator[]` (`int i`) `const`
- `int size` () `const`

## Private Attributes

- [FunPtr ptr](#)
- const [VEC\\_TYPE](#) & *vec*
- int *log*

### 6.162.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>  
class Rcpp::stats::D0< RTYPE, NA, T >
```

Definition at line 33 of file dpq.h.

### 6.162.2 Member Typedef Documentation

6.162.2.1 `template<int RTYPE, bool NA, typename T > typedef double(* Rcpp::stats::D0< RTYPE, NA, T >::FunPtr) (double, int)`

Definition at line 36 of file dpq.h.

6.162.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::D0< RTYPE, NA, T >::VEC_TYPE`

Definition at line 35 of file dpq.h.

### 6.162.3 Constructor & Destructor Documentation

6.162.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::stats::D0< RTYPE, NA, T >::D0 ( FunPtr ptr_, const VEC_TYPE & vec_, bool log_ ) [inline]`

Definition at line 38 of file dpq.h.

### 6.162.4 Member Function Documentation

6.162.4.1 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::D0< RTYPE, NA, T >::operator[]( int i ) const [inline]`

Definition at line 41 of file dpq.h.

References [Rcpp::stats::D0< RTYPE, NA, T >::log](#), [Rcpp::stats::D0< RTYPE, NA, T >::ptr](#), and [Rcpp::stats::D0< RTYPE, NA, T >::vec](#).

6.162.4.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::D0< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 45 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



## 6.162.5 Member Data Documentation

6.162.5.1 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::D0< RTYPE, NA, T >::log [private]`

Definition at line 50 of file dpq.h.

Referenced by `Rcpp::stats::D0< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::D1< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::D2< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::D3< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::↔P0< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::P1< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::P2< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::P3< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::Q0< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::Q1< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::Q2< RTYPE, NA, T >::operator[]()`, and `Rcpp::stats::↔Q3< RTYPE, NA, T >::operator[]()`.

6.162.5.2 `template<int RTYPE, bool NA, typename T > FunPtr Rcpp::stats::D0< RTYPE, NA, T >::ptr [private]`

Definition at line 48 of file dpq.h.

Referenced by `Rcpp::stats::D0< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::D1< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::D2< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::D3< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::↔P0< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::P1< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::P2< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::P3< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::Q0< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::Q1< RTYPE, NA, T >::operator[]()`, `Rcpp::stats::Q2< RTYPE, NA, T >::operator[]()`, and `Rcpp::stats::↔Q3< RTYPE, NA, T >::operator[]()`.

```
6.162.5.3 template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::stats::D0< RTYPE, NA, T >::vec
    [private]
```

Definition at line 49 of file dpq.h.

Referenced by Rcpp::stats::D0< RTYPE, NA, T >::operator[](), Rcpp::stats::D1< RTYPE, NA, T >::operator[](), Rcpp::stats::D2< RTYPE, NA, T >::operator[](), Rcpp::stats::D3< RTYPE, NA, T >::operator[](), Rcpp::stats::P0< RTYPE, NA, T >::operator[](), Rcpp::stats::P1< RTYPE, NA, T >::operator[](), Rcpp::stats::P2< RTYPE, NA, T >::operator[](), Rcpp::stats::P3< RTYPE, NA, T >::operator[](), Rcpp::stats::Q0< RTYPE, NA, T >::operator[](), Rcpp::stats::Q1< RTYPE, NA, T >::operator[](), Rcpp::stats::Q2< RTYPE, NA, T >::operator[](), Rcpp::stats::Q3< RTYPE, NA, T >::operator[](), Rcpp::stats::D0< RTYPE, NA, T >::size(), Rcpp::stats::D1< RTYPE, NA, T >::size(), Rcpp::stats::D2< RTYPE, NA, T >::size(), Rcpp::stats::D3< RTYPE, NA, T >::size(), Rcpp::stats::P0< RTYPE, NA, T >::size(), Rcpp::stats::P1< RTYPE, NA, T >::size(), Rcpp::stats::P2< RTYPE, NA, T >::size(), Rcpp::stats::P3< RTYPE, NA, T >::size(), Rcpp::stats::Q0< RTYPE, NA, T >::size(), Rcpp::stats::Q1< RTYPE, NA, T >::size(), Rcpp::stats::Q2< RTYPE, NA, T >::size(), and Rcpp::stats::Q3< RTYPE, NA, T >::size().

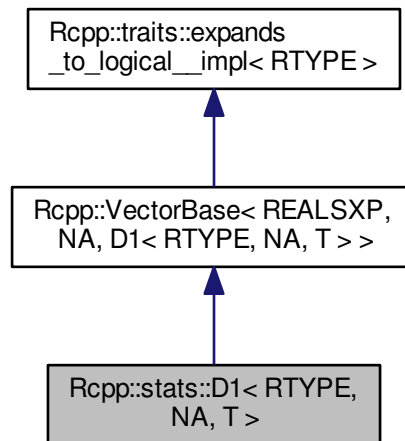
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/dpq/dpq.h](#)

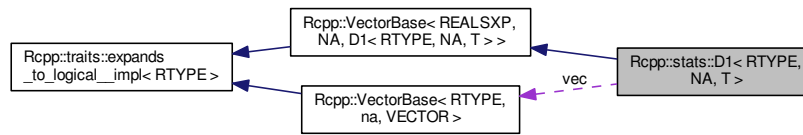
## 6.163 Rcpp::stats::D1< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::D1< RTYPE, NA, T >:



Collaboration diagram for `Rcpp::stats::D1< RTYPE, NA, T >`:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `double(* FunPtr) (double, double, int)`

## Public Member Functions

- `D1 (FunPtr ptr_, const VEC_TYPE &vec_, double p0_, bool log_)`
- `double operator[] (int i) const`
- `int size () const`

## Private Attributes

- `FunPtr ptr`
- `const VEC_TYPE &vec`
- `double p0`
- `int log`

### 6.163.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::stats::D1< RTYPE, NA, T >
  
```

Definition at line 54 of file `dpq.h`.

### 6.163.2 Member Typedef Documentation

6.163.2.1 `template<int RTYPE, bool NA, typename T> typedef double(* Rcpp::stats::D1< RTYPE, NA, T >::FunPtr) (double, double, int)`

Definition at line 57 of file `dpq.h`.



6.163.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::D1< RTYPE, NA, T >::VEC_TYPE`

Definition at line 56 of file dpq.h.

### 6.163.3 Constructor & Destructor Documentation

6.163.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::stats::D1< RTYPE, NA, T >::D1 ( FunPtr ptr_, const VEC_TYPE & vec_, double p0_, bool log_ ) [inline]`

Definition at line 59 of file dpq.h.

### 6.163.4 Member Function Documentation

6.163.4.1 `template<int RTYPE, bool NA, typename T> double Rcpp::stats::D1< RTYPE, NA, T >::operator[] ( int i ) const [inline]`

Definition at line 62 of file dpq.h.

References `Rcpp::stats::D0< RTYPE, NA, T >::log`, `Rcpp::stats::D0< RTYPE, NA, T >::ptr`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

6.163.4.2 `template<int RTYPE, bool NA, typename T> int Rcpp::stats::D1< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 66 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



### 6.163.5 Member Data Documentation

6.163.5.1 `template<int RTYPE, bool NA, typename T> int Rcpp::stats::D1< RTYPE, NA, T >::log [private]`

Definition at line 72 of file dpq.h.

6.163.5.2 `template<int RTYPE, bool NA, typename T> double Rcpp::stats::D1< RTYPE, NA, T >::p0` [private]

Definition at line 71 of file dpq.h.

6.163.5.3 `template<int RTYPE, bool NA, typename T> FunPtr Rcpp::stats::D1< RTYPE, NA, T >::ptr` [private]

Definition at line 69 of file dpq.h.

6.163.5.4 `template<int RTYPE, bool NA, typename T> const VEC_TYPE& Rcpp::stats::D1< RTYPE, NA, T >::vec`  
[private]

Definition at line 70 of file dpq.h.

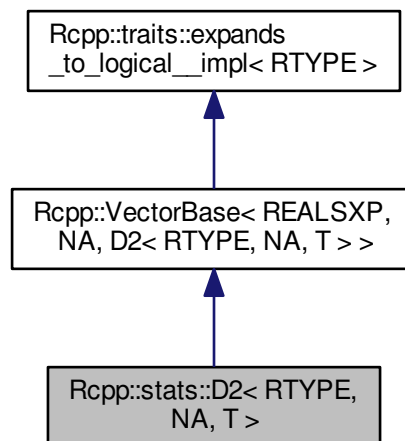
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/dpq/dpq.h](#)

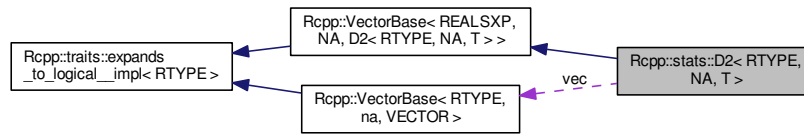
## 6.164 Rcpp::stats::D2< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::D2< RTYPE, NA, T >:



Collaboration diagram for Rcpp::stats::D2< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase< RTYPE, NA, T >](#) [VEC\\_TYPE](#)
- typedef double(\* [FunPtr](#)) (double, double, double, int)

## Public Member Functions

- [D2](#) ([FunPtr](#) ptr\_, const [VEC\\_TYPE](#) &vec\_, double p0\_, double p1\_, bool log\_)
- double [operator\[\]](#) (int i) const
- int [size](#) () const

## Private Attributes

- [FunPtr](#) ptr
- const [VEC\\_TYPE](#) & [vec](#)
- double [p0](#)
- double [p1](#)
- int [log](#)

### 6.164.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::stats::D2< RTYPE, NA, T >
```

Definition at line 76 of file dpq.h.

### 6.164.2 Member Typedef Documentation

6.164.2.1 `template<int RTYPE, bool NA, typename T > typedef double(* Rcpp::stats::D2< RTYPE, NA, T >::FunPtr) (double, double, double, int)`

Definition at line 79 of file dpq.h.

6.164.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::D2<RTYPE, NA, T >::VEC_TYPE`

Definition at line 78 of file dpq.h.

### 6.164.3 Constructor & Destructor Documentation

6.164.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::stats::D2< RTYPE, NA, T >::D2 ( FunPtr ptr_, const VEC_TYPE & vec_, double p0_, double p1_, bool log_ ) [inline]`

Definition at line 81 of file dpq.h.

### 6.164.4 Member Function Documentation

6.164.4.1 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::D2< RTYPE, NA, T >::operator[] ( int i ) const [inline]`

Definition at line 84 of file dpq.h.

References `Rcpp::stats::D0< RTYPE, NA, T >::log`, `Rcpp::stats::D0< RTYPE, NA, T >::ptr`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

6.164.4.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::D2< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 88 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



### 6.164.5 Member Data Documentation

6.164.5.1 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::D2< RTYPE, NA, T >::log [private]`

Definition at line 94 of file dpq.h.

6.164.5.2 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::D2< RTYPE, NA, T >::p0` [private]

Definition at line 93 of file dpq.h.

6.164.5.3 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::D2< RTYPE, NA, T >::p1` [private]

Definition at line 93 of file dpq.h.

6.164.5.4 `template<int RTYPE, bool NA, typename T > FunPtr Rcpp::stats::D2< RTYPE, NA, T >::ptr` [private]

Definition at line 91 of file dpq.h.

6.164.5.5 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::stats::D2< RTYPE, NA, T >::vec`  
[private]

Definition at line 92 of file dpq.h.

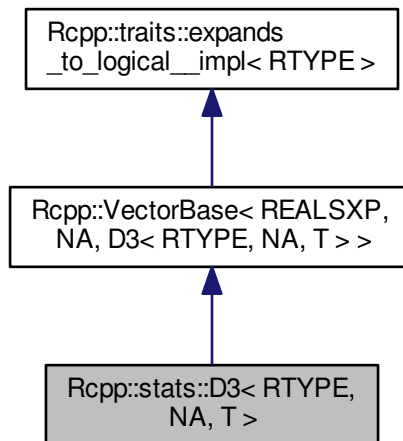
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/dpq/dpq.h](#)

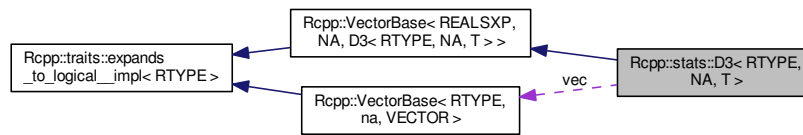
## 6.165 Rcpp::stats::D3< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::D3< RTYPE, NA, T >:



Collaboration diagram for `Rcpp::stats::D3< RTYPE, NA, T >`:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `double(* FunPtr)` (`double, double, double, double, int`)

## Public Member Functions

- `D3` (`FunPtr ptr_`, `const VEC_TYPE &vec_`, `double p0_`, `double p1_`, `double p2_`, `bool log_`)
- `double operator[]` (`int i`) `const`
- `int size` () `const`

## Private Attributes

- `FunPtr ptr`
- `const VEC_TYPE & vec`
- `double p0`
- `double p1`
- `double p2`
- `int log`

### 6.165.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::stats::D3< RTYPE, NA, T >
  
```

Definition at line 98 of file `dpq.h`.

### 6.165.2 Member Typedef Documentation

6.165.2.1 `template<int RTYPE, bool NA, typename T > typedef double(* Rcpp::stats::D3< RTYPE, NA, T >::FunPtr)` (`double, double, double, double, int`)

Definition at line 101 of file `dpq.h`.

6.165.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::D3< RTYPE, NA, T >::VEC_TYPE`

Definition at line 100 of file dpq.h.

### 6.165.3 Constructor & Destructor Documentation

6.165.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::stats::D3< RTYPE, NA, T >::D3 ( FunPtr ptr_, const VEC_TYPE & vec_, double p0_, double p1_, double p2_, bool log_ ) [inline]`

Definition at line 103 of file dpq.h.

### 6.165.4 Member Function Documentation

6.165.4.1 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::D3< RTYPE, NA, T >::operator[] ( int i ) const [inline]`

Definition at line 106 of file dpq.h.

References `Rcpp::stats::D0< RTYPE, NA, T >::log`, `Rcpp::stats::D0< RTYPE, NA, T >::ptr`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

6.165.4.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::D3< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 110 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



### 6.165.5 Member Data Documentation

6.165.5.1 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::D3< RTYPE, NA, T >::log [private]`

Definition at line 116 of file dpq.h.

6.165.5.2 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::D3< RTYPE, NA, T >::p0` [private]

Definition at line 115 of file dpq.h.

6.165.5.3 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::D3< RTYPE, NA, T >::p1` [private]

Definition at line 115 of file dpq.h.

6.165.5.4 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::D3< RTYPE, NA, T >::p2` [private]

Definition at line 115 of file dpq.h.

6.165.5.5 `template<int RTYPE, bool NA, typename T > FunPtr Rcpp::stats::D3< RTYPE, NA, T >::ptr` [private]

Definition at line 113 of file dpq.h.

6.165.5.6 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::stats::D3< RTYPE, NA, T >::vec`  
[private]

Definition at line 114 of file dpq.h.

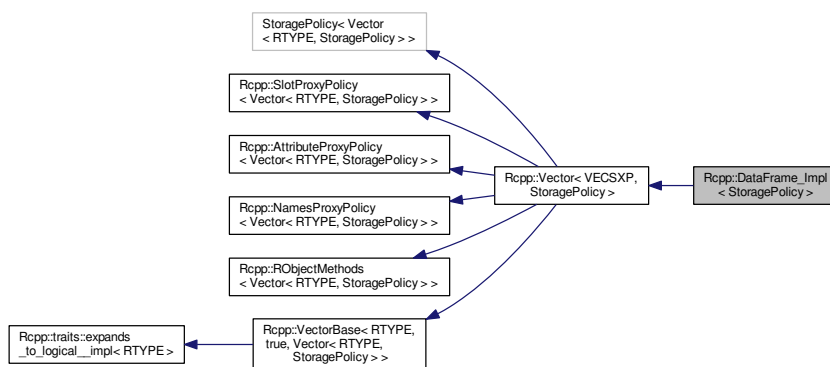
The documentation for this class was generated from the following file:

- <inst/include/Rcpp/stats/dpq/dpq.h>

## 6.166 Rcpp::DataFrame\_Impl< StoragePolicy > Class Template Reference

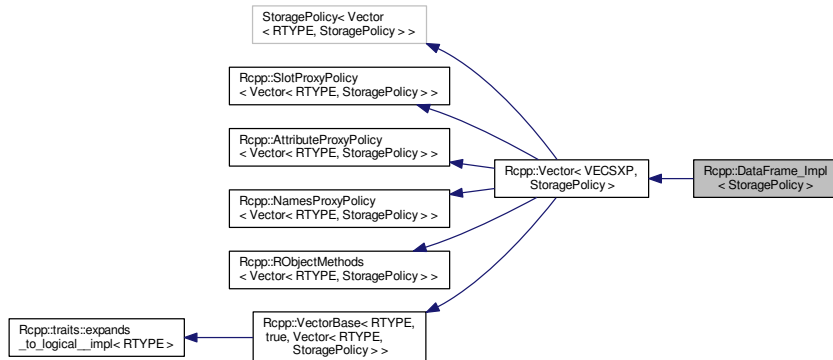
```
#include <DataFrame.h>
```

Inheritance diagram for Rcpp::DataFrame\_Impl< StoragePolicy >:





Collaboration diagram for Rcpp::DataFrame\_Impl< StoragePolicy >:



## Public Types

- typedef [Vector](#)< VECSXP, StoragePolicy > [Parent](#)

## Public Member Functions

- [DataFrame\\_Impl](#) ()
- [DataFrame\\_Impl](#) (SEXP x)
- [DataFrame\\_Impl](#) (const [DataFrame\\_Impl](#) &other)
- template<typename T >  
[DataFrame\\_Impl](#) (const T &obj)
- [DataFrame\\_Impl](#) & operator= ([DataFrame\\_Impl](#) &other)
- [DataFrame\\_Impl](#) & operator= (SEXP x)
- int [nrows](#) () const

## Static Public Member Functions

- static [DataFrame\\_Impl](#) [create](#) ()

## Private Member Functions

- void [set\\_\\_](#) (SEXP x)

## Static Private Member Functions

- static [DataFrame\\_Impl](#) [from\\_list](#) ([Parent](#) obj)

## Additional Inherited Members

### 6.166.1 Detailed Description

```
template<template< class > class StoragePolicy>  
class Rcpp::DataFrame_Impl< StoragePolicy >
```

Definition at line 38 of file DataFrame.h.

### 6.166.2 Member Typedef Documentation

```
6.166.2.1 template<template< class > class StoragePolicy> typedef Vector<VECSXP, StoragePolicy>  
Rcpp::DataFrame_Impl< StoragePolicy >::Parent
```

Definition at line 40 of file DataFrame.h.

### 6.166.3 Constructor & Destructor Documentation

```
6.166.3.1 template<template< class > class StoragePolicy> Rcpp::DataFrame_Impl< StoragePolicy >::DataFrame_Impl  
( ) [inline]
```

Definition at line 42 of file DataFrame.h.

```
6.166.3.2 template<template< class > class StoragePolicy> Rcpp::DataFrame_Impl< StoragePolicy >::DataFrame_Impl  
( SEXP x ) [inline]
```

Definition at line 43 of file DataFrame.h.

```
6.166.3.3 template<template< class > class StoragePolicy> Rcpp::DataFrame_Impl< StoragePolicy >::DataFrame_Impl  
( const DataFrame_Impl< StoragePolicy > & other ) [inline]
```

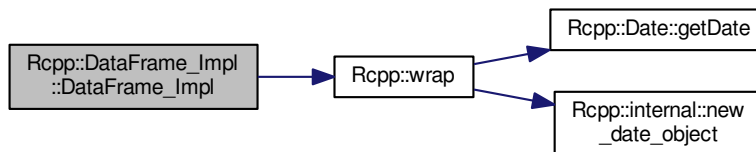
Definition at line 46 of file DataFrame.h.

6.166.3.4 `template<template< class > class StoragePolicy> template<class T > Rcpp::DataFrame_Impl< StoragePolicy >::DataFrame_Impl ( const T & obj )`

Definition at line 25 of file DataFrame.h.

References Rcpp::wrap().

Here is the call graph for this function:



## 6.166.4 Member Function Documentation

6.166.4.1 `template<template< class > class StoragePolicy> static DataFrame_Impl Rcpp::DataFrame_Impl< StoragePolicy >::create ( ) [inline],[static]`

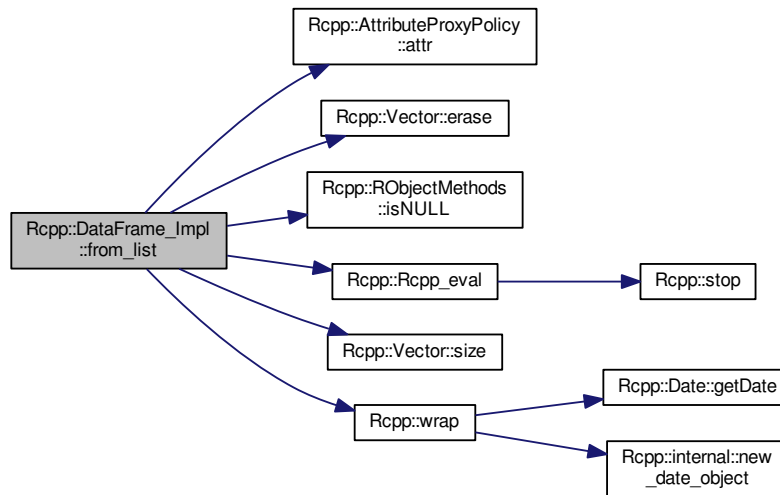
Definition at line 86 of file DataFrame.h.

6.166.4.2 `template<template< class > class StoragePolicy> static DataFrame_Impl Rcpp::DataFrame_Impl< StoragePolicy >::from_list ( Parent obj ) [inline],[static],[private]`

Definition at line 102 of file DataFrame.h.

References Rcpp::AttributeProxyPolicy< CLASS >::attr(), Rcpp::Vector< RTYPE, StoragePolicy >::erase(), Rcpp::RObjectMethods< Class >::isNull(), Rcpp::Rcpp\_eval(), Rcpp::Vector< RTYPE, StoragePolicy >::size(), and Rcpp::wrap().

Here is the call graph for this function:



6.166.4.3 `template<template< class > class StoragePolicy> int Rcpp::DataFrame_Impl< StoragePolicy >::nrows ( ) const` `[inline]`

Definition at line 69 of file `DataFrame.h`.

6.166.4.4 `template<template< class > class StoragePolicy> DataFrame_Impl& Rcpp::DataFrame_Impl< StoragePolicy >::operator= ( DataFrame_Impl< StoragePolicy > & other )` `[inline]`

Definition at line 53 of file `DataFrame.h`.

6.166.4.5 `template<template< class > class StoragePolicy> DataFrame_Impl& Rcpp::DataFrame_Impl< StoragePolicy >::operator= ( SEXP x )` `[inline]`

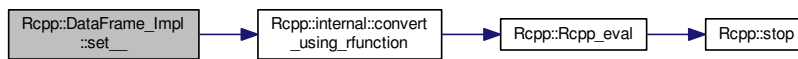
Definition at line 58 of file `DataFrame.h`.

6.166.4.6 `template<template< class > class StoragePolicy> void Rcpp::DataFrame_Impl< StoragePolicy >::set__ ( SEXP x )` `[inline],[private]`

Definition at line 93 of file `DataFrame.h`.

References `Rcpp::internal::convert_using_rfunction()`.

Here is the call graph for this function:



The documentation for this class was generated from the following file:

- [inst/include/Rcpp/DataFrame.h](#)

## 6.167 Rcpp::Date Class Reference

```
#include <Date.h>
```

### Public Member Functions

- [Date](#) ()
- [Date](#) (SEXP s)
- [Date](#) (const int &dt)
- [Date](#) (const double &dt)
- [Date](#) (const std::string &s, const std::string &fmt="%Y-%m-%d")
- [Date](#) (const unsigned int &mon, const unsigned int &day, const unsigned int &year)
- [~Date](#) ()
- double [getDate](#) (void) const
- int [getDay](#) () const
- int [getMonth](#) () const
- int [getYear](#) () const
- int [getWeekday](#) () const
- int [getYearday](#) () const
- int [is\\_na](#) () const

### Static Public Member Functions

- static unsigned int [baseYear](#) ()

### Private Member Functions

- void [update\\_tm](#) ()

## Private Attributes

- double [m\\_d](#)
- struct [tm m\\_tm](#)

## Friends

- [Date operator+](#) (const [Date](#) &date, int offset)
- double [operator-](#) (const [Date](#) &date1, const [Date](#) &date2)
- bool [operator<](#) (const [Date](#) &date1, const [Date](#) &date2)
- bool [operator>](#) (const [Date](#) &date1, const [Date](#) &date2)
- bool [operator==](#) (const [Date](#) &date1, const [Date](#) &date2)
- bool [operator>=](#) (const [Date](#) &date1, const [Date](#) &date2)
- bool [operator<=](#) (const [Date](#) &date1, const [Date](#) &date2)
- bool [operator!=](#) (const [Date](#) &date1, const [Date](#) &date2)

### 6.167.1 Detailed Description

Definition at line 27 of file Date.h.

### 6.167.2 Constructor & Destructor Documentation

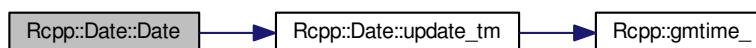
#### 6.167.2.1 `Rcpp::Date::Date( )` [`inline`]

Definition at line 29 of file Date.h.

References [m\\_d](#), and [update\\_tm\(\)](#).

Referenced by [Date\(\)](#).

Here is the call graph for this function:

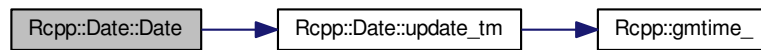


## 6.167.2.2 Rcpp::Date::Date ( SEXP s ) [inline]

Definition at line 25 of file Date.h.

References `m_d`, and `update_tm()`.

Here is the call graph for this function:

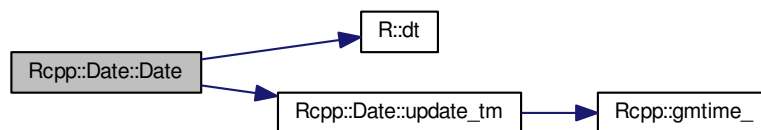


## 6.167.2.3 Rcpp::Date::Date ( const int &amp; dt ) [inline]

Definition at line 36 of file Date.h.

References `R::dt()`, `m_d`, and `update_tm()`.

Here is the call graph for this function:

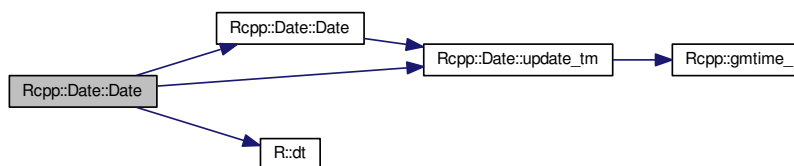


## 6.167.2.4 Rcpp::Date::Date ( const double &amp; dt ) [inline]

Definition at line 42 of file Date.h.

References `Date()`, `R::dt()`, `m_d`, and `update_tm()`.

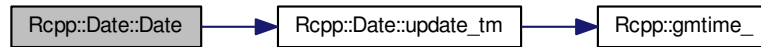
Here is the call graph for this function:



Definition at line 30 of file Date.h.

References `m_d`, and `update_tm()`.

Here is the call graph for this function:

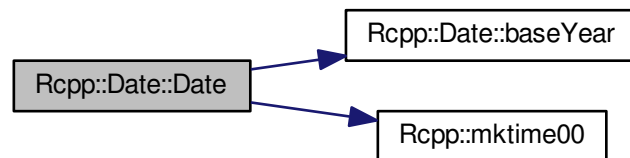


**6.167.2.5** `Rcpp::Date::Date ( const unsigned int & mon, const unsigned int & day, const unsigned int & year )` `[inline]`

Definition at line 48 of file Date.h.

References `baseYear()`, `m_d`, `m_tm`, and `Rcpp::mktime00()`.

Here is the call graph for this function:



**6.167.2.6** `Rcpp::Date::~~Date ( )` `[inline]`

Definition at line 66 of file Date.h.

### 6.167.3 Member Function Documentation

**6.167.3.1** `static unsigned int Rcpp::Date::baseYear ( )` `[inline],[static]`

Definition at line 83 of file Date.h.

References `operator!=`, `operator+`, `operator-`, `operator<`, `operator<=`, `operator==`, `operator>`, and `operator>=`.

Referenced by `Date()`.



### 6.167.3.2 double Rcpp::Date::getDate ( void ) const [inline]

Definition at line 68 of file Date.h.

References `m_d`.

Referenced by `Rcpp::wrap()`.

### 6.167.3.3 int Rcpp::Date::getDay ( ) const [inline]

Definition at line 76 of file Date.h.

References `m_tm`.

### 6.167.3.4 int Rcpp::Date::getMonth ( ) const [inline]

Definition at line 77 of file Date.h.

References `m_tm`.

### 6.167.3.5 int Rcpp::Date::getWeekday ( ) const [inline]

Definition at line 79 of file Date.h.

References `m_tm`.

### 6.167.3.6 int Rcpp::Date::getYear ( ) const [inline]

Definition at line 78 of file Date.h.

References `m_tm`.

### 6.167.3.7 int Rcpp::Date::getYearday ( ) const [inline]

Definition at line 80 of file Date.h.

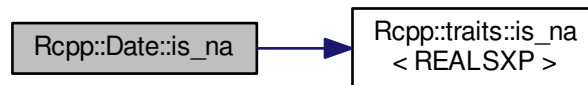
References `m_tm`.

6.167.3.8 `int Rcpp::Date::is_na( ) const [inline]`

Definition at line 97 of file Date.h.

References `Rcpp::traits::is_na< REALSXP >()`, and `m_d`.

Here is the call graph for this function:



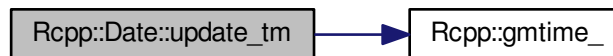
6.167.3.9 `void Rcpp::Date::update_tm( ) [inline],[private]`

Definition at line 106 of file Date.h.

References `Rcpp::gmtime_()`, `m_d`, and `m_tm`.

Referenced by `Date()`.

Here is the call graph for this function:



## 6.167.4 Friends And Related Function Documentation

6.167.4.1 `bool operator!=( const Date & date1, const Date & date2 ) [friend]`

Definition at line 150 of file Date.h.

Referenced by `baseYear()`.

**6.167.4.2** `Date operator+ ( const Date & date, int offset ) [friend]`

Definition at line 136 of file Date.h.

Referenced by `baseYear()`.

**6.167.4.3** `double operator- ( const Date & date1, const Date & date2 ) [friend]`

Definition at line 144 of file Date.h.

Referenced by `baseYear()`.

**6.167.4.4** `bool operator< ( const Date & date1, const Date & date2 ) [friend]`

Definition at line 145 of file Date.h.

Referenced by `baseYear()`.

**6.167.4.5** `bool operator<= ( const Date & date1, const Date & date2 ) [friend]`

Definition at line 149 of file Date.h.

Referenced by `baseYear()`.

**6.167.4.6** `bool operator== ( const Date & date1, const Date & date2 ) [friend]`

Definition at line 147 of file Date.h.

Referenced by `baseYear()`.

**6.167.4.7** `bool operator> ( const Date & date1, const Date & date2 ) [friend]`

Definition at line 146 of file Date.h.

Referenced by `baseYear()`.

**6.167.4.8** `bool operator>= ( const Date & date1, const Date & date2 ) [friend]`

Definition at line 148 of file Date.h.

Referenced by `baseYear()`.

### 6.167.5 Member Data Documentation

#### 6.167.5.1 `double Rcpp::Date::m_d` `[private]`

Definition at line 102 of file `Date.h`.

Referenced by `Date()`, `getDate()`, `is_na()`, `Rcpp::operator!=()`, `Rcpp::operator+()`, `Rcpp::operator-()`, `Rcpp::operator<()`, `Rcpp::operator<=()`, `Rcpp::operator==()`, `Rcpp::operator>()`, `Rcpp::operator>=()`, and `update_tm()`.

#### 6.167.5.2 `struct tm Rcpp::Date::m_tm` `[private]`

Definition at line 103 of file `Date.h`.

Referenced by `Date()`, `getDay()`, `getMonth()`, `getWeekday()`, `getYear()`, `getYearday()`, `Rcpp::operator+()`, and `update_tm()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/Date.h`

## 6.168 Rcpp::Datetime Class Reference

```
#include <Datetime.h>
```

### Public Member Functions

- `Datetime` ()
- `Datetime` (SEXP s)
- `Datetime` (const double &dt)
- `Datetime` (const std::string &s, const std::string &fmt="%Y-%m-%d %H:%M:%OS")
- double `getFractionalTimestamp` (void) const
- int `getMicroSeconds` () const
- int `getSeconds` () const
- int `getMinutes` () const
- int `getHours` () const
- int `getDay` () const
- int `getMonth` () const
- int `getYear` () const
- int `getWeekday` () const
- int `getYearday` () const
- int `is_na` () const

### Private Member Functions

- void `update_tm` ()

## Private Attributes

- double [m\\_dt](#)
- struct [tm m\\_tm](#)
- unsigned int [m\\_us](#)

## Friends

- [Datetime operator+](#) (const [Datetime](#) &dt, double offset)
- double [operator-](#) (const [Datetime](#) &dt1, const [Datetime](#) &dt2)
- bool [operator<](#) (const [Datetime](#) &dt1, const [Datetime](#) &dt2)
- bool [operator>](#) (const [Datetime](#) &dt1, const [Datetime](#) &dt2)
- bool [operator==](#) (const [Datetime](#) &dt1, const [Datetime](#) &dt2)
- bool [operator>=](#) (const [Datetime](#) &dt1, const [Datetime](#) &dt2)
- bool [operator<=](#) (const [Datetime](#) &dt1, const [Datetime](#) &dt2)
- bool [operator!=](#) (const [Datetime](#) &dt1, const [Datetime](#) &dt2)

### 6.168.1 Detailed Description

Definition at line 29 of file [Datetime.h](#).

### 6.168.2 Constructor & Destructor Documentation

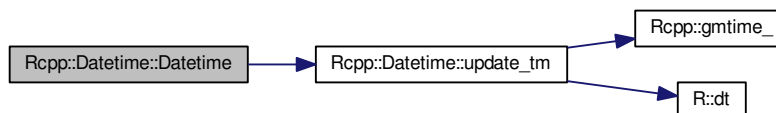
#### 6.168.2.1 Rcpp::Datetime::Datetime ( ) `[inline]`

Definition at line 31 of file [Datetime.h](#).

References [m\\_dt](#), and [update\\_tm\(\)](#).

Referenced by [Datetime\(\)](#).

Here is the call graph for this function:

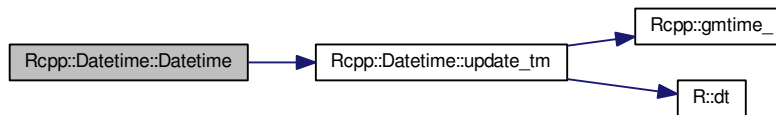


### 6.168.2.2 Rcpp::Datetime::Datetime ( SEXP s ) [inline]

Definition at line 25 of file Datetime.h.

References `m_dt`, and `update_tm()`.

Here is the call graph for this function:

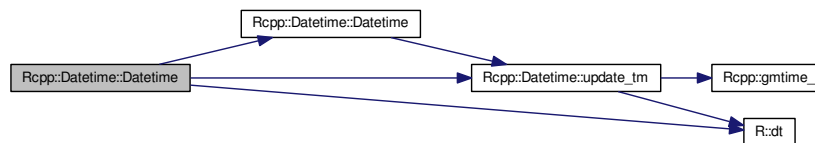


### 6.168.2.3 Rcpp::Datetime::Datetime ( const double & dt ) [inline]

Definition at line 38 of file Datetime.h.

References `Datetime()`, `R::dt()`, `m_dt`, and `update_tm()`.

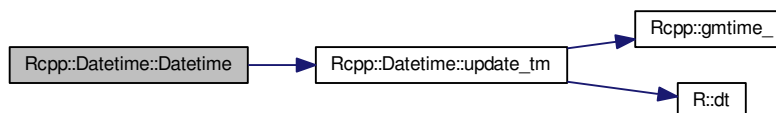
Here is the call graph for this function:



Definition at line 30 of file Datetime.h.

References `m_dt`, and `update_tm()`.

Here is the call graph for this function:



### 6.168.3 Member Function Documentation

#### 6.168.3.1 `int Rcpp::Datetime::getDay ( ) const [inline]`

Definition at line 50 of file `Datetime.h`.

References `m_tm`.

#### 6.168.3.2 `double Rcpp::Datetime::getFractionalTimestamp ( void ) const [inline]`

Definition at line 44 of file `Datetime.h`.

References `m_dt`.

#### 6.168.3.3 `int Rcpp::Datetime::getHours ( ) const [inline]`

Definition at line 49 of file `Datetime.h`.

References `m_tm`.

#### 6.168.3.4 `int Rcpp::Datetime::getMicroSeconds ( ) const [inline]`

Definition at line 46 of file `Datetime.h`.

References `m_us`.

#### 6.168.3.5 `int Rcpp::Datetime::getMinutes ( ) const [inline]`

Definition at line 48 of file `Datetime.h`.

References `m_tm`.

#### 6.168.3.6 `int Rcpp::Datetime::getMonth ( ) const [inline]`

Definition at line 51 of file `Datetime.h`.

References `m_tm`.

#### 6.168.3.7 `int Rcpp::Datetime::getSeconds ( ) const [inline]`

Definition at line 47 of file `Datetime.h`.

References `m_tm`.

6.168.3.8 `int Rcpp::Datetime::getWeekday( ) const [inline]`

Definition at line 53 of file `Datetime.h`.

References `m_tm`.

6.168.3.9 `int Rcpp::Datetime::getYear( ) const [inline]`

Definition at line 52 of file `Datetime.h`.

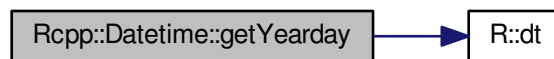
References `m_tm`.

6.168.3.10 `int Rcpp::Datetime::getYearday( ) const [inline]`

Definition at line 54 of file `Datetime.h`.

References `R::dt()`, `m_tm`, `operator!=`, `operator+`, `operator-`, `operator<`, `operator<=`, `operator==`, `operator>`, and `operator>=`.

Here is the call graph for this function:

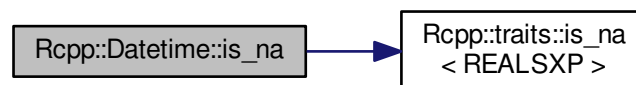


6.168.3.11 `int Rcpp::Datetime::is_na( ) const [inline]`

Definition at line 66 of file `Datetime.h`.

References `Rcpp::traits::is_na< REALSXP >()`, and `m_dt`.

Here is the call graph for this function:





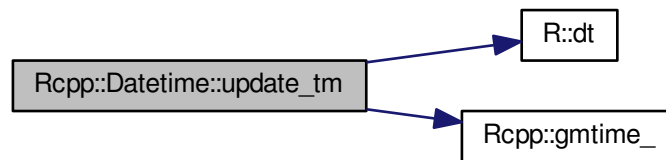
6.168.3.12 `void Rcpp::Datetime::update_tm( ) [inline],[private]`

Definition at line 74 of file `Datetime.h`.

References `R::dt()`, `Rcpp::gmtime_()`, and `m_tm`.

Referenced by `Datetime()`.

Here is the call graph for this function:



## 6.168.4 Friends And Related Function Documentation

6.168.4.1 `bool operator!=( const Datetime & dt1, const Datetime & dt2 ) [friend]`

Definition at line 121 of file `Datetime.h`.

Referenced by `getYearday()`.

6.168.4.2 `Datetime operator+( const Datetime & dt, double offset ) [friend]`

Definition at line 106 of file `Datetime.h`.

Referenced by `getYearday()`.

6.168.4.3 `double operator-( const Datetime & dt1, const Datetime & dt2 ) [friend]`

Definition at line 115 of file `Datetime.h`.

Referenced by `getYearday()`.

6.168.4.4 `bool operator<( const Datetime & dt1, const Datetime & dt2 ) [friend]`

Definition at line 116 of file `Datetime.h`.

Referenced by `getYearday()`.

**6.168.4.5** `bool operator<= ( const Datetime & dt1, const Datetime & dt2 )` `[friend]`

Definition at line 120 of file Datetime.h.

Referenced by `getYearday()`.

**6.168.4.6** `bool operator== ( const Datetime & dt1, const Datetime & dt2 )` `[friend]`

Definition at line 118 of file Datetime.h.

Referenced by `getYearday()`.

**6.168.4.7** `bool operator> ( const Datetime & dt1, const Datetime & dt2 )` `[friend]`

Definition at line 117 of file Datetime.h.

Referenced by `getYearday()`.

**6.168.4.8** `bool operator>= ( const Datetime & dt1, const Datetime & dt2 )` `[friend]`

Definition at line 119 of file Datetime.h.

Referenced by `getYearday()`.

## 6.168.5 Member Data Documentation

**6.168.5.1** `double Rcpp::Datetime::m_dt` `[private]`

Definition at line 69 of file Datetime.h.

Referenced by `Datetime()`, `getFractionalTimestamp()`, `is_na()`, `Rcpp::operator!=()`, `Rcpp::operator+()`, `Rcpp::operator-()`, `Rcpp::operator<()`, `Rcpp::operator<=()`, `Rcpp::operator==()`, `Rcpp::operator>()`, and `Rcpp::operator>=()`.

**6.168.5.2** `struct tm Rcpp::Datetime::m_tm` `[private]`

Definition at line 70 of file Datetime.h.

Referenced by `getDay()`, `getHours()`, `getMinutes()`, `getMonth()`, `getSeconds()`, `getWeekday()`, `getYear()`, `getYearday()`, `Rcpp::operator+()`, and `update_tm()`.

6.168.5.3 `unsigned int Rcpp::Datetime::m_us` `[private]`

Definition at line 71 of file `Datetime.h`.

Referenced by `getMicroSeconds()`, and `Rcpp::operator+()`.

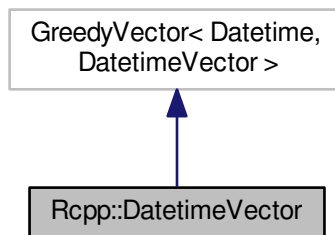
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/Datetime.h`

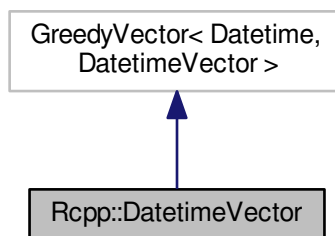
## 6.169 Rcpp::DatetimeVector Class Reference

```
#include <DatetimeVector.h>
```

Inheritance diagram for `Rcpp::DatetimeVector`:



Collaboration diagram for `Rcpp::DatetimeVector`:



## Public Member Functions

- [DatetimeVector](#) (SEXP vec)
- [DatetimeVector](#) (int n)
- `std::vector< Datetime > getDatetimes () const`

### 6.169.1 Detailed Description

Definition at line 31 of file `DatetimeVector.h`.

### 6.169.2 Constructor & Destructor Documentation

6.169.2.1 `Rcpp::DatetimeVector::DatetimeVector ( SEXP vec ) [inline]`

Definition at line 33 of file `DatetimeVector.h`.

6.169.2.2 `Rcpp::DatetimeVector::DatetimeVector ( int n ) [inline]`

Definition at line 34 of file `DatetimeVector.h`.

### 6.169.3 Member Function Documentation

6.169.3.1 `std::vector< Datetime > Rcpp::DatetimeVector::getDatetimes ( ) const [inline]`

Definition at line 36 of file `DatetimeVector.h`.

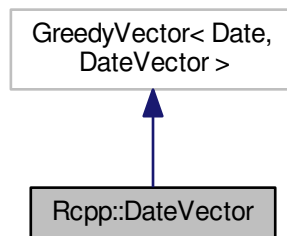
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/DatetimeVector.h`

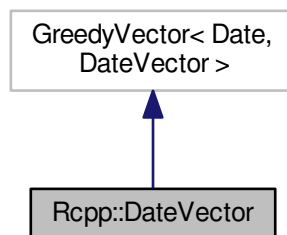
## 6.170 Rcpp::DateVector Class Reference

```
#include <DateVector.h>
```

Inheritance diagram for Rcpp::DateVector:



Collaboration diagram for Rcpp::DateVector:



### Public Member Functions

- [DateVector](#) (SEXP vec)
- [DateVector](#) (int n)
- `std::vector< Date > getDates () const`

### 6.170.1 Detailed Description

Definition at line 30 of file DateVector.h.

## 6.170.2 Constructor & Destructor Documentation

### 6.170.2.1 Rcpp::DateVector::DateVector ( SEXP vec ) [inline]

Definition at line 32 of file DateVector.h.

### 6.170.2.2 Rcpp::DateVector::DateVector ( int n ) [inline]

Definition at line 33 of file DateVector.h.

## 6.170.3 Member Function Documentation

### 6.170.3.1 std::vector<Date> Rcpp::DateVector::getDates ( ) const [inline]

Definition at line 35 of file DateVector.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/DateVector.h](#)

## 6.171 Rcpp::algorithm::helpers::decays\_to\_ctype< T > Struct Template Reference

```
#include <algorithm.h>
```

### Static Public Member Functions

- static [CTYPE\\_CHAR test](#) (const char &)
- static [CTYPE\\_SHORT test](#) (const short &)
- static [CTYPE\\_INT test](#) (const int &)
- static [CTYPE\\_LONG test](#) (const long &)
- static [CTYPE\\_FLOAT test](#) (const float &)
- static [CTYPE\\_DOUBLE test](#) (const double &)
- static [CTYPE\\_LONG\\_DOUBLE test](#) (const long double &)
- static [CTYPE\\_STRING test](#) (const std::string &)
- static [CTYPE\\_UNSIGNED\\_CHAR test](#) (const unsigned char &)
- static [CTYPE\\_UNSIGNED\\_SHORT test](#) (const unsigned short &)
- static [CTYPE\\_UNSIGNED\\_INT test](#) (const unsigned int &)
- static [CTYPE\\_UNSIGNED\\_LONG test](#) (const unsigned long &)
- static [CTYPE\\_UNKNOWN test](#) (...)
- static T [make](#) ()

## Static Public Attributes

- static const bool `value` = `ctype_helper< sizeof(test(make())) >::value`

### 6.171.1 Detailed Description

```
template<typename T>
struct Rcpp::algorithm::helpers::decays_to_ctype< T >
```

Definition at line 110 of file `algorithm.h`.

### 6.171.2 Member Function Documentation

6.171.2.1 `template<typename T > static T Rcpp::algorithm::helpers::decays_to_ctype< T >::make( ) [static]`

6.171.2.2 `template<typename T > static CTYPE_CHAR Rcpp::algorithm::helpers::decays_to_ctype< T >::test( const char & ) [static]`

6.171.2.3 `template<typename T > static CTYPE_SHORT Rcpp::algorithm::helpers::decays_to_ctype< T >::test( const short & ) [static]`

6.171.2.4 `template<typename T > static CTYPE_INT Rcpp::algorithm::helpers::decays_to_ctype< T >::test( const int & ) [static]`

6.171.2.5 `template<typename T > static CTYPE_LONG Rcpp::algorithm::helpers::decays_to_ctype< T >::test( const long & ) [static]`

6.171.2.6 `template<typename T > static CTYPE_FLOAT Rcpp::algorithm::helpers::decays_to_ctype< T >::test( const float & ) [static]`

6.171.2.7 `template<typename T > static CTYPE_DOUBLE Rcpp::algorithm::helpers::decays_to_ctype< T >::test( const double & ) [static]`

6.171.2.8 `template<typename T > static CTYPE_LONG_DOUBLE Rcpp::algorithm::helpers::decays_to_ctype< T >::test( const long double & ) [static]`

6.171.2.9 `template<typename T > static CTYPE_STRING Rcpp::algorithm::helpers::decays_to_ctype< T >::test( const std::string & ) [static]`

6.171.2.10 `template<typename T > static CTYPE_UNSIGNED_CHAR Rcpp::algorithm::helpers::decays_to_ctype< T >::test( const unsigned char & ) [static]`

6.171.2.11 `template<typename T > static CTYPE_UNSIGNED_SHORT Rcpp::algorithm::helpers::decays_to_ctype< T >::test( const unsigned short & ) [static]`

6.171.2.12 `template<typename T > static CTYPE_UNSIGNED_INT Rcpp::algorithm::helpers::decays_to_ctype< T >::test ( const unsigned int & ) [static]`

6.171.2.13 `template<typename T > static CTYPE_UNSIGNED_LONG Rcpp::algorithm::helpers::decays_to_ctype< T >::test ( const unsigned long & ) [static]`

6.171.2.14 `template<typename T > static CTYPE_UNKNOWN Rcpp::algorithm::helpers::decays_to_ctype< T >::test ( ... ) [static]`

### 6.171.3 Member Data Documentation

6.171.3.1 `template<typename T > const bool Rcpp::algorithm::helpers::decays_to_ctype< T >::value = ctype_helper< sizeof(test(make())) >::value [static]`

Definition at line 134 of file `algorithm.h`.

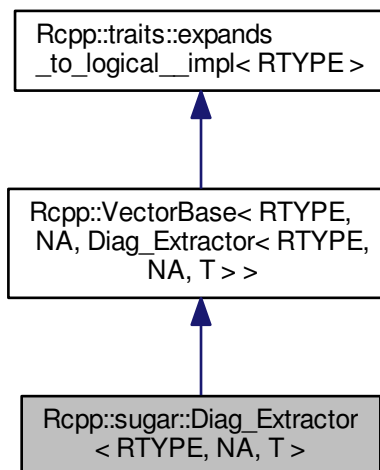
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.172 `Rcpp::sugar::Diag_Extractor< RTYPE, NA, T >` Class Template Reference

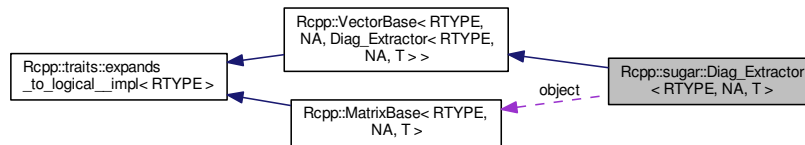
```
#include <diag.h>
```

Inheritance diagram for `Rcpp::sugar::Diag_Extractor< RTYPE, NA, T >`:





Collaboration diagram for Rcpp::sugar::Diag\_Extractor< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::MatrixBase< RTYPE, NA, T >](#) [MAT\\_TYPE](#)
- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)

## Public Member Functions

- [Diag\\_Extractor](#) (const [MAT\\_TYPE](#) &object\_)
- [STORAGE operator\[\]](#) (int i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [MAT\\_TYPE](#) & [object](#)
- [R\\_xlen\\_t n](#)

### 6.172.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Diag_Extractor< RTYPE, NA, T >
  
```

Definition at line 29 of file diag.h.

### 6.172.2 Member Typedef Documentation

6.172.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::MatrixBase<RTYPE,NA,T> Rcpp::sugar::Diag_Extractor< RTYPE, NA, T >::MAT_TYPE`

Definition at line 31 of file diag.h.

6.172.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type  
Rcpp::sugar::Diag_Extractor< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file diag.h.

### 6.172.3 Constructor & Destructor Documentation

6.172.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Diag_Extractor< RTYPE, NA, T >::Diag_Extractor (  
const MAT_TYPE & object_ ) [inline]`

Definition at line 34 of file diag.h.

References Rcpp::sugar::Diag\_Extractor< RTYPE, NA, T >::n.

### 6.172.4 Member Function Documentation

6.172.4.1 `template<int RTYPE, bool NA, typename T > STORAGE Rcpp::sugar::Diag_Extractor< RTYPE, NA, T  
>::operator[( int i ) const [inline]`

Definition at line 40 of file diag.h.

References Rcpp::sugar::Diag\_Extractor< RTYPE, NA, T >::object.

6.172.4.2 `template<int RTYPE, bool NA, typename T > R_xlen_t Rcpp::sugar::Diag_Extractor< RTYPE, NA, T >::size ( )  
const [inline]`

Definition at line 43 of file diag.h.

References Rcpp::sugar::Diag\_Extractor< RTYPE, NA, T >::n.

### 6.172.5 Member Data Documentation

6.172.5.1 `template<int RTYPE, bool NA, typename T > R_xlen_t Rcpp::sugar::Diag_Extractor< RTYPE, NA, T >::n  
[private]`

Definition at line 47 of file diag.h.

Referenced by Rcpp::sugar::Diag\_Extractor< RTYPE, NA, T >::Diag\_Extractor(), Rcpp::sugar::Diag\_Maker< RTYPE, NA, T >::ncol(), Rcpp::sugar::Diag\_Maker< RTYPE, NA, T >::nrow(), Rcpp::sugar::Diag\_Extractor< RTYPE, NA, T >::size(), and Rcpp::sugar::Diag\_Maker< RTYPE, NA, T >::size().

6.172.5.2 `template<int RTYPE, bool NA, typename T > const MAT_TYPE& Rcpp::sugar::Diag_Extractor< RTYPE, NA, T >::object [private]`

Definition at line 46 of file diag.h.

Referenced by `Rcpp::sugar::Diag_Extractor< RTYPE, NA, T >::operator[]()`.

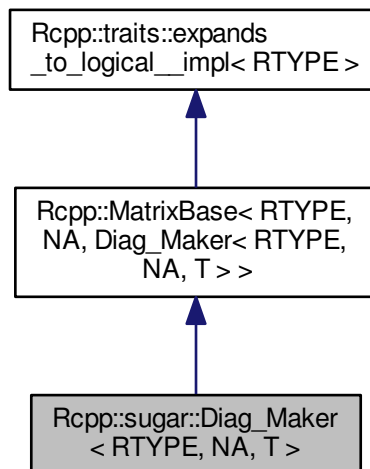
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/matrix/diag.h](#)

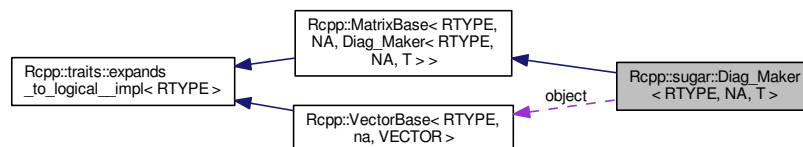
## 6.173 Rcpp::sugar::Diag\_Maker< RTYPE, NA, T > Class Template Reference

```
#include <diag.h>
```

Inheritance diagram for `Rcpp::sugar::Diag_Maker< RTYPE, NA, T >`:



Collaboration diagram for `Rcpp::sugar::Diag_Maker< RTYPE, NA, T >`:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, NA, T > [VEC\\_TYPE](#)
- typedef [Rcpp::traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)

## Public Member Functions

- [Diag\\_Maker](#) (const [VEC\\_TYPE](#) &object\_)
- [STORAGE operator\(\)](#) (int i, int j) const
- [R\\_xlen\\_t size](#) () const
- int [ncol](#) () const
- int [nrow](#) () const

## Private Attributes

- const [VEC\\_TYPE](#) & [object](#)
- int [n](#)

### 6.173.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Diag_Maker< RTYPE, NA, T >
```

Definition at line 52 of file diag.h.

### 6.173.2 Member Typedef Documentation

6.173.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Diag_Maker< RTYPE, NA, T >::STORAGE`

Definition at line 55 of file diag.h.

6.173.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Diag_Maker< RTYPE, NA, T >::VEC_TYPE`

Definition at line 54 of file diag.h.

### 6.173.3 Constructor & Destructor Documentation

6.173.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Diag_Maker< RTYPE, NA, T >::Diag_Maker ( const VEC_TYPE &object_ ) [inline]`

Definition at line 57 of file diag.h.

## 6.173.4 Member Function Documentation

6.173.4.1 `template<int RTYPE, bool NA, typename T > int Rcpp::sugar::Diag_Maker< RTYPE, NA, T >::ncol ( ) const`  
[inline]

Definition at line 63 of file diag.h.

References Rcpp::sugar::Diag\_Extractor< RTYPE, NA, T >::n.

6.173.4.2 `template<int RTYPE, bool NA, typename T > int Rcpp::sugar::Diag_Maker< RTYPE, NA, T >::row ( ) const`  
[inline]

Definition at line 64 of file diag.h.

References Rcpp::sugar::Diag\_Extractor< RTYPE, NA, T >::n.

6.173.4.3 `template<int RTYPE, bool NA, typename T > STORAGE Rcpp::sugar::Diag_Maker< RTYPE, NA, T >::operator()`  
`( int i, int j ) const` [inline]

Definition at line 59 of file diag.h.

6.173.4.4 `template<int RTYPE, bool NA, typename T > R_xlen_t Rcpp::sugar::Diag_Maker< RTYPE, NA, T >::size ( ) const`  
[inline]

Definition at line 62 of file diag.h.

References Rcpp::sugar::Diag\_Extractor< RTYPE, NA, T >::n.

## 6.173.5 Member Data Documentation

6.173.5.1 `template<int RTYPE, bool NA, typename T > int Rcpp::sugar::Diag_Maker< RTYPE, NA, T >::n` [private]

Definition at line 68 of file diag.h.

6.173.5.2 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Diag_Maker< RTYPE, NA, T >::object`  
[private]

Definition at line 67 of file diag.h.

The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/matrix/diag.h

## 6.174 Rcpp::sugar::diag\_result\_type\_trait< T > Struct Template Reference

```
#include <diag.h>
```

### Public Types

- typedef [Rcpp::traits::if\\_< Rcpp::traits::matrix\\_interface< T >::value, Diag\\_Extractor< T::r\\_type::value, T::can\\_have\\_na::value, T >, Diag\\_Maker< T::r\\_type::value, T::can\\_have\\_na::value, T > >::type](#) type

### 6.174.1 Detailed Description

```
template<typename T>
struct Rcpp::sugar::diag_result_type_trait< T >
```

Definition at line 71 of file [diag.h](#).

### 6.174.2 Member Typedef Documentation

6.174.2.1 `template<typename T> typedef Rcpp::traits::if\_< Rcpp::traits::matrix\_interface<T>::value, Diag\\_Extractor< T::r\\_type::value , T::can\\_have\\_na::value , T >, Diag\\_Maker< T::r\\_type::value , T::can\\_have\\_na::value , T > >::type Rcpp::sugar::diag\_result\_type\_trait< T >::type`

Definition at line 76 of file [diag.h](#).

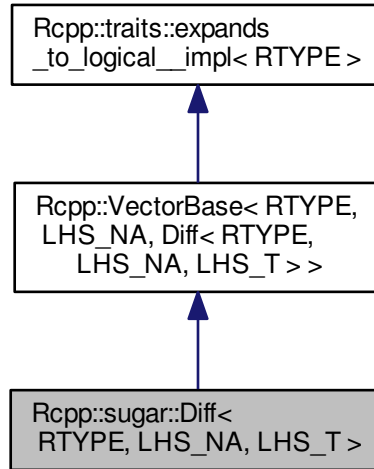
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/matrix/diag.h](#)

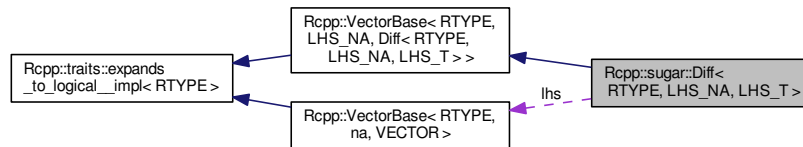
## 6.175 Rcpp::sugar::Diff< RTYPE, LHS\_NA, LHS\_T > Class Template Reference

```
#include <diff.h>
```

Inheritance diagram for Rcpp::sugar::Diff< RTYPE, LHS\_NA, LHS\_T >:



Collaboration diagram for Rcpp::sugar::Diff< RTYPE, LHS\_NA, LHS\_T >:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T >` `LHS_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`

## Public Member Functions

- `Diff` (const `LHS_TYPE` &lhs\_)
- `STORAGE` `operator[]` (`R_xlen_t` i) const
- void `set_previous` (`R_xlen_t` i, `STORAGE` value) const
- `R_xlen_t` `size` () const

## Private Attributes

- const [LHS\\_TYPE](#) & *lhs*
- [STORAGE](#) *previous*
- [R\\_xlen\\_t](#) *previous\_index*
- bool [was\\_na](#)

### 6.175.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T>
class Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >
```

Definition at line 32 of file diff.h.

### 6.175.2 Member Typedef Documentation

6.175.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > typedef Rcpp::VectorBase<RTYPE,LHS_NA,LHS_T>  
Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::LHS_TYPE`

Definition at line 34 of file diff.h.

6.175.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T > typedef Rcpp::traits::storage_type<RTYPE>::type  
Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::STORAGE`

Definition at line 35 of file diff.h.

### 6.175.3 Constructor & Destructor Documentation

6.175.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::Diff ( const  
LHS_TYPE & lhs_ ) [inline]`

Definition at line 37 of file diff.h.



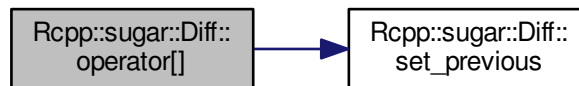
## 6.175.4 Member Function Documentation

6.175.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > STORAGE Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 44 of file diff.h.

References `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::lhs`, `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::previous`, `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::previous_index`, `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::set_previous()`, and `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::was_na`.

Here is the call graph for this function:



6.175.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T > void Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::set_previous ( R_xlen_t i, STORAGE value ) const [inline]`

Definition at line 59 of file diff.h.

References `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::previous`, `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::previous_index`, and `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::was_na`.

Referenced by `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::operator[]()`.

6.175.4.3 `template<int RTYPE, bool LHS_NA, typename LHS_T > R_xlen_t Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::size ( ) const [inline]`

Definition at line 65 of file diff.h.

References `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::lhs`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.175.5 Member Data Documentation

6.175.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > const LHS_TYPE& Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::lhs [private]`

Definition at line 68 of file diff.h.

Referenced by `Rcpp::diff()`, `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::operator[]()`, `Rcpp::sugar::Diff< REAL<← SXP, LHS_NA, LHS_T >::operator[]()`, `Rcpp::sugar::Diff< RTYPE, false, LHS_T >::operator[]()`, `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::size()`, `Rcpp::sugar::Diff< REALSXP, LHS_NA, LHS_T >::size()`, and `Rcpp::sugar::Diff< RTYPE, false, LHS_T >::size()`.

6.175.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T > STORAGE Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::previous [mutable], [private]`

Definition at line 69 of file diff.h.

Referenced by `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::operator[]()`, `Rcpp::sugar::Diff< REALSXP, LHS_N<← A, LHS_T >::operator[]()`, `Rcpp::sugar::Diff< RTYPE, false, LHS_T >::operator[]()`, and `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::set_previous()`.

6.175.5.3 `template<int RTYPE, bool LHS_NA, typename LHS_T > R_xlen_t Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::previous_index [mutable], [private]`

Definition at line 70 of file diff.h.

Referenced by `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::operator[]()`, `Rcpp::sugar::Diff< REALSXP, LHS_N<← A, LHS_T >::operator[]()`, `Rcpp::sugar::Diff< RTYPE, false, LHS_T >::operator[]()`, and `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::set_previous()`.

6.175.5.4 `template<int RTYPE, bool LHS_NA, typename LHS_T > bool Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::was_na [mutable], [private]`

Definition at line 71 of file diff.h.

Referenced by `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::operator[]()`, and `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::set_previous()`.

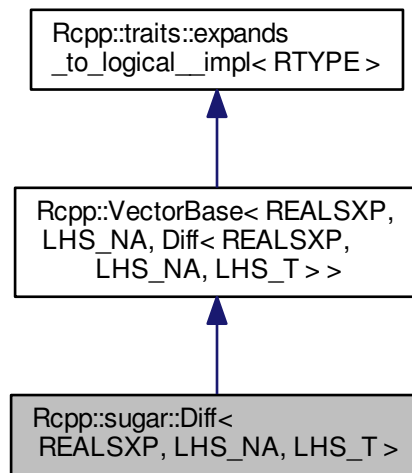
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/diff.h`

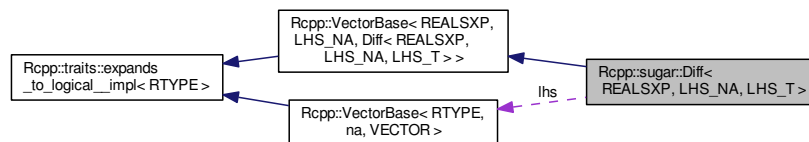
## 6.176 Rcpp::sugar::Diff< REALSXP, LHS\_NA, LHS\_T > Class Template Reference

```
#include <diff.h>
```

Inheritance diagram for Rcpp::sugar::Diff< REALSXP, LHS\_NA, LHS\_T >:



Collaboration diagram for Rcpp::sugar::Diff< REALSXP, LHS\_NA, LHS\_T >:



### Public Types

- typedef `Rcpp::VectorBase< REALSXP, LHS_NA, LHS_T >` `LHS_TYPE`

### Public Member Functions

- `Diff` (const `LHS_TYPE` &lhs\_)
- double `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- const [LHS\\_TYPE](#) & *lhs*
- double [previous](#)
- [R\\_xlen\\_t](#) [previous\\_index](#)

### 6.176.1 Detailed Description

```
template<typename LHS_T, bool LHS_NA>
class Rcpp::sugar::Diff< REALSXP, LHS_NA, LHS_T >
```

Definition at line 75 of file diff.h.

### 6.176.2 Member Typedef Documentation

6.176.2.1 `template<typename LHS_T , bool LHS_NA> typedef Rcpp::VectorBase<REALSXP,LHS_NA,LHS_T> Rcpp::sugar::Diff< REALSXP, LHS_NA, LHS_T >::LHS_TYPE`

Definition at line 77 of file diff.h.

### 6.176.3 Constructor & Destructor Documentation

6.176.3.1 `template<typename LHS_T , bool LHS_NA> Rcpp::sugar::Diff< REALSXP, LHS_NA, LHS_T >::Diff ( const LHS_TYPE & lhs_ ) [inline]`

Definition at line 79 of file diff.h.

### 6.176.4 Member Function Documentation

6.176.4.1 `template<typename LHS_T , bool LHS_NA> double Rcpp::sugar::Diff< REALSXP, LHS_NA, LHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 81 of file diff.h.

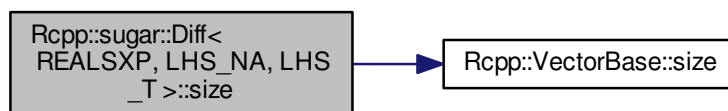
References [Rcpp::sugar::Diff< RTYPE, LHS\\_NA, LHS\\_T >::lhs](#), [Rcpp::sugar::Diff< RTYPE, LHS\\_NA, LHS\\_T >::previous](#), and [Rcpp::sugar::Diff< RTYPE, LHS\\_NA, LHS\\_T >::previous\\_index](#).

6.176.4.2 `template<typename LHS_T, bool LHS_NA> R_xlen_t Rcpp::sugar::Diff< REALSXP, LHS_NA, LHS_T >::size ( )`  
`const [inline]`

Definition at line 89 of file diff.h.

References `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::lhs`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



## 6.176.5 Member Data Documentation

6.176.5.1 `template<typename LHS_T, bool LHS_NA> const LHS_TYPE& Rcpp::sugar::Diff< REALSXP, LHS_NA, LHS_T >::lhs [private]`

Definition at line 92 of file diff.h.

6.176.5.2 `template<typename LHS_T, bool LHS_NA> double Rcpp::sugar::Diff< REALSXP, LHS_NA, LHS_T >::previous [mutable], [private]`

Definition at line 93 of file diff.h.

6.176.5.3 `template<typename LHS_T, bool LHS_NA> R_xlen_t Rcpp::sugar::Diff< REALSXP, LHS_NA, LHS_T >::previous_index [mutable], [private]`

Definition at line 94 of file diff.h.

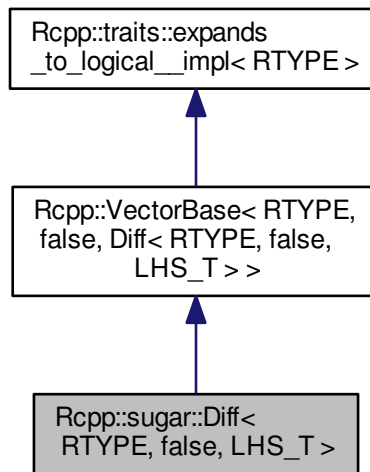
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/diff.h`

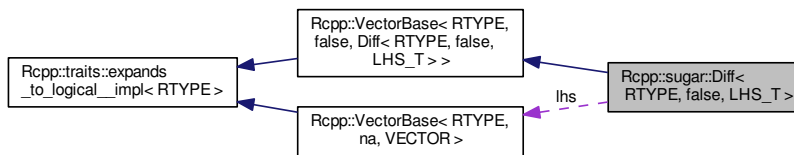
## 6.177 Rcpp::sugar::Diff< RTYPE, false, LHS\_T > Class Template Reference

```
#include <diff.h>
```

Inheritance diagram for Rcpp::sugar::Diff< RTYPE, false, LHS\_T >:



Collaboration diagram for Rcpp::sugar::Diff< RTYPE, false, LHS\_T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, false, LHS_T >` `LHS_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`

### Public Member Functions

- `Diff` (const `LHS_TYPE` &lhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- const [LHS\\_TYPE](#) & lhs
- [STORAGE](#) previous
- [R\\_xlen\\_t](#) previous\_index

### 6.177.1 Detailed Description

```
template<int RTYPE, typename LHS_T>  
class Rcpp::sugar::Diff< RTYPE, false, LHS_T >
```

Definition at line 98 of file diff.h.

### 6.177.2 Member Typedef Documentation

6.177.2.1 `template<int RTYPE, typename LHS_T > typedef Rcpp::VectorBase<RTYPE,false,LHS_T> Rcpp::sugar::Diff< RTYPE, false, LHS_T >::LHS_TYPE`

Definition at line 100 of file diff.h.

6.177.2.2 `template<int RTYPE, typename LHS_T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Diff< RTYPE, false, LHS_T >::STORAGE`

Definition at line 101 of file diff.h.

### 6.177.3 Constructor & Destructor Documentation

6.177.3.1 `template<int RTYPE, typename LHS_T > Rcpp::sugar::Diff< RTYPE, false, LHS_T >::Diff ( const LHS_TYPE & lhs_ ) [inline]`

Definition at line 103 of file diff.h.

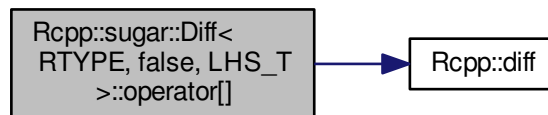
### 6.177.4 Member Function Documentation

6.177.4.1 `template<int RTYPE, typename LHS_T > STORAGE Rcpp::sugar::Diff< RTYPE, false, LHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 105 of file diff.h.

References `Rcpp::diff()`, `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::lhs`, `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::previous`, and `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::previous_index`.

Here is the call graph for this function:

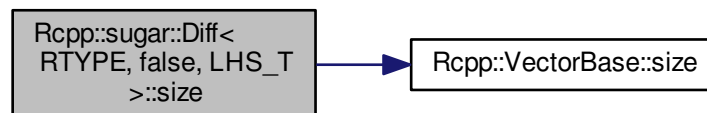


6.177.4.2 `template<int RTYPE, typename LHS_T > R_xlen_t Rcpp::sugar::Diff< RTYPE, false, LHS_T >::size ( ) const [inline]`

Definition at line 113 of file diff.h.

References `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::lhs`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.177.5 Member Data Documentation

6.177.5.1 `template<int RTYPE, typename LHS_T > const LHS_TYPE& Rcpp::sugar::Diff< RTYPE, false, LHS_T >::lhs [private]`

Definition at line 116 of file diff.h.



6.177.5.2 `template<int RTYPE, typename LHS_T > STORAGE Rcpp::sugar::Diff< RTYPE, false, LHS_T >::previous`  
`[mutable], [private]`

Definition at line 117 of file diff.h.

6.177.5.3 `template<int RTYPE, typename LHS_T > R_xlen_t Rcpp::sugar::Diff< RTYPE, false, LHS_T >::previous_index`  
`[mutable], [private]`

Definition at line 118 of file diff.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/diff.h](#)

## 6.178 Rcpp::Dimension Class Reference

```
#include <Dimension.h>
```

### Public Types

- `typedef std::vector< int >::reference reference`
- `typedef std::vector< int >::const_reference const_reference`

### Public Member Functions

- `Dimension ()`
- `Dimension (SEXP dims)`
- `Dimension (const Dimension &other)`
- `Dimension & operator= (const Dimension &other)`
- `Dimension (const size_t &n1)`
- `Dimension (const size_t &n1, const size_t &n2)`
- `Dimension (const size_t &n1, const size_t &n2, const size_t &n3)`
- `operator SEXP () const`
- `int size () const`
- `R_xlen_t prod () const`
- `reference operator[] (int i)`
- `const_reference operator[] (int i) const`

### Private Attributes

- `std::vector< int > dims`

### 6.178.1 Detailed Description

Definition at line 27 of file Dimension.h.

### 6.178.2 Member Typedef Documentation

#### 6.178.2.1 `typedef std::vector<int>::const_reference Rcpp::Dimension::const_reference`

Definition at line 30 of file Dimension.h.

#### 6.178.2.2 `typedef std::vector<int>::reference Rcpp::Dimension::reference`

Definition at line 29 of file Dimension.h.

### 6.178.3 Constructor & Destructor Documentation

#### 6.178.3.1 `Rcpp::Dimension::Dimension ( ) [inline]`

Definition at line 32 of file Dimension.h.

References `dims`.

#### 6.178.3.2 `Rcpp::Dimension::Dimension ( SEXP dims ) [inline]`

Definition at line 23 of file Dimension.h.

#### 6.178.3.3 `Rcpp::Dimension::Dimension ( const Dimension & other ) [inline]`

Definition at line 36 of file Dimension.h.

#### 6.178.3.4 `Rcpp::Dimension::Dimension ( const size_t & n1 ) [inline]`

Definition at line 42 of file Dimension.h.

#### 6.178.3.5 `Rcpp::Dimension::Dimension ( const size_t & n1, const size_t & n2 ) [inline]`

Definition at line 45 of file Dimension.h.

### 6.178.3.6 Rcpp::Dimension::Dimension ( const size\_t & n1, const size\_t & n2, const size\_t & n3 ) [inline]

Definition at line 49 of file Dimension.h.

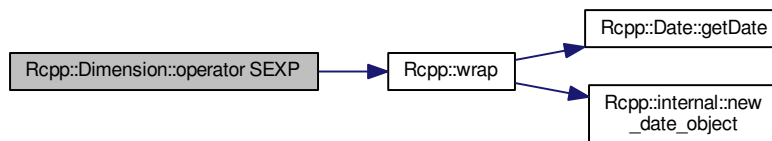
## 6.178.4 Member Function Documentation

### 6.178.4.1 Rcpp::Dimension::operator SEXP ( ) const [inline]

Definition at line 25 of file Dimension.h.

References `dims`, and `Rcpp::wrap()`.

Here is the call graph for this function:



### 6.178.4.2 Dimension& Rcpp::Dimension::operator= ( const Dimension & other ) [inline]

Definition at line 37 of file Dimension.h.

References `dims`.

### 6.178.4.3 reference Rcpp::Dimension::operator[] ( int i ) [inline]

Definition at line 63 of file Dimension.h.

### 6.178.4.4 const\_reference Rcpp::Dimension::operator[] ( int i ) const [inline]

Definition at line 67 of file Dimension.h.

### 6.178.4.5 R\_xlen\_t Rcpp::Dimension::prod ( ) const [inline]

Definition at line 59 of file Dimension.h.

Referenced by `Rcpp::Vector< INTSXP >::Vector()`.

6.178.4.6 `int Rcpp::Dimension::size ( ) const [inline]`

Definition at line 56 of file Dimension.h.

Referenced by `Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix()`, and `Rcpp::Vector< INTSXP >::Vector()`.

## 6.178.5 Member Data Documentation

6.178.5.1 `std::vector<int> Rcpp::Dimension::dims [private]`

Definition at line 73 of file Dimension.h.

Referenced by `Dimension()`, `operator SEXP()`, and `operator=()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/Dimension.h`

## 6.179 Rcpp::internal::DimNameProxy Class Reference

```
#include <DimNameProxy.h>
```

### Public Member Functions

- [DimNameProxy](#) (SEXP data, int dim)
- [DimNameProxy](#) ([DimNameProxy](#) const &other)
- [DimNameProxy](#) & [assign](#) (SEXP other)
- [DimNameProxy](#) & [operator=](#) (SEXP other)
- [DimNameProxy](#) & [operator=](#) (const [DimNameProxy](#) &other)
- [operator SEXP](#) () const
- `template<typename T >`  
[operator T](#) () const

### Private Attributes

- SEXP [data\\_](#)
- int [dim\\_](#)

### 6.179.1 Detailed Description

Definition at line 28 of file DimNameProxy.h.

## 6.179.2 Constructor & Destructor Documentation

### 6.179.2.1 Rcpp::internal::DimNameProxy::DimNameProxy ( SEXP *data*, int *dim* ) [inline]

Definition at line 32 of file DimNameProxy.h.

### 6.179.2.2 Rcpp::internal::DimNameProxy::DimNameProxy ( DimNameProxy const & *other* ) [inline]

Definition at line 33 of file DimNameProxy.h.

## 6.179.3 Member Function Documentation

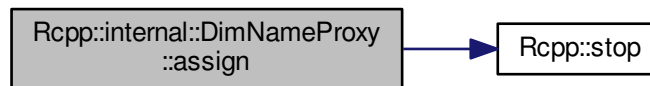
### 6.179.3.1 DimNameProxy& Rcpp::internal::DimNameProxy::assign ( SEXP *other* ) [inline]

Definition at line 36 of file DimNameProxy.h.

References `data_`, `dim_`, and `Rcpp::stop()`.

Referenced by `operator=()`.

Here is the call graph for this function:



### 6.179.3.2 Rcpp::internal::DimNameProxy::operator SEXP ( ) const [inline]

Definition at line 66 of file DimNameProxy.h.

References `data_`, and `dim_`.

### 6.179.3.3 template<typename T > Rcpp::internal::DimNameProxy::operator T ( ) const [inline]

Definition at line 72 of file DimNameProxy.h.

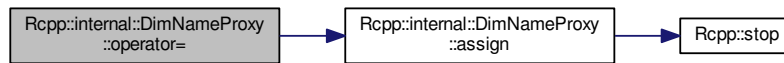
References `data_`, and `dim_`.

#### 6.179.3.4 DimNameProxy& Rcpp::internal::DimNameProxy::operator= ( SEXP *other* ) [inline]

Definition at line 58 of file DimNameProxy.h.

References assign().

Here is the call graph for this function:

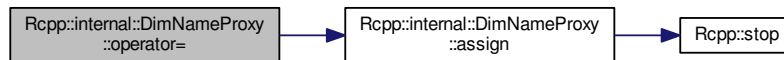


#### 6.179.3.5 DimNameProxy& Rcpp::internal::DimNameProxy::operator= ( const DimNameProxy & *other* ) [inline]

Definition at line 62 of file DimNameProxy.h.

References assign().

Here is the call graph for this function:



### 6.179.4 Member Data Documentation

#### 6.179.4.1 SEXP Rcpp::internal::DimNameProxy::data\_ [private]

Definition at line 83 of file DimNameProxy.h.

Referenced by assign(), operator SEXP(), and operator T().

#### 6.179.4.2 int Rcpp::internal::DimNameProxy::dim\_ [private]

Definition at line 84 of file DimNameProxy.h.

Referenced by assign(), operator SEXP(), and operator T().

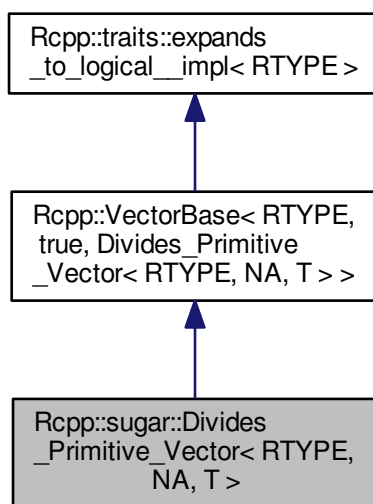
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/DimNameProxy.h](#)

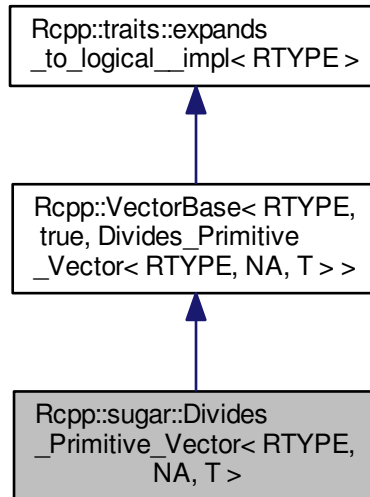
## 6.180 Rcpp::sugar::Divides\_Primitive\_Vector&lt; RTYPE, NA, T &gt; Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Primitive\_Vector< RTYPE, NA, T >:



Collaboration diagram for `Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T >`:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::Extractor< RTYPE, NA, T >::type` `VEC_EXT`
- typedef `traits::storage_type< RTYPE >::type` `STORAGE`

## Public Member Functions

- `Divides_Primitive_Vector` (`STORAGE lhs_`, `const VEC_TYPE &rhs_`)
- `STORAGE operator[]` (`R_xlen_t i`) `const`
- `R_xlen_t size` () `const`

## Private Attributes

- `STORAGE lhs`
- `const VEC_EXT & rhs`
- `bool lhs_na`

### 6.180.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T >
  
```

Definition at line 322 of file `divides.h`.



## 6.180.2 Member Typedef Documentation

6.180.2.1 `template<int RTYPE, bool NA, typename T> typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T >::STORAGE`

Definition at line 327 of file divides.h.

6.180.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::Extractor<RTYPE,NA,T>::type  
Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T >::VEC_EXT`

Definition at line 326 of file divides.h.

6.180.2.3 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T >::VEC_TYPE`

Definition at line 325 of file divides.h.

## 6.180.3 Constructor & Destructor Documentation

6.180.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T  
>::Divides_Primitive_Vector ( STORAGE lhs_, const VEC_TYPE & rhs_ ) [inline]`

Definition at line 329 of file divides.h.

## 6.180.4 Member Function Documentation

6.180.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA,  
T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 332 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.180.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T  
>::size ( ) const [inline]`

Definition at line 337 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

### 6.180.5 Member Data Documentation

6.180.5.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T>::lhs [private]`

Definition at line 339 of file divides.h.

6.180.5.2 `template<int RTYPE, bool NA, typename T> bool Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T>::lhs_na [private]`

Definition at line 341 of file divides.h.

6.180.5.3 `template<int RTYPE, bool NA, typename T> const VEC_EXT& Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T>::rhs [private]`

Definition at line 340 of file divides.h.

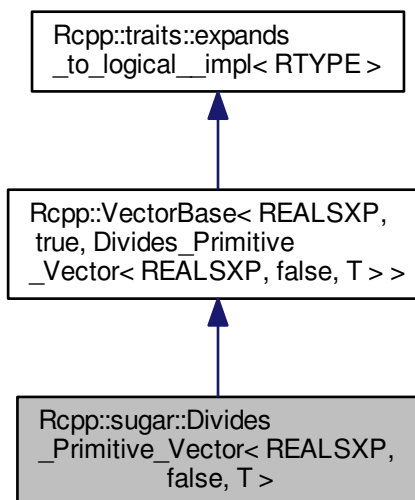
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/divides.h](#)

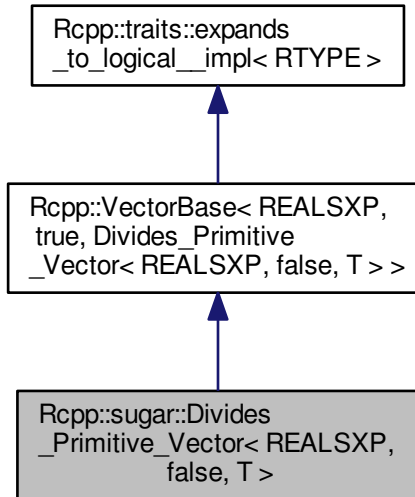
## 6.181 Rcpp::sugar::Divides\_Primitive\_Vector< REALSXP, false, T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Primitive\_Vector< REALSXP, false, T >:



Collaboration diagram for Rcpp::sugar::Divides\_Primitive\_Vector< REALSXP, false, T >:



## Public Types

- typedef [Rcpp::VectorBase< REALSXP, false, T >](#) [VEC\\_TYPE](#)
- typedef [Rcpp::traits::Extractor< REALSXP, false, T >::type](#) [VEC\\_EXT](#)

## Public Member Functions

- [Divides\\_Primitive\\_Vector](#) (double lhs\_, const [VEC\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- double [lhs](#)
- const [VEC\\_EXT](#) & [rhs](#)

### 6.181.1 Detailed Description

```

template<typename T>
class Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T >
  
```

Definition at line 389 of file divides.h.

## 6.181.2 Member Typedef Documentation

6.181.2.1 `template<typename T > typedef Rcpp::traits::Extractor<REALSXP,false,T>::type  
Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T >::VEC_EXT`

Definition at line 393 of file divides.h.

6.181.2.2 `template<typename T > typedef Rcpp::VectorBase<REALSXP,false,T> Rcpp::sugar::Divides_Primitive_↔  
Vector< REALSXP, false, T >::VEC_TYPE`

Definition at line 392 of file divides.h.

## 6.181.3 Constructor & Destructor Documentation

6.181.3.1 `template<typename T > Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T  
>::Divides_Primitive_Vector( double lhs_, const VEC_TYPE & rhs_ ) [inline]`

Definition at line 395 of file divides.h.

## 6.181.4 Member Function Documentation

6.181.4.1 `template<typename T > double Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T >::operator[] (↔  
R_xlen_t i ) const [inline]`

Definition at line 398 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp↔  
::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.181.4.2 `template<typename T > R_xlen_t Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T >::size ( ) const  
[inline]`

Definition at line 401 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

## 6.181.5 Member Data Documentation

6.181.5.1 `template<typename T > double Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T >::lhs  
[private]`

Definition at line 404 of file divides.h.

6.181.5.2 `template<typename T > const VEC_EXT& Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T >::rhs`  
`[private]`

Definition at line 405 of file divides.h.

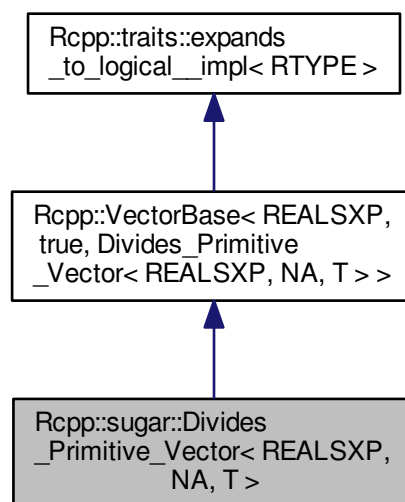
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/divides.h](#)

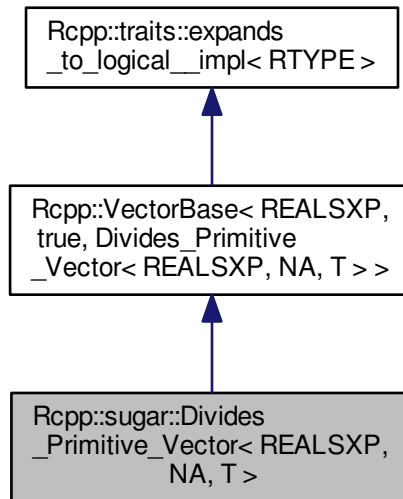
## 6.182 Rcpp::sugar::Divides\_Primitive\_Vector< REALSXP, NA, T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Primitive\_Vector< REALSXP, NA, T >:



Collaboration diagram for `Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T >`:



## Public Types

- typedef `Rcpp::VectorBase< REALSXP, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::Extractor< REALSXP, NA, T >::type` `VEC_EXT`

## Public Member Functions

- `Divides_Primitive_Vector` (double lhs\_, const `VEC_TYPE` &rhs\_)
- double `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- double lhs
- const `VEC_EXT` & rhs

### 6.182.1 Detailed Description

```

template<bool NA, typename T>
class Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T >
  
```

Definition at line 345 of file `divides.h`.

## 6.182.2 Member Typedef Documentation

6.182.2.1 `template<bool NA, typename T > typedef Rcpp::traits::Extractor<REALSXP,NA,T>::type  
Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T >::VEC_EXT`

Definition at line 349 of file divides.h.

6.182.2.2 `template<bool NA, typename T > typedef Rcpp::VectorBase<REALSXP,NA,T>  
Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T >::VEC_TYPE`

Definition at line 348 of file divides.h.

## 6.182.3 Constructor & Destructor Documentation

6.182.3.1 `template<bool NA, typename T > Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T  
>::Divides_Primitive_Vector( double lhs_, const VEC_TYPE & rhs_ ) [inline]`

Definition at line 351 of file divides.h.

## 6.182.4 Member Function Documentation

6.182.4.1 `template<bool NA, typename T > double Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T  
>::operator[]( R_xlen_t i ) const [inline]`

Definition at line 354 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.182.4.2 `template<bool NA, typename T > R_xlen_t Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T >::size ( ) const [inline]`

Definition at line 357 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

## 6.182.5 Member Data Documentation

6.182.5.1 `template<bool NA, typename T > double Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T >::lhs  
[private]`

Definition at line 359 of file divides.h.

```
6.182.5.2 template<bool NA, typename T > const VEC_EXT& Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T
>::rhs [private]
```

Definition at line 360 of file divides.h.

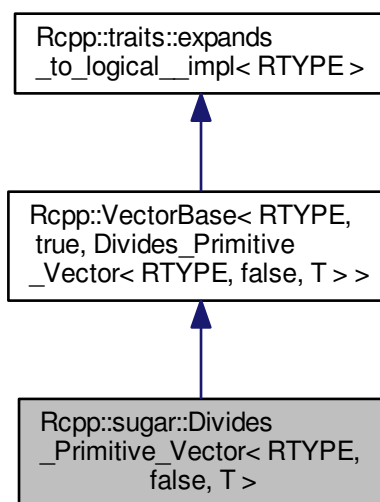
The documentation for this class was generated from the following file:

- <inst/include/Rcpp/sugar/operators/divides.h>

## 6.183 Rcpp::sugar::Divides\_Primitive\_Vector< RTYPE, false, T > Class Template Reference

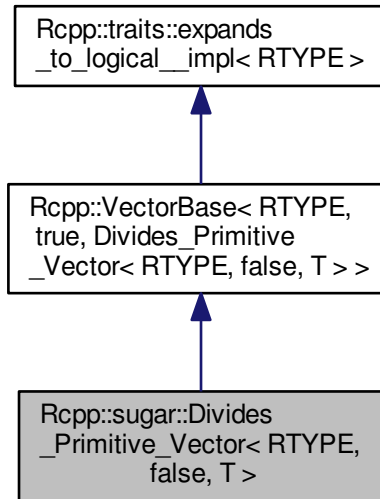
```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Primitive\_Vector< RTYPE, false, T >:





Collaboration diagram for Rcpp::sugar::Divides\_Primitive\_Vector< RTYPE, false, T >:



## Public Types

- typedef [Rcpp::VectorBase< RTYPE, false, T >](#) [VEC\\_TYPE](#)
- typedef [traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)
- typedef [Rcpp::traits::Extractor< RTYPE, false, T >::type](#) [VEC\\_EXT](#)

## Public Member Functions

- [Divides\\_Primitive\\_Vector](#) ([STORAGE lhs\\_](#), const [VEC\\_TYPE &rhs\\_](#))
- [STORAGE operator\[\]](#) ([R\\_xlen\\_t i](#)) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- [STORAGE lhs](#)
- const [VEC\\_EXT & rhs](#)
- bool [lhs\\_na](#)

### 6.183.1 Detailed Description

```

template<int RTYPE, typename T>
class Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >
  
```

Definition at line 366 of file divides.h.

## 6.183.2 Member Typedef Documentation

6.183.2.1 `template<int RTYPE, typename T > typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >::STORAGE`

Definition at line 370 of file divides.h.

6.183.2.2 `template<int RTYPE, typename T > typedef Rcpp::traits::Extractor<RTYPE,false,T>::type  
Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >::VEC_EXT`

Definition at line 371 of file divides.h.

6.183.2.3 `template<int RTYPE, typename T > typedef Rcpp::VectorBase<RTYPE,false,T>  
Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >::VEC_TYPE`

Definition at line 369 of file divides.h.

## 6.183.3 Constructor & Destructor Documentation

6.183.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T  
>::Divides_Primitive_Vector ( STORAGE lhs_, const VEC_TYPE & rhs_ ) [inline]`

Definition at line 373 of file divides.h.

## 6.183.4 Member Function Documentation

6.183.4.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 376 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.183.4.2 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >::size ( ) const [inline]`

Definition at line 380 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

### 6.183.5 Member Data Documentation

6.183.5.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >::lhs [private]`

Definition at line 383 of file divides.h.

6.183.5.2 `template<int RTYPE, typename T > bool Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >::lhs_na [private]`

Definition at line 385 of file divides.h.

6.183.5.3 `template<int RTYPE, typename T > const VEC_EXT& Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >::rhs [private]`

Definition at line 384 of file divides.h.

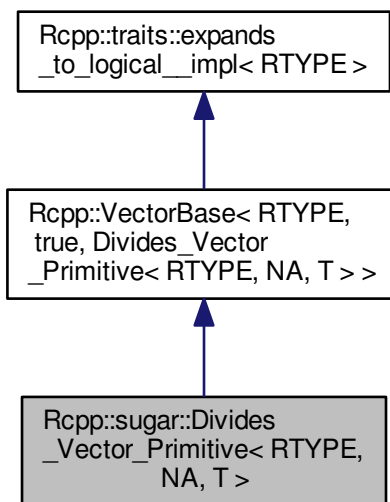
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/divides.h](#)

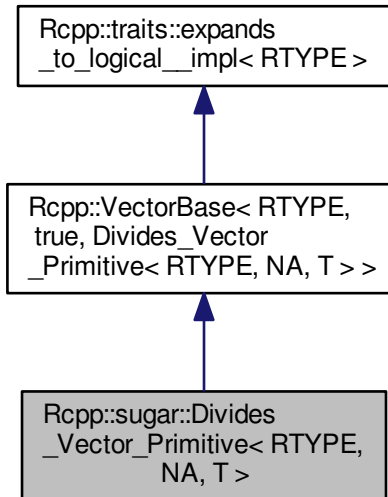
## 6.184 Rcpp::sugar::Divides\_Vector\_Primitive< RTYPE, NA, T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Vector\_Primitive< RTYPE, NA, T >:



Collaboration diagram for `Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T >`:



## Public Types

- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::Extractor< RTYPE, NA, T >::type` `VEC_EXT`

## Public Member Functions

- `Divides_Vector_Primitive` (const `VEC_TYPE` &lhs, `STORAGE` rhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- const `VEC_EXT` & lhs
- `STORAGE` rhs
- bool rhs\_na

### 6.184.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T >
  
```

Definition at line 226 of file `divides.h`.

## 6.184.2 Member Typedef Documentation

6.184.2.1 `template<int RTYPE, bool NA, typename T> typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T >::STORAGE`

Definition at line 229 of file divides.h.

6.184.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::Extractor<RTYPE,NA,T>::type  
Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T >::VEC_EXT`

Definition at line 231 of file divides.h.

6.184.2.3 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T >::VEC_TYPE`

Definition at line 230 of file divides.h.

## 6.184.3 Constructor & Destructor Documentation

6.184.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T  
>::Divides_Vector_Primitive ( const VEC_TYPE & lhs_, STORAGE rhs_ ) [inline]`

Definition at line 233 of file divides.h.

## 6.184.4 Member Function Documentation

6.184.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA,  
T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 237 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.184.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T  
>::size ( ) const [inline]`

Definition at line 243 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.184.5 Member Data Documentation

6.184.5.1 `template<int RTYPE, bool NA, typename T> const VEC_EXT& Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T >::lhs [private]`

Definition at line 246 of file divides.h.

6.184.5.2 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T >::rhs [private]`

Definition at line 247 of file divides.h.

6.184.5.3 `template<int RTYPE, bool NA, typename T> bool Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T >::rhs_na [private]`

Definition at line 248 of file divides.h.

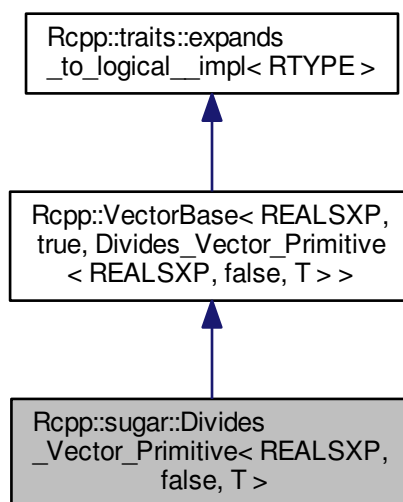
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/divides.h](#)

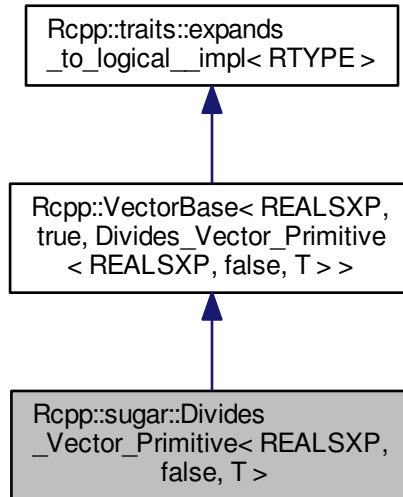
## 6.185 Rcpp::sugar::Divides\_Vector\_Primitive< REALSXP, false, T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Vector\_Primitive< REALSXP, false, T >:



Collaboration diagram for Rcpp::sugar::Divides\_Vector\_Primitive< REALSXP, false, T >:



## Public Types

- typedef [Rcpp::VectorBase< REALSXP, false, T >](#) `VEC_TYPE`
- typedef [Rcpp::traits::Extractor< REALSXP, false, T >::type](#) `VEC_EXT`

## Public Member Functions

- [Divides\\_Vector\\_Primitive](#) (const [VEC\\_TYPE](#) &lhs\_, double rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [VEC\\_EXT](#) & lhs
- double rhs

### 6.185.1 Detailed Description

```

template<typename T>
class Rcpp::sugar::Divides_Vector_Primitive< REALSXP, false, T >
  
```

Definition at line 300 of file `divides.h`.

## 6.185.2 Member Typedef Documentation

6.185.2.1 `template<typename T > typedef Rcpp::traits::Extractor<REALSXP,false,T>::type  
Rcpp::sugar::Divides_Vector_Primitive< REALSXP, false, T >::VEC_EXT`

Definition at line 304 of file divides.h.

6.185.2.2 `template<typename T > typedef Rcpp::VectorBase<REALSXP,false,T> Rcpp::sugar::Divides_Vector_↔  
Primitive< REALSXP, false, T >::VEC_TYPE`

Definition at line 303 of file divides.h.

## 6.185.3 Constructor & Destructor Documentation

6.185.3.1 `template<typename T > Rcpp::sugar::Divides_Vector_Primitive< REALSXP, false, T  
>::Divides_Vector_Primitive ( const VEC_TYPE & lhs_, double rhs_ ) [inline]`

Definition at line 306 of file divides.h.

## 6.185.4 Member Function Documentation

6.185.4.1 `template<typename T > double Rcpp::sugar::Divides_Vector_Primitive< REALSXP, false, T >::operator[] (   
R_xlen_t i ) const [inline]`

Definition at line 309 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp↔  
::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.185.4.2 `template<typename T > R_xlen_t Rcpp::sugar::Divides_Vector_Primitive< REALSXP, false, T >::size ( ) const  
[inline]`

Definition at line 312 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.185.5 Member Data Documentation

6.185.5.1 `template<typename T > const VEC_EXT& Rcpp::sugar::Divides_Vector_Primitive< REALSXP, false, T >::lhs  
[private]`

Definition at line 315 of file divides.h.



```
6.185.5.2 template<typename T > double Rcpp::sugar::Divides_Vector_Primitive< REALSXP, false, T >::rhs  
[private]
```

Definition at line 316 of file divides.h.

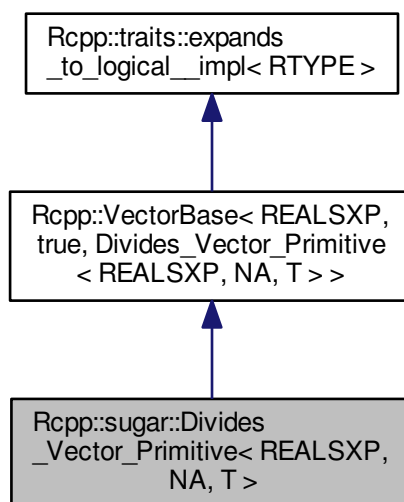
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/divides.h](#)

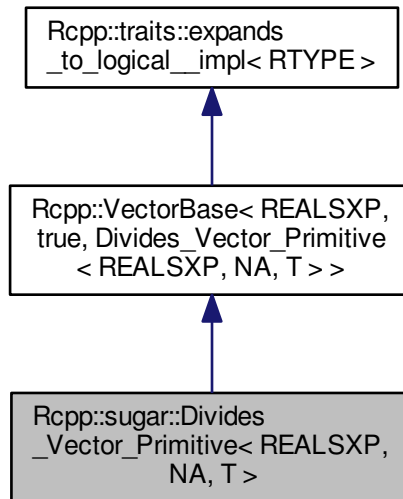
## 6.186 Rcpp::sugar::Divides\_Vector\_Primitive< REALSXP, NA, T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Vector\_Primitive< REALSXP, NA, T >:



Collaboration diagram for `Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T >`:



## Public Types

- typedef `Rcpp::VectorBase< REALSXP, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::Extractor< REALSXP, NA, T >::type` `VEC_EXT`

## Public Member Functions

- `Divides_Vector_Primitive` (const `VEC_TYPE` &lhs\_, double rhs\_)
- double `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- const `VEC_EXT` & lhs
- double rhs

### 6.186.1 Detailed Description

```

template<bool NA, typename T>
class Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T >
  
```

Definition at line 252 of file `divides.h`.

## 6.186.2 Member Typedef Documentation

6.186.2.1 `template<bool NA, typename T > typedef Rcpp::traits::Extractor<REALSXP,NA,T>::type  
Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T >::VEC_EXT`

Definition at line 256 of file divides.h.

6.186.2.2 `template<bool NA, typename T > typedef Rcpp::VectorBase<REALSXP,NA,T>  
Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T >::VEC_TYPE`

Definition at line 255 of file divides.h.

## 6.186.3 Constructor & Destructor Documentation

6.186.3.1 `template<bool NA, typename T > Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T  
>::Divides_Vector_Primitive ( const VEC_TYPE & lhs_, double rhs_ ) [inline]`

Definition at line 258 of file divides.h.

## 6.186.4 Member Function Documentation

6.186.4.1 `template<bool NA, typename T > double Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 262 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.186.4.2 `template<bool NA, typename T > R_xlen_t Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T >::size ( ) const [inline]`

Definition at line 266 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.186.5 Member Data Documentation

6.186.5.1 `template<bool NA, typename T > const VEC_EXT& Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T  
>::lhs [private]`

Definition at line 269 of file divides.h.

6.186.5.2 `template<bool NA, typename T > double Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T >::rhs`  
`[private]`

Definition at line 270 of file `divides.h`.

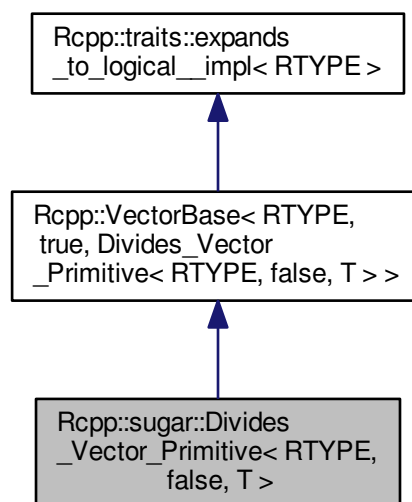
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/divides.h`

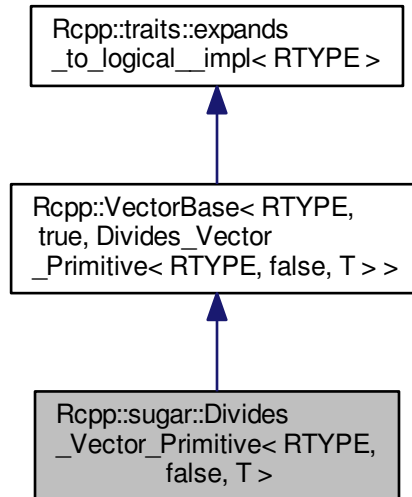
## 6.187 `Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >` Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for `Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >`:



Collaboration diagram for Rcpp::sugar::Divides\_Vector\_Primitive< RTYPE, false, T >:



## Public Types

- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::VectorBase< RTYPE, false, T >` `VEC_TYPE`
- typedef `Rcpp::traits::Extractor< RTYPE, false, T >::type` `VEC_EXT`

## Public Member Functions

- `Divides_Vector_Primitive` (const `VEC_TYPE` &lhs\_, `STORAGE` rhs\_)
- `STORAGE operator[]` (`R_xlen_t` i) const
- `R_xlen_t size` () const

## Private Attributes

- const `VEC_EXT` & lhs
- `STORAGE` rhs
- bool rhs\_na

### 6.187.1 Detailed Description

```

template<int RTYPE, typename T>
class Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >
  
```

Definition at line 276 of file `divides.h`.

## 6.187.2 Member Typedef Documentation

6.187.2.1 `template<int RTYPE, typename T > typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >::STORAGE`

Definition at line 279 of file divides.h.

6.187.2.2 `template<int RTYPE, typename T > typedef Rcpp::traits::Extractor<RTYPE,false,T>::type  
Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >::VEC_EXT`

Definition at line 281 of file divides.h.

6.187.2.3 `template<int RTYPE, typename T > typedef Rcpp::VectorBase<RTYPE,false,T>  
Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >::VEC_TYPE`

Definition at line 280 of file divides.h.

## 6.187.3 Constructor & Destructor Documentation

6.187.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T  
>::Divides_Vector_Primitive ( const VEC_TYPE & lhs_, STORAGE rhs_ ) [inline]`

Definition at line 283 of file divides.h.

## 6.187.4 Member Function Documentation

6.187.4.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 286 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.187.4.2 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >::size ( ) const [inline]`

Definition at line 291 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

6.187.5 Member Data Documentation

6.187.5.1 `template<int RTYPE, typename T > const VEC_EXT& Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >::lhs [private]`

Definition at line 294 of file divides.h.

6.187.5.2 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >::rhs [private]`

Definition at line 295 of file divides.h.

6.187.5.3 `template<int RTYPE, typename T > bool Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >::rhs_na [private]`

Definition at line 296 of file divides.h.

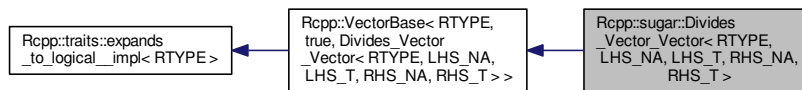
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/divides.h](#)

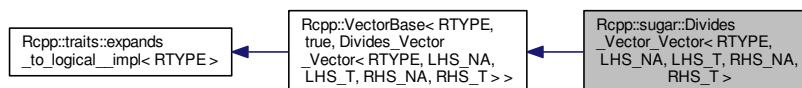
6.188 Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

## Public Member Functions

- [Divides\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [LHS\\_EXT](#) & lhs
- const [RHS\\_EXT](#) & rhs

### 6.188.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 29 of file divides.h.

### 6.188.2 Member Typedef Documentation

6.188.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, LHS_NA, LHS_T>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 34 of file divides.h.

6.188.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,LHS_NA,LHS_T> Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 31 of file divides.h.



6.188.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, RHS_NA, RHS_T>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 35 of file divides.h.

6.188.2.4 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 32 of file divides.h.

6.188.2.5 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 33 of file divides.h.

### 6.188.3 Constructor & Destructor Documentation

6.188.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Divides_Vector_Vector ( const LHS_TYPE & lhs, const RHS_TYPE & rhs ) [inline]`

Definition at line 37 of file divides.h.

### 6.188.4 Member Function Documentation

6.188.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > STORAGE Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 40 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.188.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 47 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.188.5 Member Data Documentation

**6.188.5.1** `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const LHS_EXT& Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 50 of file divides.h.

Referenced by `Rcpp::operator/()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Primitive< REALSXP, false, T >::operator[]()`, `Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T >::operator[]()`, `Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T >::operator[]()`, `Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >::operator[]()`, `Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::size()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::size()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::size()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::size()`, `Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T >::size()`, `Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T >::size()`, `Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >::size()`, and `Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T >::size()`.

**6.188.5.2** `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT& Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 51 of file divides.h.

Referenced by `Rcpp::operator/()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Primitive< RTYPE, NA, T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Primitive< REALSXP, NA, T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Primitive< RTYPE, false, T >::operator[]()`, `Rcpp::sugar::Divides_Vector_Primitive< REALSXP, false, T >::operator[]()`, `Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T >::operator[]()`, `Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T >::operator[]()`, `Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >::operator[]()`, `Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T >::operator[]()`, `Rcpp::sugar::Divides_Primitive_Vector< RTYPE, NA, T >::size()`, `Rcpp::sugar::Divides_Primitive_Vector< REALSXP, NA, T >::size()`, `Rcpp::sugar::Divides_Primitive_Vector< RTYPE, false, T >::size()`, and `Rcpp::sugar::Divides_Primitive_Vector< REALSXP, false, T >::size()`.

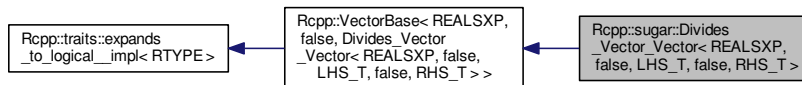
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/divides.h`

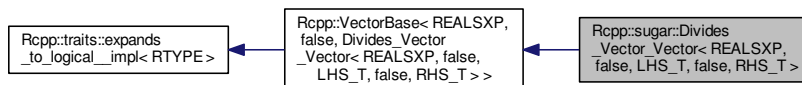
## 6.189 Rcpp::sugar::Divides\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Divides\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Divides\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.189.1 Detailed Description

```
template<typename LHS_T, typename RHS_T>
class Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >
```

Definition at line 200 of file divides.h.

### 6.189.2 Member Typedef Documentation

6.189.2.1 `template<typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, LHS_T>::type Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 205 of file divides.h.

6.189.2.2 `template<typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,LHS_T> Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 203 of file divides.h.

6.189.2.3 `template<typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, RHS_T>::type Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 206 of file divides.h.

6.189.2.4 `template<typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,RHS_T> Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 204 of file divides.h.

### 6.189.3 Constructor & Destructor Documentation

6.189.3.1 `template<typename LHS_T, typename RHS_T > Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::Divides_Vector_Vector( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 208 of file divides.h.

### 6.189.4 Member Function Documentation

6.189.4.1 `template<typename LHS_T, typename RHS_T > double Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 211 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.189.4.2 `template<typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::size( ) const [inline]`

Definition at line 215 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.189.5 Member Data Documentation

6.189.5.1 `template<typename LHS_T, typename RHS_T > const LHS_EXT& Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 218 of file divides.h.

6.189.5.2 `template<typename LHS_T, typename RHS_T > const RHS_EXT& Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 219 of file divides.h.

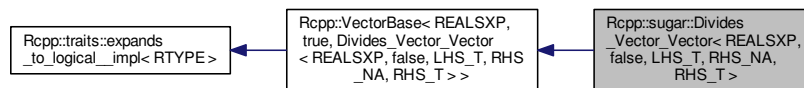
The documentation for this class was generated from the following file:

- <inst/include/Rcpp/sugar/operators/divides.h>

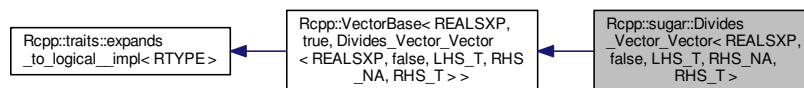
## 6.190 Rcpp::sugar::Divides\_Vector\_Vector< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for `Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >`:



Collaboration diagram for `Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >`:



## Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

## Public Member Functions

- [Divides\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.190.1 Detailed Description

```
template<typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 104 of file divides.h.

### 6.190.2 Member Typedef Documentation

6.190.2.1 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, LHS_T>::type Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 109 of file divides.h.

6.190.2.2 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,LHS_T> Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 107 of file divides.h.

6.190.2.3 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, RHS_NA, RHS_T>::type Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 110 of file divides.h.

```
6.190.2.4 template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,
RHS_NA,RHS_T> Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T
>::RHS_TYPE
```

Definition at line 108 of file divides.h.

### 6.190.3 Constructor & Destructor Documentation

```
6.190.3.1 template<typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Divides_Vector_Vector< REALSXP,
false, LHS_T, RHS_NA, RHS_T >::Divides_Vector_Vector ( const LHS_TYPE & lhs, const RHS_TYPE & rhs )
[inline]
```

Definition at line 112 of file divides.h.

### 6.190.4 Member Function Documentation

```
6.190.4.1 template<typename LHS_T, bool RHS_NA, typename RHS_T > double Rcpp::sugar::Divides_Vector_Vector<
REALSXP, false, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]
```

Definition at line 115 of file divides.h.

References Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

```
6.190.4.2 template<typename LHS_T, bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Divides_Vector_Vector<
REALSXP, false, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]
```

Definition at line 119 of file divides.h.

References Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs.

### 6.190.5 Member Data Documentation

```
6.190.5.1 template<typename LHS_T, bool RHS_NA, typename RHS_T > const LHS_EXT&
Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::lhs [private]
```

Definition at line 122 of file divides.h.

```
6.190.5.2 template<typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT&
Rcpp::sugar::Divides_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::rhs [private]
```

Definition at line 123 of file divides.h.

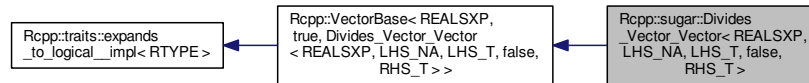
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/operators/divides.h

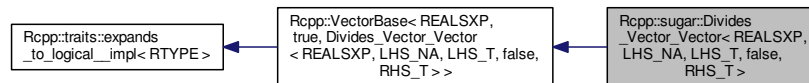
## 6.191 Rcpp::sugar::Divides\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Divides\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Divides\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs



### 6.191.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 153 of file divides.h.

### 6.191.2 Member Typedef Documentation

6.191.2.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, LHS_NA, LHS_T>::type Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 158 of file divides.h.

6.191.2.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, LHS_NA, LHS_T> Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 156 of file divides.h.

6.191.2.3 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, RHS_T>::type Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 159 of file divides.h.

6.191.2.4 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, false, RHS_T> Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 157 of file divides.h.

### 6.191.3 Constructor & Destructor Documentation

6.191.3.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::Divides_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ )`  
`[inline]`

Definition at line 161 of file divides.h.

### 6.191.4 Member Function Documentation

6.191.4.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > double Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 164 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.191.4.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::size( ) const [inline]`

Definition at line 167 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.191.5 Member Data Documentation

6.191.5.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > const LHS_EXT& Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 170 of file divides.h.

6.191.5.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > const RHS_EXT& Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 171 of file divides.h.

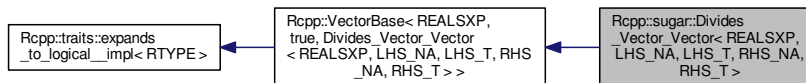
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/divides.h](#)

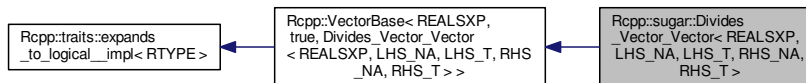
## 6.192 Rcpp::sugar::Divides\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Divides\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase< REALSXP, LHS\\_NA, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase< REALSXP, RHS\\_NA, RHS\\_T >](#) [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor< REALSXP, LHS\\_NA, LHS\\_T >::type](#) [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor< REALSXP, RHS\\_NA, RHS\\_T >::type](#) [RHS\\_EXT](#)

### Public Member Functions

- [Divides\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.192.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 55 of file divides.h.

### 6.192.2 Member Typedef Documentation

6.192.2.1 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, LHS_NA, LHS_T>::type Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 60 of file divides.h.

6.192.2.2 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,LHS_NA,LHS_T> Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 58 of file divides.h.

6.192.2.3 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, RHS_NA, RHS_T>::type Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 61 of file divides.h.

6.192.2.4 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,RHS_NA,RHS_T> Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 59 of file divides.h.

### 6.192.3 Constructor & Destructor Documentation

6.192.3.1 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::Divides_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 63 of file divides.h.

## 6.192.4 Member Function Documentation

6.192.4.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > double Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]( R_xlen_t i ) const`  
[inline]

Definition at line 66 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.192.4.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const`  
[inline]

Definition at line 70 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.192.5 Member Data Documentation

6.192.5.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const LHS_EXT& Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs` [private]

Definition at line 73 of file divides.h.

6.192.5.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT& Rcpp::sugar::Divides_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs` [private]

Definition at line 74 of file divides.h.

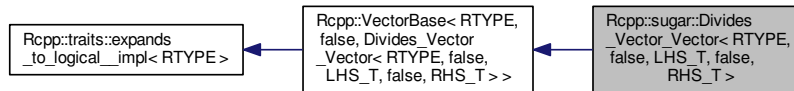
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/divides.h`

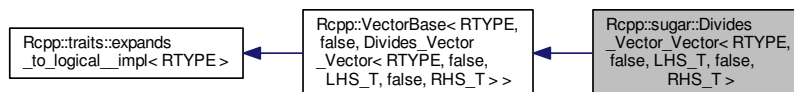
## 6.193 Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Divides\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.193.1 Detailed Description

```
template<int RTYPE, typename LHS_T, typename RHS_T>  
class Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >
```

Definition at line 176 of file divides.h.

### 6.193.2 Member Typedef Documentation

6.193.2.1 `template<int RTYPE, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<RTYPE, false, LHS_T>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 182 of file divides.h.

6.193.2.2 `template<int RTYPE, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,false,LHS_T> Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 179 of file divides.h.

6.193.2.3 `template<int RTYPE, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<RTYPE, false, RHS_T>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 183 of file divides.h.

6.193.2.4 `template<int RTYPE, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,false,RHS_T> Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 180 of file divides.h.

6.193.2.5 `template<int RTYPE, typename LHS_T, typename RHS_T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::STORAGE`

Definition at line 181 of file divides.h.

### 6.193.3 Constructor & Destructor Documentation

6.193.3.1 `template<int RTYPE, typename LHS_T, typename RHS_T > Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::Divides_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ )  
[inline]`

Definition at line 185 of file divides.h.

### 6.193.4 Member Function Documentation

6.193.4.1 `template<int RTYPE, typename LHS_T, typename RHS_T > STORAGE Rcpp::sugar::Divides_Vector_Vector<RTYPE, false, LHS_T, false, RHS_T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 188 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.193.4.2 `template<int RTYPE, typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::Divides_Vector_Vector<RTYPE, false, LHS_T, false, RHS_T >::size( ) const [inline]`

Definition at line 192 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.193.5 Member Data Documentation

6.193.5.1 `template<int RTYPE, typename LHS_T, typename RHS_T > const LHS_EXT& Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 195 of file divides.h.

6.193.5.2 `template<int RTYPE, typename LHS_T, typename RHS_T > const RHS_EXT& Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 196 of file divides.h.

The documentation for this class was generated from the following file:

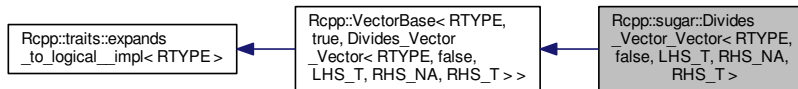
- [inst/include/Rcpp/sugar/operators/divides.h](#)



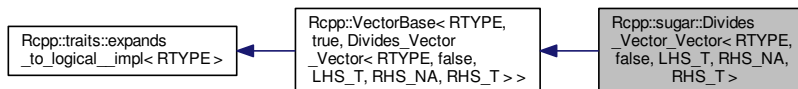
## 6.194 Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Divides\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.194.1 Detailed Description

```
template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 79 of file divides.h.

### 6.194.2 Member Typedef Documentation

6.194.2.1 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, false, LHS_T>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 84 of file divides.h.

6.194.2.2 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<R←TYPE,false,LHS_T> Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 81 of file divides.h.

6.194.2.3 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, RHS_NA, RHS_T>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 85 of file divides.h.

6.194.2.4 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<R←TYPE,RHS_NA,RHS_T> Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 82 of file divides.h.

6.194.2.5 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef traits::storage_←type<RTYPE>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 83 of file divides.h.

### 6.194.3 Constructor & Destructor Documentation

6.194.3.1 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::Divides_Vector_Vector ( const LHS_TYPE & lhs, const RHS_TYPE & rhs ) [inline]`

Definition at line 87 of file divides.h.

### 6.194.4 Member Function Documentation

6.194.4.1 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > STORAGE Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 90 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.194.4.2 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 96 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.194.5 Member Data Documentation

6.194.5.1 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > const LHS_EXT& Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 99 of file divides.h.

6.194.5.2 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT& Rcpp::sugar::Divides_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 100 of file divides.h.

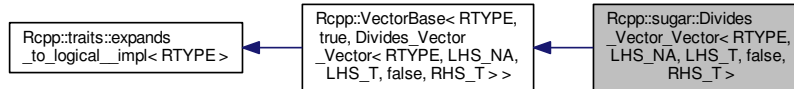
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/divides.h`

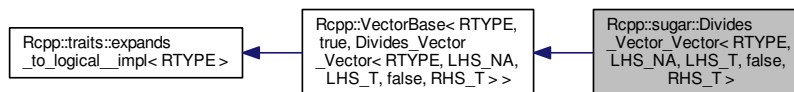
## 6.195 Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <divides.h>
```

Inheritance diagram for Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Divides\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Divides\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.195.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 128 of file divides.h.

### 6.195.2 Member Typedef Documentation

6.195.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, LHS_NA, LHS_T>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 134 of file divides.h.

6.195.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<R< RTYPE,LHS_NA,LHS_T> Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 131 of file divides.h.

6.195.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, false, RHS_T>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 135 of file divides.h.

6.195.2.4 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<R< RTYPE,false,RHS_T> Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 132 of file divides.h.

6.195.2.5 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef traits::storage_< RTYPE>::type Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::STORAGE`

Definition at line 133 of file divides.h.

### 6.195.3 Constructor & Destructor Documentation

6.195.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > Rcpp::sugar::Divides_Vector_Vector<RTYPE, LHS_NA, LHS_T, false, RHS_T >::Divides_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 137 of file divides.h.

### 6.195.4 Member Function Documentation

6.195.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > STORAGE Rcpp::sugar<←  
::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 140 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp<←  
::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.195.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > R_xlen_t Rcpp<←  
::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::size ( ) const  
[inline]`

Definition at line 145 of file divides.h.

References `Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.195.5 Member Data Documentation

6.195.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > const LHS_EXT&  
Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 148 of file divides.h.

6.195.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > const RHS_EXT&  
Rcpp::sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 149 of file divides.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/divides.h](#)

## 6.196 Rcpp::DottedPairImpl< CLASS > Class Template Reference

```
#include <DottedPairImpl.h>
```

### Public Member Functions

- template<typename T >  
void [push\\_back](#) (const T &*object*)
- template<typename T >  
void [push\\_front](#) (const T &*object*)
- template<typename T >  
void [insert](#) (const size\_t &index, const T &*object*)
- template<typename T >  
void [replace](#) (const int &index, const T &*object*)
- R\_xlen\_t [length](#) () const
- R\_xlen\_t [size](#) () const
- void [remove](#) (const size\_t &index)

### Friends

- template<typename T >  
[DottedPairImpl](#) & [operator<<](#) ([DottedPairImpl](#) &os, const T &t)
- template<typename T >  
[DottedPairImpl](#) & [operator>>](#) (const T &t, [DottedPairImpl](#) &s)

### 6.196.1 Detailed Description

```
template<typename CLASS>  
class Rcpp::DottedPairImpl< CLASS >
```

Definition at line 24 of file DottedPairImpl.h.

### 6.196.2 Member Function Documentation

6.196.2.1 template<typename CLASS > template<typename T > void Rcpp::DottedPairImpl< CLASS >::insert ( const size\_t & *index*, const T & *object* )

insert an object at the given position, pushing other objects to the tail of the list

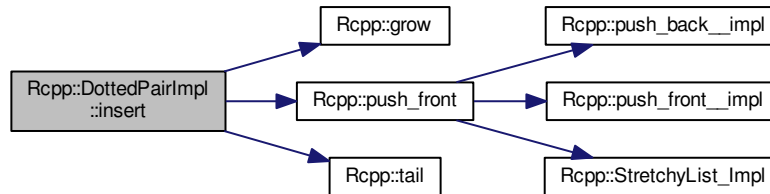
#### Parameters

<i>index</i>	index (0-based) where to insert
<i>object</i>	object to wrap

Definition at line 49 of file DottedPairImpl.h.

References `Rcpp::grow()`, `Rcpp::push_front()`, and `Rcpp::tail()`.

Here is the call graph for this function:



6.196.2.2 `template<typename CLASS > R_xlen_t Rcpp::DottedPairImpl< CLASS >::length ( ) const [inline]`

Definition at line 66 of file DottedPairImpl.h.

6.196.2.3 `template<typename CLASS > template<typename T > void Rcpp::DottedPairImpl< CLASS >::push_back ( const T & object )`

wraps an object and add it at the end of the pairlist (this require traversing the entire pairlist)

#### Parameters

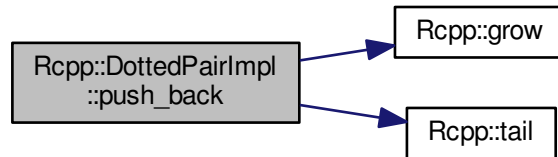
<i>object</i>	anything that can be wrapped by one of the wrap functions, named objects (instances of <code>traits::named_object&lt;&gt;</code> are treated specially)
---------------	---

Definition at line 32 of file DottedPairImpl.h.

References `Rcpp::grow()`, and `Rcpp::tail()`.



Here is the call graph for this function:



6.196.2.4 `template<typename CLASS > template<typename T > void Rcpp::DottedPairImpl< CLASS >::push_front ( const T & object )`

wraps an object and add it in front of the pairlist.

#### Parameters

<i>object</i>	anything that can be wrapped by one of the wrap functions, or an object of class Named
---------------	--

Definition at line 25 of file DottedPairImpl.h.

References Rcpp::grow().

Here is the call graph for this function:



6.196.2.5 `template<typename CLASS > void Rcpp::DottedPairImpl< CLASS >::remove ( const size_t & index )`

Remove the element at the given position

## Parameters

<i>index</i>	position where the element is to be removed
--------------	---

Definition at line 85 of file DottedPairImpl.h.

6.196.2.6 `template<typename CLASS > template<typename T > void Rcpp::DottedPairImpl< CLASS >::replace ( const int & index, const T & object )`

replaces an element of the list

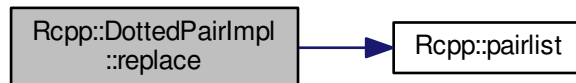
## Parameters

<i>index</i>	position
<i>object</i>	object that can be wrapped

Definition at line 71 of file DottedPairImpl.h.

References Rcpp::pairlist().

Here is the call graph for this function:



6.196.2.7 `template<typename CLASS > R_xlen_t Rcpp::DottedPairImpl< CLASS >::size ( ) const [inline]`

Definition at line 70 of file DottedPairImpl.h.

### 6.196.3 Friends And Related Function Documentation

6.196.3.1 `template<typename CLASS > template<typename T > DottedPairImpl& operator<<< ( DottedPairImpl< CLASS > & os, const T & t ) [friend]`

Definition at line 82 of file DottedPairImpl.h.

6.196.3.2 `template<typename CLASS > template<typename T > DottedPairImpl& operator>> ( const T & t, DottedPairImpl< CLASS > & s ) [friend]`

Definition at line 88 of file DottedPairImpl.h.

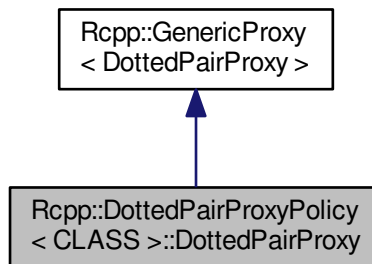
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/DottedPairImpl.h](#)

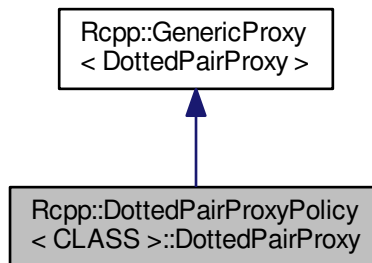
## 6.197 Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy Class Reference

```
#include <DottedPairProxy.h>
```

Inheritance diagram for Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy:



Collaboration diagram for Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy:



## Public Member Functions

- [DottedPairProxy](#) (CLASS &v, int index\_)
- [DottedPairProxy](#) & [operator=](#) (const [DottedPairProxy](#) &rhs)
- [DottedPairProxy](#) & [operator=](#) (SEXP rhs)
- `template<typename T >`  
[DottedPairProxy](#) & [operator=](#) (const T &rhs)
- `template<typename T >`  
[DottedPairProxy](#) & [operator=](#) (const [traits::named\\_object](#)< T > &rhs)
- `template<typename T >`  
[operator T](#) () const
- SEXP [get](#) () const
- [operator SEXP](#) () const
- [DottedPairProxy](#) & [set](#) (SEXP x)
- [DottedPairProxy](#) & [set](#) (SEXP x, const char \*name)
- `template<typename T >`  
[DottedPairProxyPolicy](#)< CLASS >::[DottedPairProxy](#) & [operator=](#) (const T &rhs)
- `template<typename T >`  
[DottedPairProxyPolicy](#)< CLASS >::[DottedPairProxy](#) & [operator=](#) (const [traits::named\\_object](#)< T > &rhs)

## Private Attributes

- SEXP [node](#)

### 6.197.1 Detailed Description

```
template<typename CLASS>
class Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy
```

Definition at line 27 of file [DottedPairProxy.h](#).

### 6.197.2 Constructor & Destructor Documentation

6.197.2.1 `template<typename CLASS > Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::DottedPairProxy ( CLASS & v, int index_ ) [inline]`

Definition at line 29 of file [DottedPairProxy.h](#).

References [Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::node](#).

Referenced by [Rcpp::DottedPairProxyPolicy< CLASS >::operator\[\]\(\)](#).

### 6.197.3 Member Function Documentation

6.197.3.1 `template<typename CLASS > SEXP Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::get ( ) const`  
`[inline]`

Definition at line 51 of file DottedPairProxy.h.

References Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::node.

Referenced by Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator=().

6.197.3.2 `template<typename CLASS > Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator SEXP ( )`  
`const [inline]`

Definition at line 54 of file DottedPairProxy.h.

6.197.3.3 `template<typename CLASS > template<typename T > Rcpp::DottedPairProxyPolicy< CLASS`  
`>::DottedPairProxy::operator T ( ) const`

Definition at line 165 of file proxy.h.

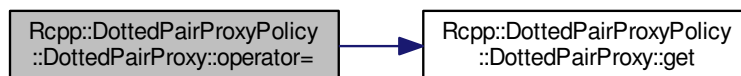
6.197.3.4 `template<typename CLASS > DottedPairProxy& Rcpp::DottedPairProxyPolicy< CLASS`  
`>::DottedPairProxy::operator= ( const DottedPairProxy & rhs ) [inline]`

Definition at line 36 of file DottedPairProxy.h.

References Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::get().

Referenced by Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator=().

Here is the call graph for this function:

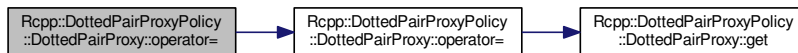


6.197.3.5 `template<typename CLASS > DottedPairProxy& Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator= ( SEXP rhs ) [inline]`

Definition at line 39 of file DottedPairProxy.h.

References `Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator=()`.

Here is the call graph for this function:



6.197.3.6 `template<typename CLASS > template<typename T > DottedPairProxy& Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator= ( const T & rhs )`

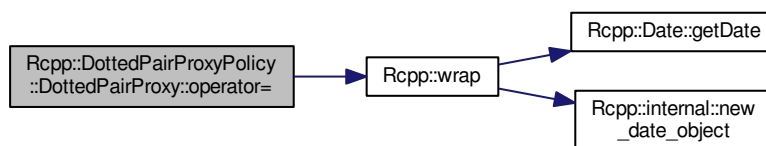
6.197.3.7 `template<typename CLASS > template<typename T > DottedPairProxy& Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator= ( const traits::named_object< T > & rhs )`

6.197.3.8 `template<typename CLASS > template<typename T > DottedPairProxyPolicy<CLASS>::DottedPairProxy& Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator= ( const T & rhs )`

Definition at line 151 of file proxy.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:

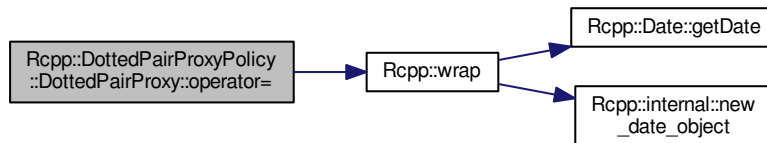


6.197.3.9 `template<typename CLASS > template<typename T > DottedPairProxyPolicy<CLASS>::DottedPairProxy& Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator= ( const traits::named_object< T > & rhs )`

Definition at line 159 of file proxy.h.

References `Rcpp::traits::named_object< T >::name`, `Rcpp::traits::named_object< T >::object`, and `Rcpp::wrap()`.

Here is the call graph for this function:



6.197.3.10 `template<typename CLASS > DottedPairProxy& Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::set ( SEXP x ) [inline]`

Definition at line 57 of file DottedPairProxy.h.

References `Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::node`.

6.197.3.11 `template<typename CLASS > DottedPairProxy& Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::set ( SEXP x, const char * name ) [inline]`

Definition at line 61 of file DottedPairProxy.h.

References `Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::node`.

## 6.197.4 Member Data Documentation

6.197.4.1 `template<typename CLASS > SEXP Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::node [private]`

Definition at line 69 of file DottedPairProxy.h.

Referenced by `Rcpp::DottedPairProxyPolicy< CLASS >::const_DottedPairProxy::const_DottedPairProxy()`, `Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::DottedPairProxy()`, `Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::get()`, `Rcpp::DottedPairProxyPolicy< CLASS >::const_DottedPairProxy::get()`, and `Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::set()`.

The documentation for this class was generated from the following files:

- `inst/include/Rcpp/proxy/DottedPairProxy.h`
- `inst/include/Rcpp/api/meat/proxy.h`

## 6.198 Rcpp::DottedPairProxyPolicy< CLASS > Class Template Reference

```
#include <DottedPairProxy.h>
```

### Classes

- class [const\\_DottedPairProxy](#)
- class [DottedPairProxy](#)

### Public Member Functions

- [DottedPairProxy operator\[\]](#) (int i)
- [const\\_DottedPairProxy operator\[\]](#) (int i) const

#### 6.198.1 Detailed Description

```
template<typename CLASS>
class Rcpp::DottedPairProxyPolicy< CLASS >
```

Definition at line 24 of file DottedPairProxy.h.

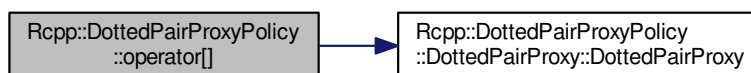
#### 6.198.2 Member Function Documentation

6.198.2.1 `template<typename CLASS > DottedPairProxy Rcpp::DottedPairProxyPolicy< CLASS >::operator[] ( int i )`  
`[inline]`

Definition at line 95 of file DottedPairProxy.h.

References `Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::DottedPairProxy()`.

Here is the call graph for this function:





6.198.2.2 `template<typename CLASS > const_DottedPairProxy Rcpp::DottedPairProxyPolicy< CLASS >::operator[](  
int i ) const [inline]`

Definition at line 98 of file DottedPairProxy.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/proxy/DottedPairProxy.h](#)

## 6.199 Rcpp::internal::element\_converter< RTYPE > Class Template Reference

```
#include <converter.h>
```

### Public Types

- `typedef ::Rcpp::traits::storage_type< RTYPE >::type target`

### Static Public Member Functions

- `template<typename T >  
static target get (const T &input)`
- `static target get (const target &input)`

### 6.199.1 Detailed Description

```
template<int RTYPE>  
class Rcpp::internal::element_converter< RTYPE >
```

Definition at line 28 of file converter.h.

### 6.199.2 Member Typedef Documentation

6.199.2.1 `template<int RTYPE> typedef ::Rcpp::traits::storage_type<RTYPE>::type Rcpp::internal::element_↔  
converter< RTYPE >::target`

Definition at line 30 of file converter.h.

### 6.199.3 Member Function Documentation

6.199.3.1 `template<int RTYPE> template<typename T > static target Rcpp::internal::element_converter< RTYPE >::get ( const T & input ) [inline], [static]`

Definition at line 33 of file converter.h.

Referenced by `Rcpp::Vector< INTSXP >::fill_dispatch()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::fill_diag_dispatch()`, `Rcpp::Vector< INTSXP >::insert()`, `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::operator()`, `Rcpp::Vector< INTSXP >::push_back()`, `Rcpp::Vector< INTSXP >::push_front()`, `Rcpp::Vector< INTSXP >::replace_element_dispatch()`, and `Rcpp::Vector< INTSXP >::replace_element_dispatch_isArgument()`.

6.199.3.2 `template<int RTYPE> static target Rcpp::internal::element_converter< RTYPE >::get ( const target & input ) [inline], [static]`

Definition at line 37 of file converter.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/converter.h](#)

## 6.200 Rcpp::traits::enable\_if< B, T > Struct Template Reference

```
#include <enable_if.h>
```

### 6.200.1 Detailed Description

```
template<bool B, typename T = void>
struct Rcpp::traits::enable_if< B, T >
```

Definition at line 8 of file `enable_if.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/enable\\_if.h](#)

## 6.201 Rcpp::traits::enable\_if< true, T > Struct Template Reference

```
#include <enable_if.h>
```

## Public Types

- typedef T [type](#)

### 6.201.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::enable_if< true, T >
```

Definition at line 11 of file [enable\\_if.h](#).

### 6.201.2 Member Typedef Documentation

6.201.2.1 `template<typename T > typedef T Rcpp::traits::enable_if< true, T >::type`

Definition at line 12 of file [enable\\_if.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/enable\\_if.h](#)

## 6.202 Rcpp::enum\_ < Enum, Parent > Class Template Reference

```
#include <Module.h>
```

## Public Types

- typedef [enum\\_ < Enum, Parent >](#) [self](#)

## Public Member Functions

- [enum\\_ \(const char \\*name\\_\)](#)
- [~enum\\_ \(\)](#)
- [self & value \(const char \\*name\\_, Enum value\\_\)](#)

## Private Types

- typedef `std::map< std::string, int >` [MAP](#)
- typedef `MAP::value_type` [PAIR](#)

## Private Attributes

- `std::string name`
- `MAP values`
- `std::string parent_typeinfo_name`

### 6.202.1 Detailed Description

```
template<typename Enum, typename Parent>
class Rcpp::enum_< Enum, Parent >
```

Definition at line 343 of file Module.h.

### 6.202.2 Member Typedef Documentation

6.202.2.1 `template<typename Enum , typename Parent > typedef std::map< std::string, int > Rcpp::enum_< Enum, Parent >::MAP [private]`

Definition at line 363 of file Module.h.

6.202.2.2 `template<typename Enum , typename Parent > typedef MAP::value_type Rcpp::enum_< Enum, Parent >::PAIR [private]`

Definition at line 364 of file Module.h.

6.202.2.3 `template<typename Enum , typename Parent > typedef enum_<Enum,Parent> Rcpp::enum_< Enum, Parent >::self`

Definition at line 345 of file Module.h.

### 6.202.3 Constructor & Destructor Documentation

6.202.3.1 `template<typename Enum , typename Parent > Rcpp::enum_< Enum, Parent >::enum_( const char * name_ ) [inline]`

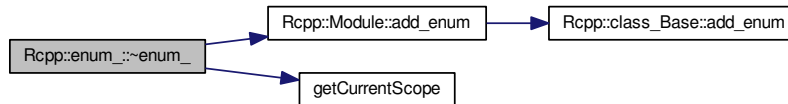
Definition at line 347 of file Module.h.

6.202.3.2 `template<typename Enum , typename Parent > Rcpp::enum_ < Enum, Parent >::~~enum_ ( ) [inline]`

Definition at line 350 of file Module.h.

References `Rcpp::Module::add_enum()`, and `getCurrentScope()`.

Here is the call graph for this function:



## 6.202.4 Member Function Documentation

6.202.4.1 `template<typename Enum , typename Parent > self& Rcpp::enum_ < Enum, Parent >::value ( const char * name_, Enum value_ ) [inline]`

Definition at line 355 of file Module.h.

## 6.202.5 Member Data Documentation

6.202.5.1 `template<typename Enum , typename Parent > std::string Rcpp::enum_ < Enum, Parent >::name [private]`

Definition at line 362 of file Module.h.

6.202.5.2 `template<typename Enum , typename Parent > std::string Rcpp::enum_ < Enum, Parent >::parent_typeinfo_name [private]`

Definition at line 366 of file Module.h.

6.202.5.3 `template<typename Enum , typename Parent > MAP Rcpp::enum_ < Enum, Parent >::values [private]`

Definition at line 365 of file Module.h.

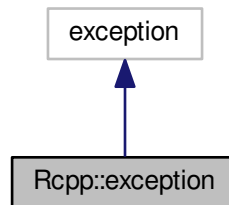
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

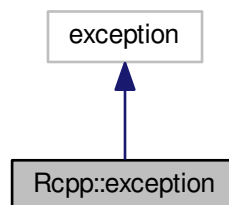
## 6.203 Rcpp::exception Class Reference

```
#include <exceptions.h>
```

Inheritance diagram for Rcpp::exception:



Collaboration diagram for Rcpp::exception:



### Public Member Functions

- [exception](#) (const char \*message\_)
- [exception](#) (const char \*message\_, const char \*file, int line)
- virtual [~exception](#) () throw ()
- virtual const char \* [what](#) () const throw ()

### Private Attributes

- std::string [message](#)

### 6.203.1 Detailed Description

Definition at line 29 of file exceptions.h.

### 6.203.2 Constructor & Destructor Documentation

#### 6.203.2.1 Rcpp::exception::exception ( const char \* message\_ ) [inline],[explicit]

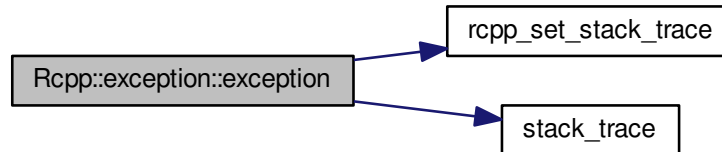
Definition at line 31 of file exceptions.h.

#### 6.203.2.2 Rcpp::exception::exception ( const char \* message\_, const char \* file, int line ) [inline]

Definition at line 32 of file exceptions.h.

References `rcpp_set_stack_trace()`, and `stack_trace()`.

Here is the call graph for this function:



#### 6.203.2.3 virtual Rcpp::exception::~~exception ( ) throw ) [inline],[virtual]

Definition at line 35 of file exceptions.h.

### 6.203.3 Member Function Documentation

#### 6.203.3.1 virtual const char\* Rcpp::exception::what ( ) const throw ) [inline],[virtual]

Definition at line 36 of file exceptions.h.

References `message`.

## 6.203.4 Member Data Documentation

### 6.203.4.1 `std::string Rcpp::exception::message` [private]

Definition at line 40 of file `exceptions.h`.

Referenced by `what()`, `Rcpp::no_such_env::what()`, and `Rcpp::file_io_error::what()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/exceptions.h`

## 6.204 Rcpp::algorithm::helpers::exp Struct Reference

```
#include <algorithm.h>
```

### Public Member Functions

- `template<typename T >`  
`double operator() (T val)`

### 6.204.1 Detailed Description

Definition at line 187 of file `algorithm.h`.

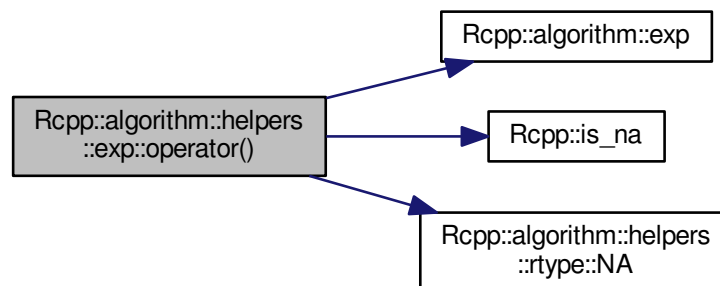
### 6.204.2 Member Function Documentation

#### 6.204.2.1 `template<typename T > double Rcpp::algorithm::helpers::exp::operator() ( T val )` [inline]

Definition at line 189 of file `algorithm.h`.

References `Rcpp::algorithm::exp()`, `Rcpp::is_na()`, and `Rcpp::algorithm::helpers::rtype< T >::NA()`.

Here is the call graph for this function:



The documentation for this struct was generated from the following file:

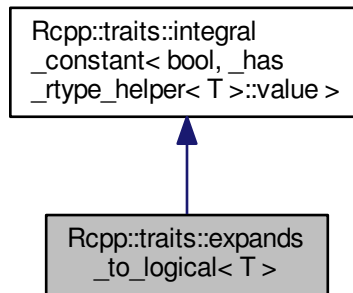


- [inst/include/Rcpp/algorithm.h](#)

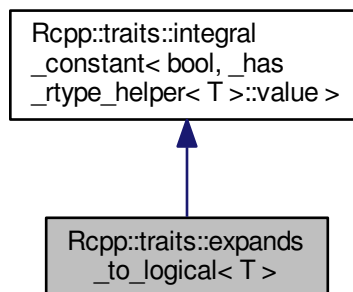
## 6.205 Rcpp::traits::expands\_to\_logical< T > Struct Template Reference

```
#include <expands_to_logical.h>
```

Inheritance diagram for Rcpp::traits::expands\_to\_logical< T >:



Collaboration diagram for Rcpp::traits::expands\_to\_logical< T >:



### Additional Inherited Members

#### 6.205.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::expands_to_logical< T >
```

Definition at line 54 of file expands\_to\_logical.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/expands\_to\_logical.h

## 6.206 Rcpp::traits::expands\_to\_logical\_\_impl< RTYPE > Struct Template Reference

```
#include <expands_to_logical.h>
```

Inherited by [Rcpp::MatrixBase< INTSXP, false, Col< RTYPE, LHS\\_NA, LHS\\_T > >](#), [Rcpp::MatrixBase< INTSXP, P, false, Row< RTYPE, LHS\\_NA, LHS\\_T > >](#), [Rcpp::MatrixBase< Rcpp::traits::r\\_sexptype\\_traits< ::Rcpp::traits::result\\_of< Function >::type >::rtype, true, Outer< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T, Function > >](#), [Rcpp::MatrixBase< RTYPE, NA, Diag\\_Maker< RTYPE, NA, T > >](#), [Rcpp::MatrixBase< RTYPE, NA, T >](#), [Rcpp::MatrixBase< RTYPE, true, JoinOp< RTYPE, E1, E2 > >](#), [Rcpp::MatrixBase< RTYPE, true, JoinOp< RTYPE, E1, ScalarBindable< scalar< RTYPE >::type > >](#), [Rcpp::MatrixBase< RTYPE, true, JoinOp< RTYPE, ScalarBindable< scalar< RTYPE >::type >, E2 >](#), [Rcpp::MatrixBase< RTYPE, true, JoinOp< RTYPE, ScalarBindable< scalar< RTYPE >::type >, ScalarBindable< scalar< RTYPE >::type > >](#), [Rcpp::MatrixBase< RTYPE, true, Matrix< RTYPE, StoragePolicy >](#), [Rcpp::MatrixBase< RTYPE, true, SubMatrix< RTYPE >](#), [Rcpp::MatrixBase< RTYPE, na, MATRIX >](#), [Rcpp::VectorBase< RTYPE, na, VECTOR >](#), [Rcpp::VectorBase< INTSXP, false, Range >](#), [Rcpp::VectorBase< INTSXP, false, SeqLen >](#), [Rcpp::VectorBase< INTSXP, NA, Sign< RTYPE, NA, T >](#), [Rcpp::VectorBase< LGLSXP, false, And\\_LogicalExpression\\_LogicalExpression< false, LHS\\_T, false, RHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, false, IsFinite< RTYPE, NA, VEC\\_TYPE >](#), [Rcpp::VectorBase< LGLSXP, P, false, IsInfinite< RTYPE, NA, VEC\\_TYPE >](#), [Rcpp::VectorBase< LGLSXP, false, IsNa< RTYPE, false, VEC\\_TYPE >](#), [Rcpp::VectorBase< LGLSXP, false, IsNa< RTYPE, NA, VEC\\_TYPE >](#), [Rcpp::VectorBase< LGLSXP, false, IsNa< RTYPE, NA, VEC\\_TYPE >](#), [Rcpp::VectorBase< LGLSXP, false, IsNa< RTYPE, NA, VEC\\_TYPE >](#), [Rcpp::VectorBase< LGLSXP, false, IsNa< RTYPE, NA, VEC\\_TYPE >](#), [Rcpp::VectorBase< LGLSXP, false, IsNa< RTYPE, NA, VEC\\_TYPE >](#), [Rcpp::VectorBase< LGLSXP, false, LowerTri< RTYPE, LHS\\_NA, LHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, P, false, Or\\_LogicalExpression\\_LogicalExpression< false, LHS\\_T, false, RHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, false, UpperTri< RTYPE, LHS\\_NA, LHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, NA, Not\\_Vector< RTYPE, NA, T >](#), [Rcpp::VectorBase< LGLSXP, true, And\\_LogicalExpression\\_LogicalExpression< false, LHS\\_T, RHS\\_NA, RHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, true, And\\_LogicalExpression\\_LogicalExpression< LHS\\_NA, LHS\\_T, false, RHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, true, And\\_LogicalExpression\\_LogicalExpression< LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, true, Comparator< RTYPE, Operator, false, LHS\\_T, false, RHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, true, Comparator< RTYPE, Operator, false, LHS\\_T, RHS\\_NA, RHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, true, Comparator< RTYPE, Operator, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, true, Comparator< RTYPE, Operator, NA, T >](#), [Rcpp::VectorBase< LGLSXP, true, Or\\_LogicalExpression\\_LogicalExpression< false, LHS\\_T, RHS\\_NA, RHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, true, Or\\_LogicalExpression\\_LogicalExpression< LHS\\_NA, LHS\\_T, false, RHS\\_T >](#), [Rcpp::VectorBase< LGLSXP, true, Or\\_LogicalExpression\\_LogicalExpression< LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#), [Rcpp::VectorBase< Rcpp::traits::r\\_sexptype\\_traits< ::Rcpp::sugar::sapply\\_application\\_result\\_of< Function, T >::type >::rtype, true, Sapply< RTYPE, NA, T, Function, NO\\_CONVERSION >](#), [Rcpp::VectorBase< Rcpp::traits::r\\_sexptype\\_traits< ::Rcpp::sugar::sapply\\_application\\_result\\_of< Function, T >::type >::rtype, true, Sapply< RTYPE, NA, T, Function, true >](#), [Rcpp::VectorBase< Rcpp::traits::r\\_sexptype\\_traits< ::Rcpp::traits::result\\_of< Function >::type >::rtype, true, Mapply\\_2< RTYPE, NA\\_1, T\\_1, NA\\_2, T\\_2, Function >](#), [Rcpp::VectorBase< Rcpp::traits::r\\_sexptype\\_traits< ::Rcpp::traits::result\\_of< Function >::type >::rtype, true, Mapply\\_2\\_Primitive\\_Vector< RTYPE, PRIM\\_1, NA\\_2, T\\_2, Function >](#), [Rcpp::VectorBase< Rcpp::traits::r\\_sexptype\\_traits< ::Rcpp::traits::result\\_of< Function >::type >::rtype, true, Mapply\\_2\\_Primitive\\_Vector< RTYPE, NA\\_1, T\\_1, PRIM\\_2, Function >](#), [Rcpp::VectorBase< Rcpp::traits::r\\_sexptype\\_traits<](#)

```

::Rcpp::traits::result_of< Function >::type >::rtype, true, Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2,
RTYPE_3, NA_3, T_3, Function >, Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype,
false, SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >, Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits<
RESULT_TYPE >::rtype, NA, SugarBlock_1< NA, RESULT_TYPE, U1, T1 >, Rcpp::VectorBase< Rcpp::traits::r_
_sexptype_traits< RESULT_TYPE >::rtype, NA, SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >, Rcpp::
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TYPE, U1, U2, T2 >, Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, Sugar
Block_2__VP< NA, RESULT_TYPE, U1, T1, U2 >, Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESUL
T_TYPE >::rtype, NA, SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >, Rcpp::VectorBase<
Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, SugarComplex< NA, RESULT_TYPE, T, FunPtr >,
Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, SugarMath_1< NA, RESULT_T
YPE, int, T1, FunPtr >, Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype, NA, Sugar
Math_1< NA, RESULT_TYPE, U1, T1, FunPtr >, Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< T >::rtype,
true, Rep_Single< T >, Rcpp::VectorBase< REALSXP, false, Divides_Vector_Vector< REALSXP, false, LHS_T,
false, RHS_T >, Rcpp::VectorBase< REALSXP, false, Minus_Vector_Vector< REALSXP, false, LHS_T, false, RH
S_T >, Rcpp::VectorBase< REALSXP, false, Plus_Vector_Primitive< REALSXP, false, T >, Rcpp::VectorBase<
REALSXP, false, Plus_Vector_Primitive_nona< REALSXP, false, T >, Rcpp::VectorBase< REALSXP, false, Plus_
_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >, Rcpp::VectorBase< REALSXP, false, Pow< INTSXP,
false, T, EXPONENT_TYPE >, Rcpp::VectorBase< REALSXP, false, Times_Vector_Primitive< REALSXP, false, T >
>, Rcpp::VectorBase< REALSXP, false, Times_Vector_Primitive_nona< REALSXP, false, T >, Rcpp::VectorBase<
REALSXP, false, Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >, Rcpp::VectorBase< REALSXP,
false, Vectorized_INTSXP< Func, false, VEC >, Rcpp::VectorBase< REALSXP, LHS_NA, Diff< REALSXP, LHS_
_NA, LHS_T >, Rcpp::VectorBase< REALSXP, NA, D0< RTYPE, NA, T >, Rcpp::VectorBase< REALSXP, NA,
D1< RTYPE, NA, T >, Rcpp::VectorBase< REALSXP, NA, D2< RTYPE, NA, T >, Rcpp::VectorBase< REAL
SXP, NA, D3< RTYPE, NA, T >, Rcpp::VectorBase< REALSXP, NA, P0< RTYPE, NA, T >, Rcpp::VectorBase<
REALSXP, NA, P1< RTYPE, NA, T >, Rcpp::VectorBase< REALSXP, NA, P2< RTYPE, NA, T >, Rcpp::Vector
Base< REALSXP, NA, P3< RTYPE, NA, T >, Rcpp::VectorBase< REALSXP, NA, Pow< INTSXP, NA, T, EXPON
ENT_TYPE >, Rcpp::VectorBase< REALSXP, NA, Pow< RTYPE, NA, T, EXPONENT_TYPE >, Rcpp::Vector
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::VectorBase< REALSXP, NA, Q2< RTYPE, NA, T >, Rcpp::VectorBase< REALSXP, NA, Q3< RTYPE, NA, T >,
Rcpp::VectorBase< REALSXP, NA, Vectorized< Func, NA, VEC >, Rcpp::VectorBase< REALSXP, NA, Vectorized_
_INTSXP< Func, NA, VEC >, Rcpp::VectorBase< REALSXP, true, Divides_Primitive_Vector< REALSXP, false,
T >, Rcpp::VectorBase< REALSXP, true, Divides_Primitive_Vector< REALSXP, NA, T >, Rcpp::VectorBase<
REALSXP, true, Divides_Vector_Primitive< REALSXP, false, T >, Rcpp::VectorBase< REALSXP, true, Divides_
_Vector_Primitive< REALSXP, NA, T >, Rcpp::VectorBase< REALSXP, true, Divides_Vector_Vector< REALSXP,
false, LHS_T, RHS_NA, RHS_T >, Rcpp::VectorBase< REALSXP, true, Divides_Vector_Vector< REALSXP, LH
S_NA, LHS_T, false, RHS_T >, Rcpp::VectorBase< REALSXP, true, Divides_Vector_Vector< REALSXP, LHS_NA,
LHS_T, RHS_NA, RHS_T >, Rcpp::VectorBase< REALSXP, true, Minus_Primitive_Vector< REALSXP, false, T >,
Rcpp::VectorBase< REALSXP, true, Minus_Primitive_Vector< REALSXP, NA, T >, Rcpp::VectorBase< REALSXP,
true, Minus_Vector_Primitive< REALSXP, false, T >, Rcpp::VectorBase< REALSXP, true, Minus_Vector_Primitive<
REALSXP, NA, T >, Rcpp::VectorBase< REALSXP, true, Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA,
RHS_T >, Rcpp::VectorBase< REALSXP, true, Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T
>, Rcpp::VectorBase< REALSXP, true, Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >
>, Rcpp::VectorBase< REALSXP, true, Plus_Vector_Primitive< REALSXP, NA, T >, Rcpp::VectorBase< REALSXP,
true, Plus_Vector_Primitive_nona< REALSXP, NA, T >, Rcpp::VectorBase< REALSXP, true, Plus_Vector_Vector<
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LHS_NA, LHS_T, false, RHS_T >, Rcpp::VectorBase< REALSXP, true, Plus_Vector_Vector< REALSXP, LHS_NA,
LHS_T, RHS_NA, RHS_T >, Rcpp::VectorBase< REALSXP, true, Times_Vector_Primitive< REALSXP, NA, T >
>, Rcpp::VectorBase< REALSXP, true, Times_Vector_Primitive_nona< REALSXP, NA, T >, Rcpp::VectorBase<
REALSXP, true, Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >, Rcpp::VectorBase< REA
LSXP, true, Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >, Rcpp::VectorBase< REALSXP,
true, Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >, Rcpp::VectorBase< RTYPE, false,
Diff< RTYPE, false, LHS_T >, Rcpp::VectorBase< RTYPE, false, Divides_Vector_Vector< RTYPE, false, LHS_T,
false, RHS_T >, Rcpp::VectorBase< RTYPE, false, Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >

```

>, Rcpp::VectorBase< RTYPE, false, Nona< RTYPE, NA, Rcpp::Vector< RTYPE > > >, Rcpp::VectorBase< RTYPE, false, Nona< RTYPE, NA, VECTOR > >, Rcpp::VectorBase< RTYPE, false, Plus\_Vector\_Primitive< RTYPE, false, T > >, Rcpp::VectorBase< RTYPE, false, Plus\_Vector\_Primitive\_nona< RTYPE, false, T > >, Rcpp::VectorBase< RTYPE, false, Plus\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T > >, Rcpp::VectorBase< RTYPE, false, Times\_Vector\_Primitive< RTYPE, false, T > >, Rcpp::VectorBase< RTYPE, false, Times\_Vector\_Primitive\_nona< RTYPE, false, T > >, Rcpp::VectorBase< RTYPE, false, Times\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T > >, Rcpp::VectorBase< RTYPE, LHS\_NA, Diff< RTYPE, LHS\_NA, LHS\_T > >, Rcpp::VectorBase< RTYPE, NA, Clamp\_Primitive\_Vector\_Primitive< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, NA, Diag\_Extractor< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, NA, Head< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, NA, RangeIndexer< RTYPE, NA, VECTOR > >, Rcpp::VectorBase< RTYPE, NA, Rep< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, NA, Rep\_each< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, NA, Rep\_len< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, NA, Rev< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, NA, Tail< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, true, Comparator\_With\_One\_Value< LGLSXP, Operator, false, T > >, Rcpp::VectorBase< RTYPE, true, ConstMatrixColumn< RTYPE > >, Rcpp::VectorBase< RTYPE, true, ConstMatrixRow< RTYPE > >, Rcpp::VectorBase< RTYPE, true, Divides\_Primitive\_Vector< RTYPE, false, T > >, Rcpp::VectorBase< RTYPE, true, Divides\_Primitive\_Vector< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, true, Divides\_Vector\_Primitive< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, true, Divides\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, Divides\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, Divides\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, IfElse\_Primitive\_Primitive< RTYPE, COND\_NA, COND\_T > >, Rcpp::VectorBase< RTYPE, true, IfElse\_Primitive\_Vector< RTYPE, COND\_NA, COND\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, IfElse\_Primitive\_Vector< RTYPE, false, COND\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, IfElse\_Vector\_Primitive< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T > >, Rcpp::VectorBase< RTYPE, true, IfElse\_Vector\_Primitive< RTYPE, false, COND\_T, LHS\_NA, LHS\_T > >, Rcpp::VectorBase< RTYPE, true, MatrixColumn< RTYPE > >, Rcpp::VectorBase< RTYPE, true, MatrixRow< RTYPE > >, Rcpp::VectorBase< RTYPE, true, Minus\_Primitive\_Vector< RTYPE, false, T > >, Rcpp::VectorBase< RTYPE, true, Minus\_Primitive\_Vector< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, true, Minus\_Vector\_Primitive< RTYPE, false, T > >, Rcpp::VectorBase< RTYPE, true, Minus\_Vector\_Primitive< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, true, Minus\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, Plus\_Vector\_Primitive< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, true, Plus\_Vector\_Primitive\_nona< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, true, Plus\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, Pmax\_Vector\_Primitive< RTYPE, LHS\_NA, LHS\_T > >, Rcpp::VectorBase< RTYPE, true, Pmin\_Vector\_Primitive< RTYPE, LHS\_NA, LHS\_T > >, Rcpp::VectorBase< RTYPE, true, Times\_Vector\_Primitive< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, true, Times\_Vector\_Primitive\_nona< RTYPE, NA, T > >, Rcpp::VectorBase< RTYPE, true, Times\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE, true, Vector< RTYPE, PreserveStorage > >, Rcpp::VectorBase< RTYPE, true, Vector< RTYPE, StoragePolicy > >, Rcpp::VectorBase< RTYPE,(COND\_NA||LHS\_NA||RHS\_NA), IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE,(LHS\_NA||RHS\_NA), IfElse< RTYPE, false, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE,(LHS\_NA||RHS\_NA), Pmax\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< RTYPE,(LHS\_NA||RHS\_NA), Pmin\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > >, Rcpp::VectorBase< unary\_minus\_result\_type< RTYPE >::value, NA, UnaryMinus\_Vector< unary\_minus\_result\_type< RTYPE >::value, NA, T > >, and Rcpp::VectorBase< VECSXP, true, Lapply< RTYPE, NA, T, Function > >.

## 6.206.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::traits::expands_to_logical__impl< RTYPE >
```

Definition at line 33 of file expands\_to\_logical.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/expands\\_to\\_logical.h](#)

## 6.207 Rcpp::traits::expands\_to\_logical\_\_impl< LGLSXP > Struct Template Reference

```
#include <expands_to_logical.h>
```

### Classes

- struct [r\\_expands\\_to\\_logical](#)

### 6.207.1 Detailed Description

```
template<>
struct Rcpp::traits::expands_to_logical__impl< LGLSXP >
```

Definition at line 36 of file expands\_to\_logical.h.

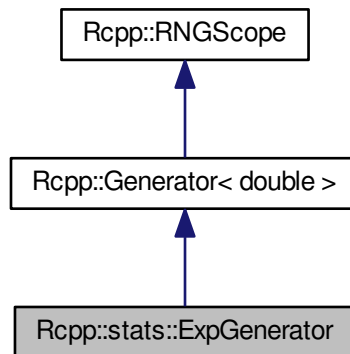
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/expands\\_to\\_logical.h](#)

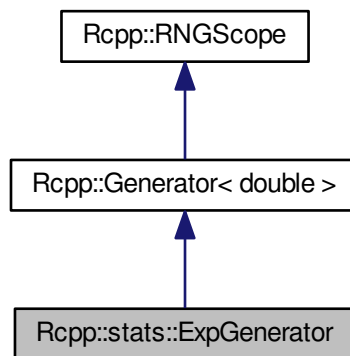
## 6.208 Rcpp::stats::ExpGenerator Class Reference

```
#include <rexp.h>
```

Inheritance diagram for Rcpp::stats::ExpGenerator:



Collaboration diagram for Rcpp::stats::ExpGenerator:



### Public Member Functions

- [ExpGenerator](#) (double scale\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [scale](#)

## Additional Inherited Members

### 6.208.1 Detailed Description

Definition at line 28 of file rexp.h.

### 6.208.2 Constructor & Destructor Documentation

#### 6.208.2.1 Rcpp::stats::ExpGenerator::ExpGenerator( double *scale\_* ) [inline]

Definition at line 31 of file rexp.h.

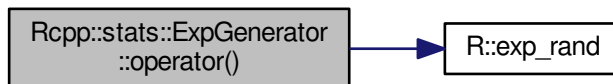
### 6.208.3 Member Function Documentation

#### 6.208.3.1 double Rcpp::stats::ExpGenerator::operator()( ) const [inline]

Definition at line 33 of file rexp.h.

References `R::exp_rand()`, and `scale`.

Here is the call graph for this function:



### 6.208.4 Member Data Documentation

#### 6.208.4.1 double Rcpp::stats::ExpGenerator::scale [private]

Definition at line 38 of file rexp.h.

Referenced by `operator()`.

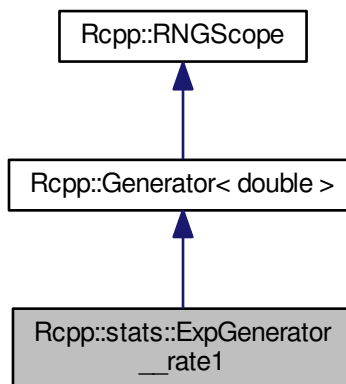
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rexp.h](#)

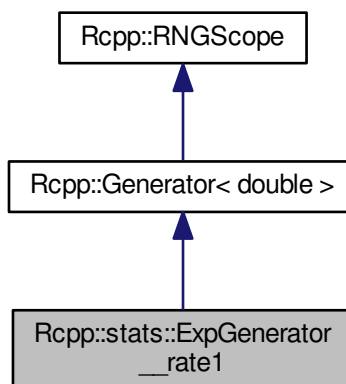
## 6.209 Rcpp::stats::ExpGenerator\_\_rate1 Class Reference

```
#include <rexp.h>
```

Inheritance diagram for Rcpp::stats::ExpGenerator\_\_rate1:



Collaboration diagram for Rcpp::stats::ExpGenerator\_\_rate1:



### Public Member Functions

- [ExpGenerator\\_\\_rate1 \(\)](#)
- [double operator\(\) \(\) const](#)



## Additional Inherited Members

### 6.209.1 Detailed Description

Definition at line 41 of file rexp.h.

### 6.209.2 Constructor & Destructor Documentation

#### 6.209.2.1 Rcpp::stats::ExpGenerator\_\_rate1::ExpGenerator\_\_rate1 ( ) [inline]

Definition at line 43 of file rexp.h.

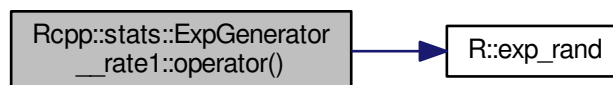
### 6.209.3 Member Function Documentation

#### 6.209.3.1 double Rcpp::stats::ExpGenerator\_\_rate1::operator() ( ) const [inline]

Definition at line 44 of file rexp.h.

References R::exp\_rand().

Here is the call graph for this function:

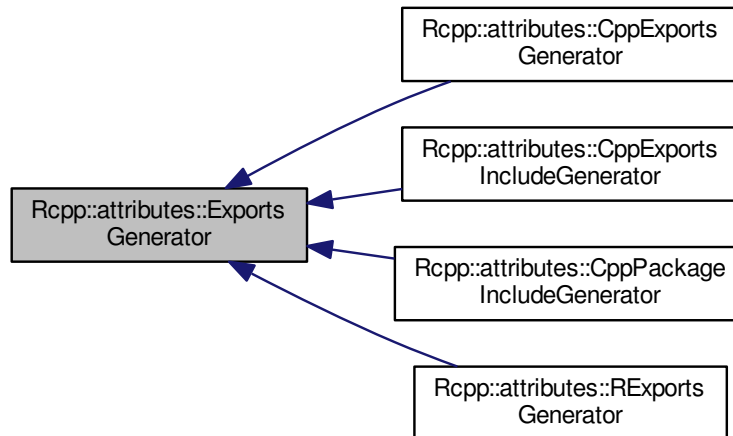


The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rexp.h](#)

## 6.210 Rcpp::attributes::ExportsGenerator Class Reference

Inheritance diagram for Rcpp::attributes::ExportsGenerator:



### Public Member Functions

- virtual `~ExportsGenerator ()`
- const `std::string & targetFile () const`
- const `std::string & package () const`
- const `std::string & packageCpp () const`
- virtual void `writeBegin ()=0`
- void `writeFunctions (const SourceFileAttributes &attributes, bool verbose)`
- virtual void `writeEnd ()=0`
- virtual bool `commit (const std::vector< std::string > &includes)=0`
- bool `remove ()`
- `operator std::ostream & ()`

### Protected Member Functions

- `ExportsGenerator (const std::string &targetFile, const std::string &package, const std::string &commentPrefix)`
- `std::ostream & ostr ()`
- bool `hasCppInterface () const`
- `std::string exportValidationFunction ()`
- `std::string exportValidationFunctionRegisteredName ()`
- `std::string registerCCallableExportedName ()`
- bool `commit (const std::string &preamble=std::string())`

## Private Member Functions

- [ExportsGenerator](#) (const [ExportsGenerator](#) &)
- [ExportsGenerator](#) & `operator=` (const [ExportsGenerator](#) &)
- virtual void `doWriteFunctions` (const [SourceFileAttributes](#) &attributes, bool verbose)=0
- bool `isSafeToOverwrite` () const
- std::string `generatorToken` () const

## Private Attributes

- std::string `targetFile_`
- std::string `package_`
- std::string `packageCpp_`
- std::string `commentPrefix_`
- std::string `existingCode_`
- std::ostream `codeStream_`
- bool `hasCppInterface_`

### 6.210.1 Detailed Description

Definition at line 551 of file attributes.cpp.

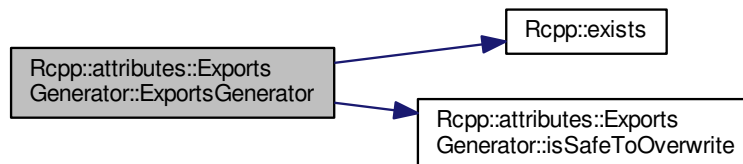
### 6.210.2 Constructor & Destructor Documentation

6.210.2.1 `Rcpp::attributes::ExportsGenerator::ExportsGenerator ( const std::string & targetFile, const std::string & package, const std::string & commentPrefix )` `[protected]`

Definition at line 1724 of file attributes.cpp.

References `existingCode_`, `Rcpp::exists()`, `isSafeToOverwrite()`, `packageCpp_`, and `targetFile_`.

Here is the call graph for this function:



6.210.2.2 `Rcpp::attributes::ExportsGenerator::ExportsGenerator ( const ExportsGenerator & )` [private]

6.210.2.3 `virtual Rcpp::attributes::ExportsGenerator::~ExportsGenerator ( )` [inline],[virtual]

Definition at line 563 of file attributes.cpp.

### 6.210.3 Member Function Documentation

6.210.3.1 `virtual bool Rcpp::attributes::ExportsGenerator::commit ( const std::vector< std::string > & includes )` [pure virtual]

Implemented in [Rcpp::attributes::REExportsGenerator](#), [Rcpp::attributes::CppPackageIncludeGenerator](#), [Rcpp::attributes::CppExportsIncludeGenerator](#), and [Rcpp::attributes::CppExportsGenerator](#).

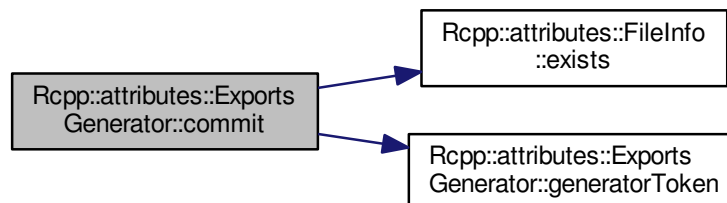
Referenced by [Rcpp::attributes::CppExportsGenerator::commit\(\)](#), [Rcpp::attributes::CppExportsIncludeGenerator::commit\(\)](#), [Rcpp::attributes::CppPackageIncludeGenerator::commit\(\)](#), and [Rcpp::attributes::REExportsGenerator::commit\(\)](#).

6.210.3.2 `bool Rcpp::attributes::ExportsGenerator::commit ( const std::string & preamble = std::string() )` [protected]

Definition at line 1763 of file attributes.cpp.

References `codeStream_`, `commentPrefix_`, `existingCode_`, [Rcpp::attributes::FileInfo::exists\(\)](#), [generatorToken\(\)](#), and `targetFile_`.

Here is the call graph for this function:



6.210.3.3 `virtual void Rcpp::attributes::ExportsGenerator::doWriteFunctions ( const SourceFileAttributes & attributes, bool verbose )` [private],[pure virtual]

Implemented in [Rcpp::attributes::REExportsGenerator](#), [Rcpp::attributes::CppPackageIncludeGenerator](#), [Rcpp::attributes::CppExportsIncludeGenerator](#), and [Rcpp::attributes::CppExportsGenerator](#).

Referenced by [writeFunctions\(\)](#).

6.210.3.4 `std::string Rcpp::attributes::ExportsGenerator::exportValidationFunction ( ) [inline], [protected]`

Definition at line 598 of file attributes.cpp.

Referenced by `Rcpp::attributes::CppExportsGenerator::writeEnd()`.

6.210.3.5 `std::string Rcpp::attributes::ExportsGenerator::exportValidationFunctionRegisteredName ( ) [inline], [protected]`

Definition at line 601 of file attributes.cpp.

Referenced by `Rcpp::attributes::CppExportsIncludeGenerator::writeBegin()`, and `Rcpp::attributes::CppExportsGenerator::writeEnd()`.

6.210.3.6 `std::string Rcpp::attributes::ExportsGenerator::generatorToken ( ) const [inline], [private]`

Definition at line 629 of file attributes.cpp.

Referenced by `commit()`.

6.210.3.7 `bool Rcpp::attributes::ExportsGenerator::hasCppInterface ( ) const [inline], [protected]`

Definition at line 593 of file attributes.cpp.

Referenced by `Rcpp::attributes::CppExportsGenerator::commit()`, `Rcpp::attributes::CppExportsIncludeGenerator::commit()`, `Rcpp::attributes::CppPackageIncludeGenerator::commit()`, `Rcpp::attributes::CppExportsGenerator::writeEnd()`, `Rcpp::attributes::CppPackageIncludeGenerator::writeEnd()`, and `Rcpp::attributes::REExportsGenerator::writeEnd()`.

6.210.3.8 `bool Rcpp::attributes::ExportsGenerator::isSafeToOverwrite ( ) const [inline], [private]`

Definition at line 622 of file attributes.cpp.

Referenced by `ExportsGenerator()`.

6.210.3.9 `Rcpp::attributes::ExportsGenerator::operator std::ostream & ( ) [inline]`

Definition at line 582 of file attributes.cpp.

**6.210.3.10 ExportsGenerator& Rcpp::attributes::ExportsGenerator::operator= ( const ExportsGenerator & )**  
 [private]

**6.210.3.11 std::ostream& Rcpp::attributes::ExportsGenerator::ostr ( )** [inline],[protected]

Definition at line 589 of file attributes.cpp.

Referenced by Rcpp::attributes::CppExportsGenerator::commit(), Rcpp::attributes::CppExportsIncludeGenerator::commit(), Rcpp::attributes::CppExportsGenerator::doWriteFunctions(), Rcpp::attributes::CppExportsIncludeGenerator::doWriteFunctions(), Rcpp::attributes::REExportsGenerator::doWriteFunctions(), Rcpp::attributes::CppExportsIncludeGenerator::getCallable(), Rcpp::attributes::CppExportsGenerator::registerCallable(), Rcpp::attributes::CppExportsIncludeGenerator::writeBegin(), Rcpp::attributes::CppExportsGenerator::writeEnd(), Rcpp::attributes::CppExportsIncludeGenerator::writeEnd(), Rcpp::attributes::CppPackageIncludeGenerator::writeEnd(), and Rcpp::attributes::REExportsGenerator::writeEnd().

**6.210.3.12 const std::string& Rcpp::attributes::ExportsGenerator::package ( ) const** [inline]

Definition at line 567 of file attributes.cpp.

Referenced by Rcpp::attributes::REExportsGenerator::doWriteFunctions(), Rcpp::attributes::CppExportsIncludeGenerator::getCallable(), Rcpp::attributes::CppExportsGenerator::registerCallable(), Rcpp::attributes::CppExportsIncludeGenerator::writeBegin(), and Rcpp::attributes::REExportsGenerator::writeEnd().

**6.210.3.13 const std::string& Rcpp::attributes::ExportsGenerator::packageCpp ( ) const** [inline]

Definition at line 568 of file attributes.cpp.

Referenced by Rcpp::attributes::CppExportsIncludeGenerator::commit(), Rcpp::attributes::CppExportsGenerator::doWriteFunctions(), Rcpp::attributes::CppExportsIncludeGenerator::doWriteFunctions(), Rcpp::attributes::REExportsGenerator::doWriteFunctions(), Rcpp::attributes::CppExportsIncludeGenerator::getHeaderGuard(), Rcpp::attributes::CppPackageIncludeGenerator::getHeaderGuard(), Rcpp::attributes::CppExportsGenerator::registerCallable(), Rcpp::attributes::CppExportsIncludeGenerator::writeBegin(), and Rcpp::attributes::CppPackageIncludeGenerator::writeEnd().

**6.210.3.14 std::string Rcpp::attributes::ExportsGenerator::registerCallableExportedName ( )** [inline],[protected]

Definition at line 604 of file attributes.cpp.

Referenced by Rcpp::attributes::CppExportsGenerator::writeEnd(), and Rcpp::attributes::REExportsGenerator::writeEnd().

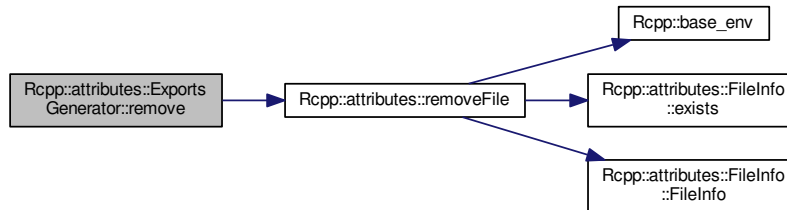
6.210.3.15 `bool Rcpp::attributes::ExportsGenerator::remove ( )`

Definition at line 1803 of file `attributes.cpp`.

References `Rcpp::attributes::removeFile()`, and `targetFile_`.

Referenced by `Rcpp::attributes::CppExportsIncludeGenerator::commit()`, and `Rcpp::attributes::CppPackageIncludeGenerator::commit()`.

Here is the call graph for this function:

6.210.3.16 `const std::string& Rcpp::attributes::ExportsGenerator::targetFile ( ) const [inline]`

Definition at line 566 of file `attributes.cpp`.

6.210.3.17 `virtual void Rcpp::attributes::ExportsGenerator::writeBegin ( ) [pure virtual]`

Implemented in `Rcpp::attributes::REExportsGenerator`, `Rcpp::attributes::CppPackageIncludeGenerator`, `Rcpp::attributes::CppExportsIncludeGenerator`, and `Rcpp::attributes::CppExportsGenerator`.

6.210.3.18 `virtual void Rcpp::attributes::ExportsGenerator::writeEnd ( ) [pure virtual]`

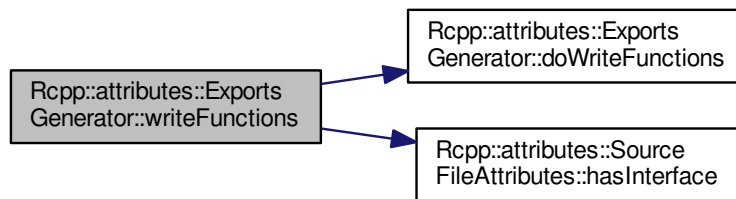
Implemented in `Rcpp::attributes::REExportsGenerator`, `Rcpp::attributes::CppPackageIncludeGenerator`, `Rcpp::attributes::CppExportsIncludeGenerator`, and `Rcpp::attributes::CppExportsGenerator`.

6.210.3.19 void Rcpp::attributes::ExportsGenerator::writeFunctions ( const SourceFileAttributes & attributes, bool verbose )

Definition at line 1750 of file attributes.cpp.

References doWriteFunctions(), hasCppInterface\_, Rcpp::attributes::SourceFileAttributes::hasInterface(), and Rcpp::attributes::kInterfaceCpp.

Here is the call graph for this function:



## 6.210.4 Member Data Documentation

6.210.4.1 `std::ostream Rcpp::attributes::ExportsGenerator::codeStream_ [private]`

Definition at line 639 of file attributes.cpp.

Referenced by `commit()`.

6.210.4.2 `std::string Rcpp::attributes::ExportsGenerator::commentPrefix_ [private]`

Definition at line 637 of file attributes.cpp.

Referenced by `commit()`.

6.210.4.3 `std::string Rcpp::attributes::ExportsGenerator::existingCode_ [private]`

Definition at line 638 of file attributes.cpp.

Referenced by `commit()`, and `ExportsGenerator()`.

6.210.4.4 `bool Rcpp::attributes::ExportsGenerator::hasCppInterface_ [private]`

Definition at line 640 of file attributes.cpp.

Referenced by `writeFunctions()`.



6.210.4.5 `std::string Rcpp::attributes::ExportsGenerator::package_ [private]`

Definition at line 635 of file `attributes.cpp`.

6.210.4.6 `std::string Rcpp::attributes::ExportsGenerator::packageCpp_ [private]`

Definition at line 636 of file `attributes.cpp`.

Referenced by `ExportsGenerator()`.

6.210.4.7 `std::string Rcpp::attributes::ExportsGenerator::targetFile_ [private]`

Definition at line 634 of file `attributes.cpp`.

Referenced by `commit()`, `ExportsGenerator()`, and `remove()`.

The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

## 6.211 Rcpp::attributes::ExportsGenerators Class Reference

### Public Types

- typedef `std::vector< ExportsGenerator * >::iterator ltr`

### Public Member Functions

- [ExportsGenerators \(\)](#)
- virtual `~ExportsGenerators ()`
- void `add (ExportsGenerator *pGenerator)`
- void `writeBegin ()`
- void `writeFunctions (const SourceFileAttributes &attributes, bool verbose)`
- void `writeEnd ()`
- `std::vector< std::string > commit (const std::vector< std::string > &includes)`
- `std::vector< std::string > remove ()`

### Private Member Functions

- [ExportsGenerators \(const ExportsGenerators &\)](#)
- [ExportsGenerators & operator= \(const ExportsGenerators &\)](#)

## Private Attributes

- `std::vector< ExportsGenerator * > generators_`

### 6.211.1 Detailed Description

Definition at line 726 of file attributes.cpp.

### 6.211.2 Member Typedef Documentation

6.211.2.1 `typedef std::vector<ExportsGenerator*>::iterator Rcpp::attributes::ExportsGenerators::ltr`

Definition at line 728 of file attributes.cpp.

### 6.211.3 Constructor & Destructor Documentation

6.211.3.1 `Rcpp::attributes::ExportsGenerators::ExportsGenerators ( ) [inline]`

Definition at line 730 of file attributes.cpp.

6.211.3.2 `Rcpp::attributes::ExportsGenerators::~~ExportsGenerators ( ) [virtual]`

Definition at line 2289 of file attributes.cpp.

6.211.3.3 `Rcpp::attributes::ExportsGenerators::ExportsGenerators ( const ExportsGenerators & ) [private]`

### 6.211.4 Member Function Documentation

6.211.4.1 `void Rcpp::attributes::ExportsGenerators::add ( ExportsGenerator * pGenerator )`

Definition at line 2298 of file attributes.cpp.

Referenced by `compileAttributes()`.

6.211.4.2 `std::vector< std::string > Rcpp::attributes::ExportsGenerators::commit ( const std::vector< std::string > & includes )`

Definition at line 2320 of file attributes.cpp.

6.211.4.3 `ExportsGenerators& Rcpp::attributes::ExportsGenerators::operator= ( const ExportsGenerators & )`  
[private]

6.211.4.4 `std::vector< std::string > Rcpp::attributes::ExportsGenerators::remove ( )`

Definition at line 2334 of file attributes.cpp.

References `Rcpp::attributes::isQuoted()`.

Here is the call graph for this function:



6.211.4.5 `void Rcpp::attributes::ExportsGenerators::writeBegin ( )`

Definition at line 2302 of file attributes.cpp.

6.211.4.6 `void Rcpp::attributes::ExportsGenerators::writeEnd ( )`

Definition at line 2314 of file attributes.cpp.

6.211.4.7 `void Rcpp::attributes::ExportsGenerators::writeFunctions ( const SourceFileAttributes & attributes, bool verbose )`

Definition at line 2307 of file attributes.cpp.

## 6.211.5 Member Data Documentation

6.211.5.1 `std::vector<ExportsGenerator*> Rcpp::attributes::ExportsGenerators::generators_` [private]

Definition at line 753 of file attributes.cpp.

The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

## 6.212 Rcpp::traits::Extractor< RTYPE, NA, VECTOR > Struct Template Reference

```
#include <Extractor.h>
```

### Public Types

- typedef VECTOR [type](#)

#### 6.212.1 Detailed Description

```
template<int RTYPE, bool NA, typename VECTOR>  
struct Rcpp::traits::Extractor< RTYPE, NA, VECTOR >
```

Definition at line 29 of file Extractor.h.

#### 6.212.2 Member Typedef Documentation

6.212.2.1 `template<int RTYPE, bool NA, typename VECTOR> typedef VECTOR Rcpp::traits::Extractor< RTYPE, NA, VECTOR >::type`

Definition at line 30 of file Extractor.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/Extractor.h](#)

## 6.213 tinyformat::detail::is\_convertible< T1, T2 >::fail Struct Reference

### Public Attributes

- char [dummy](#) [2]

#### 6.213.1 Detailed Description

```
template<typename T1, typename T2>  
struct tinyformat::detail::is_convertible< T1, T2 >::fail
```

Definition at line 189 of file tinyformat.h.

### 6.213.2 Member Data Documentation

6.213.2.1 `template<typename T1 , typename T2 > char tinyformat::detail::is_convertible< T1, T2 >::fail::dummy[2]`

Definition at line 189 of file `tinyformat.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/utils/tinyformat.h`

## 6.214 Rcpp::Fast< VECTOR > Class Template Reference

```
#include <Fast.h>
```

### Public Types

- `typedef VECTOR::stored_type value_type`

### Public Member Functions

- `Fast (VECTOR &v_)`
- `value_type & operator[] (R_xlen_t i)`
- `const value_type & operator[] (R_xlen_t i) const`
- `R_xlen_t size () const`

### Private Attributes

- `VECTOR & v`
- `value_type * data`

### 6.214.1 Detailed Description

```
template<typename VECTOR>
class Rcpp::Fast< VECTOR >
```

Definition at line 27 of file `Fast.h`.

### 6.214.2 Member Typedef Documentation

6.214.2.1 `template<typename VECTOR> typedef VECTOR::stored_type Rcpp::Fast< VECTOR >::value_type`

Definition at line 29 of file `Fast.h`.

### 6.214.3 Constructor & Destructor Documentation

6.214.3.1 `template<typename VECTOR> Rcpp::Fast< VECTOR >::Fast ( VECTOR & v_ ) [inline]`

Definition at line 31 of file Fast.h.

### 6.214.4 Member Function Documentation

6.214.4.1 `template<typename VECTOR> value_type& Rcpp::Fast< VECTOR >::operator[] ( R_xlen_t i ) [inline]`

Definition at line 33 of file Fast.h.

References `Rcpp::Fast< VECTOR >::data`.

6.214.4.2 `template<typename VECTOR> const value_type& Rcpp::Fast< VECTOR >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 34 of file Fast.h.

References `Rcpp::Fast< VECTOR >::data`.

6.214.4.3 `template<typename VECTOR> R_xlen_t Rcpp::Fast< VECTOR >::size ( ) const [inline]`

Definition at line 35 of file Fast.h.

References `Rcpp::Fast< VECTOR >::v`.

### 6.214.5 Member Data Documentation

6.214.5.1 `template<typename VECTOR> value_type* Rcpp::Fast< VECTOR >::data [private]`

Definition at line 39 of file Fast.h.

Referenced by `Rcpp::Fast< VECTOR >::operator[]()`.

6.214.5.2 `template<typename VECTOR> VECTOR& Rcpp::Fast< VECTOR >::v [private]`

Definition at line 38 of file Fast.h.

Referenced by `Rcpp::Fast< VECTOR >::size()`.

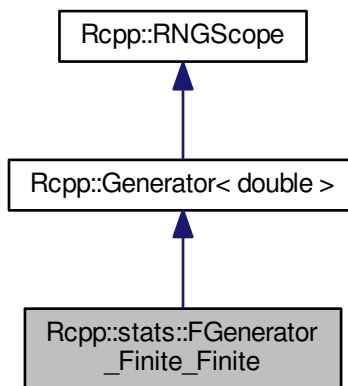
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/Fast.h`

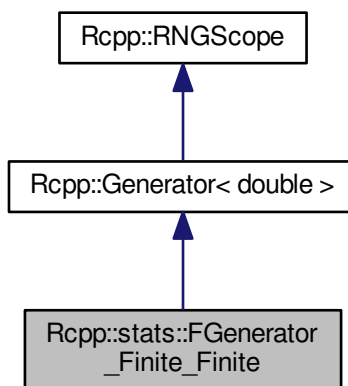
## 6.215 Rcpp::stats::FGenerator\_Finite\_Finite Class Reference

```
#include <rf.h>
```

Inheritance diagram for Rcpp::stats::FGenerator\_Finite\_Finite:



Collaboration diagram for Rcpp::stats::FGenerator\_Finite\_Finite:



### Public Member Functions

- [FGenerator\\_Finite\\_Finite](#) (double n1\_, double n2\_)
- double [operator\(\)](#) () const

## Private Attributes

- double [n1\\_\\_2](#)
- double [n2\\_\\_2](#)
- double [ratio](#)

## Additional Inherited Members

### 6.215.1 Detailed Description

Definition at line 28 of file rf.h.

### 6.215.2 Constructor & Destructor Documentation

6.215.2.1 `Rcpp::stats::FGenerator_Finite_Finite::FGenerator_Finite_Finite ( double n1_, double n2_ )` `[inline]`

Definition at line 31 of file rf.h.

### 6.215.3 Member Function Documentation

6.215.3.1 `double Rcpp::stats::FGenerator_Finite_Finite::operator() ( ) const` `[inline]`

Definition at line 34 of file rf.h.

References [n1\\_\\_2](#), [n2\\_\\_2](#), and [ratio](#).

### 6.215.4 Member Data Documentation

6.215.4.1 `double Rcpp::stats::FGenerator_Finite_Finite::n1__2` `[private]`

Definition at line 41 of file rf.h.

Referenced by `operator()()`, and `Rcpp::stats::FGenerator_Finite_NotFinite::operator()()`.

6.215.4.2 `double Rcpp::stats::FGenerator_Finite_Finite::n2__2` `[private]`

Definition at line 41 of file rf.h.

Referenced by `operator()()`, and `Rcpp::stats::FGenerator_NotFinite_Finite::operator()()`.



6.215.4.3 `double Rcpp::stats::FGenerator_Finite_Finite::ratio` [private]

Definition at line 41 of file rf.h.

Referenced by operator().

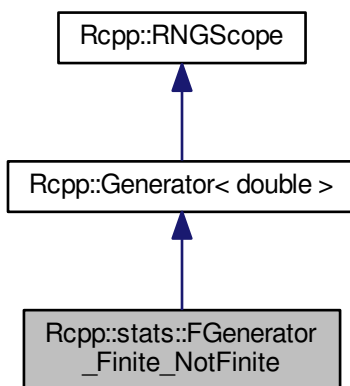
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rf.h](#)

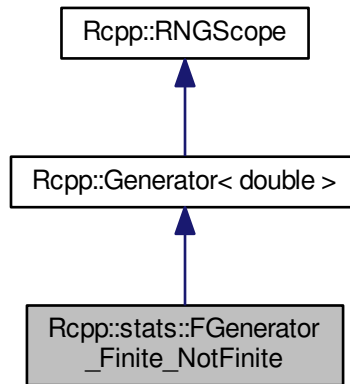
## 6.216 Rcpp::stats::FGenerator\_Finite\_NotFinite Class Reference

```
#include <rf.h>
```

Inheritance diagram for Rcpp::stats::FGenerator\_Finite\_NotFinite:



Collaboration diagram for Rcpp::stats::FGenerator\_Finite\_NotFinite:



### Public Member Functions

- [FGenerator\\_Finite\\_NotFinite](#) (double n1\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [n1](#)
- double [n1\\_\\_2](#)

### Additional Inherited Members

#### 6.216.1 Detailed Description

Definition at line 58 of file rf.h.

#### 6.216.2 Constructor & Destructor Documentation

6.216.2.1 `Rcpp::stats::FGenerator_Finite_NotFinite::FGenerator_Finite_NotFinite ( double n1_ ) [inline]`

Definition at line 61 of file rf.h.

### 6.216.3 Member Function Documentation

6.216.3.1 `double Rcpp::stats::FGenerator_Finite_NotFinite::operator()( ) const` `[inline]`

Definition at line 63 of file rf.h.

References `Rcpp::stats::FGenerator_Finite_Finite::n1__2`.

### 6.216.4 Member Data Documentation

6.216.4.1 `double Rcpp::stats::FGenerator_Finite_NotFinite::n1` `[private]`

Definition at line 69 of file rf.h.

6.216.4.2 `double Rcpp::stats::FGenerator_Finite_NotFinite::n1__2` `[private]`

Definition at line 69 of file rf.h.

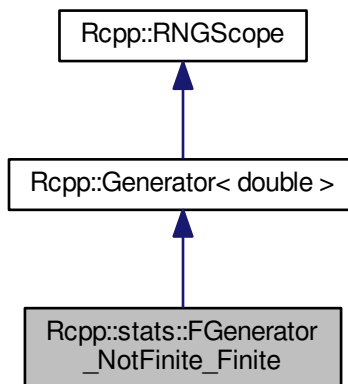
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rf.h](#)

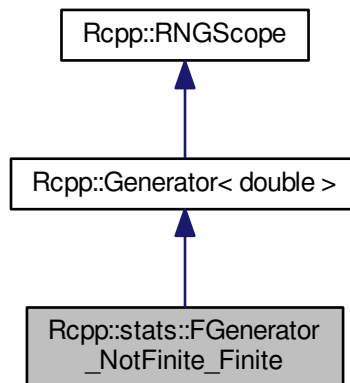
## 6.217 Rcpp::stats::FGenerator\_NotFinite\_Finite Class Reference

```
#include <rf.h>
```

Inheritance diagram for `Rcpp::stats::FGenerator_NotFinite_Finite`:



Collaboration diagram for Rcpp::stats::FGenerator\_NotFinite\_Finite:



### Public Member Functions

- [FGenerator\\_NotFinite\\_Finite](#) (double n2\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [n2](#)
- double [n2\\_\\_2](#)

### Additional Inherited Members

#### 6.217.1 Detailed Description

Definition at line 44 of file rf.h.

#### 6.217.2 Constructor & Destructor Documentation

6.217.2.1 `Rcpp::stats::FGenerator_NotFinite_Finite::FGenerator_NotFinite_Finite ( double n2_ ) [inline]`

Definition at line 47 of file rf.h.

### 6.217.3 Member Function Documentation

6.217.3.1 `double Rcpp::stats::FGenerator_NotFinite_Finite::operator() ( ) const` `[inline]`

Definition at line 49 of file rf.h.

References `Rcpp::stats::FGenerator_Finite_Finite::n2__2`.

### 6.217.4 Member Data Documentation

6.217.4.1 `double Rcpp::stats::FGenerator_NotFinite_Finite::n2` `[private]`

Definition at line 55 of file rf.h.

6.217.4.2 `double Rcpp::stats::FGenerator_NotFinite_Finite::n2__2` `[private]`

Definition at line 55 of file rf.h.

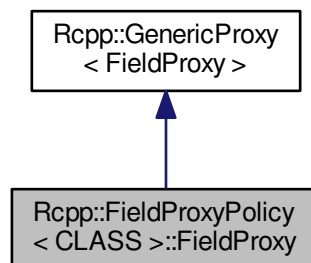
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rf.h](#)

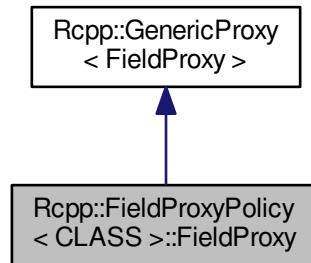
## 6.218 Rcpp::FieldProxyPolicy< CLASS >::FieldProxy Class Reference

```
#include <FieldProxy.h>
```

Inheritance diagram for `Rcpp::FieldProxyPolicy< CLASS >::FieldProxy`:



Collaboration diagram for Rcpp::FieldProxyPolicy< CLASS >::FieldProxy:



## Public Member Functions

- [FieldProxy](#) (CLASS &v, const std::string &name)
- [FieldProxy](#) & [operator=](#) (const [FieldProxy](#) &rhs)
- template<typename T >  
[FieldProxy](#) & [operator=](#) (const T &rhs)
- template<typename T >  
[operator T](#) () const
- [operator SEXP](#) () const
- template<typename CLASS >  
[FieldProxyPolicy](#)< CLASS >::[FieldProxy](#) & [operator=](#) (const [FieldProxyPolicy](#)< CLASS >::[FieldProxy](#) &rhs)
- template<typename T >  
[FieldProxyPolicy](#)< CLASS >::[FieldProxy](#) & [operator=](#) (const T &rhs)

## Private Member Functions

- SEXP [get](#) () const
- void [set](#) (SEXP x)

## Private Attributes

- CLASS & [parent](#)
- const std::string & [field\\_name](#)

## 6.218.1 Detailed Description

```

template<typename CLASS>
class Rcpp::FieldProxyPolicy< CLASS >::FieldProxy
  
```

Definition at line 27 of file FieldProxy.h.

## 6.218.2 Constructor & Destructor Documentation

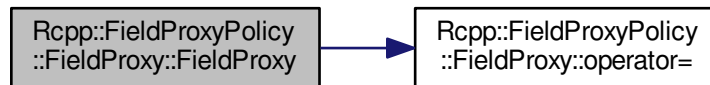
6.218.2.1 `template<typename CLASS > Rcpp::FieldProxyPolicy< CLASS >::FieldProxy ( CLASS & v, const std::string & name ) [inline]`

Definition at line 29 of file FieldProxy.h.

References `Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::operator=()`.

Referenced by `Rcpp::FieldProxyPolicy< CLASS >::field()`.

Here is the call graph for this function:



## 6.218.3 Member Function Documentation

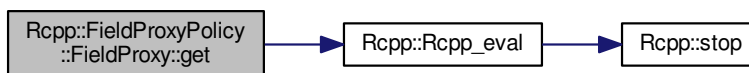
6.218.3.1 `template<typename CLASS > SEXP Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::get ( ) const [inline], [private]`

Definition at line 43 of file FieldProxy.h.

References `Rcpp::Rcpp_eval()`.

Referenced by `Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::operator=()`.

Here is the call graph for this function:



6.218.3.2 `template<typename CLASS > Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::operator SEXP ( ) const`  
`[inline]`

Definition at line 37 of file FieldProxy.h.

6.218.3.3 `template<typename CLASS > template<typename T > Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::operator T`  
`( ) const`

Definition at line 195 of file proxy.h.

6.218.3.4 `template<typename CLASS > FieldProxy& Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::operator= ( const`  
`FieldProxy & rhs )`

Referenced by `Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::FieldProxy()`.

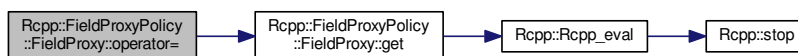
6.218.3.5 `template<typename CLASS > template<typename T > FieldProxy& Rcpp::FieldProxyPolicy< CLASS`  
`>::FieldProxy::operator= ( const T & rhs )`

6.218.3.6 `template<typename CLASS > template<typename CLASS > FieldProxyPolicy<CLASS>::FieldProxy&`  
`Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::operator= ( const FieldProxyPolicy< CLASS >::FieldProxy &`  
`rhs )`

Definition at line 178 of file proxy.h.

References `Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::get()`.

Here is the call graph for this function:



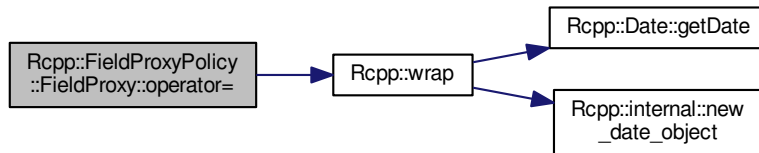


6.218.3.7 `template<typename CLASS > template<typename T > FieldProxyPolicy<CLASS>::FieldProxy& Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::operator= ( const T & rhs )`

Definition at line 186 of file proxy.h.

References Rcpp::wrap().

Here is the call graph for this function:

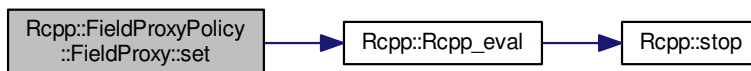


6.218.3.8 `template<typename CLASS > void Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::set ( SEXP x ) [inline], [private]`

Definition at line 47 of file FieldProxy.h.

References Rcpp::Rcpp\_eval().

Here is the call graph for this function:



## 6.218.4 Member Data Documentation

6.218.4.1 `template<typename CLASS > const std::string& Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::field_name [private]`

Definition at line 41 of file FieldProxy.h.

6.218.4.2 `template<typename CLASS > CLASS& Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::parent` [private]

Definition at line 40 of file FieldProxy.h.

The documentation for this class was generated from the following files:

- [inst/include/Rcpp/proxy/FieldProxy.h](#)
- [inst/include/Rcpp/api/meat/proxy.h](#)

## 6.219 Rcpp::FieldProxyPolicy< CLASS > Class Template Reference

```
#include <FieldProxy.h>
```

### Classes

- class [const\\_FieldProxy](#)
- class [FieldProxy](#)

### Public Member Functions

- [FieldProxy field](#) (const std::string &name)
- [const\\_FieldProxy field](#) (const std::string &name) const

### 6.219.1 Detailed Description

```
template<typename CLASS >
class Rcpp::FieldProxyPolicy< CLASS >
```

Definition at line 24 of file FieldProxy.h.

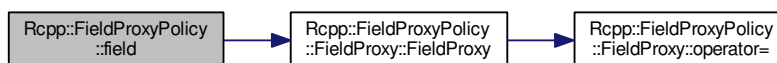
### 6.219.2 Member Function Documentation

6.219.2.1 `template<typename CLASS > FieldProxy Rcpp::FieldProxyPolicy< CLASS >::field ( const std::string & name )` [inline]

Definition at line 74 of file FieldProxy.h.

References `Rcpp::FieldProxyPolicy< CLASS >::FieldProxy::FieldProxy()`.

Here is the call graph for this function:



6.219.2.2 `template<typename CLASS > const_FieldProxy Rcpp::FieldProxyPolicy< CLASS >::field ( const std::string & name ) const [inline]`

Definition at line 77 of file FieldProxy.h.

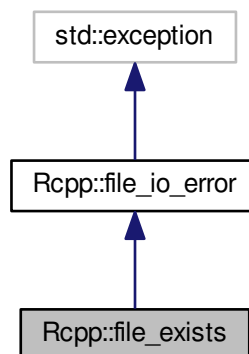
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/proxy/FieldProxy.h](#)

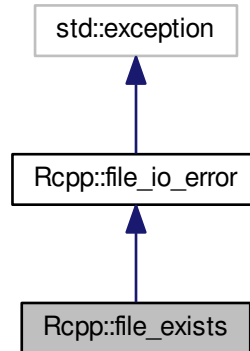
## 6.220 Rcpp::file\_exists Class Reference

```
#include <exceptions.h>
```

Inheritance diagram for Rcpp::file\_exists:



Collaboration diagram for Rcpp::file\_exists:



## Public Member Functions

- [file\\_exists](#) (const std::string &file) throw ()

### 6.220.1 Detailed Description

Definition at line 78 of file exceptions.h.

### 6.220.2 Constructor & Destructor Documentation

#### 6.220.2.1 Rcpp::file\_exists::file\_exists ( const std::string & file ) throw () [inline]

Definition at line 80 of file exceptions.h.

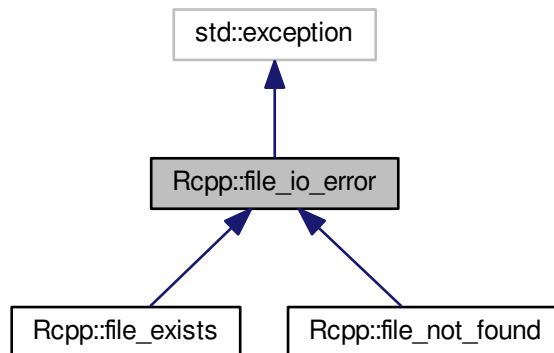
The documentation for this class was generated from the following file:

- inst/include/Rcpp/[exceptions.h](#)

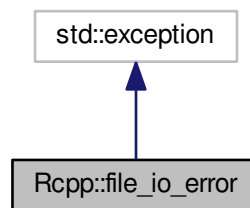
## 6.221 Rcpp::file\_io\_error Class Reference

```
#include <exceptions.h>
```

Inheritance diagram for Rcpp::file\_io\_error:



Collaboration diagram for Rcpp::file\_io\_error:



### Public Member Functions

- `file_io_error` (const std::string &file) throw ()
- `file_io_error` (int code, const std::string &file) throw ()
- `file_io_error` (const std::string &msg, const std::string &file) throw ()
- virtual `~file_io_error` () throw ()
- virtual const char \* `what` () const throw ()
- std::string `filePath` () const throw ()

## Private Attributes

- `std::string` [message](#)
- `std::string` [file](#)

### 6.221.1 Detailed Description

Definition at line 60 of file exceptions.h.

### 6.221.2 Constructor & Destructor Documentation

6.221.2.1 `Rcpp::file_io_error::file_io_error ( const std::string & file ) throw` [\[inline\]](#)

Definition at line 62 of file exceptions.h.

6.221.2.2 `Rcpp::file_io_error::file_io_error ( int code, const std::string & file ) throw` [\[inline\]](#)

Definition at line 63 of file exceptions.h.

6.221.2.3 `Rcpp::file_io_error::file_io_error ( const std::string & msg, const std::string & file ) throw` [\[inline\]](#)

Definition at line 64 of file exceptions.h.

6.221.2.4 `virtual Rcpp::file_io_error::~file_io_error ( ) throw` [\[inline\]](#), [\[virtual\]](#)

Definition at line 65 of file exceptions.h.

### 6.221.3 Member Function Documentation

6.221.3.1 `std::string Rcpp::file_io_error::filePath ( ) const throw` [\[inline\]](#)

Definition at line 67 of file exceptions.h.

Referenced by `compileAttributes()`.

6.221.3.2 `virtual const char* Rcpp::file_io_error::what ( ) const throw` [\[inline\]](#), [\[virtual\]](#)

Definition at line 66 of file exceptions.h.

References `Rcpp::exception::message`.

## 6.221.4 Member Data Documentation

### 6.221.4.1 `std::string Rcpp::file_io_error::file` [private]

Definition at line 70 of file exceptions.h.

### 6.221.4.2 `std::string Rcpp::file_io_error::message` [private]

Definition at line 67 of file exceptions.h.

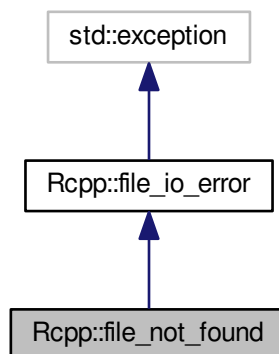
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/exceptions.h](#)

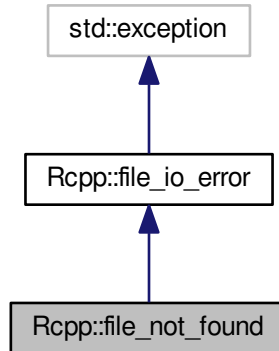
## 6.222 Rcpp::file\_not\_found Class Reference

```
#include <exceptions.h>
```

Inheritance diagram for Rcpp::file\_not\_found:



Collaboration diagram for Rcpp::file\_not\_found:



## Public Member Functions

- `file_not_found` (const std::string &file) throw ()

### 6.222.1 Detailed Description

Definition at line 73 of file exceptions.h.

### 6.222.2 Constructor & Destructor Documentation

6.222.2.1 `Rcpp::file_not_found::file_not_found ( const std::string & file ) throw ()` [inline]

Definition at line 75 of file exceptions.h.

The documentation for this class was generated from the following file:

- inst/include/Rcpp/exceptions.h



## 6.223 Rcpp::attributes::FileInfo Class Reference

### Public Member Functions

- [FileInfo](#) (const std::string &path)
- [FileInfo](#) (const [List](#) &fileInfo)
- [List toList](#) () const
- std::string [path](#) () const
- bool [exists](#) () const
- double [lastModified](#) () const
- std::string [extension](#) () const
- bool [operator<](#) (const [FileInfo](#) &other) const
- bool [operator==](#) (const [FileInfo](#) &other) const
- bool [operator!=](#) (const [FileInfo](#) &other) const
- std::ostream & [operator<<](#) (std::ostream &os) const

### Private Attributes

- std::string [path\\_](#)
- bool [exists\\_](#)
- double [lastModified\\_](#)

#### 6.223.1 Detailed Description

Definition at line 49 of file attributes.cpp.

#### 6.223.2 Constructor & Destructor Documentation

##### 6.223.2.1 Rcpp::attributes::FileInfo::FileInfo ( const std::string & path ) [explicit]

Definition at line 2673 of file attributes.cpp.

References [exists\\_](#), and [lastModified\\_](#).

Referenced by [Rcpp::attributes::createDirectory\(\)](#), [Rcpp::attributes::isRoxygenCpp\(\)](#), and [Rcpp::attributes::removeFile\(\)](#).

##### 6.223.2.2 Rcpp::attributes::FileInfo::FileInfo ( const List & fileInfo ) [inline], [explicit]

Definition at line 56 of file attributes.cpp.

References [exists\\_](#), [lastModified\\_](#), and [path\\_](#).

### 6.223.3 Member Function Documentation

#### 6.223.3.1 `bool Rcpp::attributes::FileInfo::exists ( ) const [inline]`

Definition at line 72 of file `attributes.cpp`.

References `exists_`.

Referenced by `Rcpp::attributes::ExportsGenerator::commit()`, `Rcpp::attributes::createDirectory()`, `Rcpp::attributes::isRoxygenCpp()`, and `Rcpp::attributes::removeFile()`.

#### 6.223.3.2 `std::string Rcpp::attributes::FileInfo::extension ( ) const [inline]`

Definition at line 75 of file `attributes.cpp`.

References `path_`.

Referenced by `Rcpp::attributes::isRoxygenCpp()`.

#### 6.223.3.3 `double Rcpp::attributes::FileInfo::lastModified ( ) const [inline]`

Definition at line 73 of file `attributes.cpp`.

References `lastModified_`.

Referenced by `Rcpp::attributes::isRoxygenCpp()`.

#### 6.223.3.4 `bool Rcpp::attributes::FileInfo::operator!=( const FileInfo & other ) const [inline]`

Definition at line 93 of file `attributes.cpp`.

#### 6.223.3.5 `bool Rcpp::attributes::FileInfo::operator< ( const FileInfo & other ) const [inline]`

Definition at line 83 of file `attributes.cpp`.

References `path_`.

#### 6.223.3.6 `std::ostream& Rcpp::attributes::FileInfo::operator<< ( std::ostream & os ) const [inline]`

Definition at line 97 of file `attributes.cpp`.

References `path_`.

6.223.3.7 `bool Rcpp::attributes::FileInfo::operator==( const FileInfo & other ) const [inline]`

Definition at line 87 of file attributes.cpp.

References exists\_, lastModified\_, and path\_.

6.223.3.8 `std::string Rcpp::attributes::FileInfo::path ( ) const [inline]`

Definition at line 71 of file attributes.cpp.

References path\_.

Referenced by Rcpp::attributes::isRoxygenCpp().

6.223.3.9 `List Rcpp::attributes::FileInfo::toList ( ) const [inline]`

Definition at line 63 of file attributes.cpp.

References exists\_, lastModified\_, and path\_.

Referenced by Rcpp::attributes::isRoxygenCpp().

## 6.223.4 Member Data Documentation

6.223.4.1 `bool Rcpp::attributes::FileInfo::exists_ [private]`

Definition at line 104 of file attributes.cpp.

Referenced by exists(), FileInfo(), operator==( ), and toList().

6.223.4.2 `double Rcpp::attributes::FileInfo::lastModified_ [private]`

Definition at line 105 of file attributes.cpp.

Referenced by FileInfo(), lastModified(), operator==( ), and toList().

6.223.4.3 `std::string Rcpp::attributes::FileInfo::path_ [private]`

Definition at line 103 of file attributes.cpp.

Referenced by extension(), FileInfo(), operator<(), operator<<(), operator==( ), path(), and toList().

The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

## 6.224 Rcpp::fixed\_call< RESULT\_TYPE > Class Template Reference

```
#include <Language.h>
```

### Public Types

- typedef RESULT\_TYPE [result\\_type](#)

### Public Member Functions

- [fixed\\_call](#) (Language call\_)
- [fixed\\_call](#) (Function fun)
- RESULT\_TYPE [operator](#)() ()

### Private Attributes

- [Language call](#)

#### 6.224.1 Detailed Description

```
template<typename RESULT_TYPE = SEXP>  
class Rcpp::fixed_call< RESULT_TYPE >
```

Definition at line 164 of file Language.h.

#### 6.224.2 Member Typedef Documentation

6.224.2.1 `template<typename RESULT_TYPE = SEXP> typedef RESULT_TYPE Rcpp::fixed_call< RESULT_TYPE >::result_type`

Definition at line 166 of file Language.h.

#### 6.224.3 Constructor & Destructor Documentation

6.224.3.1 `template<typename RESULT_TYPE = SEXP> Rcpp::fixed_call< RESULT_TYPE >::fixed_call ( Language call_ )  
[inline]`

Definition at line 168 of file Language.h.

```
6.224.3.2 template<typename RESULT_TYPE = SEXP> Rcpp::fixed_call< RESULT_TYPE >::fixed_call ( Function fun )
[inline]
```

Definition at line 169 of file Language.h.

#### 6.224.4 Member Function Documentation

```
6.224.4.1 template<typename RESULT_TYPE = SEXP> RESULT_TYPE Rcpp::fixed_call< RESULT_TYPE >::operator() ( )
[inline]
```

Definition at line 171 of file Language.h.

References Rcpp::fixed\_call< RESULT\_TYPE >::call.

#### 6.224.5 Member Data Documentation

```
6.224.5.1 template<typename RESULT_TYPE = SEXP> Language Rcpp::fixed_call< RESULT_TYPE >::call [private]
```

Definition at line 176 of file Language.h.

Referenced by Rcpp::fixed\_call< RESULT\_TYPE >::operator>(), Rcpp::unary\_call< T, RESULT\_TYPE >::operator(), and Rcpp::binary\_call< T1, T2, RESULT\_TYPE >::operator().

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Language.h](#)

## 6.225 Rcpp::sugar::forbidden\_conversion< bool > Class Template Reference

```
#include <SingleLogicalResult.h>
```

### 6.225.1 Detailed Description

```
template<bool>
class Rcpp::sugar::forbidden_conversion< bool >
```

Definition at line 29 of file SingleLogicalResult.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/logical/SingleLogicalResult.h](#)

## 6.226 Rcpp::sugar::forbidden\_conversion< true > Class Template Reference

```
#include <SingleLogicalResult.h>
```

### 6.226.1 Detailed Description

```
template<>
class Rcpp::sugar::forbidden_conversion< true >
```

Definition at line 32 of file SingleLogicalResult.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/logical/SingleLogicalResult.h](#)

## 6.227 tinyformat::detail::FormatArg Class Reference

```
#include <tinyformat.h>
```

### Public Member Functions

- [FormatArg](#) ()
- [FormatArg](#) (const T &value)
- void [format](#) (std::ostream &out, const char \*fmtBegin, const char \*fmtEnd, int ntrunc) const
- int [toInt](#) () const

### Static Private Member Functions

- [formatImpl](#) (std::ostream &out, const char \*fmtBegin, const char \*fmtEnd, int ntrunc, const void \*value)
- [toIntImpl](#) (const void \*value)

### Private Attributes

- const void \* [m\\_value](#)
- void(\* [m\\_formatImpl](#)) (std::ostream &out, const char \*fmtBegin, const char \*fmtEnd, int ntrunc, const void \*value)
- int(\* [m\\_toIntImpl](#)) (const void \*value)

### 6.227.1 Detailed Description

Definition at line 501 of file tinyformat.h.

### 6.227.2 Constructor & Destructor Documentation

#### 6.227.2.1 tinyformat::detail::FormatArg::FormatArg ( ) `[inline]`

Definition at line 504 of file tinyformat.h.

#### 6.227.2.2 `template<typename T > tinyformat::detail::FormatArg::FormatArg ( const T & value ) [inline]`

Definition at line 507 of file tinyformat.h.

### 6.227.3 Member Function Documentation

#### 6.227.3.1 `void tinyformat::detail::FormatArg::format ( std::ostream & out, const char * fmtBegin, const char * fmtEnd, int ntrunc ) const [inline]`

Definition at line 513 of file tinyformat.h.

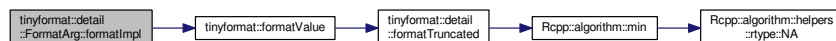
Referenced by tinyformat::detail::formatImpl().

#### 6.227.3.2 `template<typename T > static TINYFORMAT_HIDDEN void tinyformat::detail::FormatArg::formatImpl ( std::ostream & out, const char * fmtBegin, const char * fmtEnd, int ntrunc, const void * value ) [inline], [static], [private]`

Definition at line 526 of file tinyformat.h.

References tinyformat::formatValue().

Here is the call graph for this function:



#### 6.227.3.3 `int tinyformat::detail::FormatArg::tolnt ( ) const [inline]`

Definition at line 519 of file tinyformat.h.

Referenced by tinyformat::detail::streamStateFromFormat().

6.227.3.4 `template<typename T > static TINYFORMAT_HIDDEN int tinyformat::detail::FormatArg::toIntImpl ( const void * value ) [inline],[static],[private]`

Definition at line 533 of file tinyformat.h.

## 6.227.4 Member Data Documentation

6.227.4.1 `void(* tinyformat::detail::FormatArg::m_formatImpl) (std::ostream &out, const char *fmtBegin, const char *fmtEnd, int ntrunc, const void *value) [private]`

Definition at line 539 of file tinyformat.h.

6.227.4.2 `int(* tinyformat::detail::FormatArg::m_toIntImpl) (const void *value) [private]`

Definition at line 541 of file tinyformat.h.

6.227.4.3 `const void* tinyformat::detail::FormatArg::m_value [private]`

Definition at line 538 of file tinyformat.h.

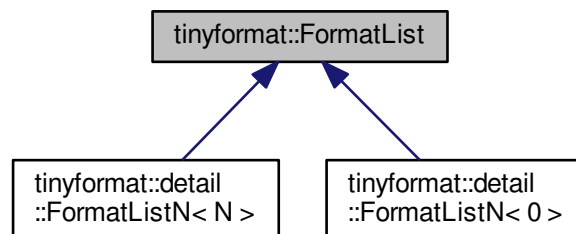
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/utils/tinyformat.h](#)

## 6.228 tinyformat::FormatList Class Reference

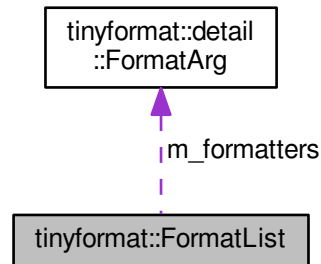
```
#include <tinyformat.h>
```

Inheritance diagram for tinyformat::FormatList:





Collaboration diagram for tinyformat::FormatList:



## Public Member Functions

- [FormatList](#) ([detail::FormatArg](#) \*formatters, int N)

## Private Attributes

- const [detail::FormatArg](#) \* `m_formatters`
- int `m_N`

## Friends

- void `vformat` (std::ostream &out, const char \*fmt, const [FormatList](#) &list)

### 6.228.1 Detailed Description

List of template arguments `format()`, held in a type-opaque way.

A const reference to [FormatList](#) (typedef'd as `FormatListRef`) may be conveniently used to pass arguments to non-template functions: All type information has been stripped from the arguments, leaving just enough of a common interface to perform formatting as required.

Definition at line 843 of file `tinyformat.h`.

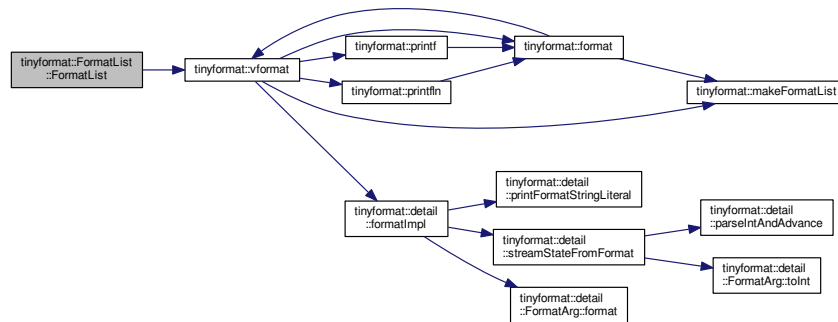
## 6.228.2 Constructor & Destructor Documentation

### 6.228.2.1 `tinyformat::FormatList::FormatList ( detail::FormatArg * formatters, int N )` `[inline]`

Definition at line 846 of file `tinyformat.h`.

References `tinyformat::vformat()`.

Here is the call graph for this function:



## 6.228.3 Friends And Related Function Documentation

### 6.228.3.1 `void vformat ( std::ostream & out, const char * fmt, const FormatList & list )` `[friend]`

## 6.228.4 Member Data Documentation

### 6.228.4.1 `const detail::FormatArg* tinyformat::FormatList::m_formatters` `[private]`

Definition at line 853 of file `tinyformat.h`.

Referenced by `tinyformat::vformat()`.

### 6.228.4.2 `int tinyformat::FormatList::m_N` `[private]`

Definition at line 854 of file `tinyformat.h`.

Referenced by `tinyformat::vformat()`.

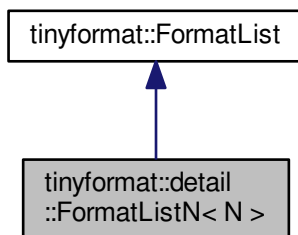
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/utis/tinyformat.h`

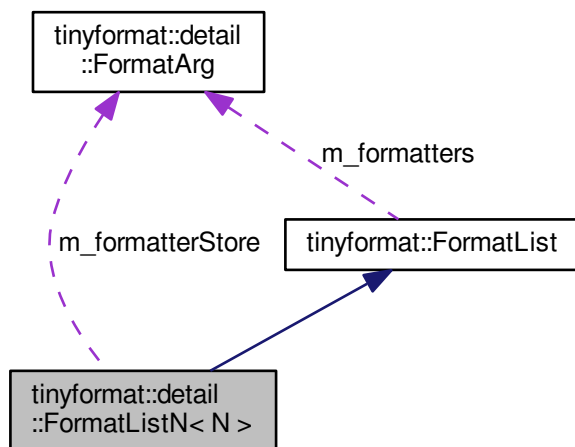
## 6.229 `tinyformat::detail::FormatListN< N >` Class Template Reference

```
#include <tinyformat.h>
```

Inheritance diagram for `tinyformat::detail::FormatListN< N >`:



Collaboration diagram for `tinyformat::detail::FormatListN< N >`:



### Public Member Functions

- void `init` (int)

## Private Attributes

- [FormatArg m\\_formatterStore](#) [N]

### 6.229.1 Detailed Description

```
template<int N>
class tinyformat::detail::FormatListN< N >
```

Definition at line 865 of file tinyformat.h.

### 6.229.2 Member Function Documentation

6.229.2.1 `template<int N> void tinyformat::detail::FormatListN< N >::init ( int )` [inline]

Definition at line 875 of file tinyformat.h.

### 6.229.3 Member Data Documentation

6.229.3.1 `template<int N> FormatArg tinyformat::detail::FormatListN< N >::m_formatterStore[N]` [private]

Definition at line 898 of file tinyformat.h.

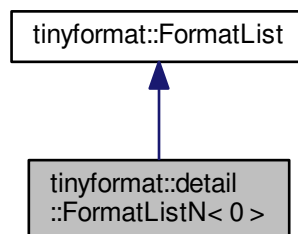
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/utils/tinyformat.h](#)

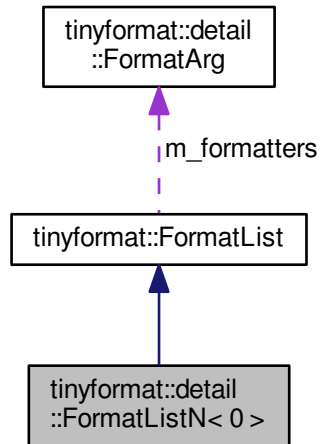
## 6.230 tinyformat::detail::FormatListN< 0 > Class Template Reference

```
#include <tinyformat.h>
```

Inheritance diagram for tinyformat::detail::FormatListN< 0 >:



Collaboration diagram for tinyformat::detail::FormatListN< 0 >:



## Public Member Functions

- [FormatListN\(\)](#)

### 6.230.1 Detailed Description

```
template<>
class tinyformat::detail::FormatListN< 0 >
```

Definition at line 903 of file `tinyformat.h`.

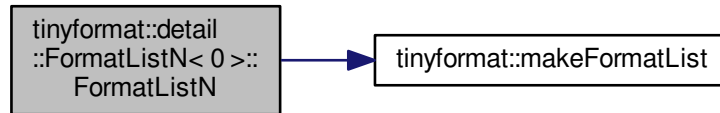
### 6.230.2 Constructor & Destructor Documentation

6.230.2.1 `tinyformat::detail::FormatListN< 0 >::FormatListN( )` [inline]

Definition at line 905 of file `tinyformat.h`.

References `tinyformat::makeFormatList()`.

Here is the call graph for this function:



The documentation for this class was generated from the following file:

- [inst/include/Rcpp/utils/tinyformat.h](#)

## 6.231 tinyformat::detail::formatValueAsType< T, fmtT, convertible > Struct Template Reference

```
#include <tinyformat.h>
```

### Static Public Member Functions

- static void [invoke](#) (std::ostream &, const T &)

#### 6.231.1 Detailed Description

```
template<typename T, typename fmtT, bool convertible = is_convertible<T, fmtT>::value>
struct tinyformat::detail::formatValueAsType< T, fmtT, convertible >
```

Definition at line 225 of file tinyformat.h.

#### 6.231.2 Member Function Documentation

```
6.231.2.1 template<typename T , typename fmtT , bool convertible = is_convertible<T, fmtT>::value> static void
tinyformat::detail::formatValueAsType< T, fmtT, convertible >::invoke ( std::ostream & , const T & )
[inline], [static]
```

Definition at line 227 of file tinyformat.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/utils/tinyformat.h](#)

## 6.232 `tinyformat::detail::formatValueAsType< T, fmtT, true >` Struct Template Reference

```
#include <tinyformat.h>
```

### Static Public Member Functions

- static void `invoke` (`std::ostream &out`, `const T &value`)

### 6.232.1 Detailed Description

```
template<typename T, typename fmtT>  
struct tinyformat::detail::formatValueAsType< T, fmtT, true >
```

Definition at line 232 of file `tinyformat.h`.

### 6.232.2 Member Function Documentation

6.232.2.1 `template<typename T, typename fmtT > static void tinyformat::detail::formatValueAsType< T, fmtT, true >::invoke ( std::ostream & out, const T & value )` [`inline`], [`static`]

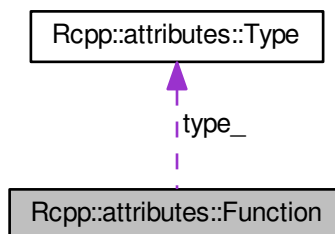
Definition at line 234 of file `tinyformat.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/utils/tinyformat.h`

## 6.233 `Rcpp::attributes::Function` Class Reference

Collaboration diagram for `Rcpp::attributes::Function`:



## Public Member Functions

- [Function](#) ()
- [Function](#) (const [Type](#) &*type*, const std::string &*name*, const std::vector< [Argument](#) > &*arguments*)
- [Function renamedTo](#) (const std::string &*name*) const
- std::string [signature](#) () const
- std::string [signature](#) (const std::string &*name*) const
- bool [isHidden](#) () const
- bool [empty](#) () const
- bool [operator==](#) (const [Function](#) &*other*) const
- bool [operator!=](#) (const [Function](#) &*other*) const
- const [Type](#) & [type](#) () const
- const std::string & [name](#) () const
- const std::vector< [Argument](#) > & [arguments](#) () const

## Private Attributes

- [Type](#) [type\\_](#)
- std::string [name\\_](#)
- std::vector< [Argument](#) > [arguments\\_](#)

### 6.233.1 Detailed Description

Definition at line 237 of file `attributes.cpp`.

### 6.233.2 Constructor & Destructor Documentation

#### 6.233.2.1 `Rcpp::attributes::Function::Function ( )` `[inline]`

Definition at line 239 of file `attributes.cpp`.

#### 6.233.2.2 `Rcpp::attributes::Function::Function ( const Type & type, const std::string & name, const std::vector< Argument > & arguments )` `[inline]`

Definition at line 240 of file `attributes.cpp`.

### 6.233.3 Member Function Documentation

#### 6.233.3.1 `const std::vector<Argument> & Rcpp::attributes::Function::arguments ( )` const `[inline]`

Definition at line 272 of file `attributes.cpp`.



6.233.3.2 `bool Rcpp::attributes::Function::empty ( ) const [inline]`

Definition at line 258 of file attributes.cpp.

Referenced by `Rcpp::attributes::operator<<()`.

6.233.3.3 `bool Rcpp::attributes::Function::isHidden ( ) const [inline]`

Definition at line 254 of file attributes.cpp.

Referenced by `Rcpp::attributes::CppExportsGenerator::doWriteFunctions()`.

6.233.3.4 `const std::string& Rcpp::attributes::Function::name ( ) const [inline]`

Definition at line 271 of file attributes.cpp.

Referenced by `Rcpp::attributes::generateCpp()`, and `Rcpp::attributes::CppExportsGenerator::writeEnd()`.

6.233.3.5 `bool Rcpp::attributes::Function::operator!=( const Function & other ) const [inline]`

Definition at line 266 of file attributes.cpp.

6.233.3.6 `bool Rcpp::attributes::Function::operator==( const Function & other ) const [inline]`

Definition at line 260 of file attributes.cpp.

References arguments\_, name\_, and type\_.

6.233.3.7 `Function Rcpp::attributes::Function::renamedTo ( const std::string & name ) const [inline]`

Definition at line 247 of file attributes.cpp.

Referenced by `Rcpp::attributes::CppExportsGenerator::doWriteFunctions()`, and `Rcpp::attributes::CppExportsIncludeGenerator::doWriteFunctions()`.

6.233.3.8 `std::string Rcpp::attributes::Function::signature ( ) const [inline]`

Definition at line 251 of file `attributes.cpp`.

References `signature()`.

Referenced by `signature()`, and `Rcpp::attributes::CppExportsGenerator::writeEnd()`.

Here is the call graph for this function:



6.233.3.9 `std::string Rcpp::attributes::Function::signature ( const std::string & name ) const`

Definition at line 974 of file `attributes.cpp`.

6.233.3.10 `const Type& Rcpp::attributes::Function::type ( ) const [inline]`

Definition at line 270 of file `attributes.cpp`.

## 6.233.4 Member Data Documentation

6.233.4.1 `std::vector<Argument> Rcpp::attributes::Function::arguments_ [private]`

Definition at line 277 of file `attributes.cpp`.

Referenced by `operator==()`.

6.233.4.2 `std::string Rcpp::attributes::Function::name_ [private]`

Definition at line 276 of file `attributes.cpp`.

Referenced by `operator==()`.

## 6.233.4.3 Type Rcpp::attributes::Function::type\_ [private]

Definition at line 275 of file attributes.cpp.

Referenced by operator==().

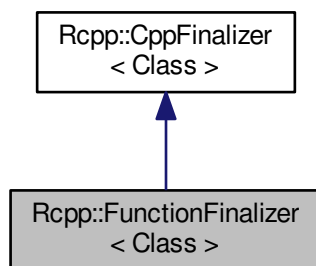
The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

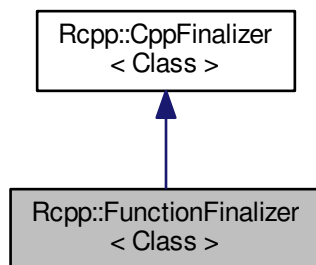
## 6.234 Rcpp::FunctionFinalizer&lt; Class &gt; Class Template Reference

```
#include <Module.h>
```

Inheritance diagram for Rcpp::FunctionFinalizer< Class >:



Collaboration diagram for Rcpp::FunctionFinalizer< Class >:



## Public Types

- typedef void(\* [Pointer](#)) (Class \*)

## Public Member Functions

- [FunctionFinalizer](#) ([Pointer](#) p)
- virtual void [run](#) (Class \*[object](#))

## Private Attributes

- [Pointer finalizer](#)

### 6.234.1 Detailed Description

```
template<typename Class >
class Rcpp::FunctionFinalizer< Class >
```

Definition at line 307 of file Module.h.

### 6.234.2 Member Typedef Documentation

6.234.2.1 `template<typename Class > typedef void(* Rcpp::FunctionFinalizer< Class >::Pointer) (Class *)`

Definition at line 309 of file Module.h.

### 6.234.3 Constructor & Destructor Documentation

6.234.3.1 `template<typename Class > Rcpp::FunctionFinalizer< Class >::FunctionFinalizer ( Pointer p )`  
`[inline]`

Definition at line 310 of file Module.h.

### 6.234.4 Member Function Documentation

6.234.4.1 `template<typename Class > virtual void Rcpp::FunctionFinalizer< Class >::run ( Class * object )` `[inline]`,  
`[virtual]`

Reimplemented from [Rcpp::CppFinalizer< Class >](#).

Definition at line 312 of file Module.h.

### 6.234.5 Member Data Documentation

6.234.5.1 `template<typename Class > Pointer Rcpp::FunctionFinalizer< Class >::finalizer` `[private]`

Definition at line 317 of file Module.h.

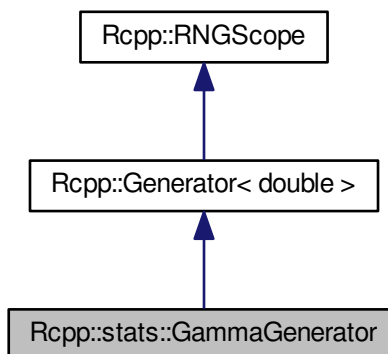
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

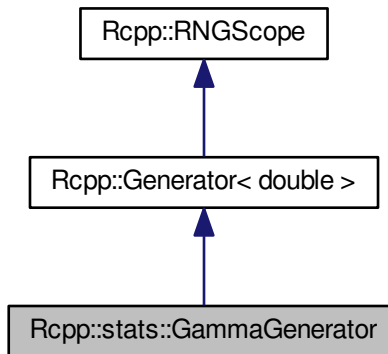
## 6.235 Rcpp::stats::GammaGenerator Class Reference

```
#include <rgamma.h>
```

Inheritance diagram for Rcpp::stats::GammaGenerator:



Collaboration diagram for Rcpp::stats::GammaGenerator:



## Public Member Functions

- [GammaGenerator](#) (double a\_, double scale\_)
- double [operator\(\)](#) () const

## Private Attributes

- double [a](#)
- double [scale](#)

## Additional Inherited Members

### 6.235.1 Detailed Description

Definition at line 28 of file rgamma.h.

### 6.235.2 Constructor & Destructor Documentation

6.235.2.1 `Rcpp::stats::GammaGenerator::GammaGenerator ( double a_, double scale_ ) [inline]`

Definition at line 30 of file rgamma.h.

### 6.235.3 Member Function Documentation

6.235.3.1 `double Rcpp::stats::GammaGenerator::operator()( ) const` `[inline]`

Definition at line 32 of file `rgamma.h`.

References `a`, and `scale`.

### 6.235.4 Member Data Documentation

6.235.4.1 `double Rcpp::stats::GammaGenerator::a` `[private]`

Definition at line 34 of file `rgamma.h`.

Referenced by `operator()`.

6.235.4.2 `double Rcpp::stats::GammaGenerator::scale` `[private]`

Definition at line 34 of file `rgamma.h`.

Referenced by `operator()`.

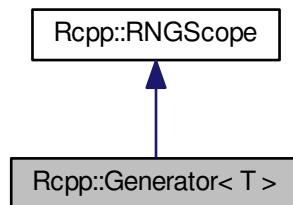
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rgamma.h](#)

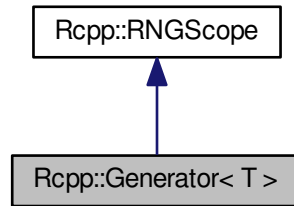
## 6.236 Rcpp::Generator< T > Class Template Reference

```
#include <random.h>
```

Inheritance diagram for `Rcpp::Generator< T >`:



Collaboration diagram for Rcpp::Generator< T >:



## Public Types

- typedef T [r\\_generator](#)

## Additional Inherited Members

### 6.236.1 Detailed Description

```
template<typename T>
class Rcpp::Generator< T >
```

Definition at line 34 of file random.h.

### 6.236.2 Member Typedef Documentation

6.236.2.1 `template<typename T> typedef T Rcpp::Generator< T >::r_generator`

Definition at line 36 of file random.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/random.h`

## 6.237 Rcpp::internal::generic\_element\_converter< RTYPE > Class Template Reference

```
#include <converter.h>
```



## Public Types

- typedef SEXP [target](#)

## Static Public Member Functions

- `template<typename T >`  
static SEXP [get](#) (const T &input)
- static SEXP [get](#) (const char \*input)
- static SEXP [get](#) (SEXP input)

### 6.237.1 Detailed Description

```
template<int RTYPE>
class Rcpp::internal::generic_element_converter< RTYPE >
```

Definition at line 74 of file converter.h.

### 6.237.2 Member Typedef Documentation

6.237.2.1 `template<int RTYPE> typedef SEXP Rcpp::internal::generic_element_converter< RTYPE >::target`

Definition at line 76 of file converter.h.

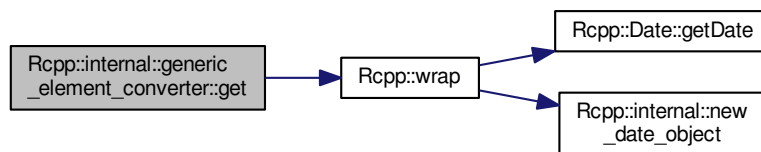
### 6.237.3 Member Function Documentation

6.237.3.1 `template<int RTYPE> template<typename T > static SEXP Rcpp::internal::generic_element_converter< RTYPE >::get ( const T & input ) [inline],[static]`

Definition at line 79 of file converter.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:

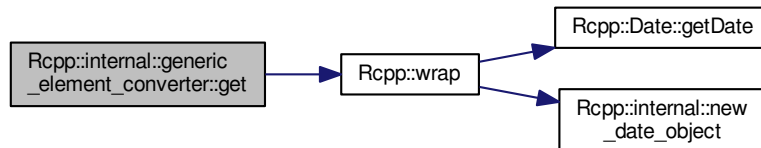


6.237.3.2 `template<int RTYPE> static SEXP Rcpp::internal::generic_element_converter< RTYPE >::get ( const char * input ) [inline],[static]`

Definition at line 83 of file converter.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:



6.237.3.3 `template<int RTYPE> static SEXP Rcpp::internal::generic_element_converter< RTYPE >::get ( SEXP input ) [inline],[static]`

Definition at line 87 of file converter.h.

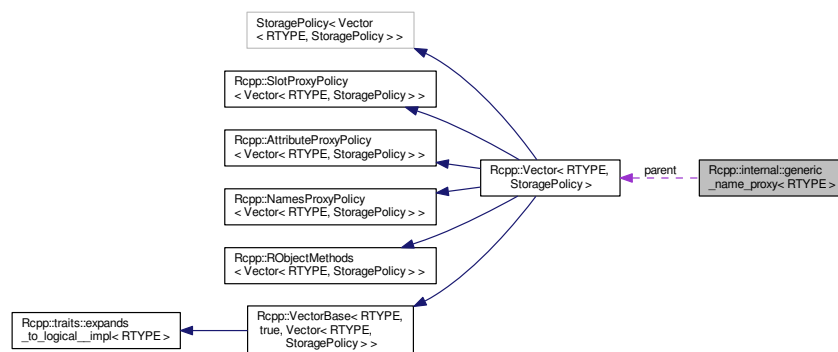
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/converter.h](#)

## 6.238 `Rcpp::internal::generic_name_proxy< RTYPE >` Class Template Reference

```
#include <00_forward_proxy.h>
```

Collaboration diagram for `Rcpp::internal::generic_name_proxy< RTYPE >`:



## Public Types

- typedef `::Rcpp::Vector`< RTYPE > `VECTOR`

## Public Member Functions

- `generic_name_proxy` (`VECTOR` &v, const std::string &name\_)
- `generic_name_proxy` (const `generic_name_proxy` &other)
- `~generic_name_proxy` ()
- `generic_name_proxy` & `operator=` (SEXP rhs)
- `generic_name_proxy` & `operator=` (const `generic_name_proxy` &other)
- template<typename T >  
`generic_name_proxy` & `operator=` (const T &rhs)
- `operator SEXP` () const
- template<typename T >  
`operator T` () const

## Private Member Functions

- void `set` (SEXP rhs)
- SEXP `get` () const

## Private Attributes

- `VECTOR` & `parent`
- std::string `name`

### 6.238.1 Detailed Description

```
template<int RTYPE>
class Rcpp::internal::generic_name_proxy< RTYPE >
```

Definition at line 34 of file 00\_forward\_proxy.h.

### 6.238.2 Member Typedef Documentation

6.238.2.1 `template<int RTYPE> typedef ::Rcpp::Vector<RTYPE> Rcpp::internal::generic_name_proxy< RTYPE >::VECTOR`

Definition at line 136 of file proxy.h.

### 6.238.3 Constructor & Destructor Documentation

6.238.3.1 `template<int RTYPE> Rcpp::internal::generic_name_proxy< RTYPE >::generic_name_proxy ( VECTOR & v, const std::string & name_ ) [inline]`

Definition at line 137 of file proxy.h.

6.238.3.2 `template<int RTYPE> Rcpp::internal::generic_name_proxy< RTYPE >::generic_name_proxy ( const generic_name_proxy< RTYPE > & other ) [inline]`

Definition at line 139 of file proxy.h.

6.238.3.3 `template<int RTYPE> Rcpp::internal::generic_name_proxy< RTYPE >::~~generic_name_proxy ( ) [inline]`

Definition at line 141 of file proxy.h.

### 6.238.4 Member Function Documentation

6.238.4.1 `template<int RTYPE> SEXP Rcpp::internal::generic_name_proxy< RTYPE >::get ( ) const [inline], [private]`

Definition at line 187 of file proxy.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::offset()`.

Referenced by `Rcpp::internal::generic_name_proxy< RTYPE >::operator=()`.

Here is the call graph for this function:



6.238.4.2 `template<int RTYPE> Rcpp::internal::generic_name_proxy< RTYPE >::operator SEXP ( ) const [inline]`

Definition at line 160 of file proxy.h.

6.238.4.3 `template<int RTYPE> template<typename T > Rcpp::internal::generic_name_proxy< RTYPE >::operator T ( )  
const [inline]`

Definition at line 165 of file proxy.h.

References RCPP\_DEBUG\_1.

6.238.4.4 `template<int RTYPE> generic_name_proxy& Rcpp::internal::generic_name_proxy< RTYPE >::operator= ( SEXP rhs ) [inline]`

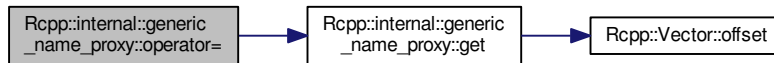
Definition at line 143 of file proxy.h.

6.238.4.5 `template<int RTYPE> generic_name_proxy& Rcpp::internal::generic_name_proxy< RTYPE >::operator= ( const generic_name_proxy< RTYPE > & other ) [inline]`

Definition at line 147 of file proxy.h.

References Rcpp::internal::generic\_name\_proxy< RTYPE >::get().

Here is the call graph for this function:

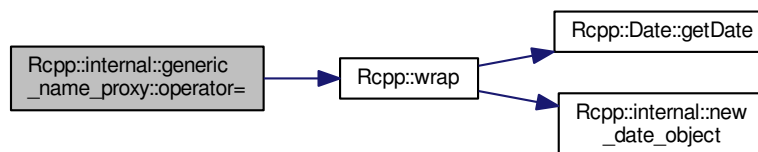


6.238.4.6 `template<int RTYPE> template<typename T > generic_name_proxy& Rcpp::internal::generic_name_proxy< RTYPE >::operator= ( const T & rhs ) [inline]`

Definition at line 153 of file proxy.h.

References Rcpp::wrap().

Here is the call graph for this function:

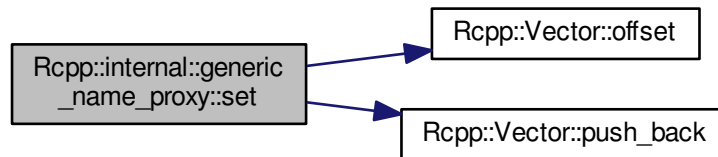


6.238.4.7 `template<int RTYPE> void Rcpp::internal::generic_name_proxy< RTYPE >::set( SEXP rhs ) [inline], [private]`

Definition at line 178 of file proxy.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::offset()`, and `Rcpp::Vector< RTYPE, StoragePolicy >::push_back()`.

Here is the call graph for this function:



## 6.238.5 Member Data Documentation

6.238.5.1 `template<int RTYPE> std::string Rcpp::internal::generic_name_proxy< RTYPE >::name [private]`

Definition at line 177 of file proxy.h.

6.238.5.2 `template<int RTYPE> VECTOR& Rcpp::internal::generic_name_proxy< RTYPE >::parent [private]`

Definition at line 176 of file proxy.h.

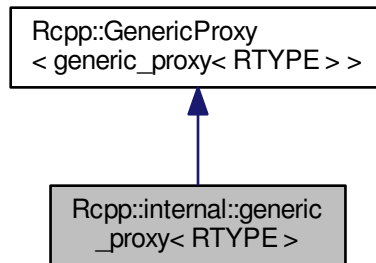
The documentation for this class was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/proxy.h](#)

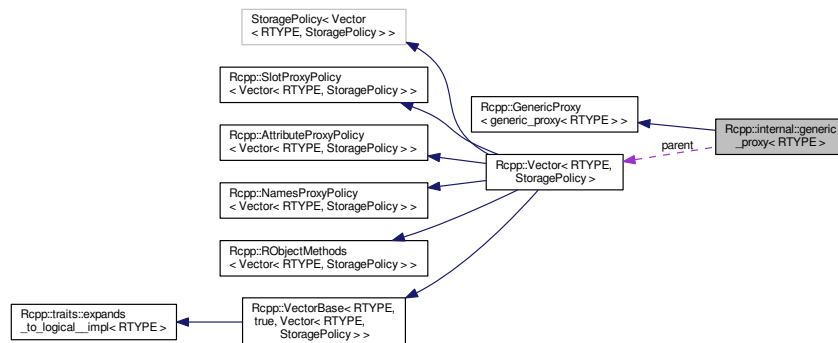
## 6.239 Rcpp::internal::generic\_proxy< RTYPE > Class Template Reference

```
#include <00_forward_proxy.h>
```

Inheritance diagram for Rcpp::internal::generic\_proxy< RTYPE >:



Collaboration diagram for Rcpp::internal::generic\_proxy< RTYPE >:



### Public Types

- typedef `::Rcpp::Vector< RTYPE >` `VECTOR`

### Public Member Functions

- `generic_proxy()`
- `generic_proxy(const generic_proxy &other)`
- `generic_proxy(VECTOR &v, R_xlen_t i)`

- [generic\\_proxy](#) & [operator=](#) (SEXP rhs)
- [generic\\_proxy](#) & [operator=](#) (const [generic\\_proxy](#) &rhs)
- `template<typename T >`  
[generic\\_proxy](#) & [operator=](#) (const T &rhs)
- [operator SEXP](#) () const
- `template<typename U >`  
[operator U](#) () const
- [operator bool](#) () const
- [operator int](#) () const
- void [swap](#) ([generic\\_proxy](#) &other)
- void [move](#) (R\_xlen\_t n)
- void [import](#) (const [generic\\_proxy](#) &other)

## Public Attributes

- [VECTOR](#) \* [parent](#)
- R\_xlen\_t [index](#)

## Private Member Functions

- void [set](#) (SEXP x)
- SEXP [get](#) () const

### 6.239.1 Detailed Description

```
template<int RTYPE>
class Rcpp::internal::generic_proxy< RTYPE >
```

Definition at line 30 of file 00\_forward\_proxy.h.

### 6.239.2 Member Typedef Documentation

6.239.2.1 `template<int RTYPE> typedef ::Rcpp::Vector<RTYPE> Rcpp::internal::generic_proxy< RTYPE >::VECTOR`

Definition at line 29 of file generic\_proxy.h.

### 6.239.3 Constructor & Destructor Documentation

6.239.3.1 `template<int RTYPE> Rcpp::internal::generic_proxy< RTYPE >::generic_proxy ( ) [inline]`

Definition at line 31 of file generic\_proxy.h.



6.239.3.2 `template<int RTYPE> Rcpp::internal::generic_proxy< RTYPE >::generic_proxy ( const generic_proxy< RTYPE > & other ) [inline]`

Definition at line 33 of file generic\_proxy.h.

6.239.3.3 `template<int RTYPE> Rcpp::internal::generic_proxy< RTYPE >::generic_proxy ( VECTOR & v, R_xlen_t i ) [inline]`

Definition at line 36 of file generic\_proxy.h.

## 6.239.4 Member Function Documentation

6.239.4.1 `template<int RTYPE> SEXP Rcpp::internal::generic_proxy< RTYPE >::get ( ) const [inline], [private]`

Definition at line 85 of file generic\_proxy.h.

6.239.4.2 `template<int RTYPE> void Rcpp::internal::generic_proxy< RTYPE >::import ( const generic_proxy< RTYPE > & other ) [inline]`

Definition at line 76 of file generic\_proxy.h.

6.239.4.3 `template<int RTYPE> void Rcpp::internal::generic_proxy< RTYPE >::move ( R_xlen_t n ) [inline]`

Definition at line 74 of file generic\_proxy.h.

6.239.4.4 `template<int RTYPE> Rcpp::internal::generic_proxy< RTYPE >::operator bool ( ) const [inline]`

Definition at line 63 of file generic\_proxy.h.

6.239.4.5 `template<int RTYPE> Rcpp::internal::generic_proxy< RTYPE >::operator int ( ) const [inline]`

Definition at line 64 of file generic\_proxy.h.

6.239.4.6 `template<int RTYPE> Rcpp::internal::generic_proxy< RTYPE >::operator SEXP ( ) const [inline]`

Definition at line 54 of file generic\_proxy.h.

6.239.4.7 `template<int RTYPE> template<typename U > Rcpp::internal::generic_proxy< RTYPE >::operator U ( ) const`  
`[inline]`

Definition at line 58 of file `generic_proxy.h`.

6.239.4.8 `template<int RTYPE> generic_proxy& Rcpp::internal::generic_proxy< RTYPE >::operator= ( SEXP rhs )`  
`[inline]`

Definition at line 38 of file `generic_proxy.h`.

6.239.4.9 `template<int RTYPE> generic_proxy& Rcpp::internal::generic_proxy< RTYPE >::operator= ( const`  
`generic_proxy< RTYPE > & rhs ) [inline]`

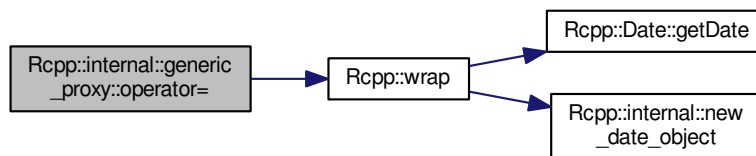
Definition at line 43 of file `generic_proxy.h`.

6.239.4.10 `template<int RTYPE> template<typename T > generic_proxy& Rcpp::internal::generic_proxy< RTYPE`  
`>::operator= ( const T & rhs ) [inline]`

Definition at line 49 of file `generic_proxy.h`.

References `Rcpp::wrap()`.

Here is the call graph for this function:



6.239.4.11 `template<int RTYPE> void Rcpp::internal::generic_proxy< RTYPE >::set ( SEXP x ) [inline],`  
`[private]`

Definition at line 82 of file `generic_proxy.h`.

6.239.4.12 `template<int RTYPE> void Rcpp::internal::generic_proxy< RTYPE >::swap ( generic_proxy< RTYPE > &`  
`other ) [inline]`

Definition at line 66 of file `generic_proxy.h`.

### 6.239.5 Member Data Documentation

6.239.5.1 `template<int RTYPE> R_xlen_t Rcpp::internal::generic_proxy< RTYPE >::index`

Definition at line 73 of file `generic_proxy.h`.

6.239.5.2 `template<int RTYPE> VECTOR* Rcpp::internal::generic_proxy< RTYPE >::parent`

Definition at line 72 of file `generic_proxy.h`.

The documentation for this class was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/generic\\_proxy.h](#)

## 6.240 Rcpp::GenericProxy< Proxy > Struct Template Reference

```
#include <GenericProxy.h>
```

### Public Member Functions

- `SEXP get () const`

### 6.240.1 Detailed Description

```
template<typename Proxy>
struct Rcpp::GenericProxy< Proxy >
```

Definition at line 24 of file `GenericProxy.h`.

### 6.240.2 Member Function Documentation

6.240.2.1 `template<typename Proxy> SEXP Rcpp::GenericProxy< Proxy >::get ( ) const` `[inline]`

Definition at line 25 of file `GenericProxy.h`.

Referenced by `Rcpp::Vector< INTSXP >::Vector()`.

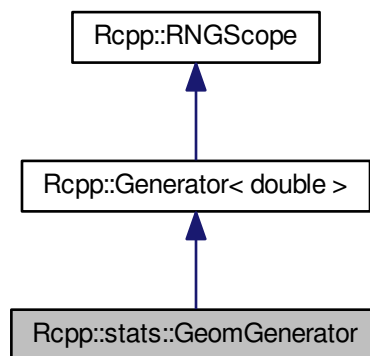
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/proxy/GenericProxy.h](#)

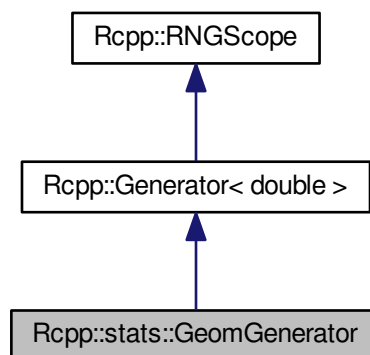
## 6.241 Rcpp::stats::GeomGenerator Class Reference

```
#include <rgeom.h>
```

Inheritance diagram for Rcpp::stats::GeomGenerator:



Collaboration diagram for Rcpp::stats::GeomGenerator:



### Public Member Functions

- [GeomGenerator](#) (double p)
- double [operator\(\)](#) () const

## Private Attributes

- double [lambda](#)

## Additional Inherited Members

### 6.241.1 Detailed Description

Definition at line 28 of file rgeom.h.

### 6.241.2 Constructor & Destructor Documentation

6.241.2.1 `Rcpp::stats::GeomGenerator::GeomGenerator ( double p )` `[inline]`

Definition at line 31 of file rgeom.h.

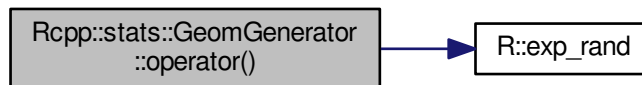
### 6.241.3 Member Function Documentation

6.241.3.1 `double Rcpp::stats::GeomGenerator::operator() ( ) const` `[inline]`

Definition at line 33 of file rgeom.h.

References `R::exp_rand()`, and `lambda`.

Here is the call graph for this function:



### 6.241.4 Member Data Documentation

6.241.4.1 `double Rcpp::stats::GeomGenerator::lambda` `[private]`

Definition at line 38 of file rgeom.h.

Referenced by `operator()()`.

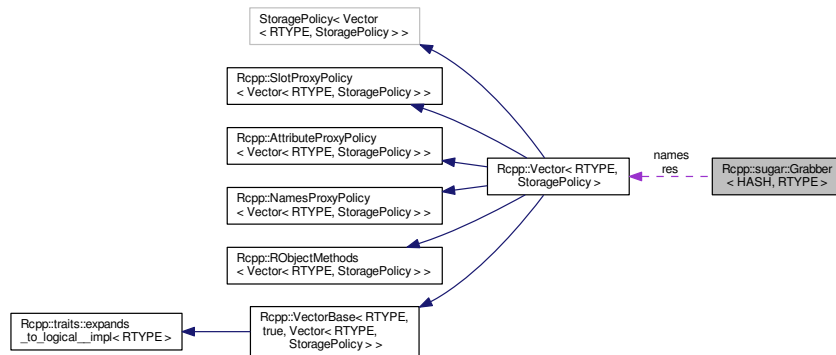
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rgeom.h`

## 6.242 Rcpp::sugar::Grabber< HASH, RTYPE > Class Template Reference

```
#include <table.h>
```

Collaboration diagram for Rcpp::sugar::Grabber< HASH, RTYPE >:



### Public Member Functions

- [Grabber](#) ([IntegerVector](#) &res\_, [CharacterVector](#) &names\_)
- `template<typename T >`  
void [operator\(\)](#) (T pair)

### Private Attributes

- [IntegerVector](#) & [res](#)
- [CharacterVector](#) & [names](#)
- [R\\_xlen\\_t](#) [index](#)

#### 6.242.1 Detailed Description

```
template<typename HASH, int RTYPE>
class Rcpp::sugar::Grabber< HASH, RTYPE >
```

Definition at line 42 of file table.h.

#### 6.242.2 Constructor & Destructor Documentation

6.242.2.1 `template<typename HASH, int RTYPE> Rcpp::sugar::Grabber< HASH, RTYPE >::Grabber ( IntegerVector &res_, CharacterVector &names_ ) [inline]`

Definition at line 44 of file table.h.

### 6.242.3 Member Function Documentation

6.242.3.1 `template<typename HASH, int RTYPE> template<typename T > void Rcpp::sugar::Grabber< HASH, RTYPE >::operator() ( T pair ) [inline]`

Definition at line 47 of file table.h.

### 6.242.4 Member Data Documentation

6.242.4.1 `template<typename HASH, int RTYPE> R_xlen_t Rcpp::sugar::Grabber< HASH, RTYPE >::index [private]`

Definition at line 55 of file table.h.

6.242.4.2 `template<typename HASH, int RTYPE> CharacterVector& Rcpp::sugar::Grabber< HASH, RTYPE >::names [private]`

Definition at line 54 of file table.h.

Referenced by `Rcpp::sugar::Table< RTYPE, TABLE_T >::operator IntegerVector()`.

6.242.4.3 `template<typename HASH, int RTYPE> IntegerVector& Rcpp::sugar::Grabber< HASH, RTYPE >::res [private]`

Definition at line 53 of file table.h.

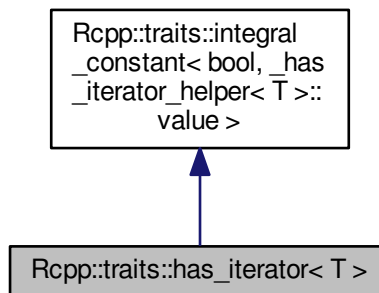
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/table.h](#)

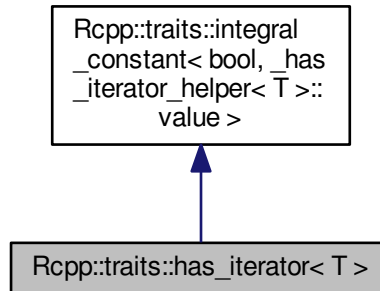
## 6.243 Rcpp::traits::has\_iterator< T > Struct Template Reference

```
#include <has_iterator.h>
```

Inheritance diagram for `Rcpp::traits::has_iterator< T >`:



Collaboration diagram for `Rcpp::traits::has_iterator< T >`:



## Additional Inherited Members

### 6.243.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::has_iterator< T >
```

uses the SFINAE idiom to check if a class has an nested iterator typedef. For example :

`has_iterator< std::vector<int> >::value` is true `has_iterator< Rcpp::Symbol >::value` is false

Definition at line 103 of file `has_iterator.h`.

The documentation for this struct was generated from the following file:

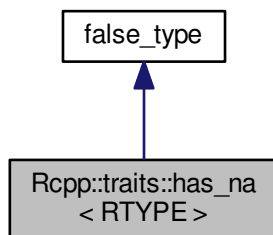
- `inst/include/Rcpp/traits/has_iterator.h`

## 6.244 `Rcpp::traits::has_na< RTYPE >` Struct Template Reference

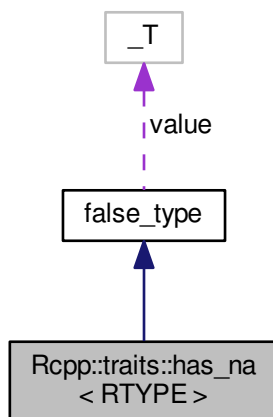
```
#include <has_na.h>
```



Inheritance diagram for Rcpp::traits::has\_na< RTYPE >:



Collaboration diagram for Rcpp::traits::has\_na< RTYPE >:



## Additional Inherited Members

### 6.244.1 Detailed Description

```
template<int RTYPE>  
struct Rcpp::traits::has_na< RTYPE >
```

Identifies if a given SEXP type has the concept of missing values

This is false by default and specialized for all types that do have the concept

Definition at line 35 of file `has_na.h`.

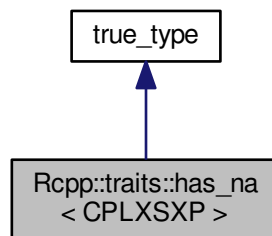
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/has_na.h`

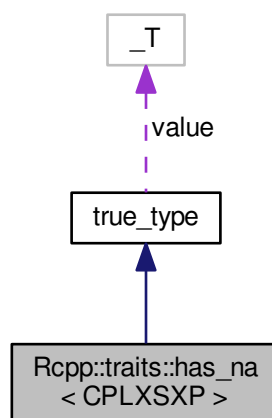
## 6.245 Rcpp::traits::has\_na< CPLX\_SXP > Struct Template Reference

```
#include <has_na.h>
```

Inheritance diagram for Rcpp::traits::has\_na< CPLX\_SXP >:



Collaboration diagram for Rcpp::traits::has\_na< CPLX\_SXP >:



## Additional Inherited Members

### 6.245.1 Detailed Description

```
template<>  
struct Rcpp::traits::has_na< CPLXSXP >
```

complex vectors support missing values

Definition at line 50 of file has\_na.h.

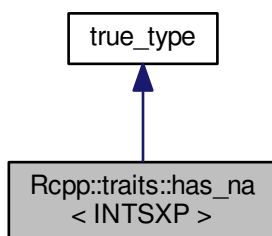
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/has\\_na.h](#)

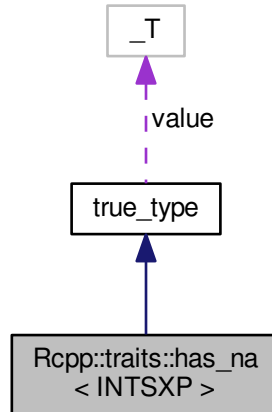
## 6.246 Rcpp::traits::has\_na< INTSXP > Struct Template Reference

```
#include <has_na.h>
```

Inheritance diagram for Rcpp::traits::has\_na< INTSXP >:



Collaboration diagram for Rcpp::traits::has\_na< INTSXP >:



## Additional Inherited Members

### 6.246.1 Detailed Description

```
template<>
struct Rcpp::traits::has_na< INTSXP >
```

integer vectors support missing values

Definition at line 40 of file has\_na.h.

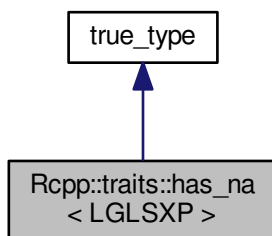
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/has\\_na.h](#)

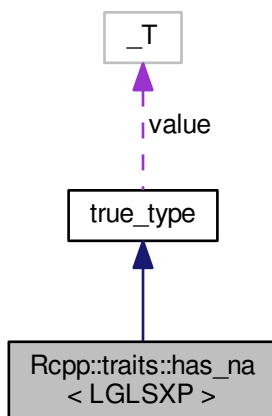
## 6.247 Rcpp::traits::has\_na< LGLSXP > Struct Template Reference

```
#include <has_na.h>
```

Inheritance diagram for Rcpp::traits::has\_na< LGLSXP >:



Collaboration diagram for Rcpp::traits::has\_na< LGLSXP >:



## Additional Inherited Members

### 6.247.1 Detailed Description

```
template<>  
struct Rcpp::traits::has_na< LGLSXP >
```

logical vectors support missing values

Definition at line 60 of file has\_na.h.

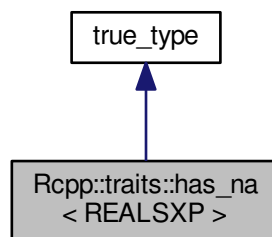
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/has\\_na.h](#)

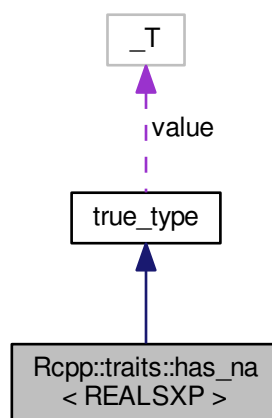
## 6.248 Rcpp::traits::has\_na< REALSXP > Struct Template Reference

```
#include <has_na.h>
```

Inheritance diagram for Rcpp::traits::has\_na< REALSXP >:



Collaboration diagram for Rcpp::traits::has\_na< REALSXP >:



## Additional Inherited Members

### 6.248.1 Detailed Description

```
template<>  
struct Rcpp::traits::has_na< REALSXP >
```

numeric vectors support missing values

Definition at line 45 of file has\_na.h.

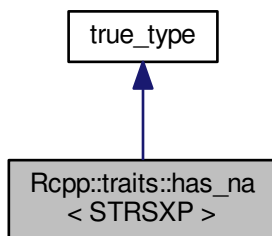
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/has\\_na.h](#)

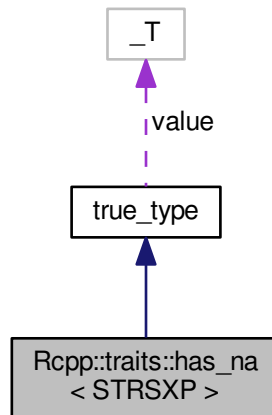
## 6.249 Rcpp::traits::has\_na< STRSXP > Struct Template Reference

```
#include <has_na.h>
```

Inheritance diagram for Rcpp::traits::has\_na< STRSXP >:



Collaboration diagram for `Rcpp::traits::has_na< STRSXP >`:



## Additional Inherited Members

### 6.249.1 Detailed Description

```
template<>
struct Rcpp::traits::has_na< STRSXP >
```

character vector support missing values

Definition at line 55 of file `has_na.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/has\\_na.h](#)

## 6.250 `Rcpp::sugar::cbind_impl::detail::has_stored_type< T >` Class Template Reference

```
#include <cbind.h>
```

### Classes

- struct `no`



## Static Public Attributes

- static const bool [value](#) = sizeof([test](#)<T>(0)) == sizeof([yes](#))

## Private Types

- typedef char [yes](#)

## Static Private Member Functions

- template<typename C >  
static [yes test](#) (typename C::stored\_type \*)
- template<typename C >  
static [no test](#) (...)

### 6.250.1 Detailed Description

```
template<typename T>
class Rcpp::sugar::cbind_impl::detail::has_stored_type< T >
```

Definition at line 373 of file [cbind.h](#).

### 6.250.2 Member Typedef Documentation

6.250.2.1 `template<typename T > typedef char Rcpp::sugar::cbind_impl::detail::has_stored_type< T >::yes`  
[private]

Definition at line 375 of file [cbind.h](#).

### 6.250.3 Member Function Documentation

6.250.3.1 `template<typename T > template<typename C > static yes Rcpp::sugar::cbind_impl↵  
::detail::has_stored_type< T >::test ( typename C::stored_type * ) [static],  
[private]`

6.250.3.2 `template<typename T > template<typename C > static no Rcpp::sugar::cbind_impl↵  
type< T >::test ( ... ) [static], [private]`

### 6.250.4 Member Data Documentation

6.250.4.1 `template<typename T > const bool Rcpp::sugar::cbind_impl::detail::has_stored_type< T >::value =  
sizeof(test<T>(0)) == sizeof(yes) [static]`

Definition at line 387 of file [cbind.h](#).

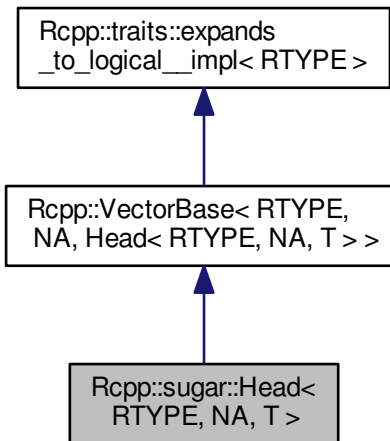
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

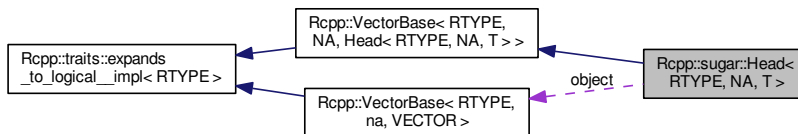
## 6.251 Rcpp::sugar::Head< RTYPE, NA, T > Class Template Reference

```
#include <head.h>
```

Inheritance diagram for Rcpp::sugar::Head< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Head< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`

### Public Member Functions

- `Head` (const `VEC_TYPE` &object\_, `R_xlen_t` n\_)
- `STORAGE` `operator[]` (`R_xlen_t` i) const
- `R_xlen_t` `size` () const

## Private Attributes

- const [VEC\\_TYPE](#) & *object*
- int *n*

### 6.251.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>  
class Rcpp::sugar::Head< RTYPE, NA, T >
```

Definition at line 29 of file head.h.

### 6.251.2 Member Typedef Documentation

6.251.2.1 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Head< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file head.h.

6.251.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Head< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file head.h.

### 6.251.3 Constructor & Destructor Documentation

6.251.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Head< RTYPE, NA, T >::Head ( const VEC_TYPE & object, R_xlen_t n ) [inline]`

Definition at line 34 of file head.h.

References `Rcpp::sugar::Head< RTYPE, NA, T >::n`.

### 6.251.4 Member Function Documentation

6.251.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Head< RTYPE, NA, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 40 of file head.h.

6.251.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Head< RTYPE, NA, T >::size ( ) const`  
`[inline]`

Definition at line 43 of file head.h.

References `Rcpp::sugar::Head< RTYPE, NA, T >::n`.

### 6.251.5 Member Data Documentation

6.251.5.1 `template<int RTYPE, bool NA, typename T> int Rcpp::sugar::Head< RTYPE, NA, T >::n` `[private]`

Definition at line 47 of file head.h.

Referenced by `Rcpp::sugar::Head< RTYPE, NA, T >::Head()`, `Rcpp::head()`, and `Rcpp::sugar::Head< RTYPE, NA, T >::size()`.

6.251.5.2 `template<int RTYPE, bool NA, typename T> const VEC_TYPE& Rcpp::sugar::Head< RTYPE, NA, T >::object`  
`[private]`

Definition at line 46 of file head.h.

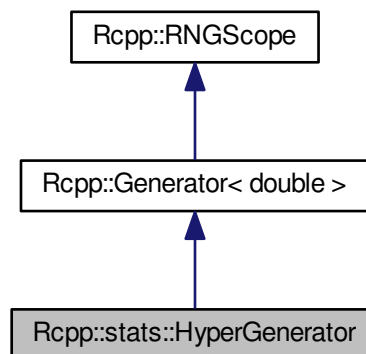
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/head.h](#)

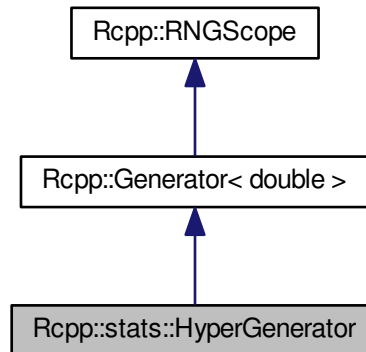
## 6.252 Rcpp::stats::HyperGenerator Class Reference

```
#include <rhyper.h>
```

Inheritance diagram for `Rcpp::stats::HyperGenerator`:



Collaboration diagram for Rcpp::stats::HyperGenerator:



### Public Member Functions

- [HyperGenerator](#) (double nn1\_, double nn2\_, double kk\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [nn1](#)
- double [nn2](#)
- double [kk](#)

### Additional Inherited Members

#### 6.252.1 Detailed Description

Definition at line 28 of file rhyper.h.

#### 6.252.2 Constructor & Destructor Documentation

6.252.2.1 `Rcpp::stats::HyperGenerator::HyperGenerator ( double nn1_, double nn2_, double kk_ ) [inline]`

Definition at line 30 of file rhyper.h.

### 6.252.3 Member Function Documentation

6.252.3.1 `double Rcpp::stats::HyperGenerator::operator() ( ) const [inline]`

Definition at line 32 of file `rhyper.h`.

References `kk`, `nn1`, and `nn2`.

### 6.252.4 Member Data Documentation

6.252.4.1 `double Rcpp::stats::HyperGenerator::kk [private]`

Definition at line 34 of file `rhyper.h`.

Referenced by `operator()`.

6.252.4.2 `double Rcpp::stats::HyperGenerator::nn1 [private]`

Definition at line 34 of file `rhyper.h`.

Referenced by `operator()`.

6.252.4.3 `double Rcpp::stats::HyperGenerator::nn2 [private]`

Definition at line 34 of file `rhyper.h`.

Referenced by `operator()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rhyper.h`

## 6.253 `Rcpp::traits::identity< T >` Struct Template Reference

```
#include <traits.h>
```

### Public Types

- `typedef T type`

### 6.253.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::identity< T >
```

Definition at line 30 of file traits.h.

### 6.253.2 Member Typedef Documentation

6.253.2.1 `template<typename T > typedef T Rcpp::traits::identity< T >::type`

Definition at line 30 of file traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/traits.h](#)

## 6.254 Rcpp::traits::if\_ < COND, LHS, RHS > Struct Template Reference

```
#include <if_.h>
```

### Public Types

- typedef LHS [type](#)

### 6.254.1 Detailed Description

```
template<bool COND, typename LHS, typename RHS>
struct Rcpp::traits::if_ < COND, LHS, RHS >
```

Definition at line 29 of file if\_.h.

### 6.254.2 Member Typedef Documentation

6.254.2.1 `template<bool COND, typename LHS, typename RHS > typedef LHS Rcpp::traits::if_ < COND, LHS, RHS >::type`

Definition at line 30 of file if\_.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/if\\_.h](#)

## 6.255 Rcpp::traits::if\_< false, LHS, RHS > Struct Template Reference

```
#include <if_.h>
```

### Public Types

- typedef RHS [type](#)

### 6.255.1 Detailed Description

```
template<typename LHS, typename RHS>
struct Rcpp::traits::if_< false, LHS, RHS >
```

Definition at line 34 of file if\_.h.

### 6.255.2 Member Typedef Documentation

6.255.2.1 `template<typename LHS , typename RHS > typedef RHS Rcpp::traits::if_< false, LHS, RHS >::type`

Definition at line 35 of file if\_.h.

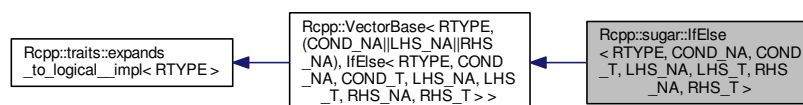
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/if\_.h

## 6.256 Rcpp::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > > Class Template Reference

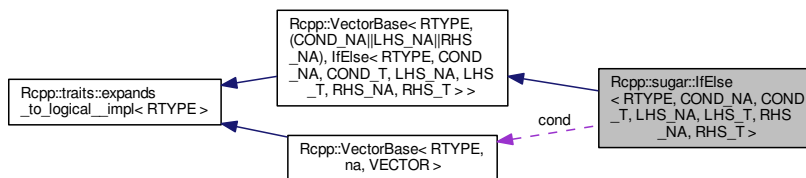
```
#include <ifelse.h>
```

Inheritance diagram for Rcpp::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:





Collaboration diagram for Rcpp::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



## Public Types

- typedef [Rcpp::VectorBase< LGLSXP, COND\\_NA, COND\\_T >](#) [COND\\_TYPE](#)
- typedef [Rcpp::VectorBase< RTYPE,LHS\\_NA,LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase< RTYPE,RHS\\_NA,RHS\\_T >](#) [RHS\\_TYPE](#)
- typedef [traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)

## Public Member Functions

- [IfElse](#) (const [COND\\_TYPE](#) &cond\_, const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [COND\\_TYPE](#) & [cond](#)
- const [LHS\\_T](#) & [lhs](#)
- const [RHS\\_T](#) & [rhs](#)

### 6.256.1 Detailed Description

```
template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 34 of file ifelse.h.

### 6.256.2 Member Typedef Documentation

6.256.2.1 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef Rcpp::VectorBase<LGLSXP,COND_NA,COND_T> Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::COND_TYPE`

Definition at line 40 of file ifelse.h.

6.256.2.2 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef Rcpp::VectorBase<RTYPE ,LHS_NA ,LHS_T> Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 41 of file ifelse.h.

6.256.2.3 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef Rcpp::VectorBase<RTYPE ,RHS_NA ,RHS_T> Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 42 of file ifelse.h.

6.256.2.4 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef traits::storage_type<RTYPE>::type Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 43 of file ifelse.h.

### 6.256.3 Constructor & Destructor Documentation

6.256.3.1 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::IfElse ( const COND_TYPE & cond_, const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 48 of file ifelse.h.

References DEMANGLE, and RCPP\_DEBUG.

### 6.256.4 Member Function Documentation

6.256.4.1 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> STORAGE Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 55 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, `Rcpp::traits::is_na< LGLSXP >()`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

Here is the call graph for this function:

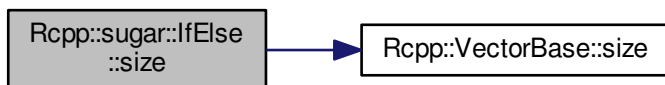


```
6.256.4.2 template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> R_xlen_t Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( )
const [inline]
```

Definition at line 62 of file ifelse.h.

References Rcpp::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::cond, and Rcpp::VectorBase< RTYPE, na, VECTOR >::size().

Here is the call graph for this function:



## 6.256.5 Member Data Documentation

```
6.256.5.1 template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const COND_TYPE& Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond [private]
```

Definition at line 65 of file ifelse.h.

Referenced by Rcpp::ifelse(), Rcpp::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::IfElse< RTYPE, false, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::IfElse\_Primitive\_Vector< RTYPE, COND\_NA, COND\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::IfElse\_Primitive\_Vector< RTYPE, false, COND\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::IfElse\_Vector\_Primitive< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T >::operator[](), Rcpp::sugar::IfElse\_Vector\_Primitive< RTYPE, false, COND\_T, LHS\_NA, LHS\_T >::operator[](), Rcpp::sugar::IfElse\_Primitive\_Primitive< RTYPE, COND\_NA, COND\_T >::operator[](), Rcpp::sugar::IfElse\_Primitive\_Primitive< RTYPE, false, COND\_T >::operator[](), Rcpp::sugar::IfElse< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::IfElse< RTYPE, false, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::IfElse\_Primitive\_Vector< RTYPE, COND\_NA, COND\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::IfElse\_Primitive\_Vector< RTYPE, false, COND\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::IfElse\_Vector\_Primitive< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T >::size(), Rcpp::sugar::IfElse\_Vector\_Primitive< RTYPE, false, COND\_T, LHS\_NA, LHS\_T >::size(), Rcpp::sugar::IfElse\_Primitive\_Primitive< RTYPE, COND\_NA, COND\_T >::size(), and Rcpp::sugar::IfElse\_Primitive\_Primitive< RTYPE, false, COND\_T >::size().

6.256.5.2 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const LHS_T& Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 66 of file ifelse.h.

Referenced by `Rcpp::ifelse()`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::operator[]()`, and `Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T >::operator[]()`.

6.256.5.3 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const RHS_T& Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 67 of file ifelse.h.

Referenced by `Rcpp::ifelse()`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >::operator[]()`, `Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::operator[]()`, and `Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T >::operator[]()`.

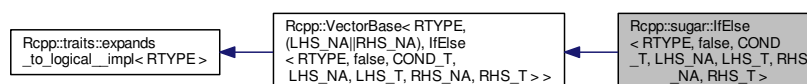
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/ifelse.h](#)

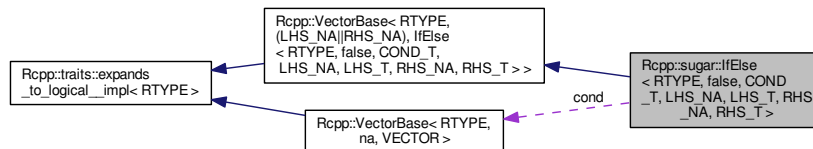
## 6.257 Rcpp::sugar::IfElse< RTYPE, false, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <ifelse.h>
```

Inheritance diagram for `Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >`:



Collaboration diagram for Rcpp::sugar::IfElse< RTYPE, false, COND\_T, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< LGLSXP, false, COND\_T > [COND\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE,LHS\_NA,LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE,RHS\_NA,RHS\_T > [RHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE,LHS\_NA,LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE,RHS\_NA,RHS\_T >::type [RHS\\_EXT](#)

## Public Member Functions

- [IfElse](#) (const [COND\\_TYPE](#) &cond\_, const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [COND\\_TYPE](#) & [cond](#)
- const [LHS\\_EXT](#) & [lhs](#)
- const [RHS\\_EXT](#) & [rhs](#)

### 6.257.1 Detailed Description

```
template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 77 of file ifelse.h.

### 6.257.2 Member Typedef Documentation

6.257.2.1 `template<int RTYPE, typename COND_T , bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,false,COND_T> Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::COND_TYPE`

Definition at line 83 of file ifelse.h.

6.257.2.2 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<RTYPE,LHS_NA,LHS_T>::type Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 88 of file ifelse.h.

6.257.2.3 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,LHS_NA,LHS_T> Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 84 of file ifelse.h.

6.257.2.4 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<RTYPE,RHS_NA,RHS_T>::type Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 89 of file ifelse.h.

6.257.2.5 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 85 of file ifelse.h.

6.257.2.6 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 86 of file ifelse.h.

### 6.257.3 Constructor & Destructor Documentation

6.257.3.1 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::IfElse ( const COND_TYPE & cond_, const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 91 of file ifelse.h.

## 6.257.4 Member Function Documentation

6.257.4.1 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > STORAGE Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 96 of file ifelse.h.

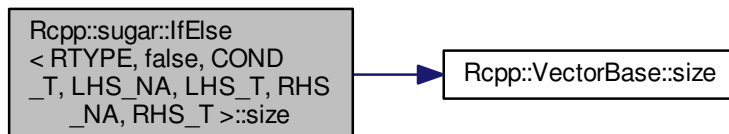
References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.257.4.2 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 101 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



## 6.257.5 Member Data Documentation

6.257.5.1 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const COND_TYPE& Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond [private]`

Definition at line 105 of file ifelse.h.

6.257.5.2 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const LHS_EXT& Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 106 of file ifelse.h.

6.257.5.3 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT& Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 107 of file `ifelse.h`.

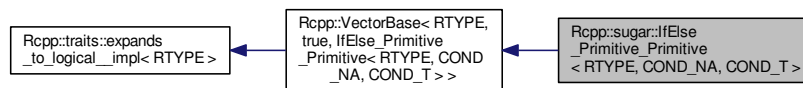
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/ifelse.h`

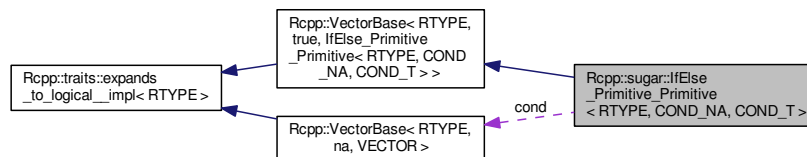
## 6.258 Rcpp::sugar::IfElse\_Primitive\_Primitive< RTYPE, COND\_NA, COND\_T > Class Template Reference

```
#include <ifelse.h>
```

Inheritance diagram for `Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >`:



Collaboration diagram for `Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >`:



### Public Types

- typedef `Rcpp::VectorBase< LGLSXP, COND_NA, COND_T >` `COND_TYPE`
- typedef `traits::storage_type< RTYPE >::type` `STORAGE`

### Public Member Functions

- `IfElse_Primitive_Primitive` (const `COND_TYPE` &cond\_, `STORAGE` lhs\_, `STORAGE` rhs\_)
- `STORAGE` operator[] (R\_xlen\_t i) const
- `R_xlen_t` size () const



## Private Attributes

- const [COND\\_TYPE](#) & *cond*
- [STORAGE lhs](#)
- [STORAGE rhs](#)
- [STORAGE na](#)

### 6.258.1 Detailed Description

```
template<int RTYPE, bool COND_NA, typename COND_T>
class Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >
```

Definition at line 273 of file ifelse.h.

### 6.258.2 Member Typedef Documentation

6.258.2.1 `template<int RTYPE, bool COND_NA, typename COND_T> typedef Rcpp::VectorBase<LGLXP,COND_NA,COND_T> Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::COND_TYPE`

Definition at line 279 of file ifelse.h.

6.258.2.2 `template<int RTYPE, bool COND_NA, typename COND_T> typedef traits::storage_type<RTYPE>::type Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::STORAGE`

Definition at line 280 of file ifelse.h.

### 6.258.3 Constructor & Destructor Documentation

6.258.3.1 `template<int RTYPE, bool COND_NA, typename COND_T> Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::IfElse_Primitive_Primitive ( const COND_TYPE & cond, STORAGE lhs, STORAGE rhs ) [inline]`

Definition at line 282 of file ifelse.h.

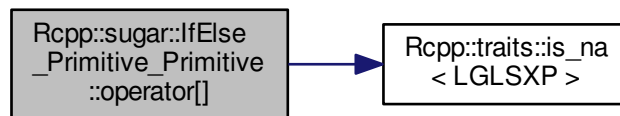
## 6.258.4 Member Function Documentation

6.258.4.1 `template<int RTYPE, bool COND_NA, typename COND_T> STORAGE Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::operator[] ( R_xlen_t i ) const`  
`[inline]`

Definition at line 287 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, `Rcpp::traits::is_na< LGLSXP >()`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

Here is the call graph for this function:

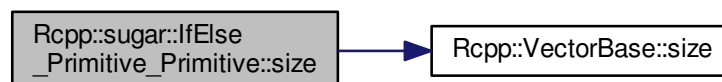


6.258.4.2 `template<int RTYPE, bool COND_NA, typename COND_T> R_xlen_t Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::size ( ) const` `[inline]`

Definition at line 293 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.258.5 Member Data Documentation

6.258.5.1 `template<int RTYPE, bool COND_NA, typename COND_T> const COND_TYPE& Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::cond` [private]

Definition at line 296 of file ifelse.h.

6.258.5.2 `template<int RTYPE, bool COND_NA, typename COND_T> STORAGE Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::lhs` [private]

Definition at line 297 of file ifelse.h.

6.258.5.3 `template<int RTYPE, bool COND_NA, typename COND_T> STORAGE Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::na` [private]

Definition at line 299 of file ifelse.h.

6.258.5.4 `template<int RTYPE, bool COND_NA, typename COND_T> STORAGE Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::rhs` [private]

Definition at line 298 of file ifelse.h.

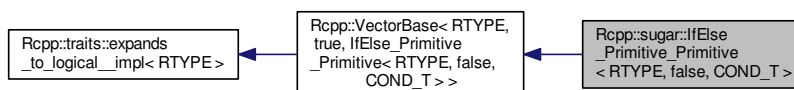
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/ifelse.h](#)

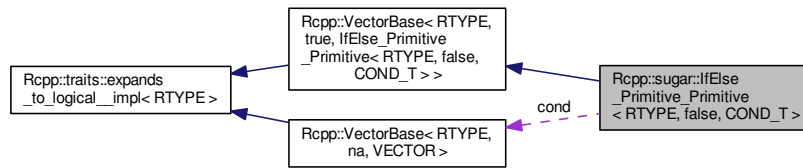
## 6.259 Rcpp::sugar::IfElse\_Primitive\_Primitive< RTYPE, false, COND\_T > Class Template Reference

```
#include <ifelse.h>
```

Inheritance diagram for Rcpp::sugar::IfElse\_Primitive\_Primitive< RTYPE, false, COND\_T >:



Collaboration diagram for `Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T >`:



## Public Types

- typedef `Rcpp::VectorBase< LGLSXP, false, COND_T >` `COND_TYPE`
- typedef `traits::storage_type< RTYPE >::type` `STORAGE`

## Public Member Functions

- `IfElse_Primitive_Primitive` (const `COND_TYPE` &cond\_, `STORAGE` lhs\_, `STORAGE` rhs\_)
- `STORAGE` operator[] (R\_xlen\_t i) const
- R\_xlen\_t size () const

## Private Attributes

- const `COND_TYPE` &cond
- `STORAGE` lhs
- `STORAGE` rhs

### 6.259.1 Detailed Description

```

template<int RTYPE, typename COND_T>
class Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T >

```

Definition at line 306 of file ifelse.h.

### 6.259.2 Member Typedef Documentation

6.259.2.1 `template<int RTYPE, typename COND_T > typedef Rcpp::VectorBase<LGLSXP,false,COND_T> Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T >::COND_TYPE`

Definition at line 312 of file ifelse.h.

6.259.2.2 `template<int RTYPE, typename COND_T > typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T >::STORAGE`

Definition at line 313 of file ifelse.h.

### 6.259.3 Constructor & Destructor Documentation

6.259.3.1 `template<int RTYPE, typename COND_T > Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T  
>::IfElse_Primitive_Primitive( const COND_TYPE & cond_, STORAGE lhs_, STORAGE rhs_ )  
[inline]`

Definition at line 315 of file ifelse.h.

### 6.259.4 Member Function Documentation

6.259.4.1 `template<int RTYPE, typename COND_T > STORAGE Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false,  
COND_T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 320 of file ifelse.h.

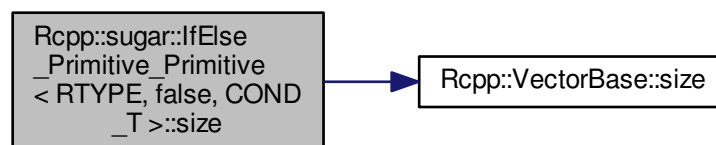
References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.259.4.2 `template<int RTYPE, typename COND_T > R_xlen_t Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false,  
COND_T >::size( ) const [inline]`

Definition at line 324 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.259.5 Member Data Documentation

6.259.5.1 `template<int RTYPE, typename COND_T > const COND_TYPE& Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T >::cond` [private]

Definition at line 327 of file ifelse.h.

6.259.5.2 `template<int RTYPE, typename COND_T > STORAGE Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T >::lhs` [private]

Definition at line 328 of file ifelse.h.

6.259.5.3 `template<int RTYPE, typename COND_T > STORAGE Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T >::rhs` [private]

Definition at line 329 of file ifelse.h.

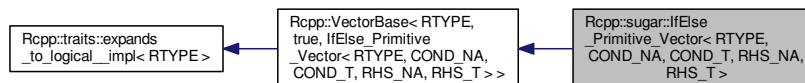
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/ifelse.h](#)

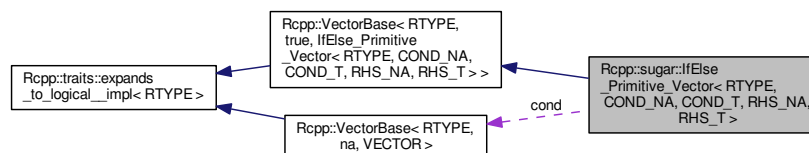
## 6.260 Rcpp::sugar::IfElse\_Primitive\_Vector< RTYPE, COND\_NA, COND\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <ifelse.h>
```

Inheritance diagram for Rcpp::sugar::IfElse\_Primitive\_Vector< RTYPE, COND\_NA, COND\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::IfElse\_Primitive\_Vector< RTYPE, COND\_NA, COND\_T, RHS\_NA, RHS\_T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< LGLSXP, COND\_NA, COND\_T > [COND\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE,RHS\_NA,RHS\_T > [RHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE,RHS\_NA,RHS\_T >::type [RHS\\_EXT](#)

## Public Member Functions

- [IfElse\\_Primitive\\_Vector](#) (const [COND\\_TYPE](#) &cond\_, [STORAGE](#) lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [COND\\_TYPE](#) & [cond](#)
- [STORAGE](#) [lhs](#)
- const [RHS\\_EXT](#) & [rhs](#)

### 6.260.1 Detailed Description

```
template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >
```

Definition at line 119 of file ifelse.h.

### 6.260.2 Member Typedef Documentation

6.260.2.1 `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T> typedef Rcpp::VectorBase<LGLSXP,COND_NA,COND_T> Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::COND_TYPE`

Definition at line 125 of file ifelse.h.

6.260.2.2 `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T> typedef Rcpp::traits::Extractor<RTYPE ,RHS_NA ,RHS_T>::type Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 129 of file ifelse.h.

6.260.2.3 `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T> typedef Rcpp::VectorBase<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 126 of file ifelse.h.

6.260.2.4 `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T> typedef traits::storage_type<RTYPE>::type Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 127 of file ifelse.h.

### 6.260.3 Constructor & Destructor Documentation

6.260.3.1 `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T> Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::IfElse_Primitive_Vector ( const COND_TYPE & cond_, STORAGE lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 131 of file ifelse.h.

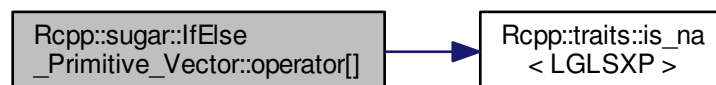
### 6.260.4 Member Function Documentation

6.260.4.1 `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T> STORAGE Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 136 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, `Rcpp::traits::is_na< LGLSXP >()`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

Here is the call graph for this function:



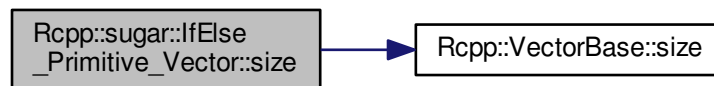


6.260.4.2 `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T> R_xlen_t Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 143 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



## 6.260.5 Member Data Documentation

6.260.5.1 `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T> const COND_TYPE& Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::cond [private]`

Definition at line 146 of file ifelse.h.

6.260.5.2 `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T> STORAGE Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 147 of file ifelse.h.

6.260.5.3 `template<int RTYPE, bool COND_NA, typename COND_T, bool RHS_NA, typename RHS_T> const RHS_EXT& Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 148 of file ifelse.h.

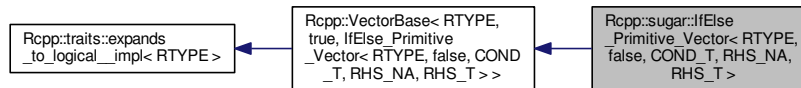
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/ifelse.h](#)

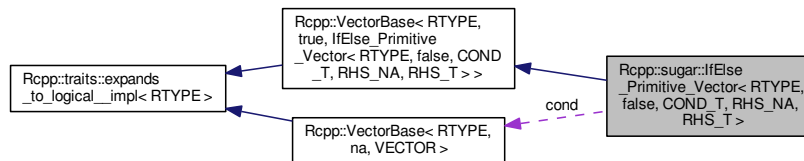
## 6.261 Rcpp::sugar::IfElse\_Primitive\_Vector< RTYPE, false, COND\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <ifelse.h>
```

Inheritance diagram for Rcpp::sugar::IfElse\_Primitive\_Vector< RTYPE, false, COND\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::IfElse\_Primitive\_Vector< RTYPE, false, COND\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase< LGLSXP, false, COND\\_T >](#) [COND\\_TYPE](#)
- typedef [Rcpp::VectorBase< RTYPE,RHS\\_NA,RHS\\_T >](#) [RHS\\_TYPE](#)
- typedef [traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)
- typedef [Rcpp::traits::Extractor< RTYPE,RHS\\_NA,RHS\\_T >::type](#) [RHS\\_EXT](#)

### Public Member Functions

- [IfElse\\_Primitive\\_Vector](#) (const [COND\\_TYPE](#) &cond\_, [STORAGE](#) lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [COND\\_TYPE](#) & [cond](#)
- [STORAGE](#) lhs
- const [RHS\\_EXT](#) & [rhs](#)

### 6.261.1 Detailed Description

```
template<int RTYPE, typename COND_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >
```

Definition at line 157 of file ifelse.h.

### 6.261.2 Member Typedef Documentation

6.261.2.1 `template<int RTYPE, typename COND_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<L↔GLSXP,false,COND_T> Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::COND_TYPE`

Definition at line 163 of file ifelse.h.

6.261.2.2 `template<int RTYPE, typename COND_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<RTYPE ,RHS_NA ,RHS_T>::type Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 166 of file ifelse.h.

6.261.2.3 `template<int RTYPE, typename COND_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE ,RHS_NA ,RHS_T> Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 164 of file ifelse.h.

6.261.2.4 `template<int RTYPE, typename COND_T , bool RHS_NA, typename RHS_T > typedef traits::storage_↔type<RTYPE>::type Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 165 of file ifelse.h.

### 6.261.3 Constructor & Destructor Documentation

6.261.3.1 `template<int RTYPE, typename COND_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::IfElse_Primitive_↔Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::IfElse_Primitive_Vector ( const COND_TYPE & cond_, STORAGE lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 168 of file ifelse.h.

### 6.261.4 Member Function Documentation

6.261.4.1 `template<int RTYPE, typename COND_T, bool RHS_NA, typename RHS_T > STORAGE  
Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i )  
const [inline]`

Definition at line 173 of file ifelse.h.

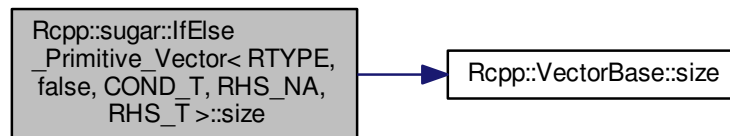
References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.261.4.2 `template<int RTYPE, typename COND_T, bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::size ( ) const  
[inline]`

Definition at line 178 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.261.5 Member Data Documentation

6.261.5.1 `template<int RTYPE, typename COND_T, bool RHS_NA, typename RHS_T > const COND_TYPE&  
Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::cond [private]`

Definition at line 181 of file ifelse.h.

6.261.5.2 `template<int RTYPE, typename COND_T, bool RHS_NA, typename RHS_T > STORAGE  
Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 182 of file ifelse.h.

6.261.5.3 `template<int RTYPE, typename COND_T, bool RHS_NA, typename RHS_T> const RHS_EXT& Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 183 of file ifelse.h.

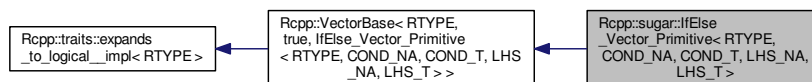
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/ifelse.h](#)

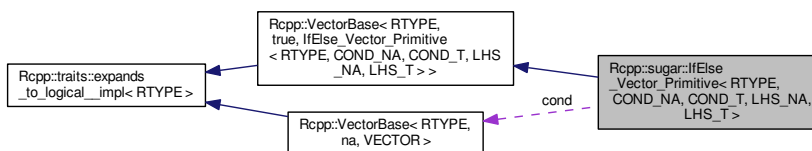
## 6.262 Rcpp::sugar::IfElse\_Vector\_Primitive< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T > Class Template Reference

`#include <ifelse.h>`

Inheritance diagram for Rcpp::sugar::IfElse\_Vector\_Primitive< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T >:



Collaboration diagram for Rcpp::sugar::IfElse\_Vector\_Primitive< RTYPE, COND\_NA, COND\_T, LHS\_NA, LHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase< LGLSXP, COND\\_NA, COND\\_T >](#) [COND\\_TYPE](#)
- typedef [Rcpp::VectorBase< RTYPE, LHS\\_NA, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)
- typedef [Rcpp::traits::Extractor< RTYPE, LHS\\_NA, LHS\\_T >::type](#) [LHS\\_EXT](#)

### Public Member Functions

- [IfElse\\_Vector\\_Primitive](#) (const [COND\\_TYPE](#) &cond\_, const [LHS\\_TYPE](#) &lhs\_, [STORAGE](#) rhs\_)
- [STORAGE](#) operator[] (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [COND\\_TYPE](#) & [cond](#)
- const [LHS\\_EXT](#) & [lhs](#)
- const [STORAGE](#) [rhs](#)

### 6.262.1 Detailed Description

```
template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T>
class Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >
```

Definition at line 196 of file ifelse.h.

### 6.262.2 Member Typedef Documentation

6.262.2.1 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T> typedef Rcpp::VectorBase<LGLSXP,COND_NA,COND_T> Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::COND_TYPE`

Definition at line 202 of file ifelse.h.

6.262.2.2 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T> typedef Rcpp::traits::Extractor<RTYPE ,LHS_NA ,LHS_T>::type Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::LHS_EXT`

Definition at line 205 of file ifelse.h.

6.262.2.3 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T> typedef Rcpp::VectorBase<RTYPE ,LHS_NA ,LHS_T> Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::LHS_TYPE`

Definition at line 203 of file ifelse.h.

6.262.2.4 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T> typedef traits::storage_type<RTYPE>::type Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::STORAGE`

Definition at line 204 of file ifelse.h.

### 6.262.3 Constructor & Destructor Documentation

6.262.3.1 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T> Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::IfElse_Vector_Primitive ( const COND_TYPE & cond_, const LHS_TYPE & lhs_, STORAGE rhs_ ) [inline]`

Definition at line 207 of file ifelse.h.

### 6.262.4 Member Function Documentation

6.262.4.1 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T> STORAGE Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 212 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, `Rcpp::traits::is_na< LGLSXP >()`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

Here is the call graph for this function:

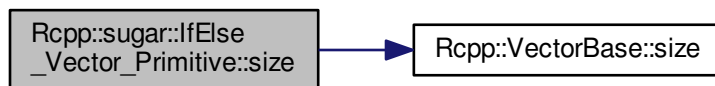


6.262.4.2 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T> R_xlen_t Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::size ( ) const [inline]`

Definition at line 219 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.262.5 Member Data Documentation

6.262.5.1 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T> const COND_TYPE& Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::cond` [private]

Definition at line 222 of file ifelse.h.

6.262.5.2 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T> const LHS_EXT& Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::lhs` [private]

Definition at line 223 of file ifelse.h.

6.262.5.3 `template<int RTYPE, bool COND_NA, typename COND_T, bool LHS_NA, typename LHS_T> const STORAGE Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::rhs` [private]

Definition at line 224 of file ifelse.h.

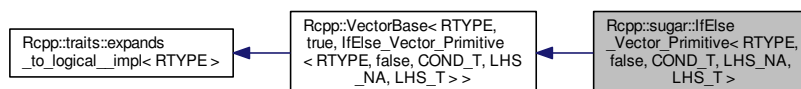
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/ifelse.h](#)

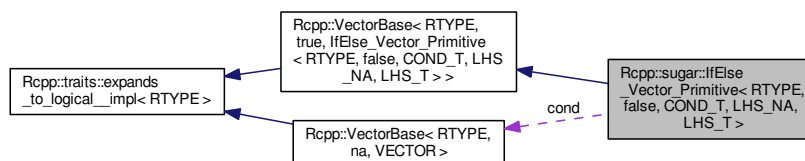
## 6.263 Rcpp::sugar::IfElse\_Vector\_Primitive< RTYPE, false, COND\_T, LHS\_NA, LHS\_T > Class Template Reference

```
#include <ifelse.h>
```

Inheritance diagram for `Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >`:



Collaboration diagram for `Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >`:





## Public Types

- typedef [Rcpp::VectorBase](#)< LGLSXP, false, COND\_T > [COND\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE,LHS\_NA,LHS\_T > [LHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE,LHS\_NA,LHS\_T >::type [LHS\\_EXT](#)

## Public Member Functions

- [IfElse\\_Vector\\_Primitive](#) (const [COND\\_TYPE](#) &cond\_, const [LHS\\_TYPE](#) &lhs\_, [STORAGE](#) rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [COND\\_TYPE](#) & [cond](#)
- const [LHS\\_EXT](#) & [lhs](#)
- const [STORAGE](#) [rhs](#)

### 6.263.1 Detailed Description

```
template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T>
class Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >
```

Definition at line 233 of file ifelse.h.

### 6.263.2 Member Typedef Documentation

6.263.2.1 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T > typedef Rcpp::VectorBase<LGLSXP,false,COND_T> Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >::COND_TYPE`

Definition at line 239 of file ifelse.h.

6.263.2.2 `template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T > typedef Rcpp::traits::Extractor<RTYPE ,LHS_NA ,LHS_T>::type Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >::LHS_EXT`

Definition at line 242 of file ifelse.h.

```
6.263.2.3 template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T > typedef Rcpp::VectorBase<RTYPE
,LHS_NA,LHS_T> Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T
>::LHS_TYPE
```

Definition at line 240 of file ifelse.h.

```
6.263.2.4 template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T > typedef traits::storage_↔
type<RTYPE>::type Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T
>::STORAGE
```

Definition at line 241 of file ifelse.h.

### 6.263.3 Constructor & Destructor Documentation

```
6.263.3.1 template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T > Rcpp::sugar::IfElse_Vector_↔
Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >::IfElse_Vector_Primitive( const COND_TYPE & cond_,
const LHS_TYPE & lhs_, STORAGE rhs_ ) [inline]
```

Definition at line 244 of file ifelse.h.

### 6.263.4 Member Function Documentation

```
6.263.4.1 template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T > STORAGE
Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >::operator[] ( R_xlen_t i ) const
[inline]
```

Definition at line 249 of file ifelse.h.

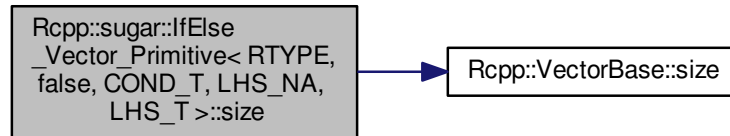
References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

```
6.263.4.2 template<int RTYPE, typename COND_T, bool LHS_NA, typename LHS_T > R_xlen_t Rcpp_↔
::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >::size ( ) const
[inline]
```

Definition at line 254 of file ifelse.h.

References `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::cond`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.263.5 Member Data Documentation

6.263.5.1 `template<int RTYPE, typename COND_T , bool LHS_NA, typename LHS_T > const COND_TYPE& Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >::cond [private]`

Definition at line 257 of file ifelse.h.

6.263.5.2 `template<int RTYPE, typename COND_T , bool LHS_NA, typename LHS_T > const LHS_EXT& Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >::lhs [private]`

Definition at line 258 of file ifelse.h.

6.263.5.3 `template<int RTYPE, typename COND_T , bool LHS_NA, typename LHS_T > const STORAGE Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >::rhs [private]`

Definition at line 259 of file ifelse.h.

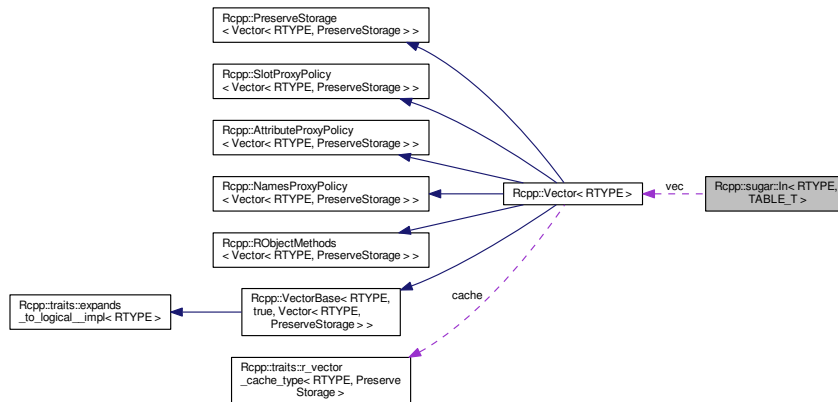
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/ifelse.h](#)

## 6.264 Rcpp::sugar::In< RTYPE, TABLE\_T > Class Template Reference

```
#include <unique.h>
```

Collaboration diagram for `Rcpp::sugar::In< RTYPE, TABLE_T >`:



## Public Member Functions

- `In` (const `TABLE_T` &`table`)
- `template<typename T >`  
`LogicalVector` get (const `T` &`x`) const

## Private Types

- `typedef` `sugar::IndexHash< RTYPE >` `HASH`

## Private Attributes

- `Vector< RTYPE >` `vec`
- `HASH` `hash`

### 6.264.1 Detailed Description

```
template<int RTYPE, typename TABLE_T>
class Rcpp::sugar::In< RTYPE, TABLE_T >
```

Definition at line 44 of file `unique.h`.

### 6.264.2 Member Typedef Documentation

6.264.2.1 `template<int RTYPE, typename TABLE_T >` `typedef` `sugar::IndexHash<RTYPE>` `Rcpp::sugar::In< RTYPE, TABLE_T >::HASH` [`private`]

Definition at line 46 of file `unique.h`.

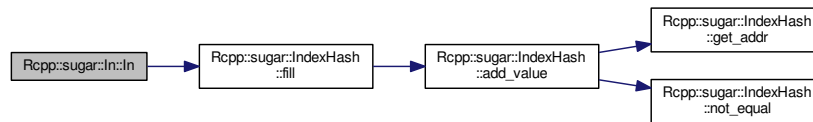
### 6.264.3 Constructor & Destructor Documentation

6.264.3.1 `template<int RTYPE, typename TABLE_T > Rcpp::sugar::In< RTYPE, TABLE_T >::In ( const TABLE_T & table )`  
`[inline]`

Definition at line 50 of file unique.h.

References `Rcpp::sugar::IndexHash< RTYPE >::fill()`.

Here is the call graph for this function:



### 6.264.4 Member Function Documentation

6.264.4.1 `template<int RTYPE, typename TABLE_T > template<typename T > LogicalVector Rcpp::sugar::In< RTYPE, TABLE_T >::get ( const T & x ) const` `[inline]`

Definition at line 55 of file unique.h.

References `Rcpp::sugar::InSet< HASH >::hash`.

### 6.264.5 Member Data Documentation

6.264.5.1 `template<int RTYPE, typename TABLE_T > HASH Rcpp::sugar::In< RTYPE, TABLE_T >::hash` `[private]`

Definition at line 47 of file unique.h.

6.264.5.2 `template<int RTYPE, typename TABLE_T > Vector<RTYPE> Rcpp::sugar::In< RTYPE, TABLE_T >::vec`  
`[private]`

Definition at line 45 of file unique.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/unique.h`

## 6.265 Rcpp::sugar::IndexHash< RTYPE > Class Template Reference

```
#include <IndexHash.h>
```

### Public Types

- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Vector](#)< RTYPE > [VECTOR](#)

### Public Member Functions

- [IndexHash](#) ([SEXP table](#))
- [IndexHash](#) & [fill](#) ()
- [LogicalVector](#) [fill\\_and\\_get\\_duplicated](#) ()
- template<typename T >  
SEXP [lookup](#) (const T &vec) const
- SEXP [lookup](#) (const [VECTOR](#) &vec) const
- bool [contains](#) ([STORAGE](#) val) const
- int [size](#) () const
- [Vector](#)< RTYPE > [keys](#) () const
- template<typename T >  
SEXP [lookup\\_\\_impl](#) (const T &vec, int n\_) const
- SEXP [get\\_profile\\_data](#) ()
- bool [not\\_equal](#) (const [STORAGE](#) &lhs, const [STORAGE](#) &rhs)
- bool [add\\_value](#) (int i)
- int [get\\_index](#) ([STORAGE](#) value) const
- int [get\\_addr](#) ([STORAGE](#) value) const
- template<>  
int [get\\_addr](#) (int value) const
- template<>  
int [get\\_addr](#) (double val) const
- template<>  
int [get\\_addr](#) (SEXP value) const

### Public Attributes

- int [n](#)
- int [m](#)
- int [k](#)
- [STORAGE](#) \* [src](#)
- int [size\\_](#)
- int \* [data](#)

### 6.265.1 Detailed Description

```
template<int RTYPE>
class Rcpp::sugar::IndexHash< RTYPE >
```

Definition at line 50 of file IndexHash.h.

### 6.265.2 Member Typedef Documentation

6.265.2.1 `template<int RTYPE> typedef traits::storage_type<RTYPE>::type Rcpp::sugar::IndexHash< RTYPE >::STORAGE`

Definition at line 52 of file IndexHash.h.

6.265.2.2 `template<int RTYPE> typedef Vector<RTYPE> Rcpp::sugar::IndexHash< RTYPE >::VECTOR`

Definition at line 53 of file IndexHash.h.

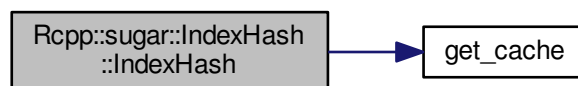
### 6.265.3 Constructor & Destructor Documentation

6.265.3.1 `template<int RTYPE> Rcpp::sugar::IndexHash< RTYPE >::IndexHash ( SEXP table ) [inline]`

Definition at line 55 of file IndexHash.h.

References `Rcpp::sugar::IndexHash< RTYPE >::data`, `get_cache()`, `Rcpp::sugar::IndexHash< RTYPE >::k`, `Rcpp::sugar::IndexHash< RTYPE >::m`, `Rcpp::sugar::IndexHash< RTYPE >::n`, `RCPP_PROFILE_RECORD`, `RCPP_PROFILE_TIC`, and `RCPP_PROFILE_TOC`.

Here is the call graph for this function:



## 6.265.4 Member Function Documentation

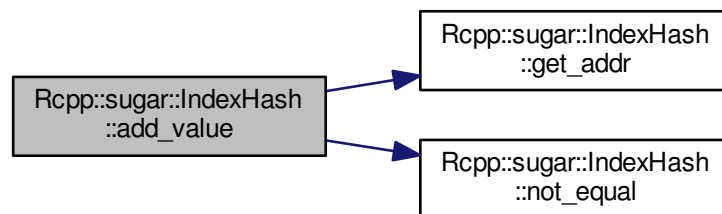
6.265.4.1 `template<int RTYPE> bool Rcpp::sugar::IndexHash< RTYPE >::add_value ( int i ) [inline]`

Definition at line 167 of file IndexHash.h.

References DEMANGLE, `Rcpp::sugar::IndexHash< RTYPE >::get_addr()`, `Rcpp::sugar::IndexHash< RTYPE >::not_equal()`, and `RCPP_DEBUG_2`.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::fill()`, and `Rcpp::sugar::IndexHash< RTYPE >::fill_and_get_duplicated()`.

Here is the call graph for this function:

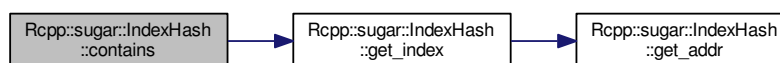


6.265.4.2 `template<int RTYPE> bool Rcpp::sugar::IndexHash< RTYPE >::contains ( STORAGE val ) const [inline]`

Definition at line 102 of file IndexHash.h.

References `Rcpp::sugar::IndexHash< RTYPE >::get_index()`.

Here is the call graph for this function:





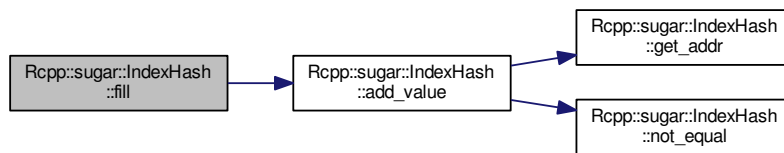
6.265.4.3 `template<int RTYPE> IndexHash& Rcpp::sugar::IndexHash< RTYPE >::fill ( ) [inline]`

Definition at line 74 of file IndexHash.h.

References `Rcpp::sugar::IndexHash< RTYPE >::add_value()`, `Rcpp::sugar::IndexHash< RTYPE >::n`, `RCPP_PROFILE_FILE_RECORD`, `RCPP_PROFILE_TIC`, and `RCPP_PROFILE_TOC`.

Referenced by `Rcpp::sugar::In< RTYPE, TABLE_T >::In()`, and `Rcpp::unique()`.

Here is the call graph for this function:

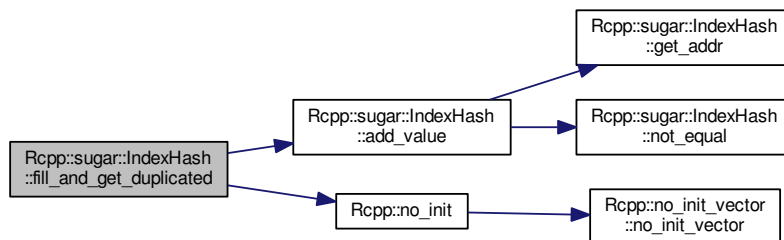
6.265.4.4 `template<int RTYPE> LogicalVector Rcpp::sugar::IndexHash< RTYPE >::fill_and_get_duplicated ( ) [inline]`

Definition at line 85 of file IndexHash.h.

References `Rcpp::sugar::IndexHash< RTYPE >::add_value()`, `Rcpp::sugar::IndexHash< RTYPE >::n`, and `Rcpp::no_init()`.

Referenced by `Rcpp::duplicated()`.

Here is the call graph for this function:



6.265.4.5 `template<int RTYPE> int Rcpp::sugar::IndexHash< RTYPE >::get_addr ( STORAGE value ) const`

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::add_value()`, and `Rcpp::sugar::IndexHash< RTYPE >::get_index()`.

6.265.4.6 `template<> int Rcpp::sugar::IndexHash< INTSXP >::get_addr ( int value ) const [inline]`

Definition at line 204 of file `IndexHash.h`.

References `RCPP_HASH`.

6.265.4.7 `template<> int Rcpp::sugar::IndexHash< REALSXP >::get_addr ( double val ) const [inline]`

Definition at line 208 of file `IndexHash.h`.

References `RCPP_HASH`.

6.265.4.8 `template<> int Rcpp::sugar::IndexHash< STRSXP >::get_addr ( SEXP value ) const [inline]`

Definition at line 225 of file `IndexHash.h`.

References `RCPP_HASH`.

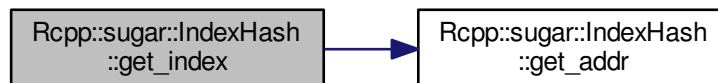
6.265.4.9 `template<int RTYPE> int Rcpp::sugar::IndexHash< RTYPE >::get_index ( STORAGE value ) const [inline]`

Definition at line 188 of file `IndexHash.h`.

References `Rcpp::sugar::IndexHash< RTYPE >::get_addr()`.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::contains()`, and `Rcpp::sugar::IndexHash< RTYPE >::lookup_impl()`.

Here is the call graph for this function:

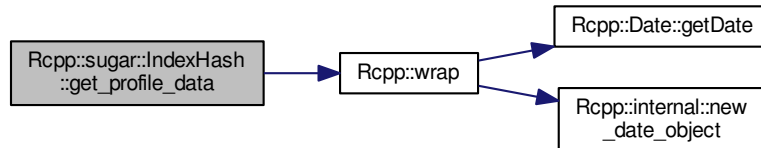


6.265.4.10 `template<int RTYPE> SEXP Rcpp::sugar::IndexHash< RTYPE >::get_profile_data ( ) [inline]`

Definition at line 155 of file IndexHash.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:



6.265.4.11 `template<int RTYPE> Vector<RTYPE> Rcpp::sugar::IndexHash< RTYPE >::keys ( ) const [inline]`

Definition at line 111 of file IndexHash.h.

References `Rcpp::sugar::IndexHash< RTYPE >::data`, `Rcpp::no_init()`, `Rcpp::sugar::IndexHash< RTYPE >::size_←`, and `Rcpp::sugar::IndexHash< RTYPE >::src`.

Referenced by `Rcpp::unique()`.

Here is the call graph for this function:



6.265.4.12 `template<int RTYPE> template<typename T > SEXP Rcpp::sugar::IndexHash< RTYPE >::lookup ( const T & vec ) const [inline]`

Definition at line 93 of file IndexHash.h.

References `Rcpp::sugar::IndexHash< RTYPE >::lookup__impl()`.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::lookup__impl()`, and `Rcpp::match()`.

Here is the call graph for this function:

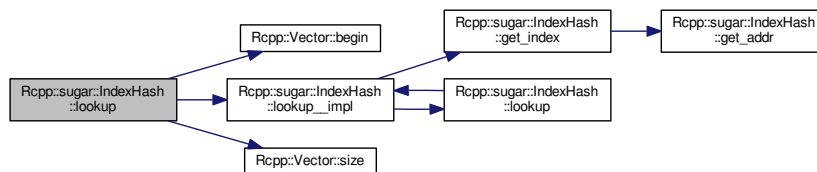


**6.265.4.13** `template<int RTYPE> SEXP Rcpp::sugar::IndexHash< RTYPE >::lookup ( const VECTOR & vec ) const`  
`[inline]`

Definition at line 98 of file IndexHash.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::sugar::IndexHash< RTYPE >::lookup_impl()`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



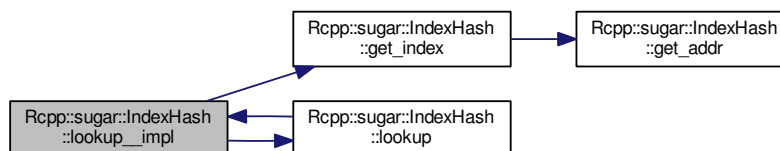
**6.265.4.14** `template<int RTYPE> template<typename T > SEXP Rcpp::sugar::IndexHash< RTYPE >::lookup_impl ( const T & vec, int n_ ) const`  
`[inline]`

Definition at line 135 of file IndexHash.h.

References `Rcpp::sugar::IndexHash< RTYPE >::get_index()`, `Rcpp::sugar::IndexHash< RTYPE >::lookup()`, `RCPP_PROFILE_RECORD`, `RCPP_PROFILE_TIC`, and `RCPP_PROFILE_TOC`.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::lookup()`.

Here is the call graph for this function:



6.265.4.15 `template<int RTYPE> bool Rcpp::sugar::IndexHash< RTYPE >::not_equal ( const STORAGE & lhs, const STORAGE & rhs ) [inline]`

Definition at line 163 of file IndexHash.h.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::add_value()`.

6.265.4.16 `template<int RTYPE> int Rcpp::sugar::IndexHash< RTYPE >::size ( ) const [inline]`

Definition at line 106 of file IndexHash.h.

References `Rcpp::sugar::IndexHash< RTYPE >::size_`.

## 6.265.5 Member Data Documentation

6.265.5.1 `template<int RTYPE> int* Rcpp::sugar::IndexHash< RTYPE >::data`

Definition at line 123 of file IndexHash.h.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::IndexHash()`, and `Rcpp::sugar::IndexHash< RTYPE >::keys()`.

6.265.5.2 `template<int RTYPE> int Rcpp::sugar::IndexHash< RTYPE >::k`

Definition at line 119 of file IndexHash.h.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::IndexHash()`.

6.265.5.3 `template<int RTYPE> int Rcpp::sugar::IndexHash< RTYPE >::m`

Definition at line 119 of file IndexHash.h.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::IndexHash()`.

6.265.5.4 `template<int RTYPE> int Rcpp::sugar::IndexHash< RTYPE >::n`

Definition at line 119 of file IndexHash.h.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::fill()`, `Rcpp::sugar::IndexHash< RTYPE >::fill_and_get_↔ duplicated()`, and `Rcpp::sugar::IndexHash< RTYPE >::IndexHash()`.

6.265.5.5 `template<int RTYPE> int Rcpp::sugar::IndexHash< RTYPE >::size_`

Definition at line 121 of file `IndexHash.h`.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::keys()`, and `Rcpp::sugar::IndexHash< RTYPE >::size()`.

6.265.5.6 `template<int RTYPE> STORAGE* Rcpp::sugar::IndexHash< RTYPE >::src`

Definition at line 120 of file `IndexHash.h`.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::keys()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/hash/IndexHash.h](#)

## 6.266 Rcpp::traits::init\_type< RTYPE > Struct Template Reference

```
#include <init_type.h>
```

### Public Types

- typedef [storage\\_type< RTYPE >::type](#) `type`

### 6.266.1 Detailed Description

```
template<int RTYPE>  
struct Rcpp::traits::init_type< RTYPE >
```

Definition at line 28 of file `init_type.h`.

### 6.266.2 Member Typedef Documentation

6.266.2.1 `template<int RTYPE> typedef storage_type<RTYPE>::type Rcpp::traits::init_type< RTYPE >::type`

Definition at line 29 of file `init_type.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/init\\_type.h](#)

## 6.267 Rcpp::traits::init\_type< LGLSXP > Struct Template Reference

```
#include <init_type.h>
```

### Public Types

- typedef bool [type](#)

#### 6.267.1 Detailed Description

```
template<>  
struct Rcpp::traits::init_type< LGLSXP >
```

Definition at line 34 of file `init_type.h`.

#### 6.267.2 Member Typedef Documentation

##### 6.267.2.1 typedef bool Rcpp::traits::init\_type< LGLSXP >::type

Definition at line 35 of file `init_type.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/init_type.h`

## 6.268 Rcpp::traits::init\_type< STRSXP > Struct Template Reference

```
#include <init_type.h>
```

### Public Types

- typedef const char \* [type](#)

#### 6.268.1 Detailed Description

```
template<>  
struct Rcpp::traits::init_type< STRSXP >
```

Definition at line 31 of file `init_type.h`.

## 6.268.2 Member Typedef Documentation

### 6.268.2.1 typedef const char\* Rcpp::traits::init\_type< STRSXP >::type

Definition at line 32 of file `init_type.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/init\\_type.h](#)

## 6.269 Rcpp::traits::input\_parameter< T > Struct Template Reference

```
#include <InputParameter.h>
```

### Public Types

- typedef [Rcpp::InputParameter< T > type](#)

### 6.269.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::input_parameter< T >
```

Definition at line 82 of file `InputParameter.h`.

## 6.269.2 Member Typedef Documentation

### 6.269.2.1 template<typename T > typedef Rcpp::InputParameter<T> Rcpp::traits::input\_parameter< T >::type

Definition at line 83 of file `InputParameter.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/InputParameter.h](#)

## 6.270 Rcpp::traits::input\_parameter< const T & > Struct Template Reference

```
#include <InputParameter.h>
```



## Public Types

- typedef [Rcpp::ConstReferenceInputParameter< T >](#) type

### 6.270.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::input_parameter< const T & >
```

Definition at line 94 of file InputParameter.h.

### 6.270.2 Member Typedef Documentation

6.270.2.1 `template<typename T > typedef Rcpp::ConstReferenceInputParameter<T>`  
`Rcpp::traits::input_parameter< const T & >::type`

Definition at line 95 of file InputParameter.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/InputParameter.h](#)

## 6.271 Rcpp::traits::input\_parameter< const T > Struct Template Reference

```
#include <InputParameter.h>
```

## Public Types

- typedef [Rcpp::ConstInputParameter< T >](#) type

### 6.271.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::input_parameter< const T >
```

Definition at line 90 of file InputParameter.h.

## 6.271.2 Member Typedef Documentation

6.271.2.1 `template<typename T > typedef Rcpp::ConstInputParameter<T> Rcpp::traits::input_parameter< const T >::type`

Definition at line 91 of file `InputParameter.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/InputParameter.h](#)

## 6.272 Rcpp::traits::input\_parameter< T & > Struct Template Reference

```
#include <InputParameter.h>
```

### Public Types

- typedef [Rcpp::ReferenceInputParameter< T > type](#)

### 6.272.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::input_parameter< T & >
```

Definition at line 86 of file `InputParameter.h`.

### 6.272.2 Member Typedef Documentation

6.272.2.1 `template<typename T > typedef Rcpp::ReferenceInputParameter<T> Rcpp::traits::input_parameter< T & >::type`

Definition at line 87 of file `InputParameter.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/InputParameter.h](#)

## 6.273 Rcpp::InputParameter< T > Class Template Reference

```
#include <InputParameter.h>
```

## Public Member Functions

- [InputParameter](#) (SEXP x\_)
- [operator T](#) ()

## Private Attributes

- [SEXP x](#)

### 6.273.1 Detailed Description

```
template<typename T>  
class Rcpp::InputParameter< T >
```

Definition at line 30 of file InputParameter.h.

### 6.273.2 Constructor & Destructor Documentation

6.273.2.1 `template<typename T > Rcpp::InputParameter< T >::InputParameter ( SEXP x_ )` [inline]

Definition at line 32 of file InputParameter.h.

### 6.273.3 Member Function Documentation

6.273.3.1 `template<typename T > Rcpp::InputParameter< T >::operator T ( )` [inline]

Definition at line 34 of file InputParameter.h.

References `Rcpp::InputParameter< T >::x`.

### 6.273.4 Member Data Documentation

6.273.4.1 `template<typename T > SEXP Rcpp::InputParameter< T >::x` [private]

Definition at line 37 of file InputParameter.h.

Referenced by `Rcpp::InputParameter< T >::operator T()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/InputParameter.h](#)

## 6.274 Rcpp::sugar::InSet< HASH > Class Template Reference

```
#include <unique.h>
```

### Public Member Functions

- [InSet](#) (const HASH &hash\_)
- [int operator\(\)](#) (STORAGE value)

### Private Types

- `typedef HASH::STORAGE` [STORAGE](#)

### Private Attributes

- const HASH & [hash](#)

### 6.274.1 Detailed Description

```
template<typename HASH>  
class Rcpp::sugar::InSet< HASH >
```

Definition at line 29 of file unique.h.

### 6.274.2 Member Typedef Documentation

6.274.2.1 `template<typename HASH > typedef HASH::STORAGE Rcpp::sugar::InSet< HASH >::STORAGE` `[private]`

Definition at line 30 of file unique.h.

### 6.274.3 Constructor & Destructor Documentation

6.274.3.1 `template<typename HASH > Rcpp::sugar::InSet< HASH >::InSet ( const HASH & hash_ )` `[inline]`

Definition at line 33 of file unique.h.

### 6.274.4 Member Function Documentation

6.274.4.1 `template<typename HASH > int Rcpp::sugar::InSet< HASH >::operator() ( STORAGE value ) [inline]`

Definition at line 35 of file unique.h.

References `Rcpp::sugar::InSet< HASH >::hash`.

### 6.274.5 Member Data Documentation

6.274.5.1 `template<typename HASH > const HASH& Rcpp::sugar::InSet< HASH >::hash [private]`

Definition at line 40 of file unique.h.

Referenced by `Rcpp::sugar::In< RTYPE, TABLE_T >::get()`, `Rcpp::sugar::InSet< HASH >::operator()`, and `Rcpp::unique()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/unique.h](#)

## 6.275 Rcpp::traits::int2type< I > Struct Template Reference

```
#include <traits.h>
```

### Public Types

- enum { `value = I` }

### 6.275.1 Detailed Description

```
template<int I>
struct Rcpp::traits::int2type< I >
```

Definition at line 33 of file traits.h.

## 6.275.2 Member Enumeration Documentation

### 6.275.2.1 `template<int I> anonymous enum`

Enumerator

*value*

Definition at line 33 of file traits.h.

The documentation for this struct was generated from the following file:

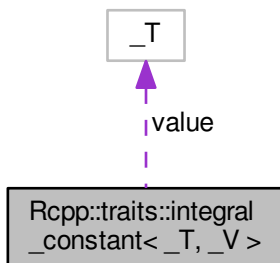
- [inst/include/Rcpp/traits/traits.h](#)

## 6.276 `Rcpp::traits::integral_constant<_T, _V>` Struct Template Reference

```
#include <integral_constant.h>
```

Inherited by `Rcpp::Matrix< RTYPE, StoragePolicy >::can_have_na`, `Rcpp::sugar::is_sugar_vector< T >`, `Rcpp::sugar::is_sugar_vector< Rcpp::Vector< RTYPE > >`, `Rcpp::traits::has_na< RTYPE >`, `Rcpp::traits::has_na< C< PLXSXP >`, `Rcpp::traits::has_na< INTSXP >`, `Rcpp::traits::has_na< LGLSXP >`, `Rcpp::traits::has_na< REALSXP >`, `Rcpp::traits::has_na< STRSXP >`, `Rcpp::traits::is_arithmetic< typename >`, `Rcpp::traits::is_arithmetic< const double >`, `Rcpp::traits::is_arithmetic< const float >`, `Rcpp::traits::is_arithmetic< const int >`, `Rcpp::traits::is_arithmetic< const long >`, `Rcpp::traits::is_arithmetic< const long double >`, `Rcpp::traits::is_arithmetic< const short >`, `Rcpp::traits::is_arithmetic< const unsigned int >`, `Rcpp::traits::is_arithmetic< const unsigned long >`, `Rcpp::traits::is_arithmetic< const unsigned short >`, `Rcpp::traits::is_arithmetic< double >`, `Rcpp::traits::is_arithmetic< float >`, `Rcpp::traits::is_arithmetic< int >`, `Rcpp::traits::is_arithmetic< long >`, `Rcpp::traits::is_arithmetic< long double >`, `Rcpp::traits::is_arithmetic< short >`, `Rcpp::traits::is_arithmetic< unsigned int >`, `Rcpp::traits::is_arithmetic< unsigned long >`, `Rcpp::traits::is_arithmetic< unsigned short >`, `Rcpp::traits::is_bool< typename >`, `Rcpp::traits::is_bool< bool >`, `Rcpp::traits::is_bool< const bool >`, `Rcpp::traits::is_bool< volatile bool >`, `Rcpp::traits::is_const< typename >`, `Rcpp::traits::is_const< _Tp const >`, `Rcpp::traits::is_named< T >`, `Rcpp::traits::is_named< named_object< T > >`, `Rcpp::traits::is_named< Rcpp::Argument >`, `Rcpp::traits::is_pointer< T >`, `Rcpp::traits::is_pointer< T * >`, `Rcpp::traits::is_reference< typename >`, `Rcpp::traits::is_reference< _Tp & >`, `Rcpp::traits::is_trivial< RTYPE >`, `Rcpp::traits::is_trivial< EXPRSXP >`, `Rcpp::traits::is_trivial< VECSXP >`, `Rcpp::traits::is_wide_string< char >`, `Rcpp::traits::is_wide_string< const char * >`, `Rcpp::traits::is_wide_string< const wchar_t * >`, `Rcpp::traits::is_wide_string< wchar_t >`, `Rcpp::traits::needs_protection< T >`, `Rcpp::traits::needs_protection< SEXP >`, `Rcpp::traits::r_sexptype_needs_cast< T >`, `Rcpp::traits::r_sexptype_needs_cast< double >`, `Rcpp::traits::r_sexptype_needs_cast< int >`, `Rcpp::traits::r_sexptype_needs_cast< Rbyte >`, `Rcpp::traits::r_sexptype_needs_cast< Rcomplex >`, `Rcpp::traits::same_type< T, U >`, `Rcpp::traits::same_type< T, T >`, `Rcpp::traits::same_type< r_type_traits< T >::r_category, r_type_primitive_tag >`, and `Rcpp::traits::same_type< T::value_type, wchar_t >`.

Collaboration diagram for Rcpp::traits::integral\_constant<\_T, \_V>:



## Public Types

- typedef `_T` `value_type`
- typedef `integral_constant<_T, _V>` `type`

## Static Public Attributes

- static const `_T` `value` = `_V`

### 6.276.1 Detailed Description

```
template<typename _T, _T _V>
struct Rcpp::traits::integral_constant<_T, _V>
```

Definition at line 29 of file `integral_constant.h`.

### 6.276.2 Member Typedef Documentation

6.276.2.1 `template<typename _T, _T _V> typedef integral_constant<_T, _V> Rcpp::traits::integral_constant<_T, _V>::type`

Definition at line 32 of file `integral_constant.h`.

6.276.2.2 `template<typename _T, _T _V> typedef _T Rcpp::traits::integral_constant<_T, _V>::value_type`

Definition at line 31 of file `integral_constant.h`.

### 6.276.3 Member Data Documentation

6.276.3.1 `template<typename _T, _T_V> const_T Rcpp::traits::integral_constant<_T, _V>::value = _V` [static]

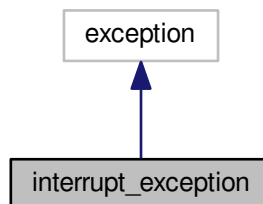
Definition at line 30 of file `integral_constant.h`.

The documentation for this struct was generated from the following file:

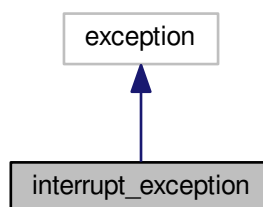
- [inst/include/Rcpp/traits/integral\\_constant.h](#)

### 6.277 interrupt\_exception Class Reference

Inheritance diagram for `interrupt_exception`:



Collaboration diagram for `interrupt_exception`:





## Public Member Functions

- [interrupt\\_exception](#) (std::string message)
- virtual [~interrupt\\_exception](#) () throw ()
- virtual const char \* [what](#) () const throw ()

## Public Attributes

- std::string [detailed\\_message](#)

### 6.277.1 Detailed Description

Base class for interrupt exceptions thrown when user interrupts are detected.

Definition at line 15 of file piWithInterrupts.cpp.

### 6.277.2 Constructor & Destructor Documentation

**6.277.2.1** `interrupt_exception::interrupt_exception ( std::string message )` `[inline]`

Constructor.

#### Parameters

<code>in</code>	<code><i>message</i></code>	A description of event that caused this exception.
-----------------	-----------------------------	--

Definition at line 22 of file piWithInterrupts.cpp.

Referenced by PiLeibniz().

**6.277.2.2** `virtual interrupt_exception::~~interrupt_exception ( ) throw` `[inline],[virtual]`

Virtual destructor. Needed to avoid "looser throw specification" errors.

Definition at line 29 of file piWithInterrupts.cpp.

### 6.277.3 Member Function Documentation

**6.277.3.1** `virtual const char* interrupt_exception::what ( ) const throw` `[inline],[virtual]`

Obtain a description of the exception.

#### Returns

Description.

Definition at line 35 of file piWithInterrupts.cpp.

References [detailed\\_message](#).

## 6.277.4 Member Data Documentation

### 6.277.4.1 `std::string interrupt_exception::detailed_message`

String with details on the error.

Definition at line 42 of file `piWithInterrupts.cpp`.

Referenced by `what()`.

The documentation for this class was generated from the following file:

- [inst/examples/OpenMP/piWithInterrupts.cpp](#)

## 6.278 `Rcpp::internal::InterruptedException` Class Reference

```
#include <Interrupt.h>
```

### 6.278.1 Detailed Description

Definition at line 33 of file `Interrupt.h`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Interrupt.h](#)

## 6.279 `Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >` Class Template Reference

```
#include <setdiff.h>
```

### Public Types

- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) `STORAGE`

### Public Member Functions

- [Intersect](#) (const LHS\_T &lhs, const RHS\_T &rhs)
- [Vector< RTYPE > get](#) () const

## Private Types

- typedef [RCPP\\_UNORDERED\\_SET](#)< [STORAGE](#) > [SET](#)
- typedef SET::const\_iterator [ITERATOR](#)

## Private Attributes

- [SET intersect](#)

### 6.279.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 100 of file setdiff.h.

### 6.279.2 Member Typedef Documentation

6.279.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef SET::const_iterator Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::ITERATOR [private]`

Definition at line 127 of file setdiff.h.

6.279.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef RCPP_UNORDERED_SET<STORAGE> Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::SET [private]`

Definition at line 126 of file setdiff.h.

6.279.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 102 of file setdiff.h.

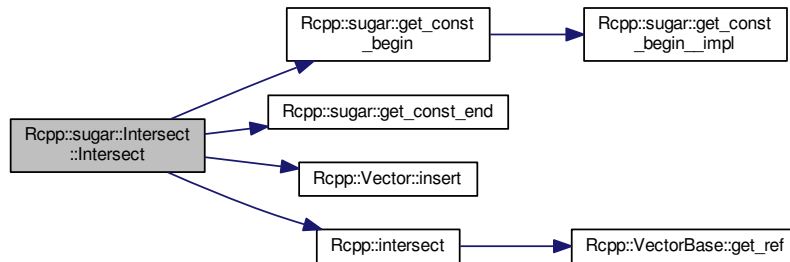
### 6.279.3 Constructor & Destructor Documentation

6.279.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Intersect ( const LHS_T & lhs, const RHS_T & rhs ) [inline]`

Definition at line 104 of file setdiff.h.

References `Rcpp::sugar::get_const_begin()`, `Rcpp::sugar::get_const_end()`, `Rcpp::Vector< RTYPE, StoragePolicy >::insert()`, and `Rcpp::intersect()`.

Here is the call graph for this function:



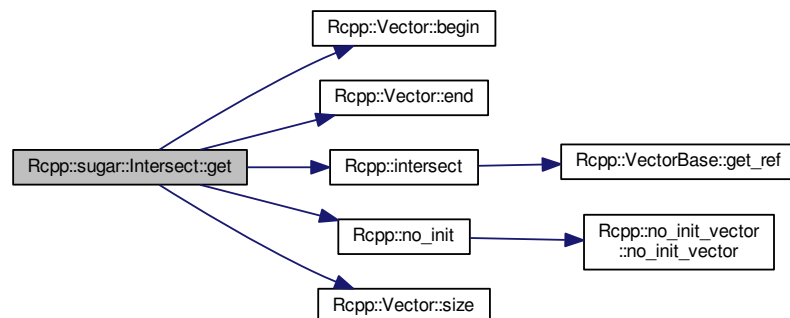
### 6.279.4 Member Function Documentation

6.279.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Vector<RTYPE> Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get ( ) const [inline]`

Definition at line 118 of file setdiff.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::Vector< RTYPE, StoragePolicy >::end()`, `Rcpp::intersect()`, `Rcpp::no_init()`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



## 6.279.5 Member Data Documentation

6.279.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > SET  
Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::intersect [private]`

Definition at line 128 of file setdiff.h.

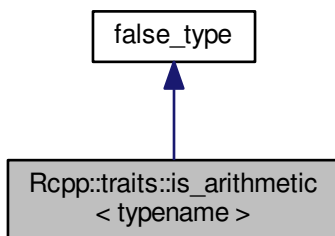
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/setdiff.h](#)

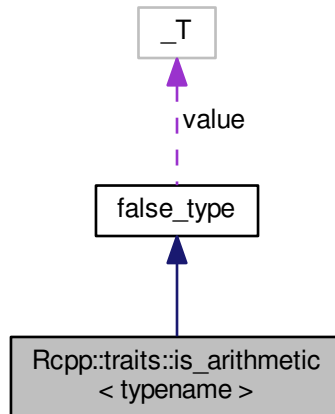
## 6.280 Rcpp::traits::is\_arithmetic&lt; typename &gt; Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for Rcpp::traits::is\_arithmetic< typename >:



Collaboration diagram for `Rcpp::traits::is_arithmetic< typename >`:



## Additional Inherited Members

### 6.280.1 Detailed Description

```

template<typename>
struct Rcpp::traits::is_arithmetic< typename >
  
```

Definition at line 30 of file `is_arithmetic.h`.

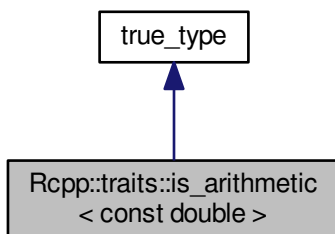
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

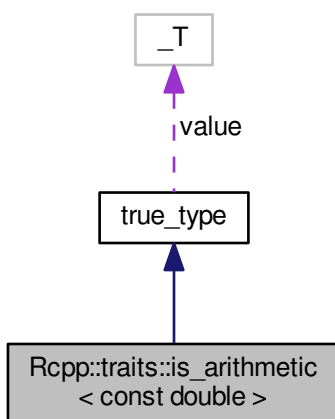
## 6.281 `Rcpp::traits::is_arithmetic< const double >` Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for Rcpp::traits::is\_arithmetic< const double >:



Collaboration diagram for Rcpp::traits::is\_arithmetic< const double >:



## Additional Inherited Members

### 6.281.1 Detailed Description

```
template<>  
struct Rcpp::traits::is_arithmetic< const double >
```

Definition at line 94 of file is\_arithmetic.h.

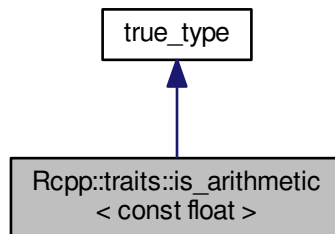
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

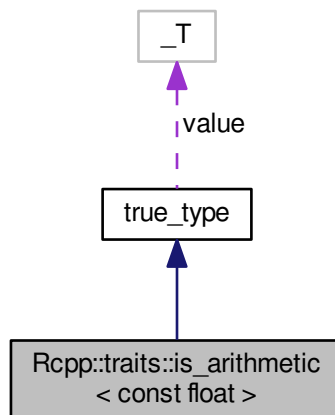
## 6.282 Rcpp::traits::is\_arithmetic< const float > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for Rcpp::traits::is\_arithmetic< const float >:



Collaboration diagram for Rcpp::traits::is\_arithmetic< const float >:



### Additional Inherited Members

#### 6.282.1 Detailed Description



```
template<>
struct Rcpp::traits::is_arithmetic< const float >
```

Definition at line 88 of file is\_arithmetic.h.

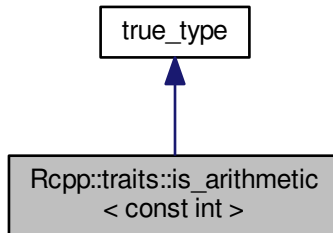
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

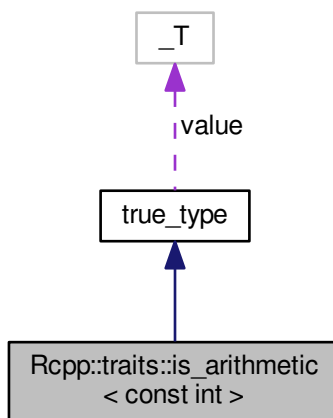
## 6.283 Rcpp::traits::is\_arithmetic< const int > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for Rcpp::traits::is\_arithmetic< const int >:



Collaboration diagram for Rcpp::traits::is\_arithmetic< const int >:



## Additional Inherited Members

### 6.283.1 Detailed Description

```
template<>
struct Rcpp::traits::is_arithmetic< const int >
```

Definition at line 48 of file `is_arithmetic.h`.

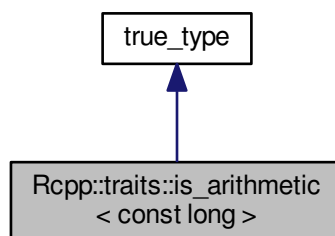
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

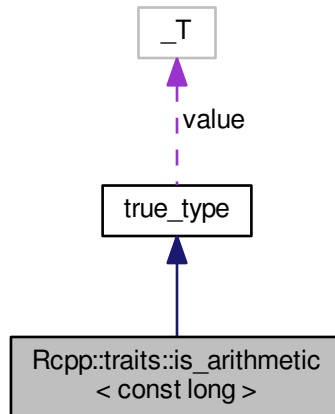
### 6.284 Rcpp::traits::is\_arithmetic< const long > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for `Rcpp::traits::is_arithmetic< const long >`:



Collaboration diagram for Rcpp::traits::is\_arithmetic< const long >:



### Additional Inherited Members

#### 6.284.1 Detailed Description

```
template<>  
struct Rcpp::traits::is_arithmetic< const long >
```

Definition at line 60 of file `is_arithmetic.h`.

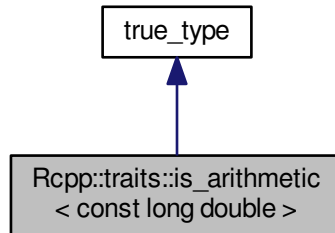
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

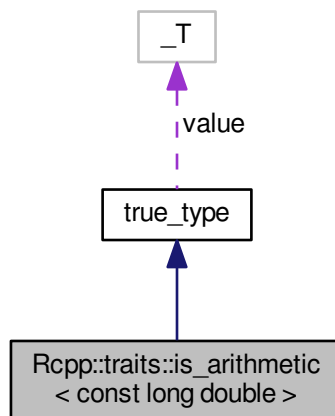
## 6.285 Rcpp::traits::is\_arithmetic< const long double > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for Rcpp::traits::is\_arithmetic< const long double >:



Collaboration diagram for Rcpp::traits::is\_arithmetic< const long double >:



## Additional Inherited Members

### 6.285.1 Detailed Description

```

template<>
struct Rcpp::traits::is_arithmetic< const long double >
  
```

Definition at line 100 of file `is_arithmetic.h`.

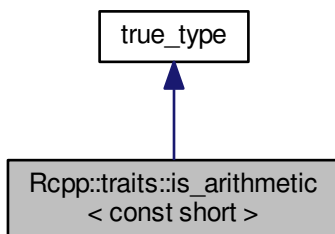
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

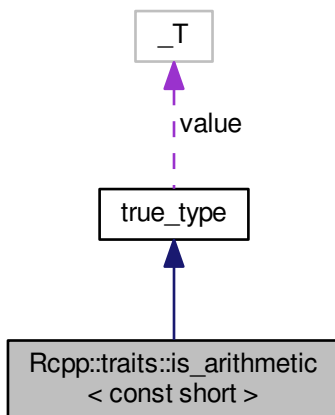
## 6.286 Rcpp::traits::is\_arithmetic< const short > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for Rcpp::traits::is\_arithmetic< const short >:



Collaboration diagram for Rcpp::traits::is\_arithmetic< const short >:



### Additional Inherited Members

#### 6.286.1 Detailed Description

```
template<>
struct Rcpp::traits::is_arithmetic< const short >
```

Definition at line 36 of file `is_arithmetic.h`.

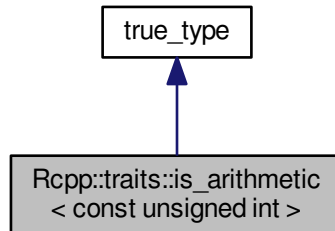
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

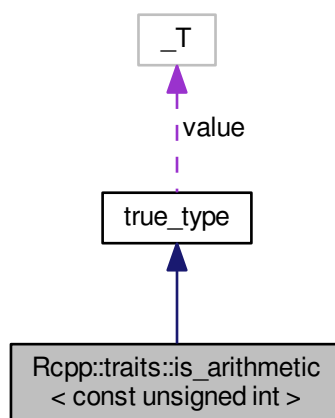
## 6.287 Rcpp::traits::is\_arithmetic< const unsigned int > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for `Rcpp::traits::is_arithmetic< const unsigned int >`:



Collaboration diagram for `Rcpp::traits::is_arithmetic< const unsigned int >`:



## Additional Inherited Members

### 6.287.1 Detailed Description

```
template<>
struct Rcpp::traits::is_arithmetic< const unsigned int >
```

Definition at line 54 of file `is_arithmetic.h`.

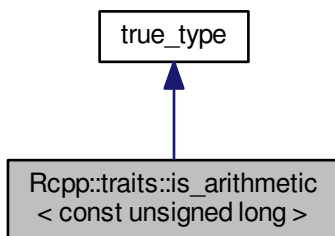
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

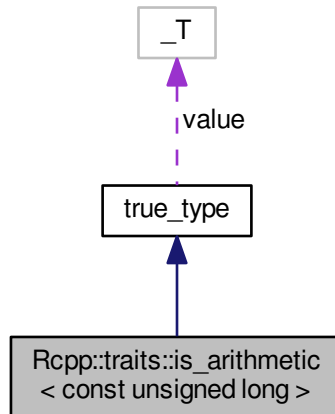
## 6.288 Rcpp::traits::is\_arithmetic< const unsigned long > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for `Rcpp::traits::is_arithmetic< const unsigned long >`:



Collaboration diagram for `Rcpp::traits::is_arithmetic< const unsigned long >`:



## Additional Inherited Members

### 6.288.1 Detailed Description

```
template<>
struct Rcpp::traits::is_arithmetic< const unsigned long >
```

Definition at line 66 of file `is_arithmetic.h`.

The documentation for this struct was generated from the following file:

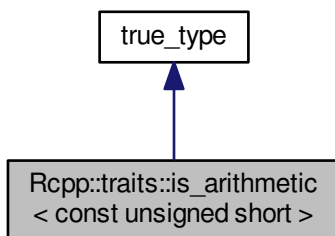
- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

## 6.289 `Rcpp::traits::is_arithmetic< const unsigned short >` Struct Template Reference

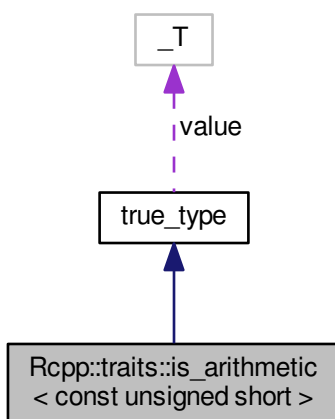
```
#include <is_arithmetic.h>
```



Inheritance diagram for Rcpp::traits::is\_arithmetic< const unsigned short >:



Collaboration diagram for Rcpp::traits::is\_arithmetic< const unsigned short >:



## Additional Inherited Members

### 6.289.1 Detailed Description

```
template<>  
struct Rcpp::traits::is_arithmetic< const unsigned short >
```

Definition at line 42 of file is\_arithmetic.h.

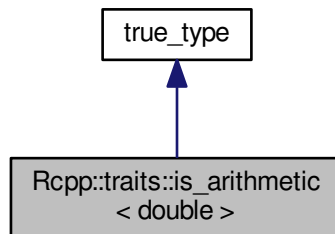
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

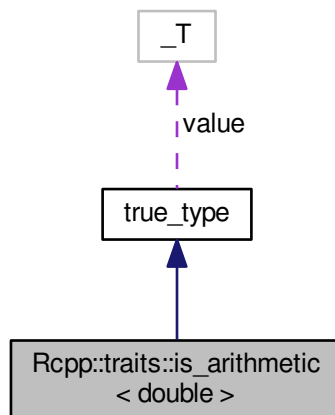
## 6.290 Rcpp::traits::is\_arithmetic< double > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for Rcpp::traits::is\_arithmetic< double >:



Collaboration diagram for Rcpp::traits::is\_arithmetic< double >:



### Additional Inherited Members

#### 6.290.1 Detailed Description

```
template<>
struct Rcpp::traits::is_arithmetic< double >
```

Definition at line 91 of file `is_arithmetic.h`.

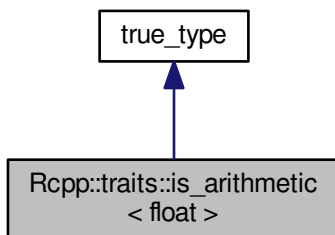
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

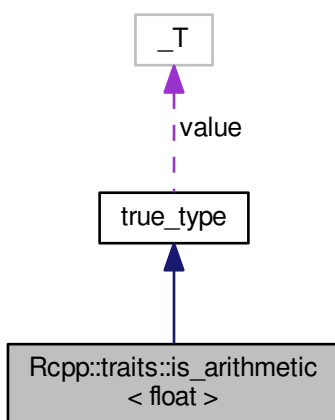
## 6.291 Rcpp::traits::is\_arithmetic< float > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for `Rcpp::traits::is_arithmetic< float >`:



Collaboration diagram for `Rcpp::traits::is_arithmetic< float >`:



## Additional Inherited Members

### 6.291.1 Detailed Description

```
template<>
struct Rcpp::traits::is_arithmetic< float >
```

Definition at line 85 of file `is_arithmetic.h`.

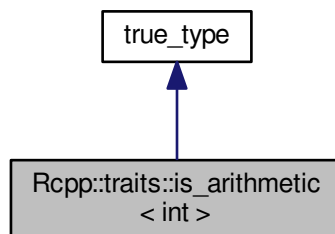
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

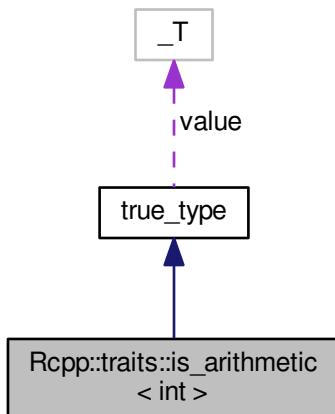
### 6.292 Rcpp::traits::is\_arithmetic< int > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for `Rcpp::traits::is_arithmetic< int >`:



Collaboration diagram for Rcpp::traits::is\_arithmetic< int >:



### Additional Inherited Members

#### 6.292.1 Detailed Description

```
template<>  
struct Rcpp::traits::is_arithmetic< int >
```

Definition at line 45 of file is\_arithmetic.h.

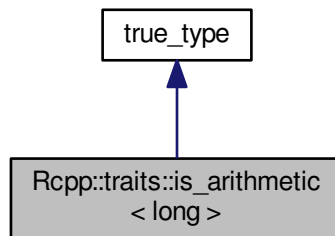
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

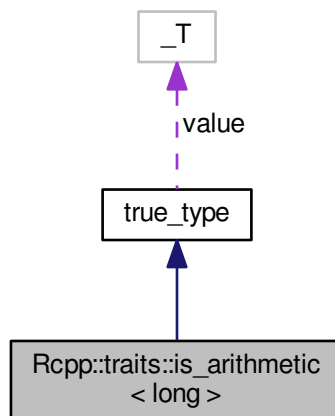
### 6.293 Rcpp::traits::is\_arithmetic< long > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for `Rcpp::traits::is_arithmetic< long >`:



Collaboration diagram for `Rcpp::traits::is_arithmetic< long >`:



## Additional Inherited Members

### 6.293.1 Detailed Description

```

template<>
struct Rcpp::traits::is_arithmetic< long >
  
```

Definition at line 57 of file `is_arithmetic.h`.

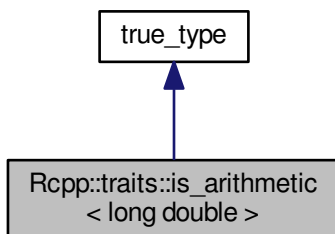
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

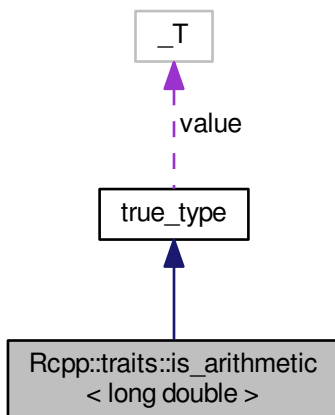
## 6.294 Rcpp::traits::is\_arithmetic< long double > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for Rcpp::traits::is\_arithmetic< long double >:



Collaboration diagram for Rcpp::traits::is\_arithmetic< long double >:



### Additional Inherited Members

#### 6.294.1 Detailed Description

```
template<>
struct Rcpp::traits::is_arithmetic< long double >
```

Definition at line 97 of file `is_arithmetic.h`.

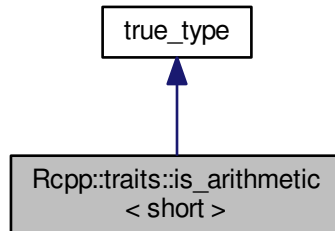
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

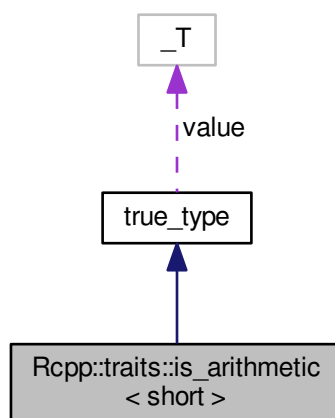
## 6.295 Rcpp::traits::is\_arithmetic< short > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for `Rcpp::traits::is_arithmetic< short >`:



Collaboration diagram for `Rcpp::traits::is_arithmetic< short >`:





## Additional Inherited Members

### 6.295.1 Detailed Description

```
template<>  
struct Rcpp::traits::is_arithmetic< short >
```

Definition at line 33 of file `is_arithmetic.h`.

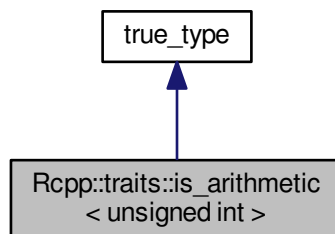
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

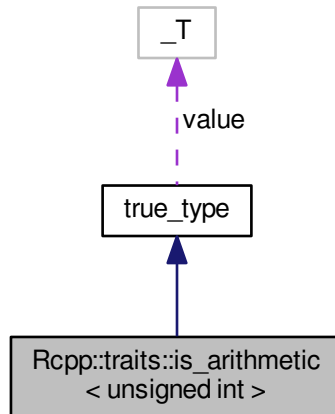
## 6.296 Rcpp::traits::is\_arithmetic< unsigned int > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for `Rcpp::traits::is_arithmetic< unsigned int >`:



Collaboration diagram for `Rcpp::traits::is_arithmetic< unsigned int >`:



## Additional Inherited Members

### 6.296.1 Detailed Description

```
template<>
struct Rcpp::traits::is_arithmetic< unsigned int >
```

Definition at line 51 of file `is_arithmetic.h`.

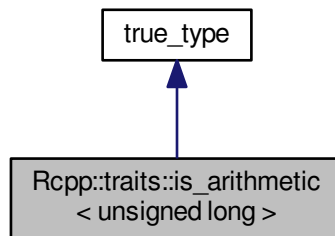
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

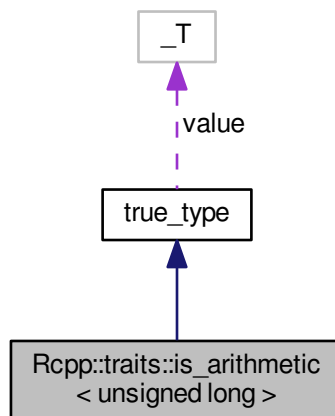
### 6.297 `Rcpp::traits::is_arithmetic< unsigned long >` Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for Rcpp::traits::is\_arithmetic< unsigned long >:



Collaboration diagram for Rcpp::traits::is\_arithmetic< unsigned long >:



## Additional Inherited Members

### 6.297.1 Detailed Description

```
template<>  
struct Rcpp::traits::is_arithmetic< unsigned long >
```

Definition at line 63 of file `is_arithmetic.h`.

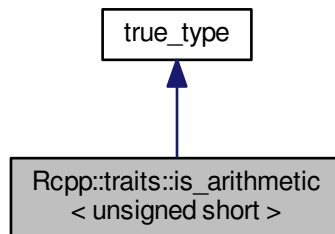
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

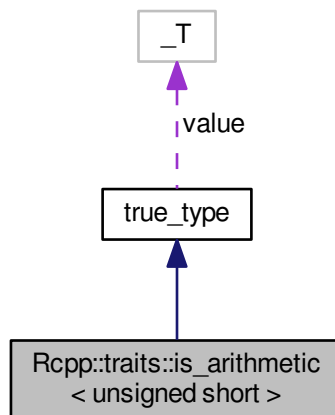
## 6.298 Rcpp::traits::is\_arithmetic< unsigned short > Struct Template Reference

```
#include <is_arithmetic.h>
```

Inheritance diagram for Rcpp::traits::is\_arithmetic< unsigned short >:



Collaboration diagram for Rcpp::traits::is\_arithmetic< unsigned short >:



### Additional Inherited Members

#### 6.298.1 Detailed Description

```
template<>
struct Rcpp::traits::is_arithmetic< unsigned short >
```

Definition at line 39 of file is\_arithmetic.h.

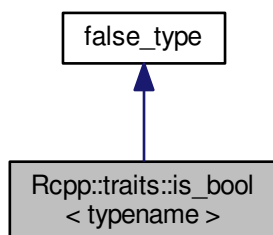
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_arithmetic.h](#)

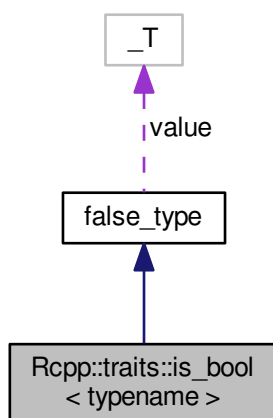
## 6.299 Rcpp::traits::is\_bool< typename > Struct Template Reference

```
#include <is_bool.h>
```

Inheritance diagram for Rcpp::traits::is\_bool< typename >:



Collaboration diagram for Rcpp::traits::is\_bool< typename >:



## Additional Inherited Members

### 6.299.1 Detailed Description

```
template<typename>  
struct Rcpp::traits::is_bool< typename >
```

Definition at line 7 of file `is_bool.h`.

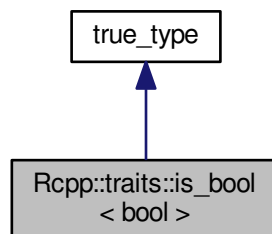
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_bool.h](#)

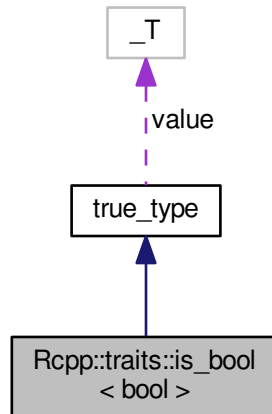
### 6.300 Rcpp::traits::is\_bool< bool > Struct Template Reference

```
#include <is_bool.h>
```

Inheritance diagram for `Rcpp::traits::is_bool< bool >`:



Collaboration diagram for Rcpp::traits::is\_bool< bool >:



### Additional Inherited Members

#### 6.300.1 Detailed Description

```
template<>  
struct Rcpp::traits::is_bool< bool >
```

Definition at line 11 of file `is_bool.h`.

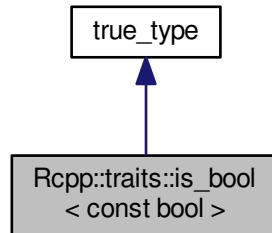
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/is_bool.h`

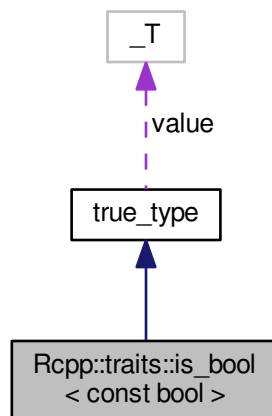
### 6.301 Rcpp::traits::is\_bool< const bool > Struct Template Reference

```
#include <is_bool.h>
```

Inheritance diagram for `Rcpp::traits::is_bool< const bool >`:



Collaboration diagram for `Rcpp::traits::is_bool< const bool >`:



## Additional Inherited Members

### 6.301.1 Detailed Description

```

template<>
struct Rcpp::traits::is_bool< const bool >
  
```

Definition at line 15 of file `is_bool.h`.

The documentation for this struct was generated from the following file:

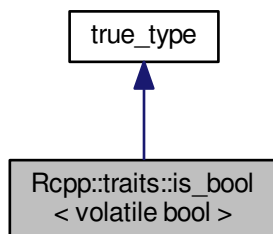
- `inst/include/Rcpp/traits/is_bool.h`



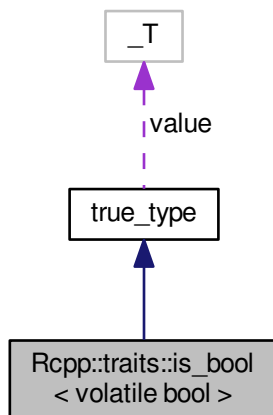
## 6.302 Rcpp::traits::is\_bool< volatile bool > Struct Template Reference

```
#include <is_bool.h>
```

Inheritance diagram for Rcpp::traits::is\_bool< volatile bool >:



Collaboration diagram for Rcpp::traits::is\_bool< volatile bool >:



### Additional Inherited Members

#### 6.302.1 Detailed Description

```
template<>  
struct Rcpp::traits::is_bool< volatile bool >
```

Definition at line 19 of file `is_bool.h`.

The documentation for this struct was generated from the following file:

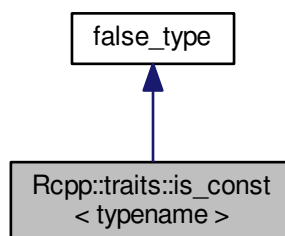
- [inst/include/Rcpp/traits/is\\_bool.h](#)

### 6.303 Rcpp::traits::is\_const< typename > Struct Template Reference

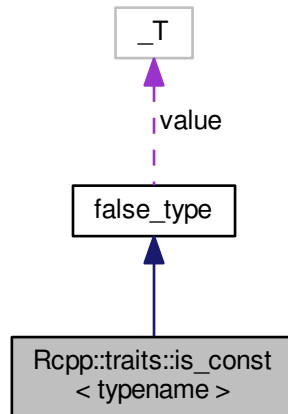
type properties [4.5.3].

```
#include <is_const.h>
```

Inheritance diagram for Rcpp::traits::is\_const< typename >:



Collaboration diagram for Rcpp::traits::is\_const< typename >:



### Additional Inherited Members

#### 6.303.1 Detailed Description

```
template<typename>  
struct Rcpp::traits::is_const< typename >
```

type properties [4.5.3].

Definition at line 30 of file `is_const.h`.

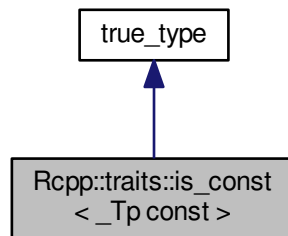
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/is_const.h`

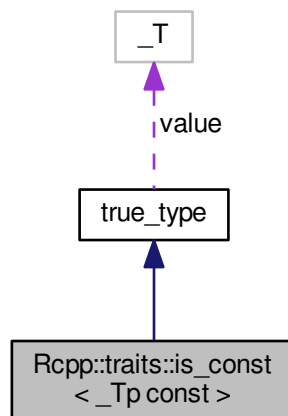
## 6.304 Rcpp::traits::is\_const< \_Tp const > Struct Template Reference

```
#include <is_const.h>
```

Inheritance diagram for `Rcpp::traits::is_const<_Tp const >`:



Collaboration diagram for `Rcpp::traits::is_const<_Tp const >`:



## Additional Inherited Members

### 6.304.1 Detailed Description

```

template<typename _Tp>
struct Rcpp::traits::is_const<_Tp const >

```

Definition at line 34 of file `is_const.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_const.h](#)

## 6.305 Rcpp::traits::is\_convertible< T, U > Class Template Reference

```
#include <is_convertible.h>
```

### Classes

- struct [Big](#)

### Public Types

- typedef bool [value\\_type](#)
- typedef [integral\\_constant](#)< bool, [value](#) > [type](#)

### Static Public Attributes

- static const bool [value](#) = sizeof([Test](#)([MakeT](#)())) == sizeof([Small](#))

### Private Types

- typedef char [Small](#)

### Static Private Member Functions

- static [Small Test](#) (const U &)
- static [Big Test](#) (...)
- static T [MakeT](#) ()

#### 6.305.1 Detailed Description

```
template<typename T, typename U>  
class Rcpp::traits::is_convertible< T, U >
```

Definition at line 29 of file `is_convertible.h`.

#### 6.305.2 Member Typedef Documentation

6.305.2.1 `template<typename T, typename U > typedef char Rcpp::traits::is_convertible< T, U >::Small` `[private]`

Definition at line 31 of file `is_convertible.h`.

6.305.2.2 `template<typename T , typename U > typedef integral_constant<bool,value> Rcpp::traits::is_convertible< T, U >::type`

Definition at line 41 of file `is_convertible.h`.

6.305.2.3 `template<typename T , typename U > typedef bool Rcpp::traits::is_convertible< T, U >::value_type`

Definition at line 39 of file `is_convertible.h`.

### 6.305.3 Member Function Documentation

6.305.3.1 `template<typename T , typename U > static T Rcpp::traits::is_convertible< T, U >::MakeT ( ) [static], [private]`

6.305.3.2 `template<typename T , typename U > static Small Rcpp::traits::is_convertible< T, U >::Test ( const U & ) [static], [private]`

6.305.3.3 `template<typename T , typename U > static Big Rcpp::traits::is_convertible< T, U >::Test ( ... ) [static], [private]`

### 6.305.4 Member Data Documentation

6.305.4.1 `template<typename T , typename U > const bool Rcpp::traits::is_convertible< T, U >::value = sizeof(Test(MakeT())) == sizeof(Small) [static]`

Definition at line 40 of file `is_convertible.h`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/traits/is\\_convertible.h](#)

## 6.306 `tinyformat::detail::is_convertible< T1, T2 >` Struct Template Reference

```
#include <tinyformat.h>
```

### Classes

- struct [fail](#)
- struct [succeed](#)

## Static Public Attributes

- static const bool [value](#)

## Static Private Member Functions

- static [fail tryConvert](#) (...)
- static [succeed tryConvert](#) (const T2 &)
- static const T1 & [makeT1](#) ()

### 6.306.1 Detailed Description

```
template<typename T1, typename T2>
struct tinyformat::detail::is_convertible< T1, T2 >
```

Definition at line 185 of file tinyformat.h.

### 6.306.2 Member Function Documentation

6.306.2.1 `template<typename T1 , typename T2 > static const T1& tinyformat::detail::is_convertible< T1, T2 >::makeT1 ( )`  
[static], [private]

6.306.2.2 `template<typename T1 , typename T2 > static fail tinyformat::detail::is_convertible< T1, T2 >::tryConvert ( ... )`  
[static], [private]

6.306.2.3 `template<typename T1 , typename T2 > static succeed tinyformat::detail::is_convertible< T1, T2 >::tryConvert ( const T2 & )` [static], [private]

### 6.306.3 Member Data Documentation

6.306.3.1 `template<typename T1 , typename T2 > const bool tinyformat::detail::is_convertible< T1, T2 >::value`  
[static]

#### Initial value:

```
=
    sizeof(tryConvert(makeT1())) == sizeof(succeed)
```

Definition at line 206 of file tinyformat.h.

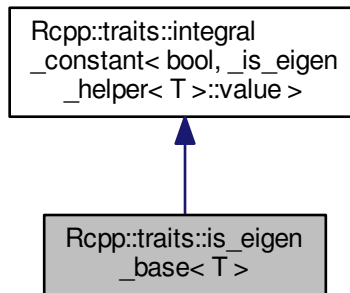
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/utils/tinyformat.h](#)

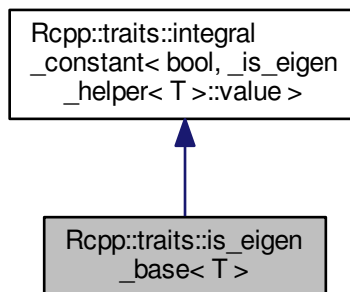
## 6.307 Rcpp::traits::is\_eigen\_base< T > Struct Template Reference

```
#include <is_eigen_base.h>
```

Inheritance diagram for Rcpp::traits::is\_eigen\_base< T >:



Collaboration diagram for Rcpp::traits::is\_eigen\_base< T >:



### Additional Inherited Members

#### 6.307.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::is_eigen_base< T >
```

Definition at line 42 of file `is_eigen_base.h`.

The documentation for this struct was generated from the following file:

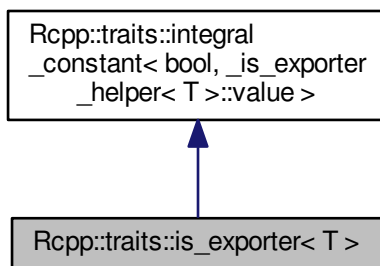


- [inst/include/Rcpp/traits/is\\_eigen\\_base.h](#)

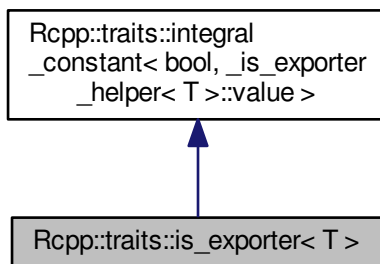
## 6.308 Rcpp::traits::is\_exporter< T > Struct Template Reference

```
#include <has_iterator.h>
```

Inheritance diagram for Rcpp::traits::is\_exporter< T >:



Collaboration diagram for Rcpp::traits::is\_exporter< T >:



### Additional Inherited Members

#### 6.308.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::is_exporter< T >
```

Definition at line 115 of file `has_iterator.h`.

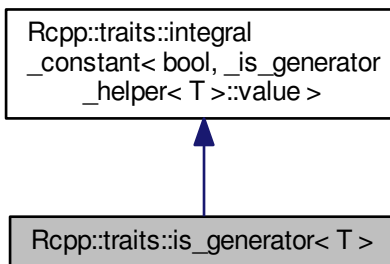
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/has\\_iterator.h](#)

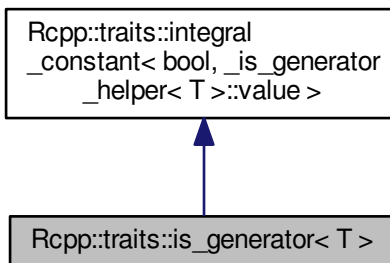
## 6.309 Rcpp::traits::is\_generator< T > Struct Template Reference

```
#include <has_iterator.h>
```

Inheritance diagram for `Rcpp::traits::is_generator< T >`:



Collaboration diagram for `Rcpp::traits::is_generator< T >`:



## Additional Inherited Members

## 6.309.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::is_generator< T >
```

Definition at line 118 of file `has_iterator.h`.

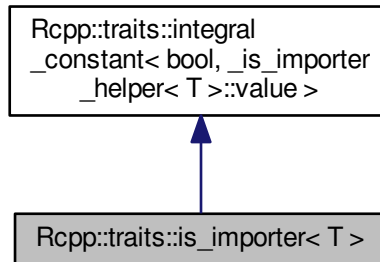
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/has\\_iterator.h](#)

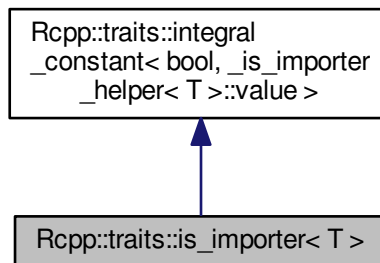
## 6.310 Rcpp::traits::is\_importer&lt; T &gt; Struct Template Reference

```
#include <has_iterator.h>
```

Inheritance diagram for Rcpp::traits::is\_importer< T >:



Collaboration diagram for Rcpp::traits::is\_importer< T >:



## Additional Inherited Members

### 6.310.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::is_importer< T >
```

uses SFINAE to identify if a type is importable

The test is based on the presence of a typedef `r_import_type` in the class

Definition at line 112 of file `has_iterator.h`.

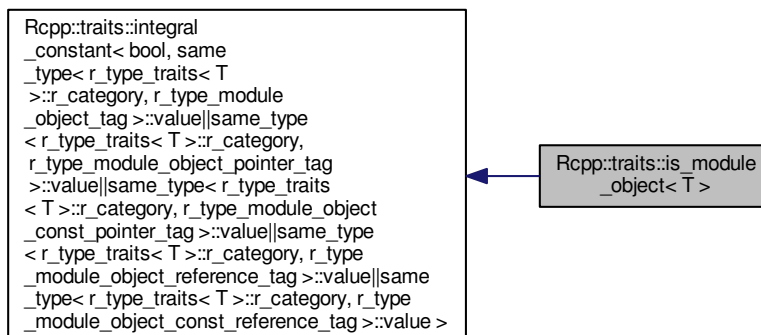
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/has\\_iterator.h](#)

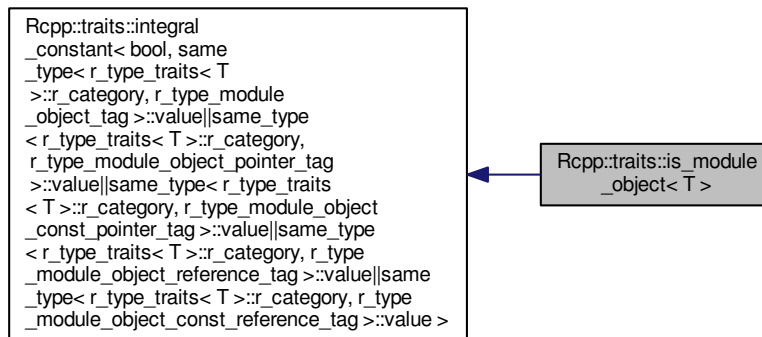
## 6.311 Rcpp::traits::is\_module\_object< T > Struct Template Reference

```
#include <is_module_object.h>
```

Inheritance diagram for `Rcpp::traits::is_module_object< T >`:



Collaboration diagram for Rcpp::traits::is\_module\_object< T >:



## Additional Inherited Members

### 6.311.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::is_module_object< T >
```

Definition at line 29 of file `is_module_object.h`.

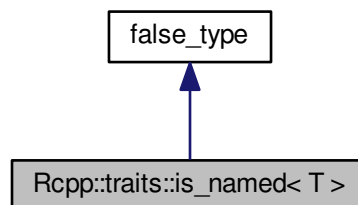
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_module\\_object.h](#)

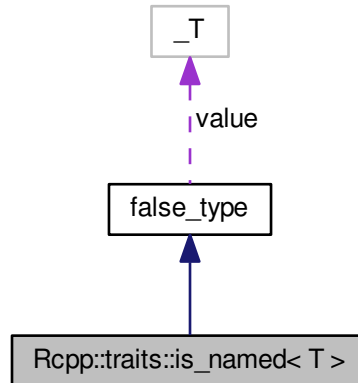
## 6.312 Rcpp::traits::is\_named< T > Struct Template Reference

```
#include <named_object.h>
```

Inheritance diagram for Rcpp::traits::is\_named< T >:



Collaboration diagram for `Rcpp::traits::is_named< T >`:



## Additional Inherited Members

### 6.312.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::is_named< T >
```

Definition at line 62 of file `named_object.h`.

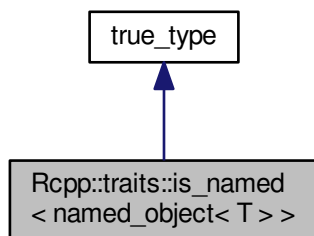
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/named\\_object.h](#)

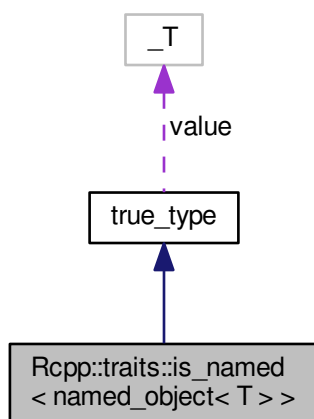
### 6.313 `Rcpp::traits::is_named< named_object< T > >` Struct Template Reference

```
#include <named_object.h>
```

Inheritance diagram for Rcpp::traits::is\_named< named\_object< T > >:



Collaboration diagram for Rcpp::traits::is\_named< named\_object< T > >:



## Additional Inherited Members

### 6.313.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::is_named< named_object< T > >
```

Definition at line 63 of file `named_object.h`.

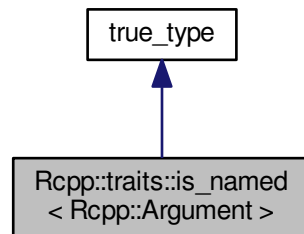
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/named_object.h`

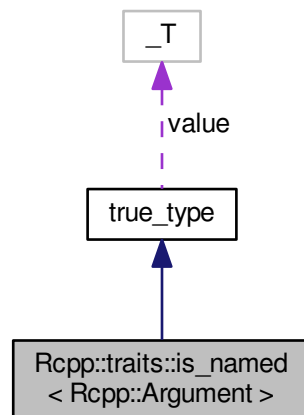
## 6.314 Rcpp::traits::is\_named< Rcpp::Argument > Struct Template Reference

```
#include <named_object.h>
```

Inheritance diagram for Rcpp::traits::is\_named< Rcpp::Argument >:



Collaboration diagram for Rcpp::traits::is\_named< Rcpp::Argument >:



### Additional Inherited Members

#### 6.314.1 Detailed Description



```
template<>
struct Rcpp::traits::is_named< Rcpp::Argument >
```

Definition at line 64 of file named\_object.h.

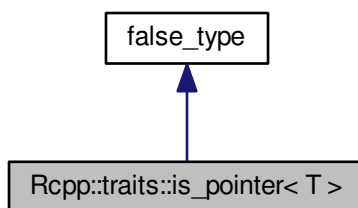
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/named\\_object.h](#)

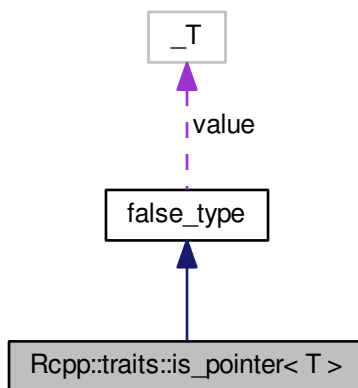
## 6.315 Rcpp::traits::is\_pointer< T > Struct Template Reference

```
#include <is_pointer.h>
```

Inheritance diagram for Rcpp::traits::is\_pointer< T >:



Collaboration diagram for Rcpp::traits::is\_pointer< T >:



## Additional Inherited Members

### 6.315.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::is_pointer< T >
```

Definition at line 29 of file `is_pointer.h`.

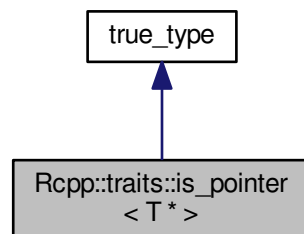
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_pointer.h](#)

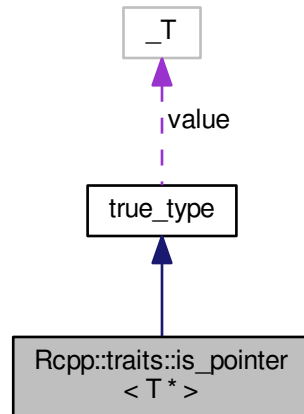
### 6.316 Rcpp::traits::is\_pointer< T \* > Struct Template Reference

```
#include <is_pointer.h>
```

Inheritance diagram for `Rcpp::traits::is_pointer< T * >`:



Collaboration diagram for Rcpp::traits::is\_pointer< T \* >:



### Additional Inherited Members

#### 6.316.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::is_pointer< T * >
```

Definition at line 30 of file `is_pointer.h`.

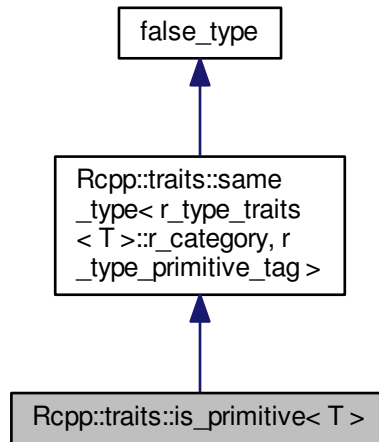
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_pointer.h](#)

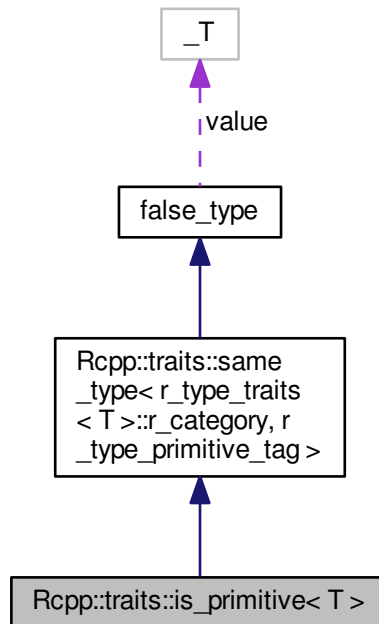
### 6.317 Rcpp::traits::is\_primitive< T > Struct Template Reference

```
#include <is_primitive.h>
```

Inheritance diagram for `Rcpp::traits::is_primitive< T >`:



Collaboration diagram for `Rcpp::traits::is_primitive< T >`:



## Additional Inherited Members

### 6.317.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::is_primitive< T >
```

Definition at line 29 of file `is_primitive.h`.

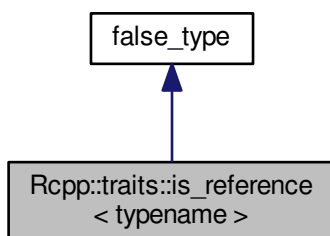
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_primitive.h](#)

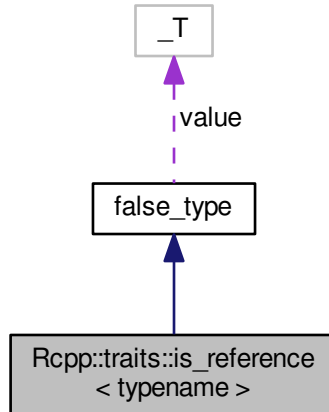
## 6.318 Rcpp::traits::is\_reference< typename > Struct Template Reference

```
#include <is_reference.h>
```

Inheritance diagram for `Rcpp::traits::is_reference< typename >`:



Collaboration diagram for Rcpp::traits::is\_reference< typename >:



## Additional Inherited Members

### 6.318.1 Detailed Description

```

template<typename>
struct Rcpp::traits::is_reference< typename >
  
```

Definition at line 29 of file `is_reference.h`.

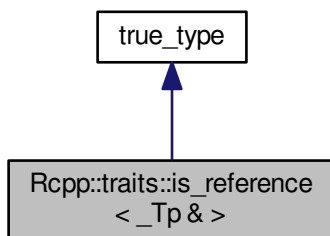
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_reference.h](#)

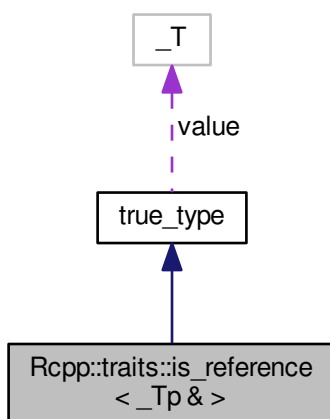
## 6.319 Rcpp::traits::is\_reference< \_Tp & > Struct Template Reference

```
#include <is_reference.h>
```

Inheritance diagram for Rcpp::traits::is\_reference<\_Tp &>:



Collaboration diagram for Rcpp::traits::is\_reference<\_Tp &>:



## Additional Inherited Members

### 6.319.1 Detailed Description

```
template<typename _Tp>  
struct Rcpp::traits::is_reference<_Tp &>
```

Definition at line 33 of file is\_reference.h.

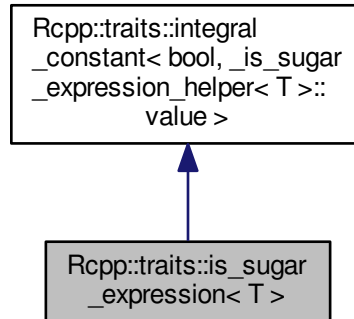
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_reference.h](inst/include/Rcpp/traits/is_reference.h)

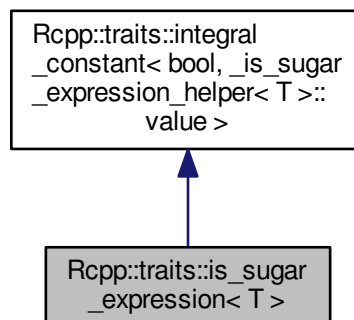
## 6.320 Rcpp::traits::is\_sugar\_expression< T > Struct Template Reference

```
#include <is_sugar_expression.h>
```

Inheritance diagram for Rcpp::traits::is\_sugar\_expression< T >:



Collaboration diagram for Rcpp::traits::is\_sugar\_expression< T >:



### Additional Inherited Members

#### 6.320.1 Detailed Description



```
template<typename T>  
struct Rcpp::traits::is_sugar_expression< T >
```

Definition at line 42 of file `is_sugar_expression.h`.

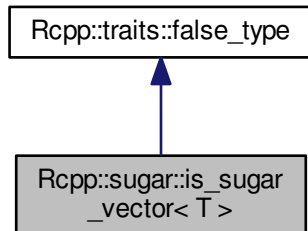
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_sugar\\_expression.h](#)

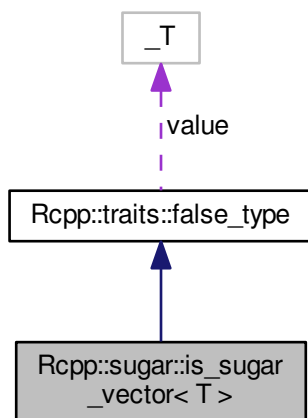
## 6.321 Rcpp::sugar::is\_sugar\_vector< T > Struct Template Reference

```
#include <iterator.h>
```

Inheritance diagram for `Rcpp::sugar::is_sugar_vector< T >`:



Collaboration diagram for `Rcpp::sugar::is_sugar_vector< T >`:



## Additional Inherited Members

### 6.321.1 Detailed Description

```
template<typename T>  
struct Rcpp::sugar::is_sugar_vector< T >
```

Definition at line 121 of file iterator.h.

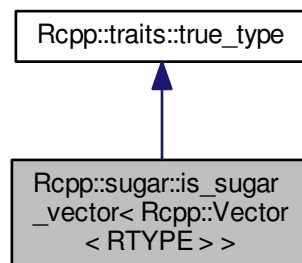
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/tools/iterator.h](#)

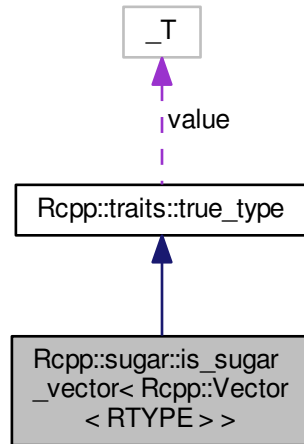
### 6.322 Rcpp::sugar::is\_sugar\_vector< Rcpp::Vector< RTYPE > > Struct Template Reference

```
#include <iterator.h>
```

Inheritance diagram for Rcpp::sugar::is\_sugar\_vector< Rcpp::Vector< RTYPE > >:



Collaboration diagram for Rcpp::sugar::is\_sugar\_vector< Rcpp::Vector< RTYPE > >:



## Additional Inherited Members

### 6.322.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::sugar::is_sugar_vector< Rcpp::Vector< RTYPE > >
```

Definition at line 122 of file `iterator.h`.

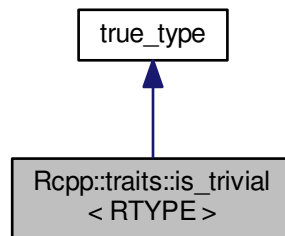
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/sugar/tools/iterator.h`

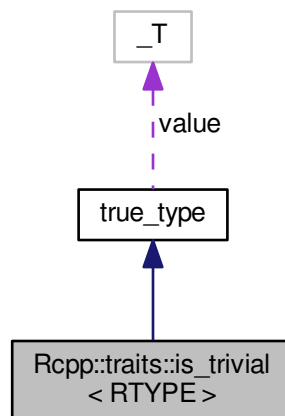
## 6.323 Rcpp::traits::is\_trivial< RTYPE > Struct Template Reference

```
#include <is_trivial.h>
```

Inheritance diagram for Rcpp::traits::is\_trivial< RTYPE >:



Collaboration diagram for Rcpp::traits::is\_trivial< RTYPE >:



## Additional Inherited Members

### 6.323.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::traits::is_trivial< RTYPE >
```

Definition at line 28 of file `is_trivial.h`.

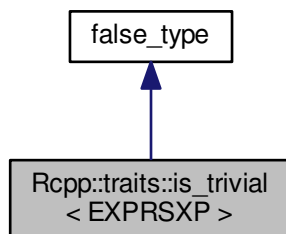
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/is_trivial.h`

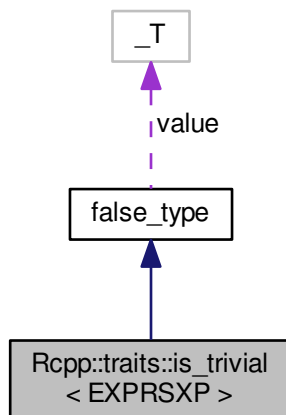
## 6.324 Rcpp::traits::is\_trivial< EXPRXP > Struct Template Reference

```
#include <is_trivial.h>
```

Inheritance diagram for Rcpp::traits::is\_trivial< EXPRXP >:



Collaboration diagram for Rcpp::traits::is\_trivial< EXPRXP >:



### Additional Inherited Members

#### 6.324.1 Detailed Description

```
template<>
struct Rcpp::traits::is_trivial< EXPRXP >
```

Definition at line 30 of file `is_trivial.h`.

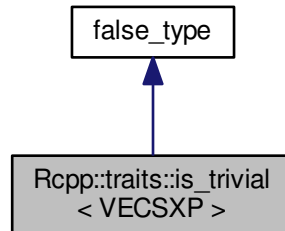
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_trivial.h](#)

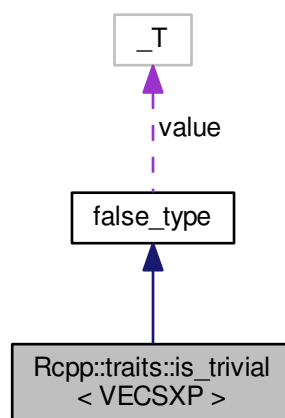
### 6.325 Rcpp::traits::is\_trivial< VECSXP > Struct Template Reference

```
#include <is_trivial.h>
```

Inheritance diagram for `Rcpp::traits::is_trivial< VECSXP >`:



Collaboration diagram for `Rcpp::traits::is_trivial< VECSXP >`:



## Additional Inherited Members

### 6.325.1 Detailed Description

```
template<>
struct Rcpp::traits::is_trivial< VECSXP >
```

Definition at line 29 of file `is_trivial.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_trivial.h](#)

## 6.326 `tinyformat::detail::is_wchar< T >` Struct Template Reference

```
#include <tinyformat.h>
```

### Public Types

- typedef int [tinyformat\\_wchar\\_is\\_not\\_supported](#)

### 6.326.1 Detailed Description

```
template<typename T>
struct tinyformat::detail::is_wchar< T >
```

Definition at line 215 of file `tinyformat.h`.

### 6.326.2 Member Typedef Documentation

6.326.2.1 `template<typename T> typedef int tinyformat::detail::is_wchar< T >::tinyformat_wchar_is_not_supported`

Definition at line 215 of file `tinyformat.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/utils/tinyformat.h](#)

## 6.327 `tinyformat::detail::is_wchar< const wchar_t * >` Struct Template Reference

```
#include <tinyformat.h>
```

### 6.327.1 Detailed Description

```
template<>
struct tinyformat::detail::is_wchar< const wchar_t * >
```

Definition at line 217 of file tinyformat.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/utils/tinyformat.h](#)

## 6.328 tinyformat::detail::is\_wchar< const wchar\_t[n]> Struct Template Reference

```
#include <tinyformat.h>
```

### 6.328.1 Detailed Description

```
template<int n>
struct tinyformat::detail::is_wchar< const wchar_t[n]>
```

Definition at line 218 of file tinyformat.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/utils/tinyformat.h](#)

## 6.329 tinyformat::detail::is\_wchar< wchar\_t \* > Struct Template Reference

```
#include <tinyformat.h>
```

### 6.329.1 Detailed Description

```
template<>
struct tinyformat::detail::is_wchar< wchar_t * >
```

Definition at line 216 of file tinyformat.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/utils/tinyformat.h](#)



## 6.330 tinyformat::detail::is\_wchar< wchar\_t[n]> Struct Template Reference

```
#include <tinyformat.h>
```

### 6.330.1 Detailed Description

```
template<int n>  
struct tinyformat::detail::is_wchar< wchar_t[n]>
```

Definition at line 219 of file tinyformat.h.

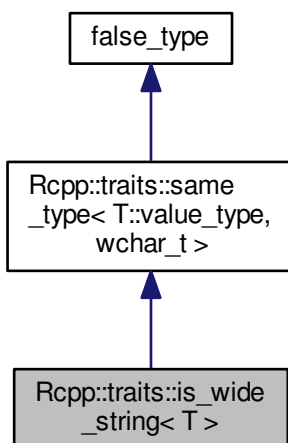
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/utils/tinyformat.h](#)

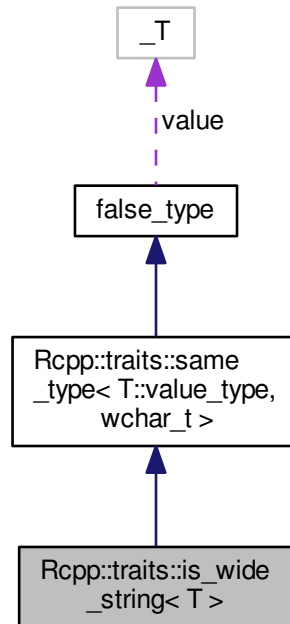
## 6.331 Rcpp::traits::is\_wide\_string< T > Struct Template Reference

```
#include <is_wide_string.h>
```

Inheritance diagram for Rcpp::traits::is\_wide\_string< T >:



Collaboration diagram for `Rcpp::traits::is_wide_string< T >`:



## Additional Inherited Members

### 6.331.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::is_wide_string< T >
```

Definition at line 30 of file `is_wide_string.h`.

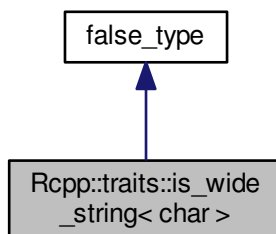
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_wide\\_string.h](#)

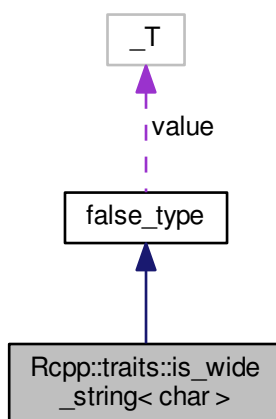
### 6.332 `Rcpp::traits::is_wide_string< char >` Struct Template Reference

```
#include <is_wide_string.h>
```

Inheritance diagram for Rcpp::traits::is\_wide\_string< char >:



Collaboration diagram for Rcpp::traits::is\_wide\_string< char >:



## Additional Inherited Members

### 6.332.1 Detailed Description

```
template<>  
struct Rcpp::traits::is_wide_string< char >
```

Definition at line 36 of file is\_wide\_string.h.

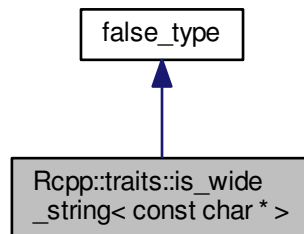
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_wide\\_string.h](#)

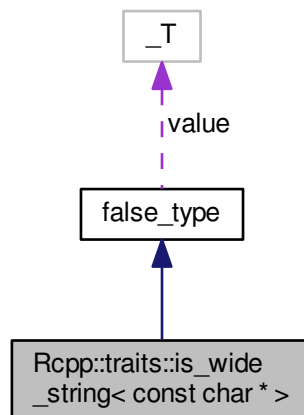
### 6.333 Rcpp::traits::is\_wide\_string< const char \* > Struct Template Reference

```
#include <is_wide_string.h>
```

Inheritance diagram for Rcpp::traits::is\_wide\_string< const char \* >:



Collaboration diagram for Rcpp::traits::is\_wide\_string< const char \* >:



#### Additional Inherited Members

#### 6.333.1 Detailed Description

```
template<>
struct Rcpp::traits::is_wide_string< const char * >
```

Definition at line 33 of file `is_wide_string.h`.

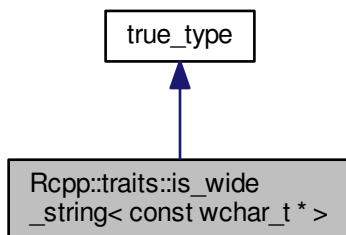
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_wide\\_string.h](#)

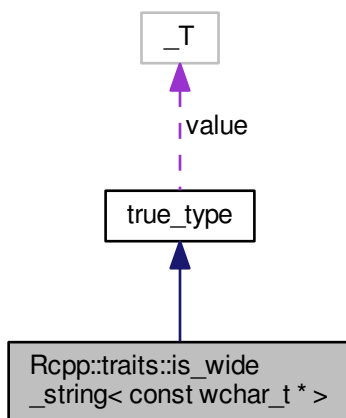
## 6.334 Rcpp::traits::is\_wide\_string< const wchar\_t \* > Struct Template Reference

```
#include <is_wide_string.h>
```

Inheritance diagram for `Rcpp::traits::is_wide_string< const wchar_t * >`:



Collaboration diagram for `Rcpp::traits::is_wide_string< const wchar_t * >`:



## Additional Inherited Members

### 6.334.1 Detailed Description

```
template<>
struct Rcpp::traits::is_wide_string< const wchar_t * >
```

Definition at line 32 of file `is_wide_string.h`.

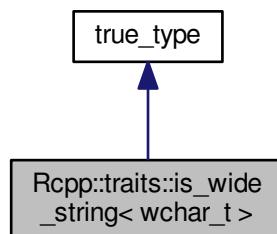
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_wide\\_string.h](#)

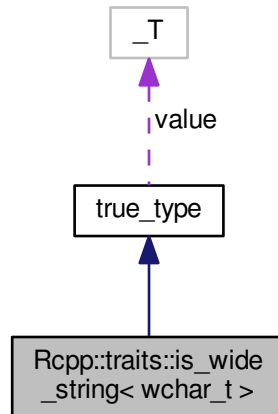
### 6.335 Rcpp::traits::is\_wide\_string< wchar\_t > Struct Template Reference

```
#include <is_wide_string.h>
```

Inheritance diagram for `Rcpp::traits::is_wide_string< wchar_t >`:



Collaboration diagram for Rcpp::traits::is\_wide\_string< wchar\_t >:



### Additional Inherited Members

#### 6.335.1 Detailed Description

```
template<>  
struct Rcpp::traits::is_wide_string< wchar_t >
```

Definition at line 35 of file `is_wide_string.h`.

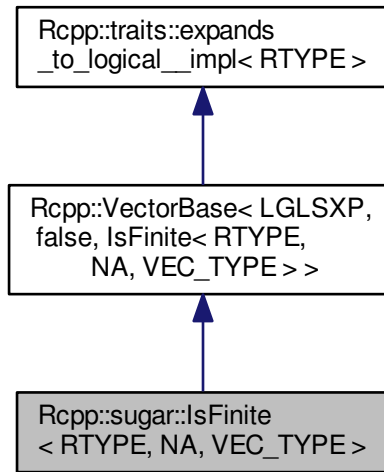
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/is\\_wide\\_string.h](#)

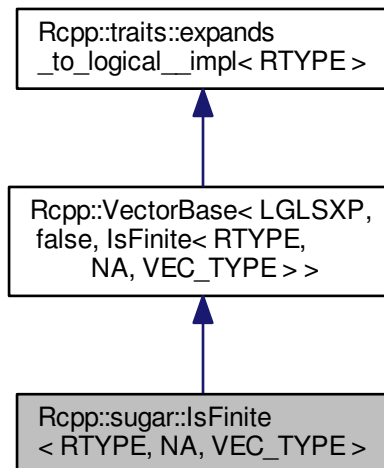
### 6.336 Rcpp::sugar::IsFinite< RTYPE, NA, VEC\_TYPE > Class Template Reference

```
#include <is_finite.h>
```

Inheritance diagram for `Rcpp::sugar::IsFinite< RTYPE, NA, VEC_TYPE >`:



Collaboration diagram for `Rcpp::sugar::IsFinite< RTYPE, NA, VEC_TYPE >`:



## Public Member Functions

- `IsFinite` (const `VEC_TYPE` &obj\_)



- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const VEC\_TYPE & [obj](#)

### Additional Inherited Members

#### 6.336.1 Detailed Description

```
template<int RTYPE, bool NA, typename VEC_TYPE>
class Rcpp::sugar::IsFinite< RTYPE, NA, VEC_TYPE >
```

Definition at line 29 of file [is\\_finite.h](#).

#### 6.336.2 Constructor & Destructor Documentation

6.336.2.1 `template<int RTYPE, bool NA, typename VEC_TYPE > Rcpp::sugar::IsFinite< RTYPE, NA, VEC_TYPE >::IsFinite ( const VEC_TYPE & obj\_ )` [\[inline\]](#)

Definition at line 32 of file [is\\_finite.h](#).

#### 6.336.3 Member Function Documentation

6.336.3.1 `template<int RTYPE, bool NA, typename VEC_TYPE > int Rcpp::sugar::IsFinite< RTYPE, NA, VEC_TYPE >::operator[] ( R_xlen_t i ) const` [\[inline\]](#)

Definition at line 34 of file [is\\_finite.h](#).

References [Rcpp::sugar::IsFinite< RTYPE, NA, VEC\\_TYPE >::obj](#).

6.336.3.2 `template<int RTYPE, bool NA, typename VEC_TYPE > R_xlen_t Rcpp::sugar::IsFinite< RTYPE, NA, VEC_TYPE >::size ( ) const` [\[inline\]](#)

Definition at line 38 of file [is\\_finite.h](#).

References [Rcpp::sugar::IsFinite< RTYPE, NA, VEC\\_TYPE >::obj](#).

### 6.336.4 Member Data Documentation

6.336.4.1 `template<int RTYPE, bool NA, typename VEC_TYPE > const VEC_TYPE& Rcpp::sugar::IsFinite< RTYPE, NA, VEC_TYPE >::obj [private]`

Definition at line 41 of file `is_finite.h`.

Referenced by `Rcpp::sugar::IsFinite< RTYPE, NA, VEC_TYPE >::operator[]()`, and `Rcpp::sugar::IsFinite< RTYPE, NA, VEC_TYPE >::size()`.

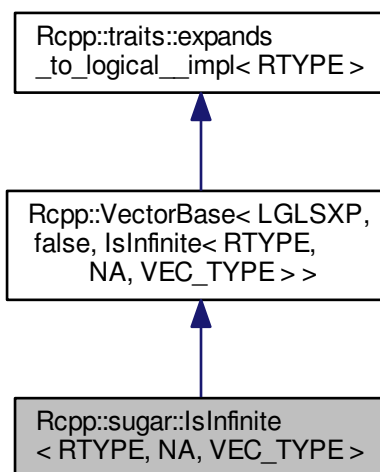
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/is_finite.h`

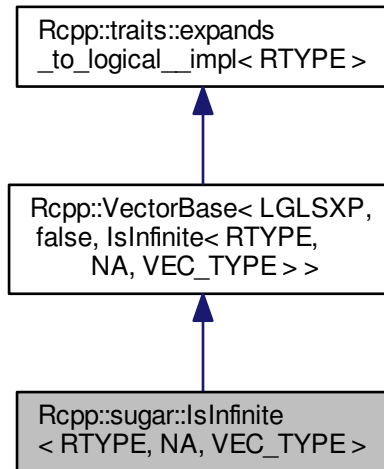
### 6.337 `Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE >` Class Template Reference

```
#include <is_infinite.h>
```

Inheritance diagram for `Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE >`:



Collaboration diagram for Rcpp::sugar::IsInfinite< RTYPE, NA, VEC\_TYPE >:



## Public Member Functions

- `IsInfinite` (const VEC\_TYPE &obj\_)
- int `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- const VEC\_TYPE & `obj`

## Additional Inherited Members

### 6.337.1 Detailed Description

```

template<int RTYPE, bool NA, typename VEC_TYPE>
class Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE >
  
```

Definition at line 29 of file `is_infinite.h`.

## 6.337.2 Constructor & Destructor Documentation

6.337.2.1 `template<int RTYPE, bool NA, typename VEC_TYPE > Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE >::IsInfinite ( const VEC_TYPE & obj_ ) [inline]`

Definition at line 32 of file `is_infinite.h`.

## 6.337.3 Member Function Documentation

6.337.3.1 `template<int RTYPE, bool NA, typename VEC_TYPE > int Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 34 of file `is_infinite.h`.

References `Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE >::obj`.

6.337.3.2 `template<int RTYPE, bool NA, typename VEC_TYPE > R_xlen_t Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE >::size ( ) const [inline]`

Definition at line 38 of file `is_infinite.h`.

References `Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE >::obj`.

## 6.337.4 Member Data Documentation

6.337.4.1 `template<int RTYPE, bool NA, typename VEC_TYPE > const VEC_TYPE& Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE >::obj [private]`

Definition at line 41 of file `is_infinite.h`.

Referenced by `Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE >::operator[]()`, and `Rcpp::sugar::IsInfinite< RTYPE, NA, VEC_TYPE >::size()`.

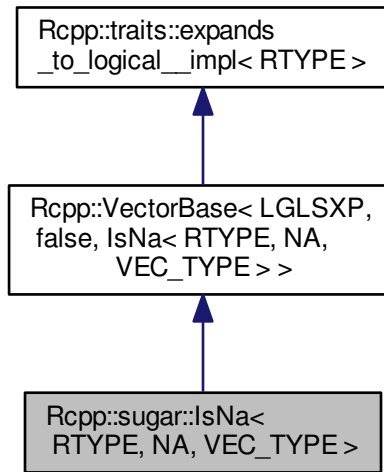
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/is\\_infinite.h](#)

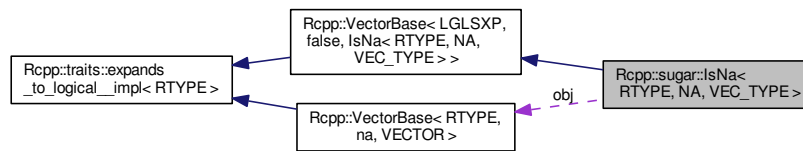
## 6.338 Rcpp::sugar::IsNa< RTYPE, NA, VEC\_TYPE > Class Template Reference

```
#include <is_na.h>
```

Inheritance diagram for Rcpp::sugar::IsNa< RTYPE, NA, VEC\_TYPE >:



Collaboration diagram for Rcpp::sugar::IsNa< RTYPE, NA, VEC\_TYPE >:



### Public Types

- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::VectorBase< RTYPE, NA, VEC_TYPE >` `BASE`

### Public Member Functions

- `IsNa` (const `BASE` &obj\_)
- int `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- const [BASE](#) & *obj*

### 6.338.1 Detailed Description

```
template<int RTYPE, bool NA, typename VEC_TYPE>
class Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >
```

Definition at line 29 of file `is_na.h`.

### 6.338.2 Member Typedef Documentation

6.338.2.1 `template<int RTYPE, bool NA, typename VEC_TYPE > typedef Rcpp::VectorBase<RTYPE,NA,VEC_TYPE>`  
`Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >::BASE`

Definition at line 32 of file `is_na.h`.

6.338.2.2 `template<int RTYPE, bool NA, typename VEC_TYPE > typedef traits::storage_type<RTYPE>::type`  
`Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >::STORAGE`

Definition at line 31 of file `is_na.h`.

### 6.338.3 Constructor & Destructor Documentation

6.338.3.1 `template<int RTYPE, bool NA, typename VEC_TYPE > Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >::IsNa ( const`  
`BASE & obj_ ) [inline]`

Definition at line 34 of file `is_na.h`.

### 6.338.4 Member Function Documentation

6.338.4.1 `template<int RTYPE, bool NA, typename VEC_TYPE > int Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >::operator[]`  
`( R_xlen_t i ) const [inline]`

Definition at line 36 of file `is_na.h`.

References `Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >::obj`.

```
6.338.4.2  template<int RTYPE, bool NA, typename VEC_TYPE > R_xlen_t Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >::size
          ( ) const [inline]
```

Definition at line 40 of file `is_na.h`.

References `Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >::obj`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.338.5 Member Data Documentation

```
6.338.5.1  template<int RTYPE, bool NA, typename VEC_TYPE > const BASE& Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE
          >::obj [private]
```

Definition at line 43 of file `is_na.h`.

Referenced by `Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >::operator[]()`, `Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >::size()`, and `Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >::size()`.

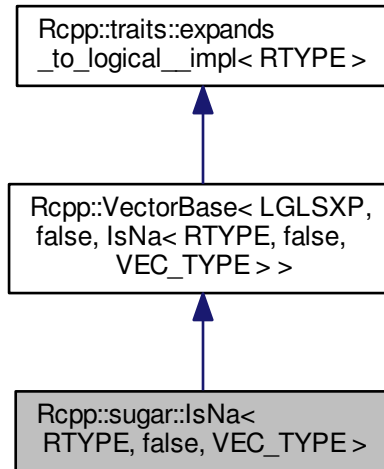
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/is_na.h`

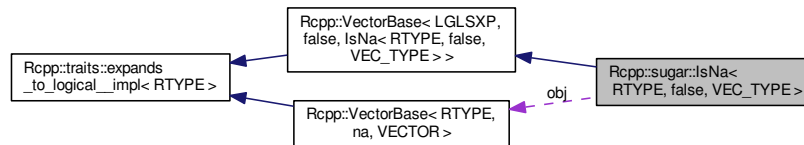
## 6.339 Rcpp::sugar::IsNa< RTYPE, false, VEC\_TYPE > Class Template Reference

```
#include <is_na.h>
```

Inheritance diagram for `Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >`:



Collaboration diagram for `Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >`:



## Public Types

- typedef `traits::storage_type< RTYPE >::type` [STORAGE](#)
- typedef `Rcpp::VectorBase< RTYPE, false, VEC_TYPE >` [BASE](#)

## Public Member Functions

- `IsNa` (const [BASE](#) &obj\_)
- int `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const



## Private Attributes

- const [BASE](#) & *obj*

### 6.339.1 Detailed Description

```
template<int RTYPE, typename VEC_TYPE>
class Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >
```

Definition at line 51 of file `is_na.h`.

### 6.339.2 Member Typedef Documentation

6.339.2.1 `template<int RTYPE, typename VEC_TYPE > typedef Rcpp::VectorBase<RTYPE,false,VEC_TYPE> Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >::BASE`

Definition at line 54 of file `is_na.h`.

6.339.2.2 `template<int RTYPE, typename VEC_TYPE > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >::STORAGE`

Definition at line 53 of file `is_na.h`.

### 6.339.3 Constructor & Destructor Documentation

6.339.3.1 `template<int RTYPE, typename VEC_TYPE > Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >::IsNa ( const BASE & obj_ ) [inline]`

Definition at line 56 of file `is_na.h`.

### 6.339.4 Member Function Documentation

6.339.4.1 `template<int RTYPE, typename VEC_TYPE > int Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >::operator[] ( R_xlen_t i ) const [inline]`

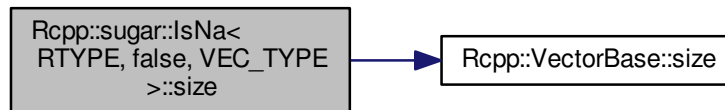
Definition at line 58 of file `is_na.h`.

```
6.339.4.2 template<int RTYPE, typename VEC_TYPE > R_xlen_t Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >::size ( )
      const [inline]
```

Definition at line 62 of file `is_na.h`.

References `Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >::obj`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.339.5 Member Data Documentation

```
6.339.5.1 template<int RTYPE, typename VEC_TYPE > const BASE& Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >::obj
      [private]
```

Definition at line 65 of file `is_na.h`.

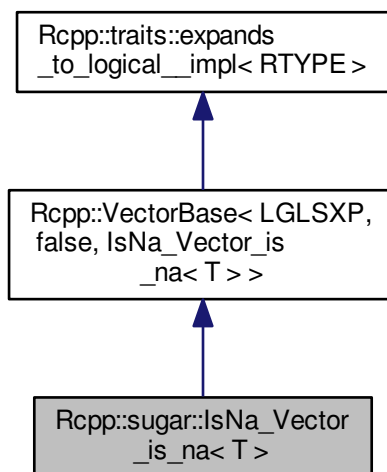
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/is\\_na.h](#)

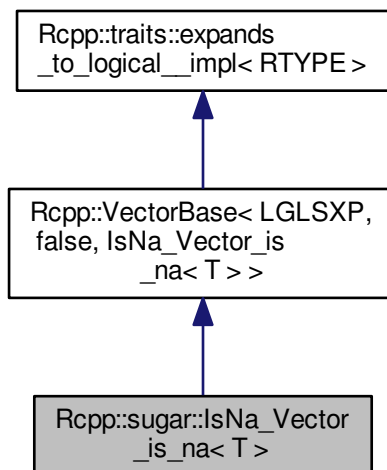
## 6.340 Rcpp::sugar::IsNa\_Vector\_is\_na< T > Class Template Reference

```
#include <is_na.h>
```

Inheritance diagram for Rcpp::sugar::IsNa\_Vector\_is\_na< T >:



Collaboration diagram for Rcpp::sugar::IsNa\_Vector\_is\_na< T >:



## Public Member Functions

- [IsNa\\_Vector\\_is\\_na](#) (const T &x)

- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const T & [ref](#)

### Additional Inherited Members

#### 6.340.1 Detailed Description

```
template<typename T>  
class Rcpp::sugar::IsNa_Vector_is_na< T >
```

Definition at line 70 of file [is\\_na.h](#).

#### 6.340.2 Constructor & Destructor Documentation

```
6.340.2.1 template<typename T > Rcpp::sugar::IsNa_Vector_is_na< T >::IsNa_Vector_is_na ( const T & x )  
        [inline]
```

Definition at line 72 of file [is\\_na.h](#).

#### 6.340.3 Member Function Documentation

```
6.340.3.1 template<typename T > int Rcpp::sugar::IsNa_Vector_is_na< T >::operator[] ( R_xlen_t i ) const [inline]
```

Definition at line 74 of file [is\\_na.h](#).

```
6.340.3.2 template<typename T > R_xlen_t Rcpp::sugar::IsNa_Vector_is_na< T >::size ( ) const [inline]
```

Definition at line 78 of file [is\\_na.h](#).

#### 6.340.4 Member Data Documentation

```
6.340.4.1 template<typename T > const T& Rcpp::sugar::IsNa_Vector_is_na< T >::ref [private]
```

Definition at line 81 of file [is\\_na.h](#).

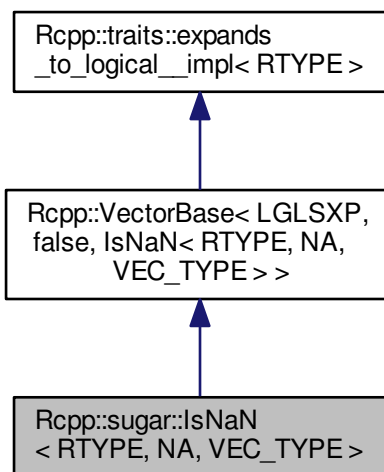
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/is\\_na.h](#)

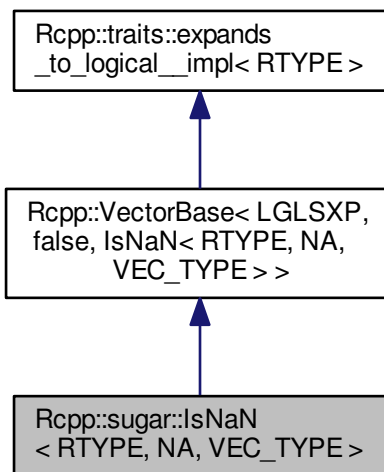
## 6.341 Rcpp::sugar::IsNaN< RTYPE, NA, VEC\_TYPE > Class Template Reference

```
#include <is_nan.h>
```

Inheritance diagram for Rcpp::sugar::IsNaN< RTYPE, NA, VEC\_TYPE >:



Collaboration diagram for Rcpp::sugar::IsNaN< RTYPE, NA, VEC\_TYPE >:



## Public Member Functions

- [IsNaN](#) (const VEC\_TYPE &obj\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const VEC\_TYPE & [obj](#)

## Additional Inherited Members

### 6.341.1 Detailed Description

```
template<int RTYPE, bool NA, typename VEC_TYPE>
class Rcpp::sugar::IsNaN< RTYPE, NA, VEC_TYPE >
```

Definition at line 29 of file `is_nan.h`.

### 6.341.2 Constructor & Destructor Documentation

6.341.2.1 `template<int RTYPE, bool NA, typename VEC_TYPE > Rcpp::sugar::IsNaN< RTYPE, NA, VEC_TYPE >::IsNaN (const VEC_TYPE & obj_ ) [inline]`

Definition at line 32 of file `is_nan.h`.

### 6.341.3 Member Function Documentation

6.341.3.1 `template<int RTYPE, bool NA, typename VEC_TYPE > int Rcpp::sugar::IsNaN< RTYPE, NA, VEC_TYPE >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 34 of file `is_nan.h`.

References `Rcpp::sugar::IsNaN< RTYPE, NA, VEC_TYPE >::obj`.

6.341.3.2 `template<int RTYPE, bool NA, typename VEC_TYPE > R_xlen_t Rcpp::sugar::IsNaN< RTYPE, NA, VEC_TYPE >::size ( ) const [inline]`

Definition at line 38 of file `is_nan.h`.

References `Rcpp::sugar::IsNaN< RTYPE, NA, VEC_TYPE >::obj`.

### 6.341.4 Member Data Documentation

6.341.4.1 `template<int RTYPE, bool NA, typename VEC_TYPE > const VEC_TYPE& Rcpp::sugar::IsNaN< RTYPE, NA, VEC_TYPE >::obj [private]`

Definition at line 41 of file `is_nan.h`.

Referenced by `Rcpp::sugar::IsNaN< RTYPE, NA, VEC_TYPE >::operator[]()`, and `Rcpp::sugar::IsNaN< RTYPE, NA, VEC_TYPE >::size()`.

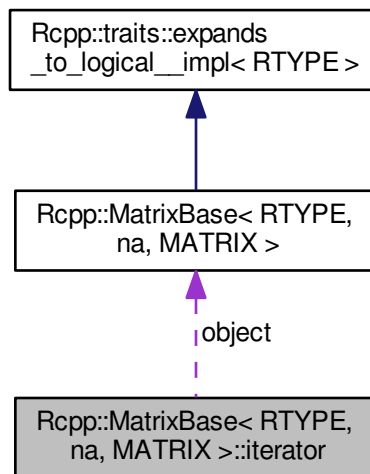
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/is_nan.h`

## 6.342 Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator Class Reference

```
#include <MatrixBase.h>
```

Collaboration diagram for `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator`:



### Public Types

- typedef `stored_type` `reference`
- typedef `stored_type` \* `pointer`
- typedef `R_xlen_t` `difference_type`
- typedef `stored_type` `value_type`
- typedef `std::random_access_iterator_tag` `iterator_category`

## Public Member Functions

- [iterator](#) (const [MatrixBase](#) &object\_, [R\\_xlen\\_t](#) index\_)
- [iterator](#) (const [iterator](#) &other)
- [iterator](#) & [operator++](#) ()
- [iterator](#) [operator++](#) (int)
- [iterator](#) & [operator--](#) ()
- [iterator](#) [operator--](#) (int)
- [iterator](#) [operator+](#) ([difference\\_type](#) n) const
- [iterator](#) [operator-](#) ([difference\\_type](#) n) const
- [iterator](#) & [operator+=](#) ([difference\\_type](#) n)
- [iterator](#) & [operator-=](#) ([difference\\_type](#) n)
- [reference](#) [operator\\*](#) ()
- [pointer](#) [operator->](#) ()
- bool [operator==](#) (const [iterator](#) &y) const
- bool [operator!=](#) (const [iterator](#) &y) const
- bool [operator<](#) (const [iterator](#) &other) const
- bool [operator>](#) (const [iterator](#) &other) const
- bool [operator<=](#) (const [iterator](#) &other) const
- bool [operator>=](#) (const [iterator](#) &other) const
- [difference\\_type](#) [operator-](#) (const [iterator](#) &other) const

## Private Member Functions

- void [update\\_index](#) (int index\_)
- [R\\_xlen\\_t](#) [index](#) () const

## Private Attributes

- const [MatrixBase](#) & [object](#)
- int [i](#)
- int [j](#)
- int [nr](#)
- int [nc](#)

### 6.342.1 Detailed Description

```
template<int RTYPE, bool na, typename MATRIX>
class Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator
```

Definition at line 50 of file [MatrixBase.h](#).

### 6.342.2 Member Typedef Documentation

6.342.2.1 `template<int RTYPE, bool na, typename MATRIX> typedef R\_xlen\_t Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::difference_type`

Definition at line 54 of file [MatrixBase.h](#).



6.342.2.2 `template<int RTYPE, bool na, typename MATRIX> typedef std::random_access_iterator_tag Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::iterator_category`

Definition at line 56 of file MatrixBase.h.

6.342.2.3 `template<int RTYPE, bool na, typename MATRIX> typedef stored_type* Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::pointer`

Definition at line 53 of file MatrixBase.h.

6.342.2.4 `template<int RTYPE, bool na, typename MATRIX> typedef stored_type Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::reference`

Definition at line 52 of file MatrixBase.h.

6.342.2.5 `template<int RTYPE, bool na, typename MATRIX> typedef stored_type Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::value_type`

Definition at line 55 of file MatrixBase.h.

### 6.342.3 Constructor & Destructor Documentation

6.342.3.1 `template<int RTYPE, bool na, typename MATRIX> Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::iterator ( const MatrixBase & object, R_xlen_t index ) [inline]`

Definition at line 58 of file MatrixBase.h.

6.342.3.2 `template<int RTYPE, bool na, typename MATRIX> Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::iterator ( const iterator & other ) [inline]`

Definition at line 64 of file MatrixBase.h.

### 6.342.4 Member Function Documentation

6.342.4.1 `template<int RTYPE, bool na, typename MATRIX> R_xlen_t Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::index ( ) const [inline],[private]`

Definition at line 152 of file MatrixBase.h.

Referenced by `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator-()`, `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator<()`, `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator<=()`, `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator>()`, and `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator>=()`.

6.342.4.2 `template<int RTYPE, bool na, typename MATRIX> bool Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator!=( const iterator & y ) const [inline]`

Definition at line 121 of file MatrixBase.h.

References `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::i`, and `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::j`.

6.342.4.3 `template<int RTYPE, bool na, typename MATRIX> reference Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator*( ) [inline]`

Definition at line 111 of file MatrixBase.h.

6.342.4.4 `template<int RTYPE, bool na, typename MATRIX> iterator Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator+( difference_type n ) const [inline]`

Definition at line 95 of file MatrixBase.h.

6.342.4.5 `template<int RTYPE, bool na, typename MATRIX> iterator& Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator++( ) [inline]`

Definition at line 67 of file MatrixBase.h.

6.342.4.6 `template<int RTYPE, bool na, typename MATRIX> iterator Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator++( int ) [inline]`

Definition at line 75 of file MatrixBase.h.

6.342.4.7 `template<int RTYPE, bool na, typename MATRIX> iterator& Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator+=( difference_type n ) [inline]`

Definition at line 102 of file MatrixBase.h.

6.342.4.8 `template<int RTYPE, bool na, typename MATRIX> iterator Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator-( difference_type n ) const [inline]`

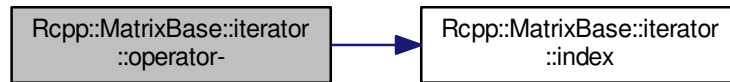
Definition at line 98 of file MatrixBase.h.

6.342.4.9 `template<int RTYPE, bool na, typename MATRIX> difference_type Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator-( const iterator & other ) const` `[inline]`

Definition at line 137 of file MatrixBase.h.

References Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::index().

Here is the call graph for this function:



6.342.4.10 `template<int RTYPE, bool na, typename MATRIX> iterator& Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator--( )` `[inline]`

Definition at line 81 of file MatrixBase.h.

6.342.4.11 `template<int RTYPE, bool na, typename MATRIX> iterator Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator--( int )` `[inline]`

Definition at line 89 of file MatrixBase.h.

6.342.4.12 `template<int RTYPE, bool na, typename MATRIX> iterator& Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator--=( difference_type n )` `[inline]`

Definition at line 106 of file MatrixBase.h.

6.342.4.13 `template<int RTYPE, bool na, typename MATRIX> pointer Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator->( )` `[inline]`

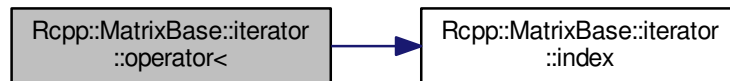
Definition at line 114 of file MatrixBase.h.

6.342.4.14 `template<int RTYPE, bool na, typename MATRIX> bool Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator<( const iterator & other ) const [inline]`

Definition at line 124 of file MatrixBase.h.

References `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::index()`.

Here is the call graph for this function:

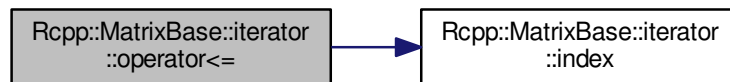


6.342.4.15 `template<int RTYPE, bool na, typename MATRIX> bool Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator<=( const iterator & other ) const [inline]`

Definition at line 130 of file MatrixBase.h.

References `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::index()`.

Here is the call graph for this function:



6.342.4.16 `template<int RTYPE, bool na, typename MATRIX> bool Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator==( const iterator & y ) const [inline]`

Definition at line 118 of file MatrixBase.h.

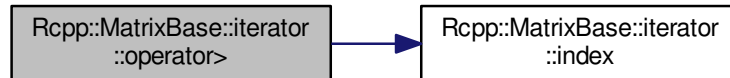
References `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::i`, and `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::j`.

6.342.4.17 `template<int RTYPE, bool na, typename MATRIX> bool Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator> ( const iterator & other ) const [inline]`

Definition at line 127 of file MatrixBase.h.

References Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::index().

Here is the call graph for this function:

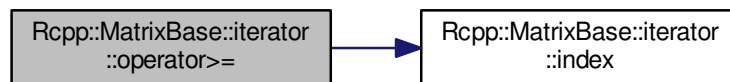


6.342.4.18 `template<int RTYPE, bool na, typename MATRIX> bool Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator>= ( const iterator & other ) const [inline]`

Definition at line 133 of file MatrixBase.h.

References Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::index().

Here is the call graph for this function:

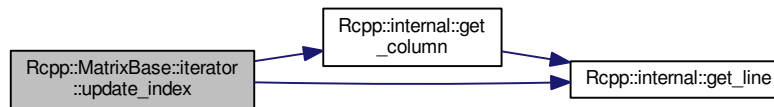


6.342.4.19 `template<int RTYPE, bool na, typename MATRIX> void Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::update_index ( int index_ ) [inline],[private]`

Definition at line 147 of file MatrixBase.h.

References Rcpp::internal::get\_column(), and Rcpp::internal::get\_line().

Here is the call graph for this function:



### 6.342.5 Member Data Documentation

6.342.5.1 `template<int RTYPE, bool na, typename MATRIX> int Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::i`  
`[private]`

Definition at line 144 of file MatrixBase.h.

Referenced by `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator!=()`, and `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator==()`.

6.342.5.2 `template<int RTYPE, bool na, typename MATRIX> int Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::j`  
`[private]`

Definition at line 144 of file MatrixBase.h.

Referenced by `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator!=()`, and `Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::operator==()`.

6.342.5.3 `template<int RTYPE, bool na, typename MATRIX> int Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::nc`  
`[private]`

Definition at line 145 of file MatrixBase.h.

6.342.5.4 `template<int RTYPE, bool na, typename MATRIX> int Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::nr`  
`[private]`

Definition at line 145 of file MatrixBase.h.

6.342.5.5 `template<int RTYPE, bool na, typename MATRIX> const MatrixBase& Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator::object`  
`[private]`

Definition at line 143 of file MatrixBase.h.

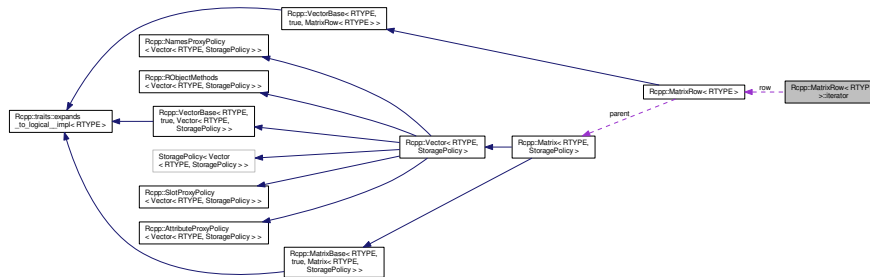
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/vector/MatrixBase.h`

## 6.343 Rcpp::MatrixRow< RTYPE >::iterator Class Reference

```
#include <MatrixRow.h>
```

Collaboration diagram for Rcpp::MatrixRow< RTYPE >::iterator:



### Public Types

- typedef `traits::r_vector_iterator< RTYPE >::type` `vector_iterator`
- typedef `int` `difference_type`
- typedef `traits::r_vector_proxy< RTYPE >::type` `value_type`
- typedef `traits::r_vector_proxy< RTYPE >::type` `reference`
- typedef `std::iterator_traits< vector_iterator >::pointer` `pointer`
- typedef `std::random_access_iterator_tag` `iterator_category`

### Public Member Functions

- `iterator` (const `iterator` &other)
- `iterator` (`MatrixRow` &row\_, int index\_)
- `iterator` & `operator++` ()
- `iterator` `operator++` (int)
- `iterator` & `operator--` ()
- `iterator` `operator--` (int)
- `iterator` `operator+` (`difference_type` n) const
- `iterator` `operator-` (`difference_type` n) const
- `difference_type` `operator-` (const `iterator` &other) const
- `iterator` & `operator+=` (`difference_type` n)
- `iterator` & `operator-=` (`difference_type` n)
- `reference` `operator*` ()
- `pointer` `operator->` ()
- bool `operator==` (const `iterator` &other)
- bool `operator!=` (const `iterator` &other)
- bool `operator<` (const `iterator` &other)
- bool `operator>` (const `iterator` &other)
- bool `operator<=` (const `iterator` &other)
- bool `operator>=` (const `iterator` &other)
- `reference` `operator[]` (int i) const
- `difference_type` `operator-` (const `iterator` &other)

## Private Attributes

- [MatrixRow](#) & `row`
- int `index`

### 6.343.1 Detailed Description

```
template<int RTYPE>  
class Rcpp::MatrixRow< RTYPE >::iterator
```

Definition at line 36 of file MatrixRow.h.

### 6.343.2 Member Typedef Documentation

6.343.2.1 `template<int RTYPE> typedef int Rcpp::MatrixRow< RTYPE >::iterator::difference_type`

Definition at line 40 of file MatrixRow.h.

6.343.2.2 `template<int RTYPE> typedef std::random_access_iterator_tag Rcpp::MatrixRow< RTYPE >::iterator::iterator_category`

Definition at line 45 of file MatrixRow.h.

6.343.2.3 `template<int RTYPE> typedef std::iterator_traits<vector_iterator>::pointer Rcpp::MatrixRow< RTYPE >::iterator::pointer`

Definition at line 43 of file MatrixRow.h.

6.343.2.4 `template<int RTYPE> typedef traits::r_vector_proxy<RTYPE>::type Rcpp::MatrixRow< RTYPE >::iterator::reference`

Definition at line 42 of file MatrixRow.h.

6.343.2.5 `template<int RTYPE> typedef traits::r_vector_proxy<RTYPE>::type Rcpp::MatrixRow< RTYPE >::iterator::value_type`

Definition at line 41 of file MatrixRow.h.

6.343.2.6 `template<int RTYPE> typedef traits::r_vector_iterator<RTYPE>::type Rcpp::MatrixRow< RTYPE >::iterator::vector_iterator`

Definition at line 38 of file MatrixRow.h.



### 6.343.3 Constructor & Destructor Documentation

6.343.3.1 `template<int RTYPE> Rcpp::MatrixRow< RTYPE >::iterator::iterator ( const iterator & other ) [inline]`

Definition at line 47 of file MatrixRow.h.

Referenced by `Rcpp::MatrixRow< RTYPE >::begin()`, `Rcpp::MatrixRow< RTYPE >::end()`, `Rcpp::MatrixRow< RTYPE >::iterator::operator+()`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator+()`, `Rcpp::MatrixRow< RTYPE >::iterator::operator-()`, and `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator-()`.

6.343.3.2 `template<int RTYPE> Rcpp::MatrixRow< RTYPE >::iterator::iterator ( MatrixRow & row_, int index_ ) [inline]`

Definition at line 48 of file MatrixRow.h.

### 6.343.4 Member Function Documentation

6.343.4.1 `template<int RTYPE> bool Rcpp::MatrixRow< RTYPE >::iterator::operator!=( const iterator & other ) [inline]`

Definition at line 85 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.343.4.2 `template<int RTYPE> reference Rcpp::MatrixRow< RTYPE >::iterator::operator*( ) [inline]`

Definition at line 77 of file MatrixRow.h.

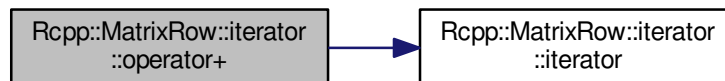
References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::MatrixRow< RTYPE >::iterator::row`.

6.343.4.3 `template<int RTYPE> iterator Rcpp::MatrixRow< RTYPE >::iterator::operator+ ( difference_type n ) const [inline]`

Definition at line 70 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, `Rcpp::MatrixRow< RTYPE >::iterator::iterator()`, and `Rcpp::MatrixRow< RTYPE >::iterator::row`.

Here is the call graph for this function:



6.343.4.4 `template<int RTYPE> iterator& Rcpp::MatrixRow< RTYPE >::iterator::operator++ ( ) [inline]`

Definition at line 50 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.343.4.5 `template<int RTYPE> iterator Rcpp::MatrixRow< RTYPE >::iterator::operator++ ( int ) [inline]`

Definition at line 54 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.343.4.6 `template<int RTYPE> iterator& Rcpp::MatrixRow< RTYPE >::iterator::operator+=( difference_type n ) [inline]`

Definition at line 74 of file MatrixRow.h.

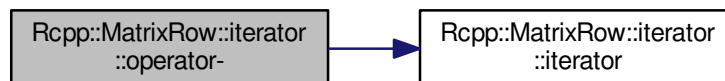
References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.343.4.7 `template<int RTYPE> iterator Rcpp::MatrixRow< RTYPE >::iterator::operator- ( difference_type n ) const [inline]`

Definition at line 71 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, `Rcpp::MatrixRow< RTYPE >::iterator::iterator()`, and `Rcpp::MatrixRow< RTYPE >::iterator::row`.

Here is the call graph for this function:



6.343.4.8 `template<int RTYPE> difference_type Rcpp::MatrixRow< RTYPE >::iterator::operator- ( const iterator & other ) const [inline]`

Definition at line 72 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.343.4.9 `template<int RTYPE> difference_type Rcpp::MatrixRow< RTYPE >::iterator::operator-( const iterator & other ) [inline]`

Definition at line 95 of file MatrixRow.h.

References Rcpp::MatrixRow< RTYPE >::iterator::index.

6.343.4.10 `template<int RTYPE> iterator& Rcpp::MatrixRow< RTYPE >::iterator::operator--( ) [inline]`

Definition at line 60 of file MatrixRow.h.

References Rcpp::MatrixRow< RTYPE >::iterator::index.

6.343.4.11 `template<int RTYPE> iterator Rcpp::MatrixRow< RTYPE >::iterator::operator--( int ) [inline]`

Definition at line 64 of file MatrixRow.h.

References Rcpp::MatrixRow< RTYPE >::iterator::index.

6.343.4.12 `template<int RTYPE> iterator& Rcpp::MatrixRow< RTYPE >::iterator::operator+=( difference_type n ) [inline]`

Definition at line 75 of file MatrixRow.h.

References Rcpp::MatrixRow< RTYPE >::iterator::index.

6.343.4.13 `template<int RTYPE> pointer Rcpp::MatrixRow< RTYPE >::iterator::operator->( ) [inline]`

Definition at line 80 of file MatrixRow.h.

References Rcpp::MatrixRow< RTYPE >::iterator::index, and Rcpp::MatrixRow< RTYPE >::iterator::row.

6.343.4.14 `template<int RTYPE> bool Rcpp::MatrixRow< RTYPE >::iterator::operator<( const iterator & other ) [inline]`

Definition at line 86 of file MatrixRow.h.

References Rcpp::MatrixRow< RTYPE >::iterator::index.

6.343.4.15 `template<int RTYPE> bool Rcpp::MatrixRow< RTYPE >::iterator::operator<=( const iterator & other ) [inline]`

Definition at line 88 of file MatrixRow.h.

References Rcpp::MatrixRow< RTYPE >::iterator::index.

6.343.4.16 `template<int RTYPE> bool Rcpp::MatrixRow< RTYPE >::iterator::operator==( const iterator & other )`  
`[inline]`

Definition at line 84 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.343.4.17 `template<int RTYPE> bool Rcpp::MatrixRow< RTYPE >::iterator::operator> ( const iterator & other )`  
`[inline]`

Definition at line 87 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.343.4.18 `template<int RTYPE> bool Rcpp::MatrixRow< RTYPE >::iterator::operator>= ( const iterator & other )`  
`[inline]`

Definition at line 89 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`.

6.343.4.19 `template<int RTYPE> reference Rcpp::MatrixRow< RTYPE >::iterator::operator[]( int i ) const` `[inline]`

Definition at line 91 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::index`, and `Rcpp::MatrixRow< RTYPE >::iterator::row`.

## 6.343.5 Member Data Documentation

6.343.5.1 `template<int RTYPE> int Rcpp::MatrixRow< RTYPE >::iterator::index` `[private]`

Definition at line 101 of file MatrixRow.h.

Referenced by `Rcpp::MatrixRow< RTYPE >::iterator::operator!=( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator!=( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator*( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator*( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator+( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator+( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator++( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator++( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator+=( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator+=( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator-( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator-( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator--( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator--( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator=( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator=( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator>( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator>( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator<( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator<( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator<=( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator<=( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator==( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator==( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator>( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator>( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator>=( )`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator>=( )`, `Rcpp::MatrixRow< RTYPE >::iterator::operator[]( )`, and `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator[]( )`.

6.343.5.2 `template<int RTYPE> MatrixRow& Rcpp::MatrixRow< RTYPE >::iterator::row [private]`

Definition at line 100 of file MatrixRow.h.

Referenced by `Rcpp::MatrixRow< RTYPE >::iterator::operator*()`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator*()`, `Rcpp::MatrixRow< RTYPE >::iterator::operator+()`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator+()`, `Rcpp::MatrixRow< RTYPE >::iterator::operator-()`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator-()`, `Rcpp::MatrixRow< RTYPE >::iterator::operator->()`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator->()`, `Rcpp::MatrixRow< RTYPE >::iterator::operator[]()`, `Rcpp::MatrixRow< RTYPE >::operator[]()`, `Rcpp::ConstMatrixRow< RTYPE >::const_iterator::operator[]()`, and `Rcpp::ConstMatrixRow< RTYPE >::operator[]()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/vector/MatrixRow.h`

## 6.344 Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator Class Reference

```
#include <VectorBase.h>
```

### Public Types

- typedef `stored_type` `reference`
- typedef `stored_type` \* `pointer`
- typedef `R_xlen_t` `difference_type`
- typedef `stored_type` `value_type`
- typedef `std::random_access_iterator_tag` `iterator_category`

### Public Member Functions

- `iterator` (`const VectorBase` &object\_, `R_xlen_t` index\_)
- `iterator` (`const iterator` &other)
- `iterator` & `operator++` ()
- `iterator` `operator++` (`int`)
- `iterator` & `operator--` ()
- `iterator` `operator--` (`int`)
- `iterator` `operator+` (`difference_type` n) `const`
- `iterator` `operator-` (`difference_type` n) `const`
- `iterator` & `operator+=` (`difference_type` n)
- `iterator` & `operator-=` (`difference_type` n)
- `reference` `operator[]` (`R_xlen_t` i)
- `reference` `operator*` ()
- `pointer` `operator->` ()
- `bool` `operator==` (`const iterator` &y) `const`
- `bool` `operator!=` (`const iterator` &y) `const`
- `bool` `operator<` (`const iterator` &other) `const`
- `bool` `operator>` (`const iterator` &other) `const`
- `bool` `operator<=` (`const iterator` &other) `const`
- `bool` `operator>=` (`const iterator` &other) `const`
- `difference_type` `operator-` (`const iterator` &other) `const`

## Private Attributes

- const VECTOR & [object](#)
- R\_xlen\_t [index](#)

### 6.344.1 Detailed Description

```
template<int RTYPE, bool na, typename VECTOR>  
class Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator
```

Definition at line 51 of file VectorBase.h.

### 6.344.2 Member Typedef Documentation

6.344.2.1 `template<int RTYPE, bool na, typename VECTOR> typedef R_xlen_t Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::difference_type`

Definition at line 55 of file VectorBase.h.

6.344.2.2 `template<int RTYPE, bool na, typename VECTOR> typedef std::random_access_iterator_tag Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::iterator_category`

Definition at line 57 of file VectorBase.h.

6.344.2.3 `template<int RTYPE, bool na, typename VECTOR> typedef stored_type* Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::pointer`

Definition at line 54 of file VectorBase.h.

6.344.2.4 `template<int RTYPE, bool na, typename VECTOR> typedef stored_type Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::reference`

Definition at line 53 of file VectorBase.h.

6.344.2.5 `template<int RTYPE, bool na, typename VECTOR> typedef stored_type Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::value_type`

Definition at line 56 of file VectorBase.h.

### 6.344.3 Constructor & Destructor Documentation

6.344.3.1 `template<int RTYPE, bool na, typename VECTOR> Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator ( const VectorBase & object, R_xlen_t index ) [inline]`

Definition at line 59 of file VectorBase.h.

6.344.3.2 `template<int RTYPE, bool na, typename VECTOR> Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator ( const iterator & other ) [inline]`

Definition at line 60 of file VectorBase.h.

### 6.344.4 Member Function Documentation

6.344.4.1 `template<int RTYPE, bool na, typename VECTOR> bool Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator!=( const iterator & y ) const [inline]`

Definition at line 112 of file VectorBase.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::index.

6.344.4.2 `template<int RTYPE, bool na, typename VECTOR> reference Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator*( ) [inline]`

Definition at line 102 of file VectorBase.h.

6.344.4.3 `template<int RTYPE, bool na, typename VECTOR> iterator Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator+ ( difference_type n ) const [inline]`

Definition at line 82 of file VectorBase.h.

6.344.4.4 `template<int RTYPE, bool na, typename VECTOR> iterator& Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator++ ( ) [inline]`

Definition at line 62 of file VectorBase.h.

6.344.4.5 `template<int RTYPE, bool na, typename VECTOR> iterator Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator++ ( int ) [inline]`

Definition at line 66 of file VectorBase.h.

6.344.4.6 `template<int RTYPE, bool na, typename VECTOR> iterator& Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator+=( difference_type n ) [inline]`

Definition at line 89 of file VectorBase.h.

6.344.4.7 `template<int RTYPE, bool na, typename VECTOR> iterator Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator-( difference_type n ) const [inline]`

Definition at line 85 of file VectorBase.h.

6.344.4.8 `template<int RTYPE, bool na, typename VECTOR> difference_type Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator-( const iterator & other ) const [inline]`

Definition at line 128 of file VectorBase.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::index`.

6.344.4.9 `template<int RTYPE, bool na, typename VECTOR> iterator& Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator--( ) [inline]`

Definition at line 72 of file VectorBase.h.

6.344.4.10 `template<int RTYPE, bool na, typename VECTOR> iterator Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator--( int ) [inline]`

Definition at line 76 of file VectorBase.h.

6.344.4.11 `template<int RTYPE, bool na, typename VECTOR> iterator& Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator-=( difference_type n ) [inline]`

Definition at line 93 of file VectorBase.h.

6.344.4.12 `template<int RTYPE, bool na, typename VECTOR> pointer Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator->( ) [inline]`

Definition at line 105 of file VectorBase.h.

6.344.4.13 `template<int RTYPE, bool na, typename VECTOR> bool Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator<( const iterator & other ) const [inline]`

Definition at line 115 of file VectorBase.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::index`.



6.344.4.14 `template<int RTYPE, bool na, typename VECTOR> bool Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator<=( const iterator & other ) const [inline]`

Definition at line 121 of file VectorBase.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::index.

6.344.4.15 `template<int RTYPE, bool na, typename VECTOR> bool Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator==( const iterator & y ) const [inline]`

Definition at line 109 of file VectorBase.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::index.

6.344.4.16 `template<int RTYPE, bool na, typename VECTOR> bool Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator>( const iterator & other ) const [inline]`

Definition at line 118 of file VectorBase.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::index.

6.344.4.17 `template<int RTYPE, bool na, typename VECTOR> bool Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator>=( const iterator & other ) const [inline]`

Definition at line 124 of file VectorBase.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::index.

6.344.4.18 `template<int RTYPE, bool na, typename VECTOR> reference Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator[]( R_xlen_t i ) [inline]`

Definition at line 98 of file VectorBase.h.

## 6.344.5 Member Data Documentation

6.344.5.1 `template<int RTYPE, bool na, typename VECTOR> R_xlen_t Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::index [private]`

Definition at line 135 of file VectorBase.h.

Referenced by Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator!=( ), Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator-( ), Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator<( ), Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator<=( ), Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator==( ), Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator>( ), and Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::operator>=( ).

6.344.5.2 `template<int RTYPE, bool na, typename VECTOR> const VECTOR& Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator::object [private]`

Definition at line 134 of file VectorBase.h.

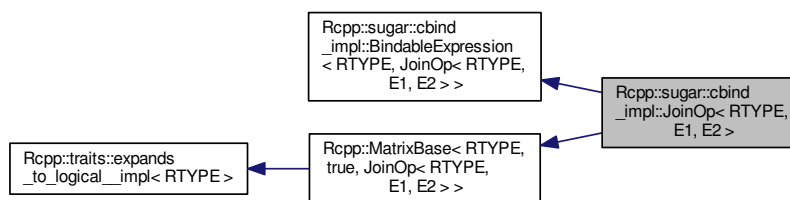
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/vector/VectorBase.h`

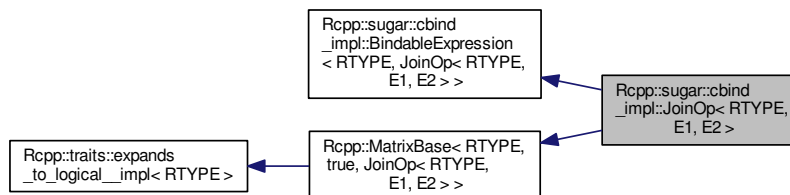
## 6.345 Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, E1, E2 > Class Template Reference

```
#include <cbind.h>
```

Inheritance diagram for Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, E1, E2 >:



Collaboration diagram for Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, E1, E2 >:



### Public Types

- typedef `cbind_storage_type< RTYPE >::type stored_type`

## Public Member Functions

- [JoinOp](#) (const [BindableExpression](#)< RTYPE, E1 > &e1\_, const [BindableExpression](#)< RTYPE, E2 > &e2\_)
- [R\\_xlen\\_t size](#) () const
- [R\\_xlen\\_t nrow](#) () const
- [R\\_xlen\\_t ncol](#) () const
- [stored\\_type operator\[\]](#) (R\_xlen\_t i) const
- [stored\\_type operator\(\)](#) (R\_xlen\_t i, R\_xlen\_t j) const

## Private Attributes

- const E1 & [e1](#)
- const E2 & [e2](#)

### 6.345.1 Detailed Description

```
template<int RTYPE, typename E1, typename E2>
class Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >
```

Definition at line 166 of file cbind.h.

### 6.345.2 Member Typedef Documentation

6.345.2.1 `template<int RTYPE, typename E1, typename E2> typedef cbind_storage_type<RTYPE>::type Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >::stored_type`

Definition at line 170 of file cbind.h.

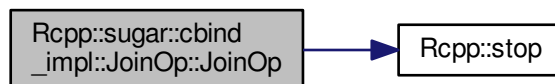
### 6.345.3 Constructor & Destructor Documentation

6.345.3.1 `template<int RTYPE, typename E1, typename E2> Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >::JoinOp ( const BindableExpression< RTYPE, E1 > & e1_, const BindableExpression< RTYPE, E2 > & e2_ ) [inline]`

Definition at line 177 of file cbind.h.

References [Rcpp::stop\(\)](#).

Here is the call graph for this function:



### 6.345.4 Member Function Documentation

6.345.4.1 `template<int RTYPE, typename E1, typename E2> R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >::ncol( ) const [inline]`

Definition at line 195 of file cbind.h.

6.345.4.2 `template<int RTYPE, typename E1, typename E2> R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >::nrow( ) const [inline]`

Definition at line 193 of file cbind.h.

6.345.4.3 `template<int RTYPE, typename E1, typename E2> stored_type Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >::operator()( R_xlen_t i, R_xlen_t j ) const [inline]`

Definition at line 201 of file cbind.h.

6.345.4.4 `template<int RTYPE, typename E1, typename E2> stored_type Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 197 of file cbind.h.

6.345.4.5 `template<int RTYPE, typename E1, typename E2> R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >::size( ) const [inline]`

Definition at line 191 of file cbind.h.

### 6.345.5 Member Data Documentation

6.345.5.1 `template<int RTYPE, typename E1, typename E2> const E1& Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >::e1 [private]`

Definition at line 173 of file cbind.h.

6.345.5.2 `template<int RTYPE, typename E1, typename E2> const E2& Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, E2 >::e2 [private]`

Definition at line 174 of file cbind.h.

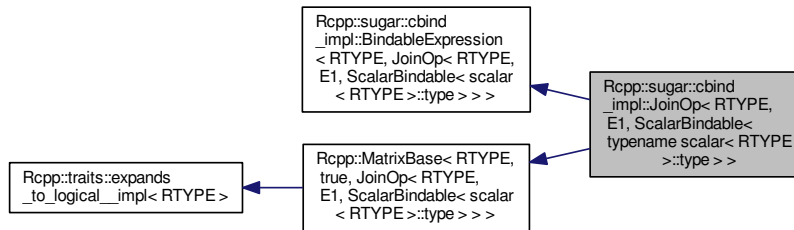
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/cbind.h`

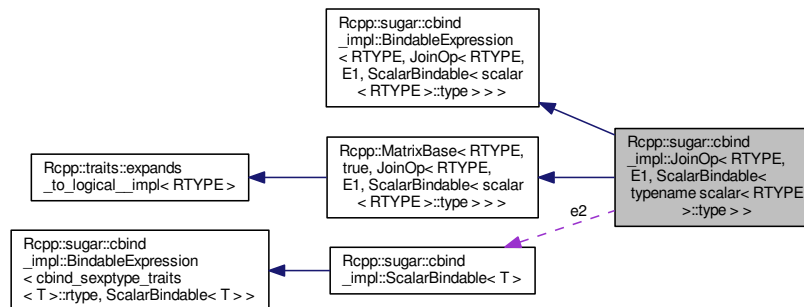
## 6.346 Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type >> Class Template Reference

```
#include <cbind.h>
```

Inheritance diagram for Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type >>:



Collaboration diagram for Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type >>:



### Public Types

- typedef [cbind\\_storage\\_type< RTYPE >::type](#) [stored\\_type](#)
- typedef [ScalarBindable< typename scalar< RTYPE >::type >](#) [E2](#)

### Public Member Functions

- [JoinOp](#) (const [BindableExpression< RTYPE, E1 >](#) &e1\_, const [BindableExpression< RTYPE, E2 >](#) &e2\_)
- [R\\_xlen\\_t size](#) () const
- [R\\_xlen\\_t nrow](#) () const
- [R\\_xlen\\_t ncol](#) () const
- [stored\\_type operator\[\]](#) (R\_xlen\_t i) const
- [stored\\_type operator\(\)](#) (R\_xlen\_t i, R\_xlen\_t j) const

## Private Attributes

- const E1 & [e1](#)
- const [E2](#) & [e2](#)

### 6.346.1 Detailed Description

```
template<int RTYPE, typename E1>
class Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >
```

Definition at line 209 of file cbind.h.

### 6.346.2 Member Typedef Documentation

6.346.2.1 `template<int RTYPE, typename E1 > typedef ScalarBindable<typename scalar<RTYPE>::type> Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >::E2`

Definition at line 218 of file cbind.h.

6.346.2.2 `template<int RTYPE, typename E1 > typedef cbind_storage_type<RTYPE>::type Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >::stored_type`

Definition at line 217 of file cbind.h.

### 6.346.3 Constructor & Destructor Documentation

6.346.3.1 `template<int RTYPE, typename E1 > Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >::JoinOp( const BindableExpression< RTYPE, E1 > & e1_, const BindableExpression< RTYPE, E2 > & e2_ ) [inline]`

Definition at line 225 of file cbind.h.

### 6.346.4 Member Function Documentation

6.346.4.1 `template<int RTYPE, typename E1 > R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >::ncol( ) const [inline]`

Definition at line 234 of file cbind.h.

6.346.4.2 `template<int RTYPE, typename E1 > R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >::nrow ( ) const [inline]`

Definition at line 232 of file cbind.h.

6.346.4.3 `template<int RTYPE, typename E1 > stored_type Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >::operator() ( R_xlen_t i, R_xlen_t j ) const [inline]`

Definition at line 240 of file cbind.h.

6.346.4.4 `template<int RTYPE, typename E1 > stored_type Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 236 of file cbind.h.

6.346.4.5 `template<int RTYPE, typename E1 > R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >::size ( ) const [inline]`

Definition at line 230 of file cbind.h.

## 6.346.5 Member Data Documentation

6.346.5.1 `template<int RTYPE, typename E1 > const E1& Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >::e1 [private]`

Definition at line 221 of file cbind.h.

6.346.5.2 `template<int RTYPE, typename E1 > const E2& Rcpp::sugar::cbind_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >::e2 [private]`

Definition at line 222 of file cbind.h.

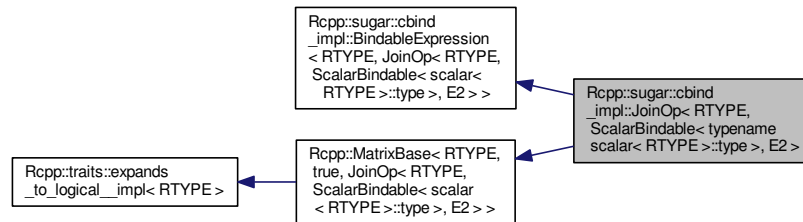
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/cbind.h`

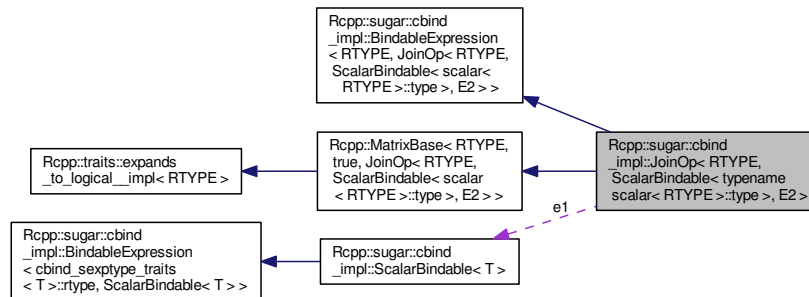
## 6.347 Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 > Class Template Reference

```
#include <cbind.h>
```

Inheritance diagram for Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >:



Collaboration diagram for Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >:



### Public Types

- typedef [cbind\\_storage\\_type](#)< RTYPE >::type [stored\\_type](#)
- typedef [ScalarBindable](#)< typename [scalar](#)< RTYPE >::type > [E1](#)

### Public Member Functions

- [JoinOp](#) (const [BindableExpression](#)< RTYPE, [E1](#) > &e1\_, const [BindableExpression](#)< RTYPE, [E2](#) > &e2\_)
- [R\\_xlen\\_t size](#) () const
- [R\\_xlen\\_t nrow](#) () const
- [R\\_xlen\\_t ncol](#) () const
- [stored\\_type operator\[\]](#) (R\_xlen\_t i) const
- [stored\\_type operator\(\)](#) (R\_xlen\_t i, R\_xlen\_t j) const



## Private Attributes

- const E1 & e1
- const E2 & e2

### 6.347.1 Detailed Description

```
template<int RTYPE, typename E2>  
class Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >
```

Definition at line 248 of file cbind.h.

### 6.347.2 Member Typedef Documentation

6.347.2.1 `template<int RTYPE, typename E2 > typedef ScalarBindable<typename scalar<RTYPE>::type>  
Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >::E1`

Definition at line 257 of file cbind.h.

6.347.2.2 `template<int RTYPE, typename E2 > typedef cbind_storage_type<RTYPE>::type Rcpp::sugar↔  
::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2  
>::stored_type`

Definition at line 256 of file cbind.h.

### 6.347.3 Constructor & Destructor Documentation

6.347.3.1 `template<int RTYPE, typename E2 > Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable<  
typename scalar< RTYPE >::type >, E2 >::JoinOp ( const BindableExpression< RTYPE, E1 > & e1_, const  
BindableExpression< RTYPE, E2 > & e2_ ) [inline]`

Definition at line 264 of file cbind.h.

### 6.347.4 Member Function Documentation

6.347.4.1 `template<int RTYPE, typename E2 > R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable<  
typename scalar< RTYPE >::type >, E2 >::ncol ( ) const [inline]`

Definition at line 273 of file cbind.h.

6.347.4.2 `template<int RTYPE, typename E2 > R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >::nrow ( ) const [inline]`

Definition at line 271 of file cbind.h.

6.347.4.3 `template<int RTYPE, typename E2 > stored_type Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >::operator() ( R_xlen_t i, R_xlen_t j ) const [inline]`

Definition at line 279 of file cbind.h.

6.347.4.4 `template<int RTYPE, typename E2 > stored_type Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 275 of file cbind.h.

6.347.4.5 `template<int RTYPE, typename E2 > R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >::size ( ) const [inline]`

Definition at line 269 of file cbind.h.

## 6.347.5 Member Data Documentation

6.347.5.1 `template<int RTYPE, typename E2 > const E1& Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >::e1 [private]`

Definition at line 260 of file cbind.h.

6.347.5.2 `template<int RTYPE, typename E2 > const E2& Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >::e2 [private]`

Definition at line 261 of file cbind.h.

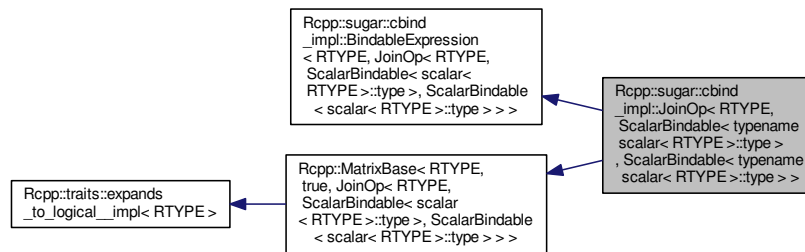
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

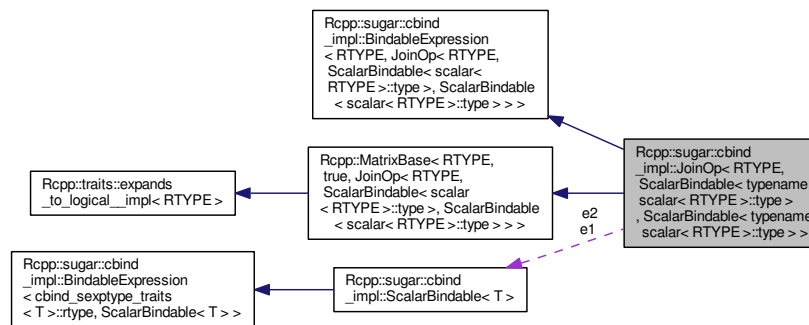
## 6.348 Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > > Class Template Reference

```
#include <cbind.h>
```

Inheritance diagram for Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >:



Collaboration diagram for Rcpp::sugar::cbind\_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >:



### Public Types

- typedef [cbind\\_storage\\_type](#)< RTYPE >::type [stored\\_type](#)
- typedef [ScalarBindable](#)< typename [scalar](#)< RTYPE >::type > [E1](#)
- typedef [ScalarBindable](#)< typename [scalar](#)< RTYPE >::type > [E2](#)

## Public Member Functions

- [JoinOp](#) (const [BindableExpression](#)< RTYPE, [E1](#) > &e1\_, const [BindableExpression](#)< RTYPE, [E2](#) > &e2\_)
- [R\\_xlen\\_t size](#) () const
- [R\\_xlen\\_t nrow](#) () const
- [R\\_xlen\\_t ncol](#) () const
- [stored\\_type operator\[\]](#) (R\_xlen\_t i) const
- [stored\\_type operator\(\)](#) (R\_xlen\_t i, R\_xlen\_t j) const

## Private Attributes

- const [E1](#) & [e1](#)
- const [E2](#) & [e2](#)

### 6.348.1 Detailed Description

```
template<int RTYPE>
class Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename
scalar< RTYPE >::type > >
```

Definition at line 287 of file cbind.h.

### 6.348.2 Member Typedef Documentation

6.348.2.1 `template<int RTYPE> typedef ScalarBindable<typename scalar<RTYPE>::type> Rcpp::sugar::cbind_↔impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::E1`

Definition at line 299 of file cbind.h.

6.348.2.2 `template<int RTYPE> typedef ScalarBindable<typename scalar<RTYPE>::type> Rcpp::sugar::cbind_↔impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::E2`

Definition at line 300 of file cbind.h.

6.348.2.3 `template<int RTYPE> typedef cbind_storage_type<RTYPE>::type Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::stored_type`

Definition at line 298 of file cbind.h.

### 6.348.3 Constructor & Destructor Documentation

6.348.3.1 `template<int RTYPE> Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::JoinOp ( const BindableExpression< RTYPE, E1 > & e1_, const BindableExpression< RTYPE, E2 > & e2_ ) [inline]`

Definition at line 307 of file cbind.h.

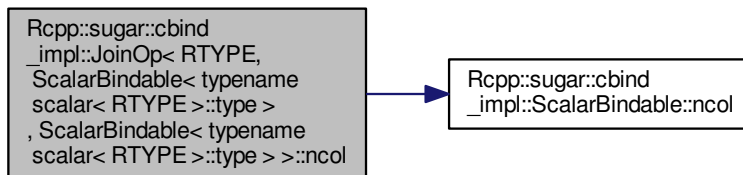
### 6.348.4 Member Function Documentation

6.348.4.1 `template<int RTYPE> R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::ncol ( ) const [inline]`

Definition at line 316 of file cbind.h.

References `Rcpp::sugar::cbind_impl::ScalarBindable< T >::ncol()`.

Here is the call graph for this function:

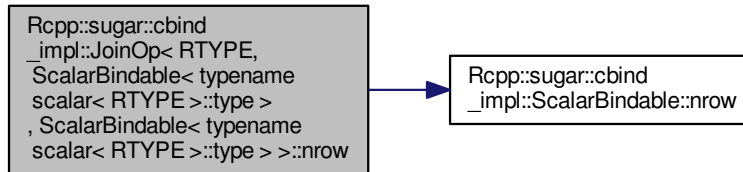


6.348.4.2 `template<int RTYPE> R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::nrow ( ) const [inline]`

Definition at line 314 of file cbind.h.

References `Rcpp::sugar::cbind_impl::ScalarBindable< T >::nrow()`.

Here is the call graph for this function:



6.348.4.3 `template<int RTYPE> stored_type Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type >::operator() ( R_xlen_t i, R_xlen_t j ) const [inline]`

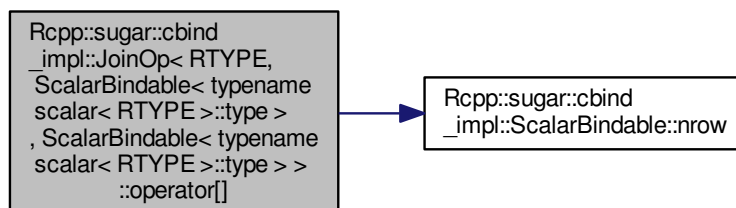
Definition at line 322 of file cbind.h.

6.348.4.4 `template<int RTYPE> stored_type Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 318 of file cbind.h.

References `Rcpp::sugar::cbind_impl::ScalarBindable< T >::nrow()`.

Here is the call graph for this function:

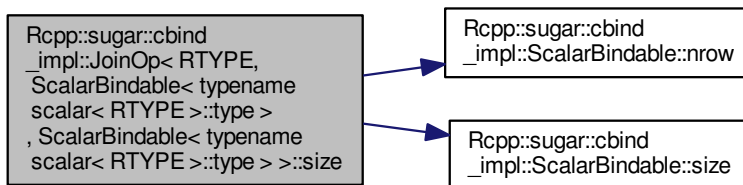


6.348.4.5 `template<int RTYPE> R_xlen_t Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::size ( ) const`  
`[inline]`

Definition at line 312 of file cbind.h.

References `Rcpp::sugar::cbind_impl::ScalarBindable< T >::nrow()`, and `Rcpp::sugar::cbind_impl::ScalarBindable< T >::size()`.

Here is the call graph for this function:



## 6.348.5 Member Data Documentation

6.348.5.1 `template<int RTYPE> const E1& Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::e1` `[private]`

Definition at line 303 of file cbind.h.

6.348.5.2 `template<int RTYPE> const E2& Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::e2` `[private]`

Definition at line 304 of file cbind.h.

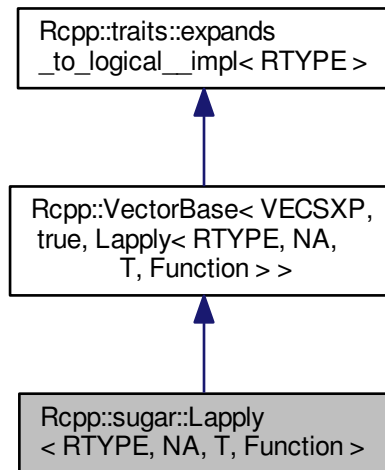
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/cbind.h`

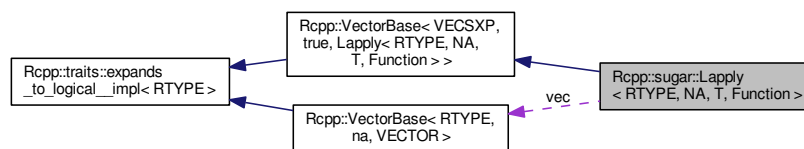
## 6.349 Rcpp::sugar::Lapply< RTYPE, NA, T, Function > Class Template Reference

```
#include <lapply.h>
```

Inheritance diagram for Rcpp::sugar::Lapply< RTYPE, NA, T, Function >:



Collaboration diagram for Rcpp::sugar::Lapply< RTYPE, NA, T, Function >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC`
- typedef `::Rcpp::traits::result_of< Function >::type` `result_type`

### Public Member Functions

- `Lapply` (const `VEC` &vec\_, `Function` fun\_)
- `SEXP operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const



## Private Attributes

- const [VEC](#) & [vec](#)
- [Function](#) [fun](#)

### 6.349.1 Detailed Description

```
template<int RTYPE, bool NA, typename T, typename Function>  
class Rcpp::sugar::Lapply< RTYPE, NA, T, Function >
```

Definition at line 29 of file `lapply.h`.

### 6.349.2 Member Typedef Documentation

6.349.2.1 `template<int RTYPE, bool NA, typename T, typename Function> typedef ::Rcpp::traits::result_of<Function>::type  
Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::result_type`

Definition at line 36 of file `lapply.h`.

6.349.2.2 `template<int RTYPE, bool NA, typename T, typename Function> typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::VEC`

Definition at line 35 of file `lapply.h`.

### 6.349.3 Constructor & Destructor Documentation

6.349.3.1 `template<int RTYPE, bool NA, typename T, typename Function> Rcpp::sugar::Lapply< RTYPE, NA, T, Function  
>::Lapply ( const VEC & vec_, Function fun_ ) [inline]`

Definition at line 38 of file `lapply.h`.

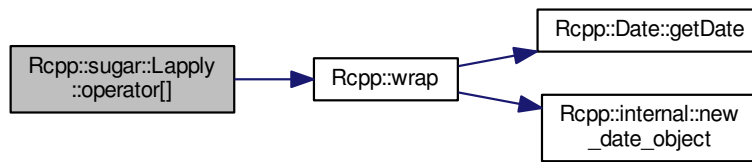
### 6.349.4 Member Function Documentation

6.349.4.1 `template<int RTYPE, bool NA, typename T, typename Function> SEXP Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 41 of file lapply.h.

References `Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::fun`, `Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::vec`, and `Rcpp::wrap()`.

Here is the call graph for this function:

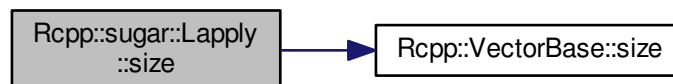


6.349.4.2 `template<int RTYPE, bool NA, typename T, typename Function> R_xlen_t Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::size ( ) const [inline]`

Definition at line 44 of file lapply.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::vec`.

Here is the call graph for this function:



### 6.349.5 Member Data Documentation

6.349.5.1 `template<int RTYPE, bool NA, typename T, typename Function> Function Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::fun [private]`

Definition at line 48 of file lapply.h.

Referenced by `Rcpp::lapply()`, and `Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::operator[]()`.

6.349.5.2 `template<int RTYPE, bool NA, typename T, typename Function> const VEC& Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::vec [private]`

Definition at line 47 of file `lapply.h`.

Referenced by `Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::operator[]()`, and `Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::size()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/lapply.h](#)

## 6.350 Rcpp::sugar::Lazy< T, EXPR > Class Template Reference

```
#include <Lazy.h>
```

### Public Member Functions

- [operator T \(\) const](#)

### 6.350.1 Detailed Description

```
template<typename T, typename EXPR>  
class Rcpp::sugar::Lazy< T, EXPR >
```

Definition at line 29 of file `Lazy.h`.

### 6.350.2 Member Function Documentation

6.350.2.1 `template<typename T, typename EXPR> Rcpp::sugar::Lazy< T, EXPR >::operator T ( ) const [inline]`

Definition at line 31 of file `Lazy.h`.

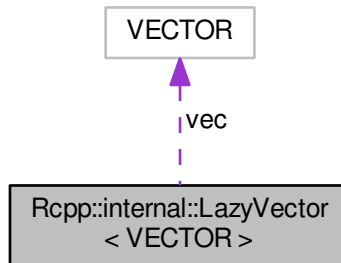
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/Lazy.h](#)

## 6.351 Rcpp::internal::LazyVector< VECTOR > Class Template Reference

```
#include <LazyVector.h>
```

Collaboration diagram for Rcpp::internal::LazyVector< VECTOR >:



### Public Types

- typedef `VECTOR::r_type` `r_type`
- typedef `Rcpp::traits::storage_type< r_type::value >::type` `stored_type`

### Public Member Functions

- `LazyVector` (const `VECTOR` &`vec`\_)
- `stored_type operator[]` (`R_xlen_t` `i`) const

### Private Attributes

- const `VECTOR` & `vec`
- `R_xlen_t` `n`
- `std::vector< stored_type >` `data`
- `std::vector< bool >` `known`

#### 6.351.1 Detailed Description

```
template<typename VECTOR>
class Rcpp::internal::LazyVector< VECTOR >
```

Definition at line 29 of file `LazyVector.h`.

## 6.351.2 Member Typedef Documentation

6.351.2.1 `template<typename VECTOR> typedef VECTOR::r_type Rcpp::internal::LazyVector< VECTOR >::r_type`

Definition at line 31 of file LazyVector.h.

6.351.2.2 `template<typename VECTOR> typedef Rcpp::traits::storage_type< r_type::value >::type Rcpp::internal::LazyVector< VECTOR >::stored_type`

Definition at line 32 of file LazyVector.h.

## 6.351.3 Constructor & Destructor Documentation

6.351.3.1 `template<typename VECTOR> Rcpp::internal::LazyVector< VECTOR >::LazyVector ( const VECTOR & vec_ )  
[inline]`

Definition at line 34 of file LazyVector.h.

## 6.351.4 Member Function Documentation

6.351.4.1 `template<typename VECTOR> stored_type Rcpp::internal::LazyVector< VECTOR >::operator[] ( R_xlen_t i )  
const [inline]`

Definition at line 36 of file LazyVector.h.

## 6.351.5 Member Data Documentation

6.351.5.1 `template<typename VECTOR> std::vector<stored_type> Rcpp::internal::LazyVector< VECTOR >::data  
[mutable], [private]`

Definition at line 50 of file LazyVector.h.

Referenced by `Rcpp::internal::LazyVector< RHS_TYPE >::operator[]()`.

6.351.5.2 `template<typename VECTOR> std::vector<bool> Rcpp::internal::LazyVector< VECTOR >::known  
[mutable], [private]`

Definition at line 51 of file LazyVector.h.

Referenced by `Rcpp::internal::LazyVector< RHS_TYPE >::operator[]()`.

6.351.5.3 `template<typename VECTOR> R_xlen_t Rcpp::internal::LazyVector< VECTOR >::n` [private]

Definition at line 49 of file LazyVector.h.

6.351.5.4 `template<typename VECTOR> const VECTOR& Rcpp::internal::LazyVector< VECTOR >::vec` [private]

Definition at line 48 of file LazyVector.h.

Referenced by `Rcpp::internal::LazyVector< RHS_TYPE >::operator[]()`, and `Rcpp::internal::LazyVector< Rcpp::Vector< RTYPE > >::operator[]()`.

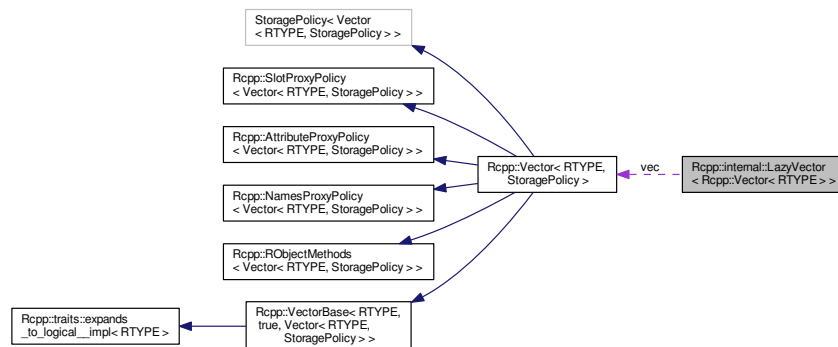
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/LazyVector.h](#)

## 6.352 Rcpp::internal::LazyVector< Rcpp::Vector< RTYPE > > Class Template Reference

```
#include <LazyVector.h>
```

Collaboration diagram for `Rcpp::internal::LazyVector< Rcpp::Vector< RTYPE > >`:



### Public Types

- typedef `Rcpp::Vector< RTYPE >` `VECTOR`
- typedef `VECTOR::Proxy` `Proxy`

### Public Member Functions

- `LazyVector` (const `VECTOR` &vec\_)
- `Proxy operator[]` (R\_xlen\_t i) const

## Private Attributes

- const [VECTOR](#) & *vec*

### 6.352.1 Detailed Description

```
template<int RTYPE>
class Rcpp::internal::LazyVector< Rcpp::Vector< RTYPE > >
```

Definition at line 55 of file LazyVector.h.

### 6.352.2 Member Typedef Documentation

6.352.2.1 `template<int RTYPE> typedef VECTOR::Proxy Rcpp::internal::LazyVector< Rcpp::Vector< RTYPE > >::Proxy`

Definition at line 58 of file LazyVector.h.

6.352.2.2 `template<int RTYPE> typedef Rcpp::Vector<RTYPE> Rcpp::internal::LazyVector< Rcpp::Vector< RTYPE > >::VECTOR`

Definition at line 57 of file LazyVector.h.

### 6.352.3 Constructor & Destructor Documentation

6.352.3.1 `template<int RTYPE> Rcpp::internal::LazyVector< Rcpp::Vector< RTYPE > >::LazyVector ( const VECTOR & vec_ ) [inline]`

Definition at line 60 of file LazyVector.h.

### 6.352.4 Member Function Documentation

6.352.4.1 `template<int RTYPE> Proxy Rcpp::internal::LazyVector< Rcpp::Vector< RTYPE > >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 61 of file LazyVector.h.

References `Rcpp::internal::LazyVector< VECTOR >::vec`.

### 6.352.5 Member Data Documentation

6.352.5.1 `template<int RTYPE> const VECTOR& Rcpp::internal::LazyVector< Rcpp::Vector< RTYPE > >::vec`  
`[private]`

Definition at line 64 of file LazyVector.h.

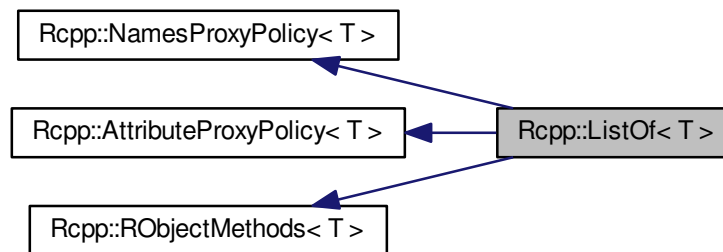
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/LazyVector.h](#)

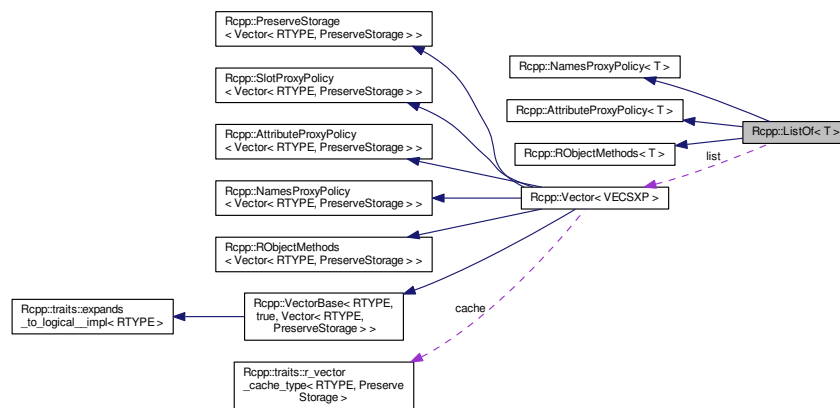
### 6.353 Rcpp::ListOf< T > Class Template Reference

```
#include <ListOf.h>
```

Inheritance diagram for Rcpp::ListOf< T >:



Collaboration diagram for Rcpp::ListOf< T >:





## Public Types

- typedef [traits::r\\_vector\\_iterator< VECSXP >::type](#) [iterator](#)
- typedef [traits::r\\_vector\\_const\\_iterator< VECSXP >::type](#) [const\\_iterator](#)

## Public Member Functions

- [ListOf](#) ()
- [ListOf](#) (SEXP data\_)
- [template<typename U > ListOf](#) (const U &data\_)
- [ListOf](#) (const [ListOf](#) &other)
- [ListOf](#) & [operator=](#) (const [ListOf](#) &other)
- [template<typename U > ListOf](#) & [operator=](#) (const U &other)
- [ChildVector](#)< T > [operator\[\]](#) (R\_xlen\_t i)
- const [ChildVector](#)< T > [operator\[\]](#) (R\_xlen\_t i) const
- [ChildVector](#)< T > [operator\[\]](#) (const std::string &str)
- const [ChildVector](#)< T > [operator\[\]](#) (const std::string &str) const
- [iterator](#) [begin](#) ()
- [iterator](#) [end](#) ()
- [const\\_iterator](#) [begin](#) () const
- [const\\_iterator](#) [end](#) () const
- R\_xlen\_t [size](#) () const
- [List](#) [get](#) () const
- [operator SEXP](#) () const
- [operator List](#) () const

## Private Attributes

- [List](#) list

### 6.353.1 Detailed Description

```
template<typename T>
class Rcpp::ListOf< T >
```

Definition at line 26 of file ListOf.h.

### 6.353.2 Member Typedef Documentation

6.353.2.1 `template<typename T> typedef traits::r_vector_const_iterator<VECSXP>::type Rcpp::ListOf< T >::const_iterator`

Definition at line 34 of file ListOf.h.

6.353.2.2 `template<typename T> typedef traits::r_vector_iterator<VECSXP>::type Rcpp::ListOf< T >::iterator`

Definition at line 33 of file ListOf.h.

### 6.353.3 Constructor & Destructor Documentation

6.353.3.1 `template<typename T> Rcpp::ListOf< T >::ListOf ( ) [inline]`

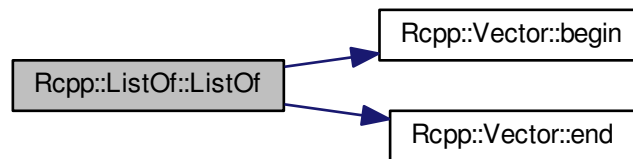
Definition at line 36 of file ListOf.h.

6.353.3.2 `template<typename T> Rcpp::ListOf< T >::ListOf ( SEXP data_ ) [inline]`

Definition at line 38 of file ListOf.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::Vector< RTYPE, StoragePolicy >::end()`, and `Rcpp::ListOf< T >::list`.

Here is the call graph for this function:

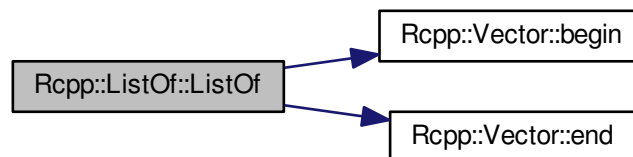


6.353.3.3 `template<typename T> template<typename U > Rcpp::ListOf< T >::ListOf ( const U & data_ ) [inline]`

Definition at line 43 of file ListOf.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::Vector< RTYPE, StoragePolicy >::end()`, and `Rcpp::ListOf< T >::list`.

Here is the call graph for this function:



6.353.3.4 `template<typename T> Rcpp::ListOf< T >::ListOf( const ListOf< T > & other ) [inline]`

Definition at line 47 of file ListOf.h.

### 6.353.4 Member Function Documentation

6.353.4.1 `template<typename T> iterator Rcpp::ListOf< T >::begin ( ) [inline]`

Definition at line 82 of file ListOf.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, and `Rcpp::ListOf< T >::list`.

Here is the call graph for this function:



6.353.4.2 `template<typename T> const_iterator Rcpp::ListOf< T >::begin ( ) const [inline]`

Definition at line 90 of file ListOf.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, and `Rcpp::ListOf< T >::list`.

Here is the call graph for this function:



6.353.4.3 `template<typename T> iterator Rcpp::ListOf< T >::end ( ) [inline]`

Definition at line 86 of file ListOf.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::end()`, and `Rcpp::ListOf< T >::list`.

Here is the call graph for this function:



6.353.4.4 `template<typename T> const_iterator Rcpp::ListOf< T >::end ( ) const [inline]`

Definition at line 94 of file ListOf.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::end()`, and `Rcpp::ListOf< T >::list`.

Here is the call graph for this function:



6.353.4.5 `template<typename T> List Rcpp::ListOf< T >::get ( ) const [inline]`

Definition at line 102 of file ListOf.h.

References `Rcpp::ListOf< T >::list`.

Referenced by `Rcpp::lapply()`, and `Rcpp::sapply()`.

6.353.4.6 `template<typename T> Rcpp::ListOf< T >::operator List ( ) const [inline]`

Definition at line 108 of file ListOf.h.

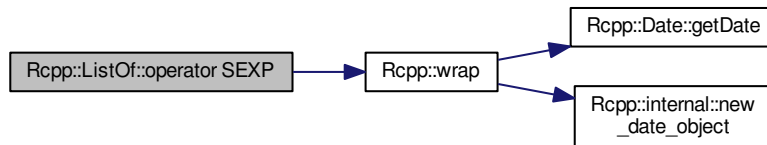
References Rcpp::ListOf< T >::list.

6.353.4.7 `template<typename T> Rcpp::ListOf< T >::operator SEXP ( ) const [inline]`

Definition at line 107 of file ListOf.h.

References Rcpp::ListOf< T >::list, and Rcpp::wrap().

Here is the call graph for this function:



6.353.4.8 `template<typename T> ListOf& Rcpp::ListOf< T >::operator= ( const ListOf< T > & other ) [inline]`

Definition at line 49 of file ListOf.h.

References Rcpp::ListOf< T >::list.

6.353.4.9 `template<typename T> template<typename U > ListOf& Rcpp::ListOf< T >::operator= ( const U & other ) [inline]`

Definition at line 57 of file ListOf.h.

References Rcpp::ListOf< T >::list.

6.353.4.10 `template<typename T> ChildVector<T> Rcpp::ListOf< T >::operator[( R_xlen_t i ) [inline]`

Definition at line 64 of file ListOf.h.

References Rcpp::ListOf< T >::list.

6.353.4.11 `template<typename T> const ChildVector<T> Rcpp::ListOf< T >::operator[]( R_xlen_t i ) const`  
`[inline]`

Definition at line 68 of file ListOf.h.

References `Rcpp::ListOf< T >::list`.

6.353.4.12 `template<typename T> ChildVector<T> Rcpp::ListOf< T >::operator[]( const std::string & str )` `[inline]`

Definition at line 72 of file ListOf.h.

References `Rcpp::ListOf< T >::list`.

6.353.4.13 `template<typename T> const ChildVector<T> Rcpp::ListOf< T >::operator[]( const std::string & str ) const`  
`[inline]`

Definition at line 76 of file ListOf.h.

References `Rcpp::ListOf< T >::list`.

6.353.4.14 `template<typename T> R_xlen_t Rcpp::ListOf< T >::size ( ) const` `[inline]`

Definition at line 98 of file ListOf.h.

References `Rcpp::ListOf< T >::list`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



## 6.353.5 Member Data Documentation

6.353.5.1 `template<typename T> List Rcpp::ListOf< T >::list` `[private]`

Definition at line 112 of file ListOf.h.

Referenced by `Rcpp::ListOf< T >::begin()`, `Rcpp::ListOf< T >::end()`, `Rcpp::ListOf< T >::get()`, `Rcpp::ListOf< T >::List()`, `Rcpp::ListOf< T >::operator List()`, `Rcpp::ListOf< T >::operator SEXP()`, `Rcpp::ListOf< T >::operator=()`, `Rcpp::ListOf< T >::operator[]()`, and `Rcpp::ListOf< T >::size()`.

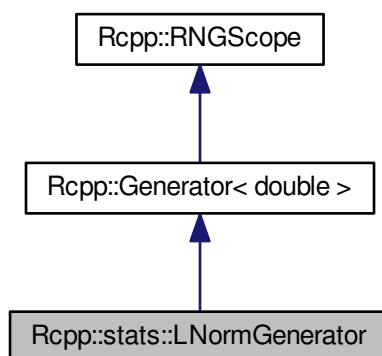
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/vector/ListOf.h`

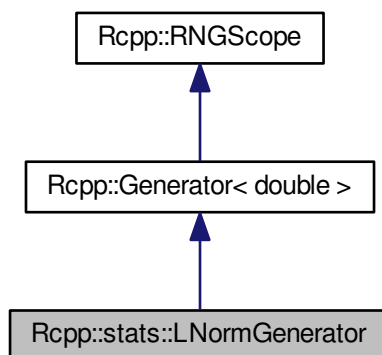
## 6.354 Rcpp::stats::LNormGenerator Class Reference

```
#include <rlnorm.h>
```

Inheritance diagram for Rcpp::stats::LNormGenerator:



Collaboration diagram for Rcpp::stats::LNormGenerator:



### Public Member Functions

- `LNormGenerator` (double meanlog\_=0.0, double sdlog\_=1.0)
- double `operator()` () const

## Private Attributes

- double [meanlog](#)
- double [sdlog](#)

## Additional Inherited Members

### 6.354.1 Detailed Description

Definition at line 28 of file `rlnorm.h`.

### 6.354.2 Constructor & Destructor Documentation

6.354.2.1 `Rcpp::stats::LNormGenerator::LNormGenerator ( double meanlog_ = 0.0, double sdlog_ = 1.0 ) [inline]`

Definition at line 31 of file `rlnorm.h`.

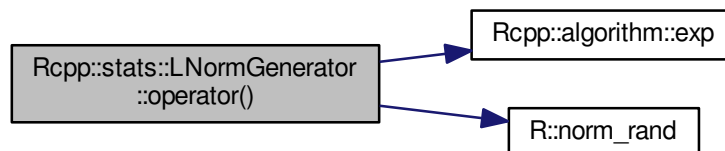
### 6.354.3 Member Function Documentation

6.354.3.1 `double Rcpp::stats::LNormGenerator::operator() ( ) const [inline]`

Definition at line 34 of file `rlnorm.h`.

References `Rcpp::algorithm::exp()`, `meanlog`, `R::norm_rand()`, and `sdlog`.

Here is the call graph for this function:



### 6.354.4 Member Data Documentation

6.354.4.1 `double Rcpp::stats::LNormGenerator::meanlog [private]`

Definition at line 39 of file `rlnorm.h`.

Referenced by `operator()()`, and `Rcpp::stats::LNormGenerator_1::operator()()`.



6.354.4.2 `double Rcpp::stats::LNormGenerator::sdlog` `[private]`

Definition at line 40 of file `rlnorm.h`.

Referenced by `operator()`.

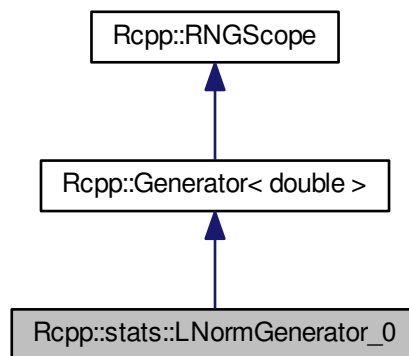
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rlnorm.h](#)

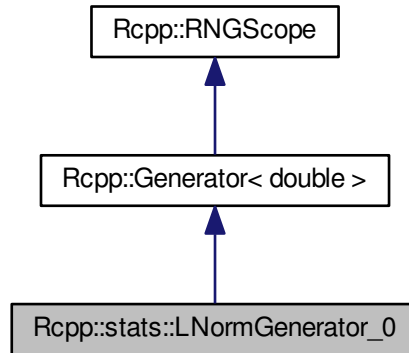
## 6.355 Rcpp::stats::LNormGenerator\_0 Class Reference

```
#include <rlnorm.h>
```

Inheritance diagram for `Rcpp::stats::LNormGenerator_0`:



Collaboration diagram for Rcpp::stats::LNormGenerator\_0:



## Public Member Functions

- [LNormGenerator\\_0\(\)](#)
- double [operator\(\)](#) () const

## Additional Inherited Members

### 6.355.1 Detailed Description

Definition at line 59 of file rlnorm.h.

### 6.355.2 Constructor & Destructor Documentation

#### 6.355.2.1 Rcpp::stats::LNormGenerator\_0::LNormGenerator\_0( ) [inline]

Definition at line 62 of file rlnorm.h.

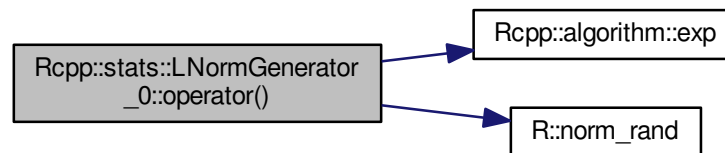
### 6.355.3 Member Function Documentation

6.355.3.1 `double Rcpp::stats::LNormGenerator_0::operator()( ) const [inline]`

Definition at line 64 of file `rlnorm.h`.

References `Rcpp::algorithm::exp()`, and `R::norm_rand()`.

Here is the call graph for this function:



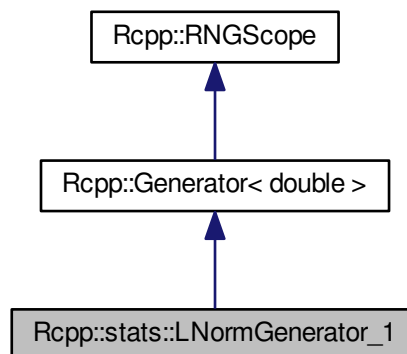
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rlnorm.h](#)

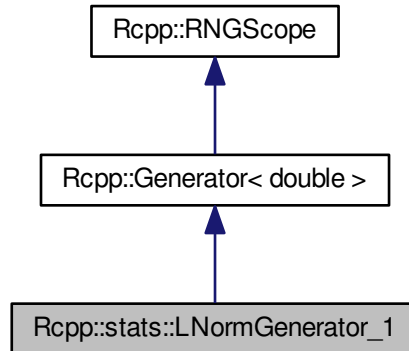
## 6.356 Rcpp::stats::LNormGenerator\_1 Class Reference

```
#include <rlnorm.h>
```

Inheritance diagram for `Rcpp::stats::LNormGenerator_1`:



Collaboration diagram for Rcpp::stats::LNormGenerator\_1:



## Public Member Functions

- [LNormGenerator\\_1](#) (double meanlog\_=0.0)
- double [operator\(\)](#) () const

## Private Attributes

- double [meanlog](#)

## Additional Inherited Members

### 6.356.1 Detailed Description

Definition at line 44 of file rlnorm.h.

### 6.356.2 Constructor & Destructor Documentation

6.356.2.1 `Rcpp::stats::LNormGenerator_1::LNormGenerator_1 ( double meanlog = 0.0 ) [inline]`

Definition at line 47 of file rlnorm.h.

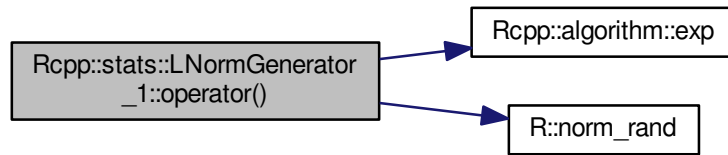
### 6.356.3 Member Function Documentation

6.356.3.1 `double Rcpp::stats::LNormGenerator_1::operator() ( ) const [inline]`

Definition at line 50 of file `rlnorm.h`.

References `Rcpp::algorithm::exp()`, `Rcpp::stats::LNormGenerator::meanlog`, and `R::norm_rand()`.

Here is the call graph for this function:



### 6.356.4 Member Data Documentation

6.356.4.1 `double Rcpp::stats::LNormGenerator_1::meanlog [private]`

Definition at line 55 of file `rlnorm.h`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rlnorm.h](#)

## 6.357 Rcpp::algorithm::helpers::log Struct Reference

```
#include <algorithm.h>
```

### Public Member Functions

- `template<typename T >`  
`double operator() (T val)`

### 6.357.1 Detailed Description

Definition at line 176 of file `algorithm.h`.

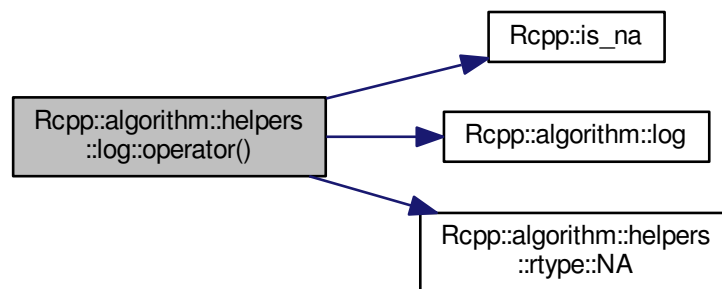
## 6.357.2 Member Function Documentation

6.357.2.1 `template<typename T > double Rcpp::algorithm::helpers::log::operator() ( T val ) [inline]`

Definition at line 178 of file `algorithm.h`.

References `Rcpp::is_na()`, `Rcpp::algorithm::log()`, and `Rcpp::algorithm::helpers::rtype< T >::NA()`.

Here is the call graph for this function:



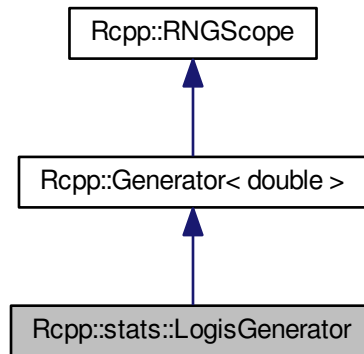
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

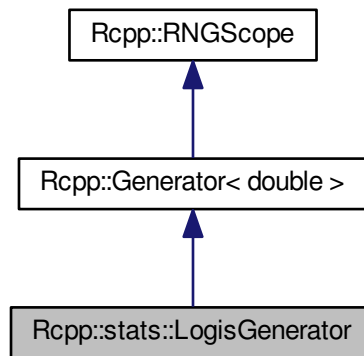
## 6.358 Rcpp::stats::LogisGenerator Class Reference

```
#include <rlogis.h>
```

Inheritance diagram for Rcpp::stats::LogisGenerator:



Collaboration diagram for Rcpp::stats::LogisGenerator:



### Public Member Functions

- [LogisGenerator](#) (double location\_, double scale\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [location](#)
- double [scale](#)

## Additional Inherited Members

### 6.358.1 Detailed Description

Definition at line 28 of file rlogis.h.

### 6.358.2 Constructor & Destructor Documentation

6.358.2.1 `Rcpp::stats::LogisGenerator::LogisGenerator ( double location_, double scale_ ) [inline]`

Definition at line 31 of file rlogis.h.

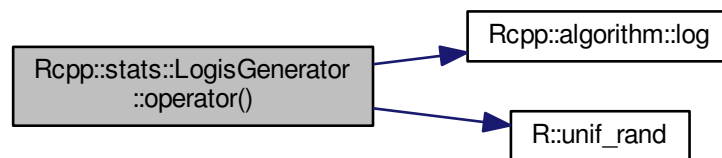
### 6.358.3 Member Function Documentation

6.358.3.1 `double Rcpp::stats::LogisGenerator::operator() ( ) const [inline]`

Definition at line 34 of file rlogis.h.

References `location`, `Rcpp::algorithm::log()`, `scale`, and `R::unif_rand()`.

Here is the call graph for this function:



### 6.358.4 Member Data Documentation

6.358.4.1 `double Rcpp::stats::LogisGenerator::location [private]`

Definition at line 40 of file rlogis.h.

Referenced by `operator()()`, and `Rcpp::stats::LogisGenerator_1::operator()()`.



6.358.4.2 `double Rcpp::stats::LogisGenerator::scale` `[private]`

Definition at line 41 of file `rlogis.h`.

Referenced by `operator()`.

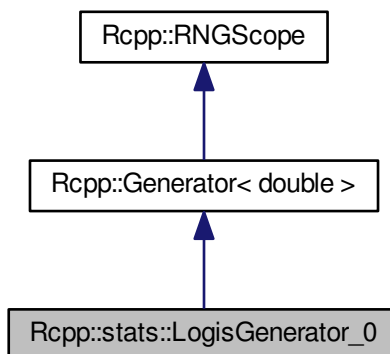
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rlogis.h`

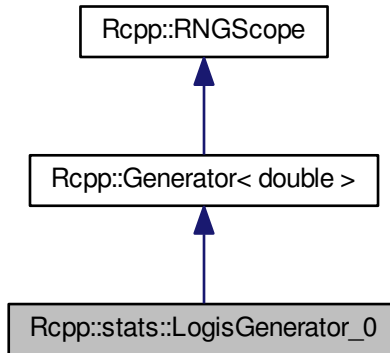
## 6.359 Rcpp::stats::LogisGenerator\_0 Class Reference

```
#include <rlogis.h>
```

Inheritance diagram for `Rcpp::stats::LogisGenerator_0`:



Collaboration diagram for Rcpp::stats::LogisGenerator\_0:



## Public Member Functions

- [LogisGenerator\\_0\(\)](#)
- double [operator\(\)](#) () const

## Additional Inherited Members

### 6.359.1 Detailed Description

Definition at line 61 of file rlogis.h.

### 6.359.2 Constructor & Destructor Documentation

#### 6.359.2.1 Rcpp::stats::LogisGenerator\_0::LogisGenerator\_0( ) [inline]

Definition at line 64 of file rlogis.h.

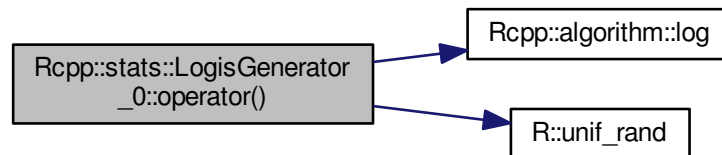
### 6.359.3 Member Function Documentation

6.359.3.1 `double Rcpp::stats::LogisGenerator_0::operator()( ) const [inline]`

Definition at line 66 of file `rlogis.h`.

References `Rcpp::algorithm::log()`, and `R::unif_rand()`.

Here is the call graph for this function:



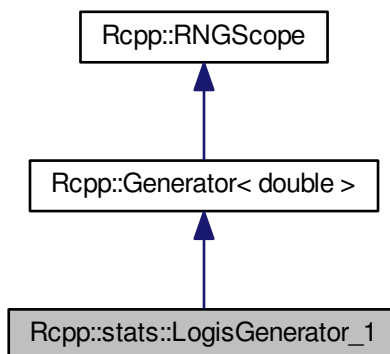
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rlogis.h](#)

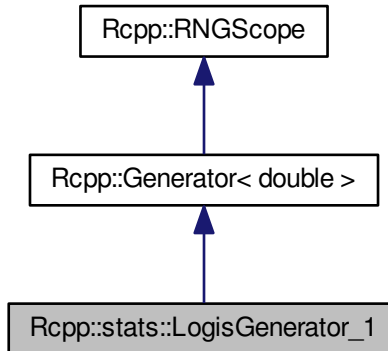
## 6.360 Rcpp::stats::LogisGenerator\_1 Class Reference

```
#include <rlogis.h>
```

Inheritance diagram for `Rcpp::stats::LogisGenerator_1`:



Collaboration diagram for Rcpp::stats::LogisGenerator\_1:



## Public Member Functions

- [LogisGenerator\\_1](#) (double location\_)
- double [operator\(\)](#) () const

## Private Attributes

- double [location](#)

## Additional Inherited Members

### 6.360.1 Detailed Description

Definition at line 45 of file rlogis.h.

### 6.360.2 Constructor & Destructor Documentation

6.360.2.1 `Rcpp::stats::LogisGenerator_1::LogisGenerator_1 ( double location_ ) [inline]`

Definition at line 48 of file rlogis.h.

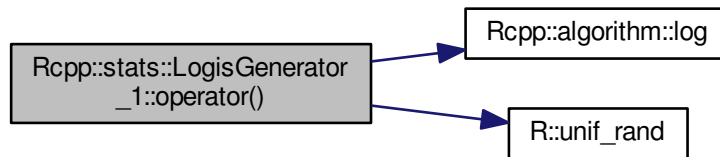
### 6.360.3 Member Function Documentation

6.360.3.1 `double Rcpp::stats::LogisGenerator_1::operator()( ) const` `[inline]`

Definition at line 51 of file `rlogis.h`.

References `Rcpp::stats::LogisGenerator::location`, `Rcpp::algorithm::log()`, and `R::unif_rand()`.

Here is the call graph for this function:



### 6.360.4 Member Data Documentation

6.360.4.1 `double Rcpp::stats::LogisGenerator_1::location` `[private]`

Definition at line 57 of file `rlogis.h`.

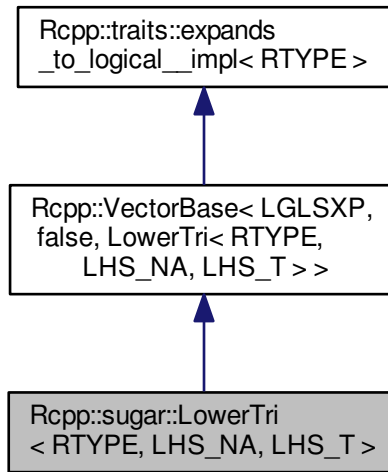
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rlogis.h`

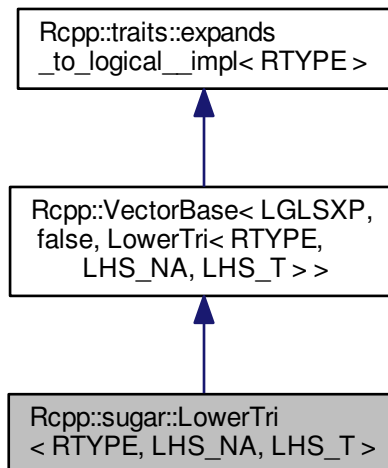
## 6.361 Rcpp::sugar::LowerTri< RTYPE, LHS\_NA, LHS\_T > Class Template Reference

```
#include <lower_tri.h>
```

Inheritance diagram for `Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >`:



Collaboration diagram for `Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >`:



## Public Types

- typedef `Rcpp::MatrixBase< RTYPE, LHS_NA, LHS_T >` [LHS\\_TYPE](#)

## Public Member Functions

- [LowerTri](#) (const [LHS\\_TYPE](#) &lhs, bool [diag](#))
- int [operator\(\)](#) (int i, int j) const
- [R\\_xlen\\_t size](#) () const
- int [nrow](#) () const
- int [ncol](#) () const

## Private Types

- typedef bool(LowerTri::\* [Method](#)) (int, int)

## Private Member Functions

- bool [get\\_diag\\_true](#) (int i, int j)
- bool [get\\_diag\\_false](#) (int i, int j)
- bool [get](#) (int i, int j)

## Private Attributes

- int [nr](#)
- int [nc](#)
- [Method](#) [getter](#)

### 6.361.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T>
class Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >
```

Definition at line 29 of file `lower_tri.h`.

### 6.361.2 Member Typedef Documentation

6.361.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> typedef Rcpp::MatrixBase<RTYPE,LHS_NA,LHS_T> Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::LHS_TYPE`

Definition at line 35 of file `lower_tri.h`.

6.361.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> typedef bool(LowerTri::* Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::Method) (int, int) [private]`

Definition at line 56 of file `lower_tri.h`.

### 6.361.3 Constructor & Destructor Documentation

6.361.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::LowerTri ( const LHS_TYPE & lhs, bool diag ) [inline]`

Definition at line 37 of file lower\_tri.h.

### 6.361.4 Member Function Documentation

6.361.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> bool Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::get ( int i, int j ) [inline],[private]`

Definition at line 65 of file lower\_tri.h.

6.361.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> bool Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::get_diag_false ( int i, int j ) [inline],[private]`

Definition at line 62 of file lower\_tri.h.

6.361.4.3 `template<int RTYPE, bool LHS_NA, typename LHS_T> bool Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::get_diag_true ( int i, int j ) [inline],[private]`

Definition at line 59 of file lower\_tri.h.

6.361.4.4 `template<int RTYPE, bool LHS_NA, typename LHS_T> int Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::ncol ( ) const [inline]`

Definition at line 52 of file lower\_tri.h.

References `Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::nc`.

6.361.4.5 `template<int RTYPE, bool LHS_NA, typename LHS_T> int Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::nrow ( ) const [inline]`

Definition at line 51 of file lower\_tri.h.

References `Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::nr`.

6.361.4.6 `template<int RTYPE, bool LHS_NA, typename LHS_T> int Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::operator()( int i, int j ) const [inline]`

Definition at line 46 of file lower\_tri.h.



6.361.4.7 `template<int RTYPE, bool LHS_NA, typename LHS_T> R_xlen_t Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::size ( ) const [inline]`

Definition at line 50 of file `lower_tri.h`.

References `Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::nc`, and `Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::nr`.

### 6.361.5 Member Data Documentation

6.361.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> Method Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::getter [private]`

Definition at line 58 of file `lower_tri.h`.

6.361.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> int Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::nc [private]`

Definition at line 55 of file `lower_tri.h`.

Referenced by `Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::ncol()`, and `Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::size()`.

6.361.5.3 `template<int RTYPE, bool LHS_NA, typename LHS_T> int Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::nr [private]`

Definition at line 55 of file `lower_tri.h`.

Referenced by `Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::nrow()`, and `Rcpp::sugar::LowerTri< RTYPE, LHS_NA, LHS_T >::size()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/matrix/lower_tri.h`

## 6.362 Rcpp::lsinfo Struct Reference

### Public Attributes

- `time_t ls_trans`
- `long ls_corr`

### 6.362.1 Detailed Description

Definition at line 329 of file Date.cpp.

### 6.362.2 Member Data Documentation

#### 6.362.2.1 long Rcpp::lsinfo::ls\_corr

Definition at line 331 of file Date.cpp.

Referenced by Rcpp::timesub(), and Rcpp::tzload().

#### 6.362.2.2 time\_t Rcpp::lsinfo::ls\_trans

Definition at line 330 of file Date.cpp.

Referenced by Rcpp::timesub(), and Rcpp::tzload().

The documentation for this struct was generated from the following file:

- [src/Date.cpp](#)

## 6.363 Rcpp::sugar::cbind\_impl::detail::MakeBindableCall< T, is\_container > Struct Template Reference

```
#include <cbind.h>
```

### 6.363.1 Detailed Description

```
template<typename T, bool is_container = has_stored_type<T>::value>  
struct Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, is_container >
```

Definition at line 392 of file cbind.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

## 6.364 Rcpp::sugar::cbind\_impl::detail::MakeBindableCall< Rcpp::Matrix< LGLSXP >, true > Struct Template Reference

```
#include <cbind.h>
```

### Public Types

- enum { [RTYPE](#) = cbind\_sexptype\_traits<stored\_type>::rtype }
- typedef [Rcpp::Matrix< LGLSXP > T](#)
- typedef bool [stored\\_type](#)

### Public Member Functions

- [ContainerBindable< LGLSXP, T > operator\(\)](#) (const T &t) const

#### 6.364.1 Detailed Description

```
template<>  
struct Rcpp::sugar::cbind_impl::detail::MakeBindableCall< Rcpp::Matrix< LGLSXP >, true >
```

Definition at line 409 of file cbind.h.

#### 6.364.2 Member Typedef Documentation

6.364.2.1 typedef bool [Rcpp::sugar::cbind\\_impl::detail::MakeBindableCall< Rcpp::Matrix< LGLSXP >, true >::stored\\_type](#)

Definition at line 411 of file cbind.h.

6.364.2.2 typedef [Rcpp::Matrix<LGLSXP> Rcpp::sugar::cbind\\_impl::detail::MakeBindableCall< Rcpp::Matrix< LGLSXP >, true >::T](#)

Definition at line 410 of file cbind.h.

#### 6.364.3 Member Enumeration Documentation

6.364.3.1 anonymous enum

Enumerator

***RTYPE***

Definition at line 413 of file cbind.h.

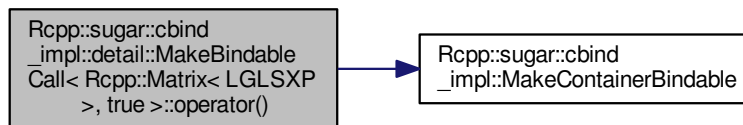
### 6.364.4 Member Function Documentation

#### 6.364.4.1 ContainerBindable<LGLSXP, T> Rcpp::sugar::cbind\_impl::detail::MakeBindableCall< Rcpp::Matrix< LGLSXP >, true >::operator() ( const T & f ) const [inline]

Definition at line 415 of file cbind.h.

References Rcpp::sugar::cbind\_impl::MakeContainerBindable().

Here is the call graph for this function:



The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[cbind.h](#)

### 6.365 Rcpp::sugar::cbind\_impl::detail::MakeBindableCall< Rcpp::Vector< LGLSXP >, true > Struct Template Reference

```
#include <cbind.h>
```

#### Public Types

- enum { [RTYPE](#) = cbind\_sexptype\_traits<stored\_type>::rtype }
- typedef [Rcpp::Vector](#)< LGLSXP > [T](#)
- typedef bool [stored\\_type](#)

#### Public Member Functions

- [ContainerBindable](#)< LGLSXP, T > [operator\(\)](#) (const [T](#) &t) const

### 6.365.1 Detailed Description

```
template<>
struct Rcpp::sugar::cbind_impl::detail::MakeBindableCall< Rcpp::Vector< LGLSXP >, true >
```

Definition at line 421 of file cbind.h.

### 6.365.2 Member Typedef Documentation

6.365.2.1 `typedef bool Rcpp::sugar::cbind_impl::detail::MakeBindableCall< Rcpp::Vector< LGLSXP >, true >::stored_type`

Definition at line 423 of file cbind.h.

6.365.2.2 `typedef Rcpp::Vector<LGLSXP> Rcpp::sugar::cbind_impl::detail::MakeBindableCall< Rcpp::Vector< LGLSXP >, true >::T`

Definition at line 422 of file cbind.h.

### 6.365.3 Member Enumeration Documentation

6.365.3.1 anonymous enum

Enumerator

***RTYPE***

Definition at line 425 of file cbind.h.

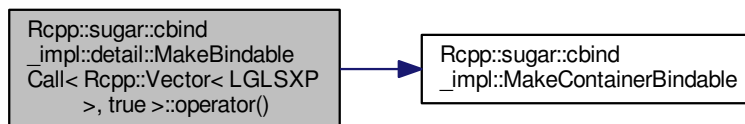
### 6.365.4 Member Function Documentation

6.365.4.1 `ContainerBindable<LGLSXP, T> Rcpp::sugar::cbind_impl::detail::MakeBindableCall< Rcpp::Vector< LGLSXP >, true >::operator()( const T & t ) const [inline]`

Definition at line 427 of file cbind.h.

References `Rcpp::sugar::cbind_impl::MakeContainerBindable()`.

Here is the call graph for this function:



The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

## 6.366 Rcpp::sugar::cbind\_impl::detail::MakeBindableCall< T, false > Struct Template Reference

```
#include <cbind.h>
```

### Public Types

- enum { [RTYPE](#) = cbind\_sexptype\_traits<T>::rtype }

### Public Member Functions

- [ScalarBindable](#)< T > [operator\(\)](#) (const T &t) const

#### 6.366.1 Detailed Description

```
template<typename T>  
struct Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, false >
```

Definition at line 433 of file cbind.h.

#### 6.366.2 Member Enumeration Documentation

6.366.2.1 `template<typename T > anonymous enum`

Enumerator

***RTYPE***

Definition at line 434 of file cbind.h.

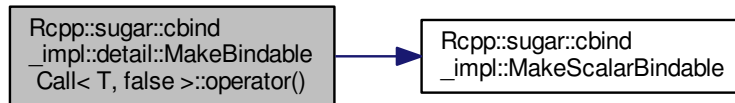
### 6.366.3 Member Function Documentation

6.366.3.1 `template<typename T > ScalarBindable<T> Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, false >::operator()( const T & t ) const [inline]`

Definition at line 436 of file cbind.h.

References `Rcpp::sugar::cbind_impl::MakeScalarBindable()`.

Here is the call graph for this function:



The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

## 6.367 Rcpp::sugar::cbind\_impl::detail::MakeBindableCall< T, true > Struct Template Reference

```
#include <cbind.h>
```

### Public Types

- enum { [RTYPE](#) = `cbind_sexptype_traits<stored_type>::rtype` }
- typedef `cbind_storage_type< cbind_sexptype_traits< typename T::stored_type >::rtype >::type` [stored\\_type](#)

### Public Member Functions

- [ContainerBindable< RTYPE, T > operator\(\)](#) (const T &t) const

### 6.367.1 Detailed Description

```
template<typename T>
struct Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, true >
```

Definition at line 395 of file cbind.h.

## 6.367.2 Member Typedef Documentation

6.367.2.1 `template<typename T > typedef cbind_storage_type< cbind_sexptype_traits<typename T::stored_type>::rtype >::type Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, true >::stored_type`

Definition at line 398 of file cbind.h.

## 6.367.3 Member Enumeration Documentation

6.367.3.1 `template<typename T > anonymous enum`

Enumerator

***RTYPE***

Definition at line 400 of file cbind.h.

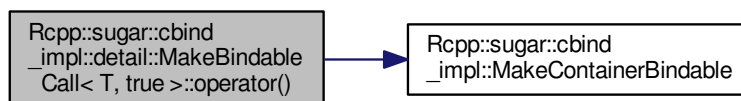
## 6.367.4 Member Function Documentation

6.367.4.1 `template<typename T > ContainerBindable<RTYPE, T> Rcpp::sugar::cbind_impl::detail::MakeBindableCall< T, true >::operator() ( const T & t ) const [inline]`

Definition at line 402 of file cbind.h.

References `Rcpp::sugar::cbind_impl::MakeContainerBindable()`.

Here is the call graph for this function:



The documentation for this struct was generated from the following file:

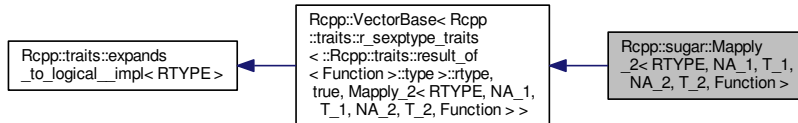
- `inst/include/Rcpp/sugar/functions/cbind.h`



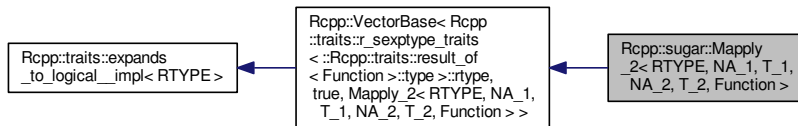
## 6.368 Rcpp::sugar::Mapply\_2< RTYPE, NA\_1, T\_1, NA\_2, T\_2, Function > Class Template Reference

```
#include <mapply_2.h>
```

Inheritance diagram for Rcpp::sugar::Mapply\_2< RTYPE, NA\_1, T\_1, NA\_2, T\_2, Function >:



Collaboration diagram for Rcpp::sugar::Mapply\_2< RTYPE, NA\_1, T\_1, NA\_2, T\_2, Function >:



### Public Types

- typedef `::Rcpp::traits::result_of< Function >::type` `result_type`

### Public Member Functions

- `Mapply_2` (const T\_1 &vec\_1\_, const T\_2 &vec\_2\_, Function fun\_)
- `result_type operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

### Private Attributes

- const T\_1 & `vec_1`
- const T\_2 & `vec_2`
- Function `fun`

### 6.368.1 Detailed Description

```
template<int RTYPE, bool NA_1, typename T_1, bool NA_2, typename T_2, typename Function>
class Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >
```

Definition at line 33 of file mapply\_2.h.

### 6.368.2 Member Typedef Documentation

6.368.2.1 `template<int RTYPE, bool NA_1, typename T_1 , bool NA_2, typename T_2 , typename Function > typedef Rcpp::traits::result_of<Function>::type Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::result_type`

Definition at line 41 of file mapply\_2.h.

### 6.368.3 Constructor & Destructor Documentation

6.368.3.1 `template<int RTYPE, bool NA_1, typename T_1 , bool NA_2, typename T_2 , typename Function > Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::Mapply_2( const T_1 & vec_1, const T_2 & vec_2, Function fun_ ) [inline]`

Definition at line 43 of file mapply\_2.h.

### 6.368.4 Member Function Documentation

6.368.4.1 `template<int RTYPE, bool NA_1, typename T_1 , bool NA_2, typename T_2 , typename Function > result_type Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 46 of file mapply\_2.h.

References `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::fun`, `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::vec_1`, and `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::vec_2`.

6.368.4.2 `template<int RTYPE, bool NA_1, typename T_1 , bool NA_2, typename T_2 , typename Function > R_xlen_t Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::size ( ) const [inline]`

Definition at line 49 of file mapply\_2.h.

References `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::vec_1`.

## 6.368.5 Member Data Documentation

6.368.5.1 `template<int RTYPE, bool NA_1, typename T_1, bool NA_2, typename T_2, typename Function > Function Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::fun` [private]

Definition at line 54 of file `mapply_2.h`.

Referenced by `Rcpp::mapply()`, `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::operator[]()`, `Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >::operator[]()`, and `Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >::operator[]()`.

6.368.5.2 `template<int RTYPE, bool NA_1, typename T_1, bool NA_2, typename T_2, typename Function > const T_1& Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::vec_1` [private]

Definition at line 52 of file `mapply_2.h`.

Referenced by `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::operator[]()`, `Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >::operator[]()`, `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::size()`, and `Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >::size()`.

6.368.5.3 `template<int RTYPE, bool NA_1, typename T_1, bool NA_2, typename T_2, typename Function > const T_2& Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::vec_2` [private]

Definition at line 53 of file `mapply_2.h`.

Referenced by `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::operator[]()`, `Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >::operator[]()`, and `Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >::size()`.

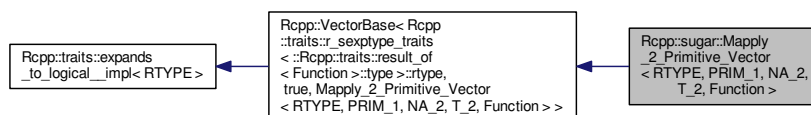
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/mapply/mapply\\_2.h](inst/include/Rcpp/sugar/functions/mapply/mapply_2.h)

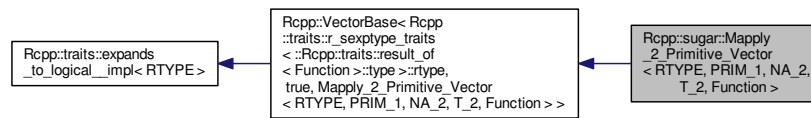
## 6.369 Rcpp::sugar::Mapply\_2\_Primitive\_Vector&lt; RTYPE, PRIM\_1, NA\_2, T\_2, Function &gt; Class Template Reference

```
#include <mapply_2.h>
```

Inheritance diagram for `Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >`:



Collaboration diagram for `Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >`:



## Public Types

- typedef `::Rcpp::traits::result_of< Function >::type` `result_type`

## Public Member Functions

- `Mapply_2_Primitive_Vector` (`PRIM_1 prim_1_`, `const T_2 &vec_2_`, `Function fun_`)
- `result_type operator[]` (`R_xlen_t i`) `const`
- `R_xlen_t size` () `const`

## Private Attributes

- `PRIM_1 prim_1`
- `const T_2 & vec_2`
- `Function fun`

### 6.369.1 Detailed Description

```

template<int RTYPE, typename PRIM_1, bool NA_2, typename T_2, typename Function>
class Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >
  
```

Definition at line 93 of file `mapply_2.h`.

### 6.369.2 Member Typedef Documentation

6.369.2.1 `template<int RTYPE, typename PRIM_1, bool NA_2, typename T_2, typename Function> typedef ::Rcpp::traits::result_of<Function>::type Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >::result_type`

Definition at line 103 of file `mapply_2.h`.

### 6.369.3 Constructor & Destructor Documentation

6.369.3.1 `template<int RTYPE, typename PRIM_1, bool NA_2, typename T_2, typename Function> Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >::Mapply_2_Primitive_Vector ( PRIM_1 prim_1, const T_2 & vec_2, Function fun_ ) [inline]`

Definition at line 105 of file mapply\_2.h.

### 6.369.4 Member Function Documentation

6.369.4.1 `template<int RTYPE, typename PRIM_1, bool NA_2, typename T_2, typename Function> result_type Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 108 of file mapply\_2.h.

References `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::fun`, and `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::vec_2`.

6.369.4.2 `template<int RTYPE, typename PRIM_1, bool NA_2, typename T_2, typename Function> R_xlen_t Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >::size ( ) const [inline]`

Definition at line 111 of file mapply\_2.h.

References `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::vec_2`.

### 6.369.5 Member Data Documentation

6.369.5.1 `template<int RTYPE, typename PRIM_1, bool NA_2, typename T_2, typename Function> Function Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >::fun [private]`

Definition at line 116 of file mapply\_2.h.

6.369.5.2 `template<int RTYPE, typename PRIM_1, bool NA_2, typename T_2, typename Function> PRIM_1 Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >::prim_1 [private]`

Definition at line 114 of file mapply\_2.h.

```
6.369.5.3 template<int RTYPE, typename PRIM_1, bool NA_2, typename T_2, typename Function> const T_2&
Rcpp::sugar::Mapply_2_Primitive_Vector< RTYPE, PRIM_1, NA_2, T_2, Function >::vec_2 [private]
```

Definition at line 115 of file mapply\_2.h.

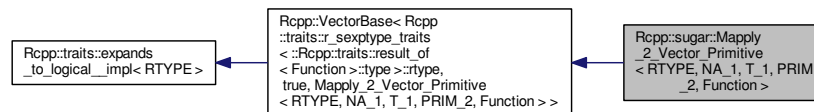
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/mapply/mapply\\_2.h](#)

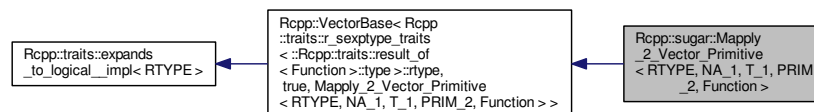
## 6.370 Rcpp::sugar::Mapply\_2\_Vector\_Primitive< RTYPE, NA\_1, T\_1, PRIM\_2, Function > Class Template Reference

```
#include <mapply_2.h>
```

Inheritance diagram for Rcpp::sugar::Mapply\_2\_Vector\_Primitive< RTYPE, NA\_1, T\_1, PRIM\_2, Function >:



Collaboration diagram for Rcpp::sugar::Mapply\_2\_Vector\_Primitive< RTYPE, NA\_1, T\_1, PRIM\_2, Function >:



### Public Types

- typedef `::Rcpp::traits::result_of< Function >::type` `result_type`

### Public Member Functions

- `Mapply_2_Vector_Primitive` (const T\_1 &vec\_1\_, PRIM\_2 prim\_2\_, Function fun\_)
- `result_type operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- const T\_1 & [vec\\_1](#)
- PRIM\_2 [prim\\_2](#)
- [Function fun](#)

### 6.370.1 Detailed Description

```
template<int RTYPE, bool NA_1, typename T_1, typename PRIM_2, typename Function>
class Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >
```

Definition at line 62 of file [mapply\\_2.h](#).

### 6.370.2 Member Typedef Documentation

6.370.2.1 `template<int RTYPE, bool NA_1, typename T_1, typename PRIM_2, typename Function > typedef Rcpp::traits::result_of<Function>::type Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >::result_type`

Definition at line 72 of file [mapply\\_2.h](#).

### 6.370.3 Constructor & Destructor Documentation

6.370.3.1 `template<int RTYPE, bool NA_1, typename T_1, typename PRIM_2, typename Function > Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >::Mapply_2_Vector_Primitive ( const T_1 & vec_1, PRIM_2 prim_2, Function fun_ ) [inline]`

Definition at line 74 of file [mapply\\_2.h](#).

### 6.370.4 Member Function Documentation

6.370.4.1 `template<int RTYPE, bool NA_1, typename T_1, typename PRIM_2, typename Function > result_type Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 77 of file [mapply\\_2.h](#).

References [Rcpp::sugar::Mapply\\_2< RTYPE, NA\\_1, T\\_1, NA\\_2, T\\_2, Function >::fun](#), and [Rcpp::sugar::Mapply\\_2< RTYPE, NA\\_1, T\\_1, NA\\_2, T\\_2, Function >::vec\\_1](#).

6.370.4.2 `template<int RTYPE, bool NA_1, typename T_1, typename PRIM_2, typename Function > R_xlen_t Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >::size ( ) const [inline]`

Definition at line 80 of file `mapply_2.h`.

References `Rcpp::sugar::Mapply_2< RTYPE, NA_1, T_1, NA_2, T_2, Function >::vec_1`.

### 6.370.5 Member Data Documentation

6.370.5.1 `template<int RTYPE, bool NA_1, typename T_1, typename PRIM_2, typename Function > Function Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >::fun [private]`

Definition at line 85 of file `mapply_2.h`.

6.370.5.2 `template<int RTYPE, bool NA_1, typename T_1, typename PRIM_2, typename Function > PRIM_2 Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >::prim_2 [private]`

Definition at line 84 of file `mapply_2.h`.

6.370.5.3 `template<int RTYPE, bool NA_1, typename T_1, typename PRIM_2, typename Function > const T_1& Rcpp::sugar::Mapply_2_Vector_Primitive< RTYPE, NA_1, T_1, PRIM_2, Function >::vec_1 [private]`

Definition at line 83 of file `mapply_2.h`.

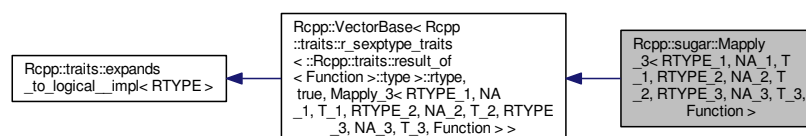
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/mapply/mapply\\_2.h](inst/include/Rcpp/sugar/functions/mapply/mapply_2.h)

## 6.371 Rcpp::sugar::Mapply\_3< RTYPE\_1, NA\_1, T\_1, RTYPE\_2, NA\_2, T\_2, RTYPE\_3, NA\_3, T\_3, Function > Class Template Reference

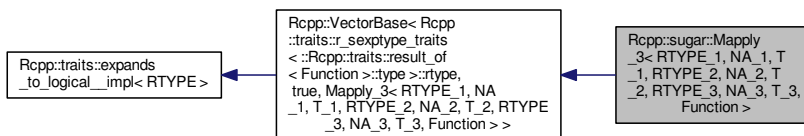
```
#include <mapply_3.h>
```

Inheritance diagram for `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >`:





Collaboration diagram for Rcpp::sugar::Mapply\_3< RTYPE\_1, NA\_1, T\_1, RTYPE\_2, NA\_2, T\_2, RTYPE\_3, NA\_3, T\_3, Function >:



## Public Types

- typedef `::Rcpp::traits::result_of< Function >::type` `result_type`
- typedef `Rcpp::VectorBase< RTYPE_1, NA_1, T_1 >` `VEC_1`
- typedef `Rcpp::VectorBase< RTYPE_2, NA_2, T_2 >` `VEC_2`
- typedef `Rcpp::VectorBase< RTYPE_3, NA_3, T_3 >` `VEC_3`
- typedef `Rcpp::traits::Extractor< RTYPE_1, NA_1, T_1 >::type` `EXT_1`
- typedef `Rcpp::traits::Extractor< RTYPE_2, NA_2, T_2 >::type` `EXT_2`
- typedef `Rcpp::traits::Extractor< RTYPE_3, NA_3, T_3 >::type` `EXT_3`

## Public Member Functions

- `Mapply_3` (const `VEC_1` &vec\_1\_, const `VEC_2` &vec\_2\_, const `VEC_3` &vec\_3\_, `Function` fun\_)
- `result_type operator[]` (`R_xlen_t` i) const
- `R_xlen_t size` () const

## Private Attributes

- const `EXT_1` & `vec_1`
- const `EXT_2` & `vec_2`
- const `EXT_3` & `vec_3`
- `Function` fun

### 6.371.1 Detailed Description

```
template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3,
typename Function>
```

```
class Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >
```

Definition at line 34 of file `mapply_3.h`.

## 6.371.2 Member Typedef Documentation

6.371.2.1 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> typedef Rcpp::traits::Extractor<RTYPE_1,NA_1,T_1>::type Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::EXT_1`

Definition at line 48 of file mapply\_3.h.

6.371.2.2 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> typedef Rcpp::traits::Extractor<RTYPE_2,NA_2,T_2>::type Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::EXT_2`

Definition at line 49 of file mapply\_3.h.

6.371.2.3 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> typedef Rcpp::traits::Extractor<RTYPE_3,NA_3,T_3>::type Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::EXT_3`

Definition at line 50 of file mapply\_3.h.

6.371.2.4 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> typedef ::Rcpp::traits::result_of<Function>::type Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::result_type`

Definition at line 42 of file mapply\_3.h.

6.371.2.5 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> typedef Rcpp::VectorBase<RTYPE_1,NA_1,T_1> Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::VEC_1`

Definition at line 44 of file mapply\_3.h.

6.371.2.6 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> typedef Rcpp::VectorBase<RTYPE_2,NA_2,T_2> Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::VEC_2`

Definition at line 45 of file mapply\_3.h.

6.371.2.7 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> typedef Rcpp::VectorBase<RTYPE_3,NA_3,T_3> Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::VEC_3`

Definition at line 46 of file mapply\_3.h.

### 6.371.3 Constructor & Destructor Documentation

6.371.3.1 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::Mapply_3( const VEC_1 & vec_1, const VEC_2 & vec_2, const VEC_3 & vec_3, Function fun_ ) [inline]`

Definition at line 52 of file mapply\_3.h.

### 6.371.4 Member Function Documentation

6.371.4.1 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> result_type Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 55 of file mapply\_3.h.

References `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::fun`, `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::vec_1`, `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::vec_2`, and `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::vec_3`.

6.371.4.2 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> R_xlen_t Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::size( ) const [inline]`

Definition at line 58 of file mapply\_3.h.

References `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::vec_1`.

### 6.371.5 Member Data Documentation

6.371.5.1 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> Function Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::fun [private]`

Definition at line 64 of file mapply\_3.h.

Referenced by `Rcpp::mapply()`, and `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::operator[]()`.

6.371.5.2 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> const EXT_1& Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::vec_1 [private]`

Definition at line 61 of file `mapply_3.h`.

Referenced by `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::operator[]()`, and `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::size()`.

6.371.5.3 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> const EXT_2& Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::vec_2 [private]`

Definition at line 62 of file `mapply_3.h`.

Referenced by `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::operator[]()`.

6.371.5.4 `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function> const EXT_3& Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::vec_3 [private]`

Definition at line 63 of file `mapply_3.h`.

Referenced by `Rcpp::sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >::operator[]()`.

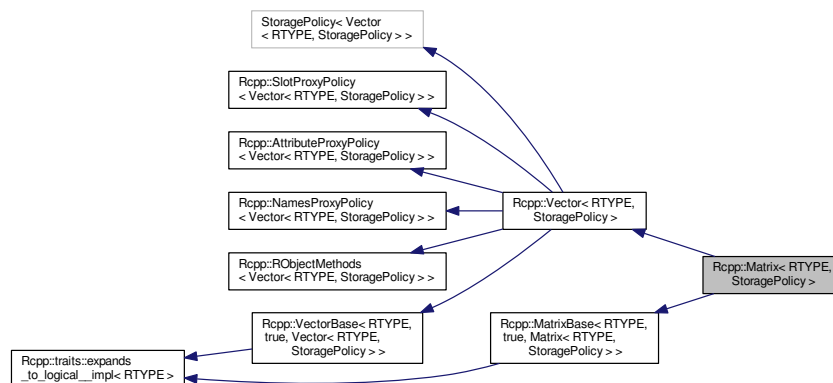
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/mapply/mapply\\_3.h](#)

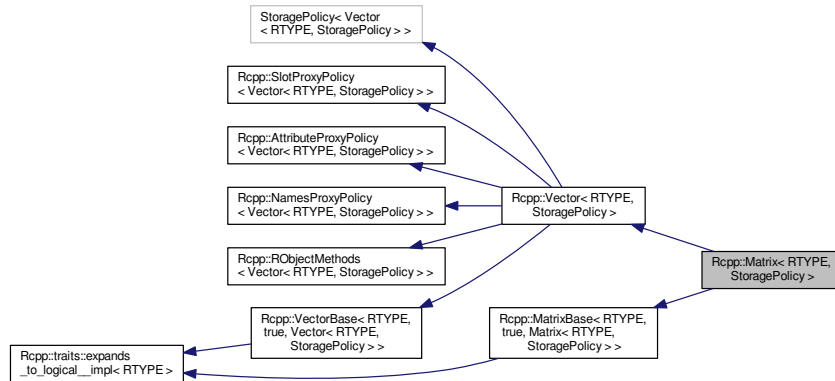
## 6.372 Rcpp::Matrix< RTYPE, StoragePolicy > Class Template Reference

```
#include <Matrix.h>
```

Inheritance diagram for `Rcpp::Matrix< RTYPE, StoragePolicy >`:



Collaboration diagram for Rcpp::Matrix< RTYPE, StoragePolicy > :



## Classes

- struct [can\\_have\\_na](#)
- struct [r\\_type](#)

## Public Types

- typedef [MatrixRow< RTYPE > Row](#)
- typedef [ConstMatrixRow< RTYPE > ConstRow](#)
- typedef [MatrixColumn< RTYPE > Column](#)
- typedef [ConstMatrixColumn< RTYPE > ConstColumn](#)
- typedef [SubMatrix< RTYPE > Sub](#)
- typedef [StoragePolicy< Matrix > Storage](#)
- typedef [Vector< RTYPE, StoragePolicy > VECTOR](#)
- typedef [VECTOR::iterator iterator](#)
- typedef [VECTOR::const\\_iterator const\\_iterator](#)
- typedef [VECTOR::converter\\_type converter\\_type](#)
- typedef [VECTOR::stored\\_type stored\\_type](#)
- typedef [VECTOR::Proxy Proxy](#)
- typedef [VECTOR::const\\_Proxy const\\_Proxy](#)

## Public Member Functions

- [Matrix](#) ()
- [Matrix](#) (SEXP x)
- [Matrix](#) (const [Dimension](#) &dims)
- [Matrix](#) (const int &nrows\_, const int &ncols)
- template<typename Iterator >  
[Matrix](#) (const int &nrows\_, const int &ncols, Iterator start)
- [Matrix](#) (const int &n)

- [Matrix](#) (const [Matrix](#) &other)
- template<bool NA, typename MAT >  
[Matrix](#) (const [MatrixBase](#)< RTYPE, NA, MAT > &other)
- [Matrix](#) (const [SubMatrix](#)< RTYPE > &)
- [Matrix](#) & [operator=](#) (const [Matrix](#) &other)
- [Matrix](#) & [operator=](#) (const [SubMatrix](#)< RTYPE > &)
- [Matrix](#) (const [no\\_init\\_matrix](#) &obj)
- int [ncol](#) () const
- int [nrow](#) () const
- int [cols](#) () const
- int [rows](#) () const
- [Row](#) [row](#) (int i)
- [ConstRow](#) [row](#) (int i) const
- [Column](#) [column](#) (int i)
- [ConstColumn](#) [column](#) (int i) const
- [const\\_iterator](#) [begin](#) () const
- [const\\_iterator](#) [end](#) () const
- [iterator](#) [begin](#) ()
- [iterator](#) [end](#) ()
- template<typename U >  
void [fill\\_diag](#) (const U &u)
- [Proxy operator\[\]](#) (R\_xlen\_t i)
- [const\\_Proxy operator\[\]](#) (R\_xlen\_t i) const
- [Proxy operator\(\)](#) (const size\_t &i, const size\_t &j)
- [const\\_Proxy operator\(\)](#) (const size\_t &i, const size\_t &j) const
- [Proxy at](#) (const size\_t &i, const size\_t &j)
- [const\\_Proxy at](#) (const size\_t &i, const size\_t &j) const
- [Row operator\(\)](#) (int i, [internal::NamedPlaceHolder](#))
- [ConstRow operator\(\)](#) (int i, [internal::NamedPlaceHolder](#)) const
- [Column operator\(\)](#) ([internal::NamedPlaceHolder](#), int i)
- [ConstColumn operator\(\)](#) ([internal::NamedPlaceHolder](#), int i) const
- [Sub operator\(\)](#) (const [Range](#) &row\_range, const [Range](#) &col\_range)
- [Sub operator\(\)](#) ([internal::NamedPlaceHolder](#), const [Range](#) &col\_range)
- [Sub operator\(\)](#) (const [Range](#) &row\_range, [internal::NamedPlaceHolder](#))

## Static Public Member Functions

- template<typename U >  
static [Matrix](#) [diag](#) (int [size](#), const U &diag\_value)

## Private Member Functions

- R\_xlen\_t [offset](#) (const int i, const int j) const
- template<typename U >  
void [fill\\_diag\\_dispatch](#) ([traits::false\\_type](#), const U &u)
- template<typename U >  
void [fill\\_diag\\_dispatch](#) ([traits::true\\_type](#), const U &u)
- template<bool NA, typename MAT >  
void [import\\_matrix\\_expression](#) (const [MatrixBase](#)< RTYPE, NA, MAT > &other, int nr, int nc)

## Private Attributes

- int `nrows`

## Additional Inherited Members

### 6.372.1 Detailed Description

```
template<int RTYPE, template< class > class StoragePolicy = PreserveStorage>  
class Rcpp::Matrix< RTYPE, StoragePolicy >
```

Definition at line 28 of file Matrix.h.

### 6.372.2 Member Typedef Documentation

6.372.2.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef MatrixColumn<RTYPE> Rcpp::Matrix< RTYPE, StoragePolicy >::Column`

Definition at line 36 of file Matrix.h.

6.372.2.2 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef VECTOR::const_iterator Rcpp::Matrix< RTYPE, StoragePolicy >::const_iterator`

Definition at line 43 of file Matrix.h.

6.372.2.3 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef VECTOR::const_Proxy Rcpp::Matrix< RTYPE, StoragePolicy >::const_Proxy`

Definition at line 47 of file Matrix.h.

6.372.2.4 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef ConstMatrixColumn<RTYPE> Rcpp::Matrix< RTYPE, StoragePolicy >::ConstColumn`

Definition at line 37 of file Matrix.h.

6.372.2.5 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef ConstMatrixRow<RTYPE> Rcpp::Matrix< RTYPE, StoragePolicy >::ConstRow`

Definition at line 35 of file Matrix.h.

6.372.2.6 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef VECTOR::converter_type Rcpp::Matrix< RTYPE, StoragePolicy >::converter_type`

Definition at line 44 of file Matrix.h.

6.372.2.7 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef VECTOR::iterator Rcpp::Matrix< RTYPE, StoragePolicy >::iterator`

Definition at line 42 of file Matrix.h.

6.372.2.8 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef VECTOR::Proxy Rcpp::Matrix< RTYPE, StoragePolicy >::Proxy`

Definition at line 46 of file Matrix.h.

6.372.2.9 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef MatrixRow<RTYPE> Rcpp::Matrix< RTYPE, StoragePolicy >::Row`

Definition at line 34 of file Matrix.h.

6.372.2.10 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef StoragePolicy<Matrix> Rcpp::Matrix< RTYPE, StoragePolicy >::Storage`

Definition at line 40 of file Matrix.h.

6.372.2.11 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef VECTOR::stored_type Rcpp::Matrix< RTYPE, StoragePolicy >::stored_type`

Definition at line 45 of file Matrix.h.

6.372.2.12 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef SubMatrix<RTYPE> Rcpp::Matrix< RTYPE, StoragePolicy >::Sub`

Definition at line 38 of file Matrix.h.

6.372.2.13 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef Vector<RTYPE, StoragePolicy> Rcpp::Matrix< RTYPE, StoragePolicy >::VECTOR`

Definition at line 41 of file Matrix.h.



### 6.372.3 Constructor & Destructor Documentation

6.372.3.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix ( ) [inline]`

Definition at line 49 of file Matrix.h.

Referenced by `Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix()`.

6.372.3.2 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix ( SEXP x ) [inline]`

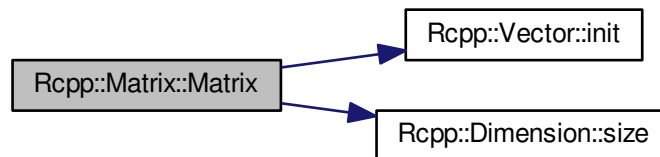
Definition at line 51 of file Matrix.h.

6.372.3.3 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix ( const Dimension & dims ) [inline]`

Definition at line 53 of file Matrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::init()`, and `Rcpp::Dimension::size()`.

Here is the call graph for this function:



6.372.3.4 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix ( const int & nrows_, const int & ncols ) [inline]`

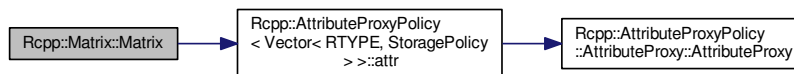
Definition at line 57 of file Matrix.h.

6.372.3.5 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename Iterator > Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix ( const int & nrows_, const int & ncols, Iterator start ) [inline]`

Definition at line 62 of file Matrix.h.

References `Rcpp::AttributeProxyPolicy< Vector< RTYPE, StoragePolicy > >::attr()`.

Here is the call graph for this function:



6.372.3.6 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix ( const int & n ) [inline]`

Definition at line 69 of file Matrix.h.

6.372.3.7 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix ( const Matrix< RTYPE, StoragePolicy > & other ) [inline]`

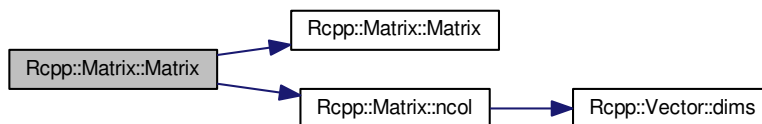
Definition at line 72 of file Matrix.h.

6.372.3.8 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<bool NA, typename MAT > Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix ( const MatrixBase< RTYPE, NA, MAT > & other ) [inline]`

Definition at line 75 of file Matrix.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::nrows`.

Here is the call graph for this function:

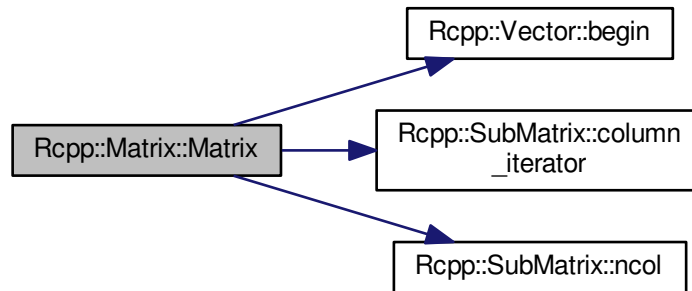


6.372.3.9 `template<int RTYPE, template< class > class StoragePolicy> Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix ( const SubMatrix< RTYPE > & sub )`

Definition at line 59 of file SubMatrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::SubMatrix< RTYPE >::column_iterator()`, `Rcpp::SubMatrix< RTYPE >::ncol()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::nrows`.

Here is the call graph for this function:

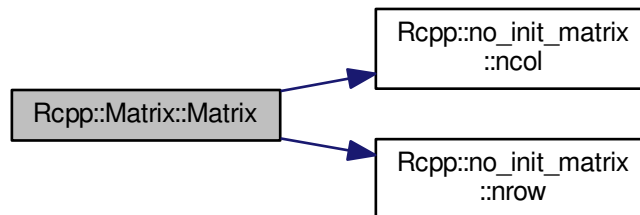


6.372.3.10 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix ( const no_init_matrix & obj ) [inline],[explicit]`

Definition at line 90 of file Matrix.h.

References `Rcpp::no_init_matrix::ncol()`, and `Rcpp::no_init_matrix::nrow()`.

Here is the call graph for this function:



### 6.372.4 Member Function Documentation

6.372.4.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Proxy Rcpp::Matrix< RTYPE, StoragePolicy >::at ( const size_t & i, const size_t & j ) [inline]`

Definition at line 142 of file Matrix.h.

6.372.4.2 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_Proxy Rcpp::Matrix< RTYPE, StoragePolicy >::at ( const size_t & i, const size_t & j ) const [inline]`

Definition at line 145 of file Matrix.h.

6.372.4.3 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_iterator Rcpp::Matrix< RTYPE, StoragePolicy >::begin ( ) const [inline]`

Definition at line 112 of file Matrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`.

Referenced by `fastLm()`.

Here is the call graph for this function:



6.372.4.4 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Matrix< RTYPE, StoragePolicy >::begin ( ) [inline]`

Definition at line 114 of file Matrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`.

Here is the call graph for this function:



6.372.4.5 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> int Rcpp::Matrix< RTYPE, StoragePolicy >::cols ( ) const [inline]`

Definition at line 100 of file Matrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::dims()`.

Here is the call graph for this function:



6.372.4.6 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Column Rcpp::Matrix< RTYPE, StoragePolicy >::column ( int i ) [inline]`

Definition at line 109 of file Matrix.h.

6.372.4.7 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> ConstColumn Rcpp::Matrix< RTYPE, StoragePolicy >::column ( int i ) const [inline]`

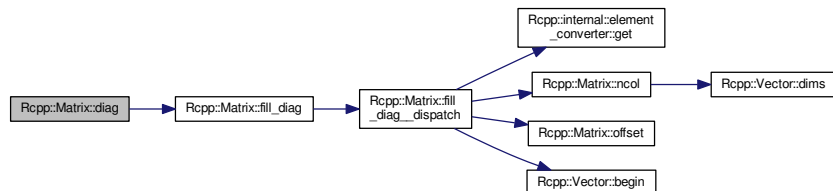
Definition at line 110 of file Matrix.h.

6.372.4.8 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > static Matrix Rcpp::Matrix< RTYPE, StoragePolicy >::diag ( int size, const U & diag_value ) [inline],[static]`

Definition at line 122 of file Matrix.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::fill_diag()`.

Here is the call graph for this function:



6.372.4.9 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_iterator Rcpp::Matrix< RTYPE, StoragePolicy >::end ( ) const [inline]`

Definition at line 113 of file Matrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::end()`.

Here is the call graph for this function:



6.372.4.10 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Matrix< RTYPE, StoragePolicy >::end ( ) [inline]`

Definition at line 115 of file Matrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::end()`.

Here is the call graph for this function:



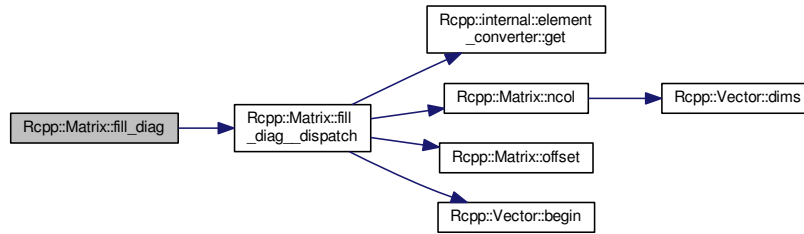
6.372.4.11 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > void Rcpp::Matrix< RTYPE, StoragePolicy >::fill_diag ( const U & u ) [inline]`

Definition at line 118 of file Matrix.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::fill_diag__dispatch()`.

Referenced by `Rcpp::Matrix< RTYPE, StoragePolicy >::diag()`.

Here is the call graph for this function:



```

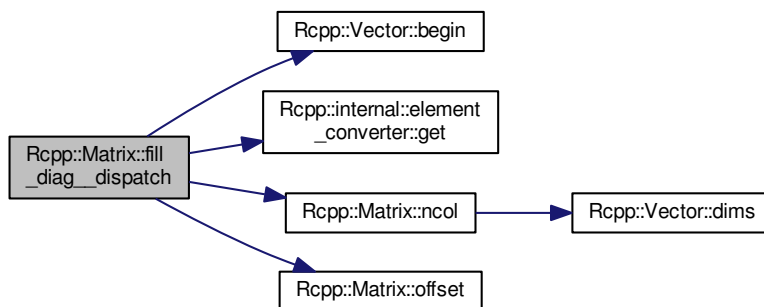
6.372.4.12 template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > void
Rcpp::Matrix< RTYPE, StoragePolicy >::fill_diag_dispatch ( traits::false_type , const U & u ) [inline],
[private]
  
```

Definition at line 175 of file Matrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::internal::element_converter< RTYPE >::get()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::offset()`.

Referenced by `Rcpp::Matrix< RTYPE, StoragePolicy >::fill_diag()`.

Here is the call graph for this function:

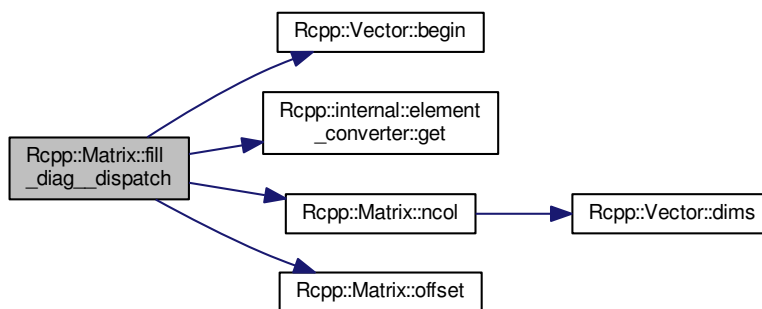


6.372.4.13 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > void Rcpp::Matrix< RTYPE, StoragePolicy >::fill_diag_dispatch ( traits::true_type , const U & u ) [inline], [private]`

Definition at line 187 of file Matrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::internal::element_converter< RTYPE >::get()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::offset()`.

Here is the call graph for this function:

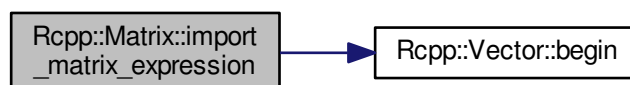


6.372.4.14 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<bool NA, typename MAT > void Rcpp::Matrix< RTYPE, StoragePolicy >::import_matrix_expression ( const MatrixBase< RTYPE, NA, MAT > & other, int nr, int nc ) [inline], [private]`

Definition at line 199 of file Matrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`.

Here is the call graph for this function:





6.372.4.15 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> int Rcpp::Matrix< RTYPE, StoragePolicy >::ncol ( ) const [inline]`

Definition at line 94 of file Matrix.h.

References Rcpp::Vector< RTYPE, StoragePolicy >::dims().

Referenced by Rcpp::internal::as\_vector\_\_impl(), Rcpp::ConstMatrixColumn< RTYPE >::ConstMatrixColumn(), fastLm(), Rcpp::Matrix< RTYPE, StoragePolicy >::fill\_diag\_\_dispatch(), Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix(), Rcpp::MatrixColumn< RTYPE >::MatrixColumn(), Rcpp::Matrix< RTYPE, StoragePolicy >::operator>(), Rcpp::Matrix< RTYPE, StoragePolicy >::operator=(), Rcpp::MatrixRow< RTYPE >::size(), Rcpp::ConstMatrixRow< RTYPE >::size(), and Rcpp::transpose\_impl().

Here is the call graph for this function:



6.372.4.16 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> int Rcpp::Matrix< RTYPE, StoragePolicy >::nrow ( ) const [inline]`

Definition at line 97 of file Matrix.h.

References Rcpp::Matrix< RTYPE, StoragePolicy >::nrows.

Referenced by Rcpp::internal::as\_vector\_\_impl(), Rcpp::ConstMatrixRow< RTYPE >::ConstMatrixRow(), fastLm(), Rcpp::MatrixRow< RTYPE >::MatrixRow(), Rcpp::Matrix< RTYPE, StoragePolicy >::operator>(), Rcpp::Matrix< RTYPE, StoragePolicy >::operator=(), and Rcpp::transpose\_impl().

6.372.4.17 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> R_xlen_t Rcpp::Matrix< RTYPE, StoragePolicy >::offset ( const int i, const int j ) const [inline], [private]`

Definition at line 172 of file Matrix.h.

References Rcpp::Matrix< RTYPE, StoragePolicy >::nrows.

Referenced by Rcpp::Matrix< RTYPE, StoragePolicy >::fill\_diag\_\_dispatch(), and Rcpp::Matrix< RTYPE, StoragePolicy >::operator().

6.372.4.18 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Proxy Rcpp::Matrix< RTYPE, StoragePolicy >::operator() ( const size_t & i, const size_t & j ) [inline]`

Definition at line 135 of file Matrix.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::offset()`.

Here is the call graph for this function:



6.372.4.19 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_Proxy Rcpp::Matrix< RTYPE, StoragePolicy >::operator() ( const size_t & i, const size_t & j ) const [inline]`

Definition at line 138 of file Matrix.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::offset()`.

Here is the call graph for this function:



6.372.4.20 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Row Rcpp::Matrix< RTYPE, StoragePolicy >::operator() ( int i, internal::NamedPlaceHolder ) [inline]`

Definition at line 149 of file Matrix.h.

6.372.4.21 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> ConstRow Rcpp::Matrix< RTYPE, StoragePolicy >::operator() ( int i, internal::NamedPlaceHolder ) const [inline]`

Definition at line 152 of file Matrix.h.

6.372.4.22 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Column Rcpp::Matrix< RTYPE, StoragePolicy >::operator() ( internal::NamedPlaceHolder , int i ) [inline]`

Definition at line 155 of file Matrix.h.

6.372.4.23 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> ConstColumn Rcpp::Matrix< RTYPE, StoragePolicy >::operator() ( internal::NamedPlaceHolder , int i ) const [inline]`

Definition at line 158 of file Matrix.h.

6.372.4.24 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Sub Rcpp::Matrix< RTYPE, StoragePolicy >::operator() ( const Range & row_range, const Range & col_range ) [inline]`

Definition at line 161 of file Matrix.h.

6.372.4.25 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Sub Rcpp::Matrix< RTYPE, StoragePolicy >::operator() ( internal::NamedPlaceHolder , const Range & col_range ) [inline]`

Definition at line 164 of file Matrix.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::nrow()`.

Here is the call graph for this function:

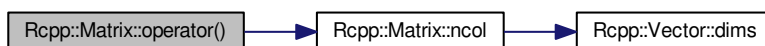


6.372.4.26 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Sub Rcpp::Matrix< RTYPE, StoragePolicy >::operator() ( const Range & row_range, internal::NamedPlaceHolder ) [inline]`

Definition at line 167 of file Matrix.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`.

Here is the call graph for this function:



6.372.4.27 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Matrix& Rcpp::Matrix< RTYPE, StoragePolicy >::operator=( const Matrix< RTYPE, StoragePolicy > & other ) [inline]`

Definition at line 81 of file Matrix.h.

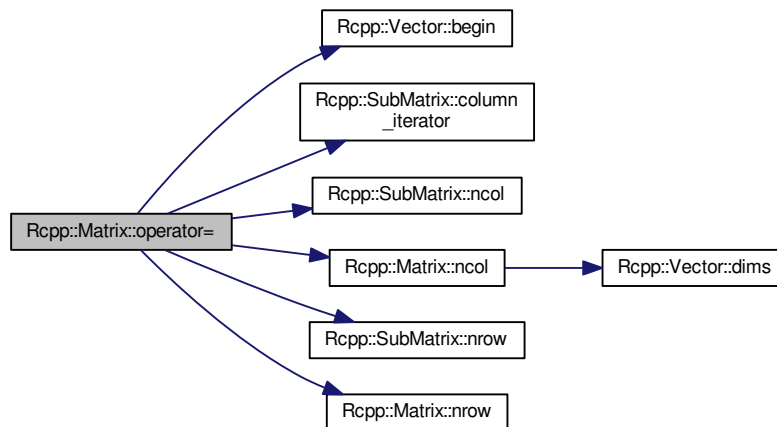
References `Rcpp::Matrix< RTYPE, StoragePolicy >::nrows`.

6.372.4.28 `template<int RTYPE, template< class > class StoragePolicy> Matrix< RTYPE, StoragePolicy > & Rcpp::Matrix< RTYPE, StoragePolicy >::operator=( const SubMatrix< RTYPE > & sub )`

Definition at line 72 of file SubMatrix.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::SubMatrix< RTYPE >::column_iterator()`, `Rcpp::SubMatrix< RTYPE >::ncol()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`, `Rcpp::SubMatrix< RTYPE >::nrow()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::nrow()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::nrows`.

Here is the call graph for this function:



6.372.4.29 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Proxy Rcpp::Matrix< RTYPE, StoragePolicy >::operator[]( R_xlen_t i ) [inline]`

Definition at line 128 of file Matrix.h.

6.372.4.30 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_Proxy Rcpp::Matrix< RTYPE, StoragePolicy >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 131 of file Matrix.h.

6.372.4.31 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Row Rcpp::Matrix< RTYPE, StoragePolicy >::row ( int i ) [inline]`

Definition at line 107 of file Matrix.h.

Referenced by Rcpp::operator<<().

6.372.4.32 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> ConstRow Rcpp::Matrix< RTYPE, StoragePolicy >::row ( int i ) const [inline]`

Definition at line 108 of file Matrix.h.

6.372.4.33 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> int Rcpp::Matrix< RTYPE, StoragePolicy >::rows ( ) const [inline]`

Definition at line 103 of file Matrix.h.

References Rcpp::Matrix< RTYPE, StoragePolicy >::nrows.

Referenced by Rcpp::operator<<().

## 6.372.5 Member Data Documentation

6.372.5.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> int Rcpp::Matrix< RTYPE, StoragePolicy >::nrows [private]`

Definition at line 29 of file Matrix.h.

Referenced by Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix(), Rcpp::Matrix< RTYPE, StoragePolicy >::nrow(), Rcpp::Matrix< RTYPE, StoragePolicy >::offset(), Rcpp::Matrix< RTYPE, StoragePolicy >::operator=(), and Rcpp::Matrix< RTYPE, StoragePolicy >::rows().

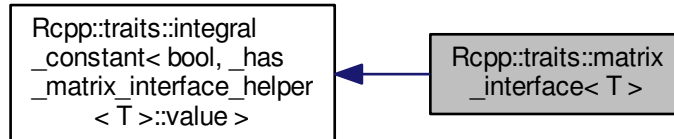
The documentation for this class was generated from the following files:

- inst/include/Rcpp/vector/[Matrix.h](#)
- inst/include/Rcpp/vector/[SubMatrix.h](#)

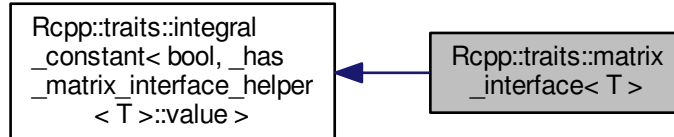
## 6.373 Rcpp::traits::matrix\_interface< T > Struct Template Reference

```
#include <matrix_interface.h>
```

Inheritance diagram for Rcpp::traits::matrix\_interface< T >:



Collaboration diagram for Rcpp::traits::matrix\_interface< T >:



### Additional Inherited Members

#### 6.373.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::matrix_interface< T >
```

Definition at line 46 of file matrix\_interface.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/matrix\_interface.h

## 6.374 Rcpp::sugar::cbind\_impl::detail::matrix\_return< T, is\_container > Struct Template Reference

```
#include <cbind.h>
```

### 6.374.1 Detailed Description

```
template<typename T, bool is_container = has_stored_type<T>::value>  
struct Rcpp::sugar::cbind_impl::detail::matrix_return< T, is_container >
```

Definition at line 463 of file cbind.h.

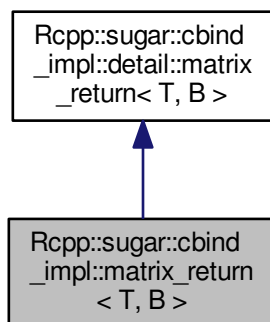
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

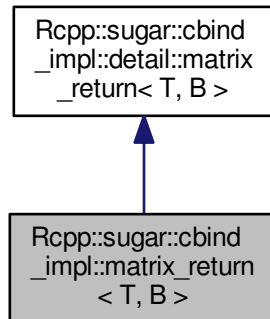
## 6.375 Rcpp::sugar::cbind\_impl::matrix\_return< T, B > Struct Template Reference

```
#include <cbind.h>
```

Inheritance diagram for Rcpp::sugar::cbind\_impl::matrix\_return< T, B >:



Collaboration diagram for `Rcpp::sugar::cbind_impl::matrix_return< T, B >`:



### 6.375.1 Detailed Description

```
template<typename T, bool B = detail::has_stored_type<T>::value>
struct Rcpp::sugar::cbind_impl::matrix_return< T, B >
```

Definition at line 501 of file `cbind.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

### 6.376 `Rcpp::sugar::cbind_impl::detail::matrix_return< bool, false >` Struct Template Reference

```
#include <cbind.h>
```

#### Public Types

- typedef [Rcpp::Matrix< LGLSXP >](#) `type`

### 6.376.1 Detailed Description

```
template<>
struct Rcpp::sugar::cbind_impl::detail::matrix_return< bool, false >
```

Definition at line 488 of file `cbind.h`.



## 6.376.2 Member Typedef Documentation

### 6.376.2.1 typedef Rcpp::Matrix<LGLSXP> Rcpp::sugar::cbind\_impl::detail::matrix\_return< bool, false >::type

Definition at line 489 of file cbind.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[cbind.h](#)

## 6.377 Rcpp::sugar::cbind\_impl::detail::matrix\_return< Rcpp::Matrix< LGLSXP >, true > Struct Template Reference

```
#include <cbind.h>
```

### Public Types

- typedef [Rcpp::Matrix< LGLSXP >](#) type

## 6.377.1 Detailed Description

```
template<>  
struct Rcpp::sugar::cbind_impl::detail::matrix_return< Rcpp::Matrix< LGLSXP >, true >
```

Definition at line 478 of file cbind.h.

## 6.377.2 Member Typedef Documentation

### 6.377.2.1 typedef Rcpp::Matrix<LGLSXP> Rcpp::sugar::cbind\_impl::detail::matrix\_return< Rcpp::Matrix< LGLSXP >, true >::type

Definition at line 479 of file cbind.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[cbind.h](#)

## 6.378 Rcpp::sugar::cbind\_impl::detail::matrix\_return< Rcpp::Vector< LGLSXP >, true > Struct Template Reference

```
#include <cbind.h>
```

## Public Types

- typedef [Rcpp::Matrix](#)< LGLSXP > type

### 6.378.1 Detailed Description

```
template<>
struct Rcpp::sugar::cbind_impl::detail::matrix_return< Rcpp::Vector< LGLSXP >, true >
```

Definition at line 483 of file cbind.h.

### 6.378.2 Member Typedef Documentation

6.378.2.1 typedef [Rcpp::Matrix](#)<LGLSXP> [Rcpp::sugar::cbind\\_impl::detail::matrix\\_return](#)< [Rcpp::Vector](#)< LGLSXP >, true >::type

Definition at line 484 of file cbind.h.

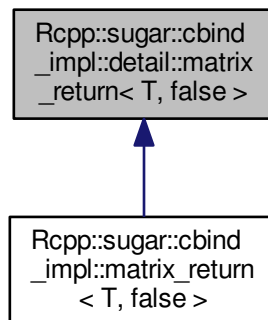
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[cbind.h](#)

## 6.379 [Rcpp::sugar::cbind\\_impl::detail::matrix\\_return](#)< T, false > Struct Template Reference

```
#include <cbind.h>
```

Inheritance diagram for [Rcpp::sugar::cbind\\_impl::detail::matrix\\_return](#)< T, false >:



## Public Types

- enum { [RTYPE](#) = cbind\_sexptype\_traits<T>::rtype }
- typedef [Rcpp::Matrix< RTYPE >](#) type

### 6.379.1 Detailed Description

```
template<typename T>  
struct Rcpp::sugar::cbind_impl::detail::matrix_return< T, false >
```

Definition at line 493 of file cbind.h.

### 6.379.2 Member Typedef Documentation

6.379.2.1 `template<typename T > typedef Rcpp::Matrix<RTYPE> Rcpp::sugar::cbind_impl::detail::matrix_return< T, false >::type`

Definition at line 495 of file cbind.h.

### 6.379.3 Member Enumeration Documentation

6.379.3.1 `template<typename T > anonymous enum`

Enumerator

***RTYPE***

Definition at line 494 of file cbind.h.

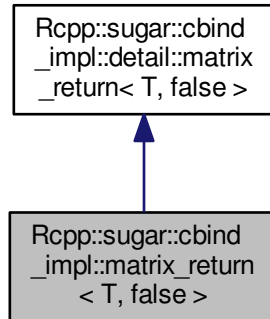
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[cbind.h](#)

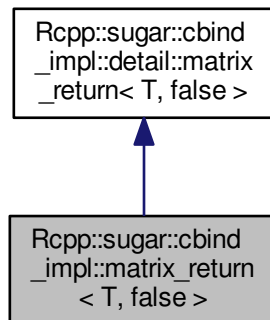
## 6.380 Rcpp::sugar::cbind\_impl::matrix\_return< T, false > Struct Template Reference

```
#include <cbind.h>
```

Inheritance diagram for Rcpp::sugar::cbind\_impl::matrix\_return< T, false >:



Collaboration diagram for Rcpp::sugar::cbind\_impl::matrix\_return< T, false >:



### Additional Inherited Members

#### 6.380.1 Detailed Description

```
template<typename T>
struct Rcpp::sugar::cbind_impl::detail::matrix_return< T, false >
```

Definition at line 505 of file cbind.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/cbind.h](#)

## 6.381 Rcpp::sugar::cbind\_impl::detail::matrix\_return< T, true > Struct Template Reference

```
#include <cbind.h>
```

### Public Types

- enum { [RTYPE](#) = [cbind\\_sexptype\\_traits<stored\\_type>::rtype](#) }
- typedef [cbind\\_storage\\_type< cbind\\_sexptype\\_traits< typename T::stored\\_type >::rtype >::type stored\\_type](#)
- typedef [Rcpp::Matrix< RTYPE > type](#)

### 6.381.1 Detailed Description

```
template<typename T>
struct Rcpp::sugar::cbind_impl::detail::matrix_return< T, true >
```

Definition at line 466 of file cbind.h.

### 6.381.2 Member Typedef Documentation

6.381.2.1 `template<typename T > typedef cbind\_storage\_type< cbind\_sexptype\_traits<typename T::stored\_type>::rtype >::type Rcpp::sugar::cbind\_impl::detail::matrix\_return< T, true >::stored\_type`

Definition at line 469 of file cbind.h.

6.381.2.2 `template<typename T > typedef Rcpp::Matrix<RTYPE> Rcpp::sugar::cbind\_impl::detail::matrix\_return< T, true >::type`

Definition at line 472 of file cbind.h.

### 6.381.3 Member Enumeration Documentation

#### 6.381.3.1 `template<typename T > anonymous enum`

Enumerator

***RTYPE***

Definition at line 471 of file `cbind.h`.

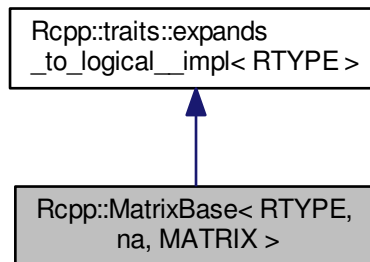
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/sugar/functions/cbind.h`

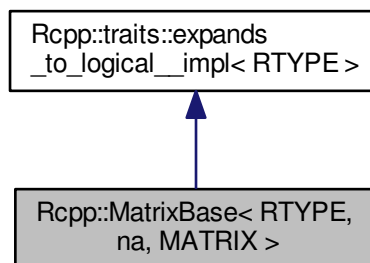
## 6.382 `Rcpp::MatrixBase< RTYPE, na, MATRIX >` Class Template Reference

```
#include <MatrixBase.h>
```

Inheritance diagram for `Rcpp::MatrixBase< RTYPE, na, MATRIX >`:



Collaboration diagram for `Rcpp::MatrixBase< RTYPE, na, MATRIX >`:



## Classes

- struct [can\\_have\\_na](#)
- class [iterator](#)
- struct [r\\_matrix\\_interface](#)
- struct [r\\_type](#)

## Public Types

- typedef [traits::storage\\_type](#)< RTYPE >::type [stored\\_type](#)

## Public Member Functions

- MATRIX & [get\\_ref](#) ()
- [stored\\_type operator\(\)](#) (int i, int j) const
- R\_xlen\_t [size](#) () const
- R\_xlen\_t [nrow](#) () const
- R\_xlen\_t [ncol](#) () const
- [iterator begin](#) () const
- [iterator end](#) () const

### 6.382.1 Detailed Description

```
template<int RTYPE, bool na, typename MATRIX>
class Rcpp::MatrixBase< RTYPE, na, MATRIX >
```

a base class for vectors, modelled after the CRTP

Definition at line 31 of file MatrixBase.h.

### 6.382.2 Member Typedef Documentation

6.382.2.1 `template<int RTYPE, bool na, typename MATRIX> typedef traits::storage_type<RTYPE>::type Rcpp::MatrixBase< RTYPE, na, MATRIX >::stored_type`

Definition at line 36 of file MatrixBase.h.

### 6.382.3 Member Function Documentation

6.382.3.1 `template<int RTYPE, bool na, typename MATRIX> iterator Rcpp::MatrixBase< RTYPE, na, MATRIX >::begin ( ) const [inline]`

Definition at line 158 of file MatrixBase.h.

6.382.3.2 `template<int RTYPE, bool na, typename MATRIX> iterator Rcpp::MatrixBase< RTYPE, na, MATRIX >::end ( )`  
`const [inline]`

Definition at line 159 of file MatrixBase.h.

6.382.3.3 `template<int RTYPE, bool na, typename MATRIX> MATRIX& Rcpp::MatrixBase< RTYPE, na, MATRIX >::get_ref ( )`  
`[inline]`

Definition at line 38 of file MatrixBase.h.

Referenced by `Rcpp::internal::as_vector__impl()`.

6.382.3.4 `template<int RTYPE, bool na, typename MATRIX> R_xlen_t Rcpp::MatrixBase< RTYPE, na, MATRIX >::ncol ( )`  
`const [inline]`

Definition at line 48 of file MatrixBase.h.

Referenced by `Rcpp::sugar::RowSumsImpl< RTYPE, false, T, false >::get()`, `Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::ColSumsImpl< RTYPE, false, T, false >::get()`, `Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::RowMeansImpl< RTYPE, false, T, false >::get()`, `Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::ColMeansImpl< RTYPE, false, T, false >::get()`, and `Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >::get()`.

6.382.3.5 `template<int RTYPE, bool na, typename MATRIX> R_xlen_t Rcpp::MatrixBase< RTYPE, na, MATRIX >::nrow ( )`  
`const [inline]`

Definition at line 47 of file MatrixBase.h.

Referenced by `Rcpp::sugar::RowSumsImpl< RTYPE, false, T, false >::get()`, `Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::ColSumsImpl< RTYPE, false, T, false >::get()`, `Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::RowMeansImpl< RTYPE, false, T, false >::get()`, `Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >::get()`, `Rcpp::sugar::ColMeansImpl< RTYPE, false, T, false >::get()`, and `Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >::get()`.

6.382.3.6 `template<int RTYPE, bool na, typename MATRIX> stored_type Rcpp::MatrixBase< RTYPE, na, MATRIX >::operator() ( int i, int j ) const [inline]`

Definition at line 42 of file MatrixBase.h.

6.382.3.7 `template<int RTYPE, bool na, typename MATRIX> R_xlen_t Rcpp::MatrixBase< RTYPE, na, MATRIX >::size ( )`  
`const [inline]`

Definition at line 46 of file MatrixBase.h.

Referenced by `Rcpp::MatrixBase< RTYPE, NA, T >::end()`.

The documentation for this class was generated from the following file:

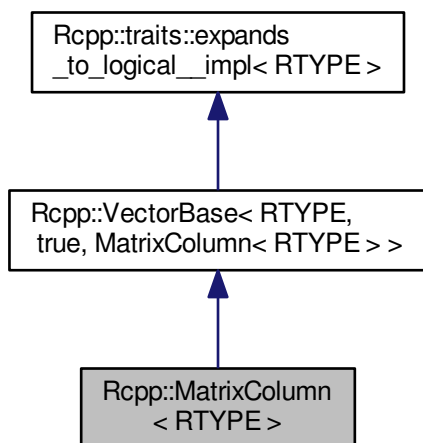
- `inst/include/Rcpp/vector/MatrixBase.h`



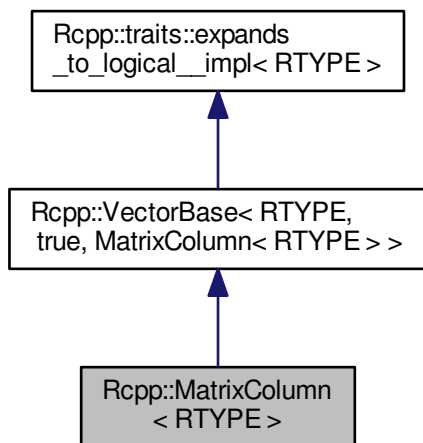
## 6.383 Rcpp::MatrixColumn< RTYPE > Class Template Reference

```
#include <MatrixColumn.h>
```

Inheritance diagram for Rcpp::MatrixColumn< RTYPE >:



Collaboration diagram for Rcpp::MatrixColumn< RTYPE >:



## Public Types

- typedef [Matrix](#)< RTYPE > [MATRIX](#)
- typedef [MATRIX::Proxy](#) [Proxy](#)
- typedef [MATRIX::const\\_Proxy](#) [const\\_Proxy](#)
- typedef [MATRIX::value\\_type](#) [value\\_type](#)
- typedef [MATRIX::iterator](#) [iterator](#)
- typedef [MATRIX::const\\_iterator](#) [const\\_iterator](#)

## Public Member Functions

- [MatrixColumn](#) ([MATRIX](#) &parent, int i)
- [MatrixColumn](#) (const [MATRIX](#) &parent, int i)
- [MatrixColumn](#) (const [MatrixColumn](#) &other)
- template<int RT, bool NA, typename T >  
[MatrixColumn](#) & operator= (const [Rcpp::VectorBase](#)< RT, NA, T > &rhs)
- [MatrixColumn](#) & operator= (const [MatrixColumn](#) &rhs)
- [Proxy operator\[\]](#) (int i)
- [const\\_Proxy operator\[\]](#) (int i) const
- [iterator begin](#) ()
- [const\\_iterator begin](#) () const
- [iterator end](#) ()
- [const\\_iterator end](#) () const
- int [size](#) () const

## Private Attributes

- const int [n](#)
- [iterator start](#)
- [const\\_iterator const\\_start](#)

### 6.383.1 Detailed Description

```
template<int RTYPE>
class Rcpp::MatrixColumn< RTYPE >
```

Definition at line 28 of file [MatrixColumn.h](#).

### 6.383.2 Member Typedef Documentation

6.383.2.1 template<int RTYPE> typedef [MATRIX::const\\_iterator](#) [Rcpp::MatrixColumn](#)< RTYPE >::[const\\_iterator](#)

Definition at line 35 of file [MatrixColumn.h](#).

6.383.2.2 `template<int RTYPE> typedef MATRIX::const_Proxy Rcpp::MatrixColumn< RTYPE >::const_Proxy`

Definition at line 32 of file MatrixColumn.h.

6.383.2.3 `template<int RTYPE> typedef MATRIX::iterator Rcpp::MatrixColumn< RTYPE >::iterator`

Definition at line 34 of file MatrixColumn.h.

6.383.2.4 `template<int RTYPE> typedef Matrix<RTYPE> Rcpp::MatrixColumn< RTYPE >::MATRIX`

Definition at line 30 of file MatrixColumn.h.

6.383.2.5 `template<int RTYPE> typedef MATRIX::Proxy Rcpp::MatrixColumn< RTYPE >::Proxy`

Definition at line 31 of file MatrixColumn.h.

6.383.2.6 `template<int RTYPE> typedef MATRIX::value_type Rcpp::MatrixColumn< RTYPE >::value_type`

Definition at line 33 of file MatrixColumn.h.

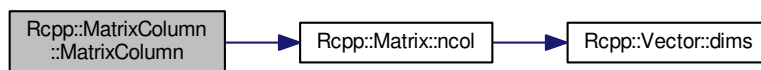
### 6.383.3 Constructor & Destructor Documentation

6.383.3.1 `template<int RTYPE> Rcpp::MatrixColumn< RTYPE >::MatrixColumn ( MATRIX & parent, int i )  
[inline]`

Definition at line 37 of file MatrixColumn.h.

References Rcpp::Matrix< RTYPE, StoragePolicy >::ncol().

Here is the call graph for this function:



6.383.3.2 `template<int RTYPE> Rcpp::MatrixColumn< RTYPE >::MatrixColumn ( const MATRIX & parent, int i )`  
`[inline]`

Definition at line 45 of file MatrixColumn.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`.

Here is the call graph for this function:



6.383.3.3 `template<int RTYPE> Rcpp::MatrixColumn< RTYPE >::MatrixColumn ( const MatrixColumn< RTYPE > & other )`  
`[inline]`

Definition at line 53 of file MatrixColumn.h.

## 6.383.4 Member Function Documentation

6.383.4.1 `template<int RTYPE> iterator Rcpp::MatrixColumn< RTYPE >::begin ( )`  
`[inline]`

Definition at line 79 of file MatrixColumn.h.

References `Rcpp::MatrixColumn< RTYPE >::start`.

6.383.4.2 `template<int RTYPE> const_iterator Rcpp::MatrixColumn< RTYPE >::begin ( ) const`  
`[inline]`

Definition at line 83 of file MatrixColumn.h.

References `Rcpp::MatrixColumn< RTYPE >::const_start`.

6.383.4.3 `template<int RTYPE> iterator Rcpp::MatrixColumn< RTYPE >::end ( )`  
`[inline]`

Definition at line 87 of file MatrixColumn.h.

References `Rcpp::MatrixColumn< RTYPE >::n`, and `Rcpp::MatrixColumn< RTYPE >::start`.

6.383.4.4 `template<int RTYPE> const_iterator Rcpp::MatrixColumn< RTYPE >::end ( ) const [inline]`

Definition at line 91 of file MatrixColumn.h.

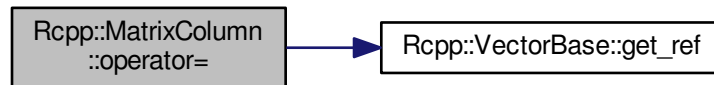
References Rcpp::MatrixColumn< RTYPE >::const\_start, and Rcpp::MatrixColumn< RTYPE >::n.

6.383.4.5 `template<int RTYPE> template<int RT, bool NA, typename T > MatrixColumn& Rcpp::MatrixColumn< RTYPE >::operator= ( const Rcpp::VectorBase< RT, NA, T > & rhs ) [inline]`

Definition at line 59 of file MatrixColumn.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::get\_ref(), RCPP\_LOOP\_UNROLL, and Rcpp::MatrixColumn< RTYPE >::start.

Here is the call graph for this function:



6.383.4.6 `template<int RTYPE> MatrixColumn& Rcpp::MatrixColumn< RTYPE >::operator= ( const MatrixColumn< RTYPE > & rhs ) [inline]`

Definition at line 65 of file MatrixColumn.h.

References RCPP\_LOOP\_UNROLL, and Rcpp::MatrixColumn< RTYPE >::start.

6.383.4.7 `template<int RTYPE> Proxy Rcpp::MatrixColumn< RTYPE >::operator[( int i ) [inline]`

Definition at line 71 of file MatrixColumn.h.

References Rcpp::MatrixColumn< RTYPE >::start.

6.383.4.8 `template<int RTYPE> const_Proxy Rcpp::MatrixColumn< RTYPE >::operator[( int i ) const [inline]`

Definition at line 75 of file MatrixColumn.h.

References Rcpp::MatrixColumn< RTYPE >::const\_start.

**6.383.4.9** `template<int RTYPE> int Rcpp::MatrixColumn< RTYPE >::size ( ) const [inline]`

Definition at line 95 of file MatrixColumn.h.

References Rcpp::MatrixColumn< RTYPE >::n.

## 6.383.5 Member Data Documentation

**6.383.5.1** `template<int RTYPE> const_iterator Rcpp::MatrixColumn< RTYPE >::const_start [private]`

Definition at line 102 of file MatrixColumn.h.

Referenced by Rcpp::MatrixColumn< RTYPE >::begin(), Rcpp::ConstMatrixColumn< RTYPE >::begin(), Rcpp::MatrixColumn< RTYPE >::end(), Rcpp::ConstMatrixColumn< RTYPE >::end(), Rcpp::MatrixColumn< RTYPE >::operator[](), and Rcpp::ConstMatrixColumn< RTYPE >::operator[]().

**6.383.5.2** `template<int RTYPE> const int Rcpp::MatrixColumn< RTYPE >::n [private]`

Definition at line 100 of file MatrixColumn.h.

Referenced by Rcpp::MatrixColumn< RTYPE >::end(), Rcpp::ConstMatrixColumn< RTYPE >::end(), Rcpp::MatrixColumn< RTYPE >::size(), and Rcpp::ConstMatrixColumn< RTYPE >::size().

**6.383.5.3** `template<int RTYPE> iterator Rcpp::MatrixColumn< RTYPE >::start [private]`

Definition at line 101 of file MatrixColumn.h.

Referenced by Rcpp::MatrixColumn< RTYPE >::begin(), Rcpp::MatrixColumn< RTYPE >::end(), Rcpp::MatrixColumn< RTYPE >::operator=(), and Rcpp::MatrixColumn< RTYPE >::operator[]().

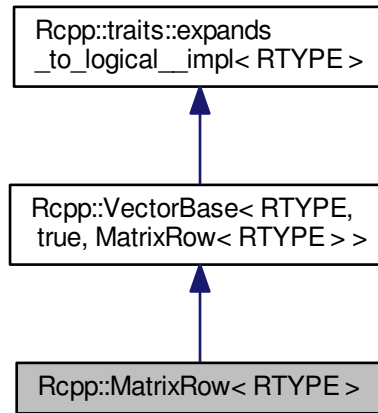
The documentation for this class was generated from the following file:

- inst/include/Rcpp/vector/[MatrixColumn.h](#)

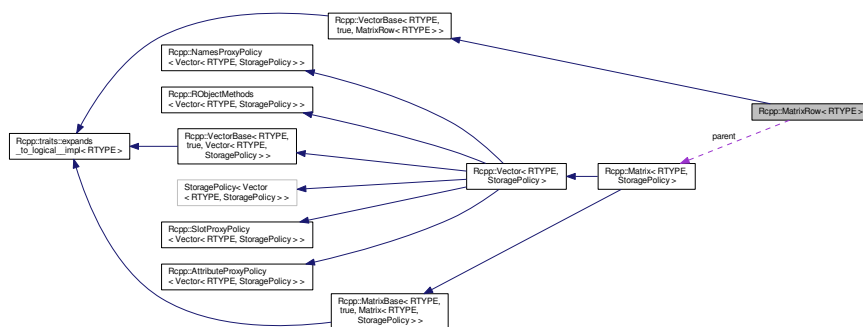
## 6.384 Rcpp::MatrixRow&lt; RTYPE &gt; Class Template Reference

```
#include <MatrixRow.h>
```

Inheritance diagram for Rcpp::MatrixRow< RTYPE > :



Collaboration diagram for Rcpp::MatrixRow< RTYPE > :



## Classes

- class [iterator](#)

## Public Types

- typedef [Matrix](#)< RTYPE > [MATRIX](#)
- typedef [MATRIX::Proxy](#) Proxy
- typedef [MATRIX::Proxy](#) reference
- typedef [MATRIX::const\\_Proxy](#) const\_reference
- typedef [MATRIX::value\\_type](#) value\_type

## Public Member Functions

- [MatrixRow](#) ([MATRIX](#) &object, int i)
- [MatrixRow](#) (const [MatrixRow](#) &other)
- template<int RT, bool NA, typename T >  
[MatrixRow](#) & operator= (const [Rcpp::VectorBase](#)< RT, NA, T > &rhs)
- [MatrixRow](#) & operator= (const [MatrixRow](#) &rhs)
- [reference operator\[\]](#) (int i)
- [reference operator\[\]](#) (int i) const
- [iterator begin](#) ()
- [iterator end](#) ()
- [iterator begin](#) () const
- [iterator end](#) () const
- int [size](#) () const

## Private Member Functions

- int [get\\_parent\\_index](#) (int i) const

## Private Attributes

- [MATRIX](#) & parent
- [MATRIX::iterator](#) start
- int [parent\\_nrow](#)
- int [row](#)

### 6.384.1 Detailed Description

```
template<int RTYPE>
class Rcpp::MatrixRow< RTYPE >
```

Definition at line 28 of file [MatrixRow.h](#).

### 6.384.2 Member Typedef Documentation

6.384.2.1 template<int RTYPE> typedef [MATRIX::const\\_Proxy](#) [Rcpp::MatrixRow](#)< RTYPE >::const\_reference

Definition at line 33 of file [MatrixRow.h](#).



6.384.2.2 `template<int RTYPE> typedef Matrix<RTYPE> Rcpp::MatrixRow< RTYPE >::MATRIX`

Definition at line 30 of file MatrixRow.h.

6.384.2.3 `template<int RTYPE> typedef MATRIX::Proxy Rcpp::MatrixRow< RTYPE >::Proxy`

Definition at line 31 of file MatrixRow.h.

6.384.2.4 `template<int RTYPE> typedef MATRIX::Proxy Rcpp::MatrixRow< RTYPE >::reference`

Definition at line 32 of file MatrixRow.h.

6.384.2.5 `template<int RTYPE> typedef MATRIX::value_type Rcpp::MatrixRow< RTYPE >::value_type`

Definition at line 34 of file MatrixRow.h.

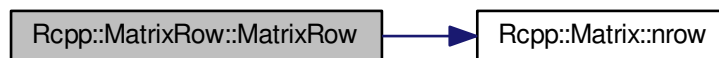
### 6.384.3 Constructor & Destructor Documentation

6.384.3.1 `template<int RTYPE> Rcpp::MatrixRow< RTYPE >::MatrixRow ( MATRIX & object, int i ) [inline]`

Definition at line 104 of file MatrixRow.h.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::nrow()`, and `Rcpp::MatrixRow< RTYPE >::parent`.

Here is the call graph for this function:



6.384.3.2 `template<int RTYPE> Rcpp::MatrixRow< RTYPE >::MatrixRow ( const MatrixRow< RTYPE > & other ) [inline]`

Definition at line 113 of file MatrixRow.h.

## 6.384.4 Member Function Documentation

### 6.384.4.1 `template<int RTYPE> iterator Rcpp::MatrixRow< RTYPE >::begin ( ) [inline]`

Definition at line 142 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::iterator()`.

Referenced by `Rcpp::operator<<()`.

Here is the call graph for this function:



### 6.384.4.2 `template<int RTYPE> iterator Rcpp::MatrixRow< RTYPE >::begin ( ) const [inline]`

Definition at line 150 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::iterator()`.

Here is the call graph for this function:

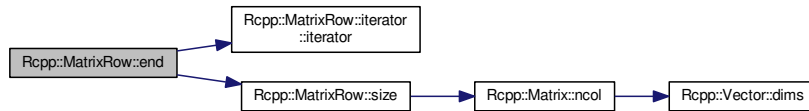


6.384.4.3 `template<int RTYPE> iterator Rcpp::MatrixRow< RTYPE >::end ( ) [inline]`

Definition at line 146 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::iterator()`, and `Rcpp::MatrixRow< RTYPE >::size()`.

Here is the call graph for this function:

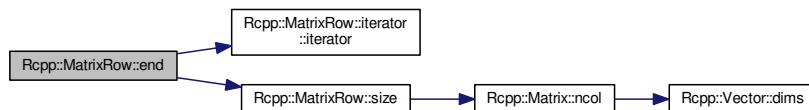


6.384.4.4 `template<int RTYPE> iterator Rcpp::MatrixRow< RTYPE >::end ( ) const [inline]`

Definition at line 154 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::iterator::iterator()`, and `Rcpp::MatrixRow< RTYPE >::size()`.

Here is the call graph for this function:



6.384.4.5 `template<int RTYPE> int Rcpp::MatrixRow< RTYPE >::get_parent_index ( int i ) const [inline], [private]`

Definition at line 168 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::parent_nrow`, and `RCPP_DEBUG_4`.

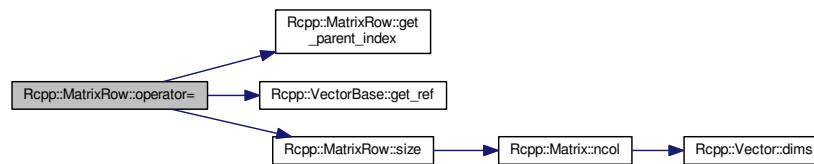
Referenced by `Rcpp::MatrixRow< RTYPE >::operator=()`, and `Rcpp::MatrixRow< RTYPE >::operator[]()`.

6.384.4.6 `template<int RTYPE> template<int RT, bool NA, typename T > MatrixRow& Rcpp::MatrixRow< RTYPE >::operator=( const Rcpp::VectorBase< RT, NA, T > & rhs ) [inline]`

Definition at line 121 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::get_parent_index()`, `Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref()`, `Rcpp::MatrixRow< RTYPE >::size()`, and `Rcpp::MatrixRow< RTYPE >::start`.

Here is the call graph for this function:

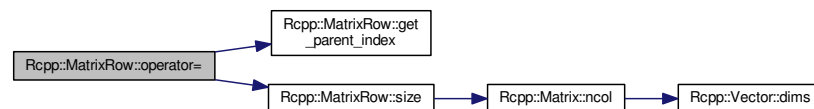


6.384.4.7 `template<int RTYPE> MatrixRow& Rcpp::MatrixRow< RTYPE >::operator=( const MatrixRow< RTYPE > & rhs ) [inline]`

Definition at line 128 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::get_parent_index()`, `Rcpp::MatrixRow< RTYPE >::size()`, and `Rcpp::MatrixRow< RTYPE >::start`.

Here is the call graph for this function:

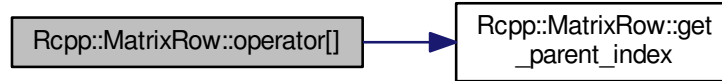


6.384.4.8 `template<int RTYPE> reference Rcpp::MatrixRow< RTYPE >::operator[( int i ) [inline]`

Definition at line 134 of file MatrixRow.h.

References `Rcpp::MatrixRow< RTYPE >::get_parent_index()`, and `Rcpp::MatrixRow< RTYPE >::start`.

Here is the call graph for this function:



**6.384.4.9** `template<int RTYPE> reference Rcpp::MatrixRow< RTYPE >::operator[]( int i ) const` `[inline]`

Definition at line 138 of file `MatrixRow.h`.

References `Rcpp::MatrixRow< RTYPE >::parent`, `Rcpp::MatrixRow< RTYPE >::parent_nrow`, and `Rcpp::MatrixRow< RTYPE >::iterator::row`.

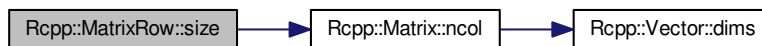
**6.384.4.10** `template<int RTYPE> int Rcpp::MatrixRow< RTYPE >::size ( ) const` `[inline]`

Definition at line 158 of file `MatrixRow.h`.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`, and `Rcpp::MatrixRow< RTYPE >::parent`.

Referenced by `Rcpp::MatrixRow< RTYPE >::end()`, `Rcpp::ConstMatrixRow< RTYPE >::end()`, and `Rcpp::MatrixRow< RTYPE >::operator=()`.

Here is the call graph for this function:



## 6.384.5 Member Data Documentation

**6.384.5.1** `template<int RTYPE> MATRIX& Rcpp::MatrixRow< RTYPE >::parent` `[private]`

Definition at line 163 of file `MatrixRow.h`.

Referenced by `Rcpp::ConstMatrixRow< RTYPE >::ConstMatrixRow()`, `Rcpp::MatrixRow< RTYPE >::MatrixRow()`, `Rcpp::MatrixRow< RTYPE >::operator[]()`, `Rcpp::ConstMatrixRow< RTYPE >::operator[]()`, `Rcpp::MatrixRow< RTYPE >::size()`, and `Rcpp::ConstMatrixRow< RTYPE >::size()`.

6.384.5.2 `template<int RTYPE> int Rcpp::MatrixRow< RTYPE >::parent_nrow` [private]

Definition at line 165 of file MatrixRow.h.

Referenced by `Rcpp::MatrixRow< RTYPE >::get_parent_index()`, `Rcpp::ConstMatrixRow< RTYPE >::get_parent_index()`, `Rcpp::MatrixRow< RTYPE >::operator[]()`, and `Rcpp::ConstMatrixRow< RTYPE >::operator[]()`.

6.384.5.3 `template<int RTYPE> int Rcpp::MatrixRow< RTYPE >::row` [private]

Definition at line 166 of file MatrixRow.h.

6.384.5.4 `template<int RTYPE> MATRIX::iterator Rcpp::MatrixRow< RTYPE >::start` [private]

Definition at line 164 of file MatrixRow.h.

Referenced by `Rcpp::MatrixRow< RTYPE >::operator=()`, and `Rcpp::MatrixRow< RTYPE >::operator[]()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/MatrixRow.h](#)

## 6.385 Rcpp::sugar::Max< RTYPE, NA, T > Class Template Reference

```
#include <max.h>
```

### Public Types

- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) STORAGE

### Public Member Functions

- [Max](#) (const T &obj\_)
- [operator STORAGE](#) () const

### Private Attributes

- const T & [obj](#)

### 6.385.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Max< RTYPE, NA, T >
```

Definition at line 29 of file max.h.

### 6.385.2 Member Typedef Documentation

6.385.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Max< RTYPE, NA, T >::STORAGE`

Definition at line 31 of file max.h.

### 6.385.3 Constructor & Destructor Documentation

6.385.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Max< RTYPE, NA, T >::Max ( const T & obj_ )`  
[inline]

Definition at line 33 of file max.h.

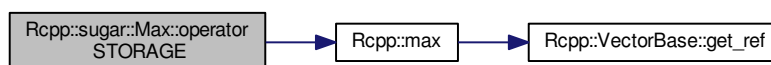
### 6.385.4 Member Function Documentation

6.385.4.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Max< RTYPE, NA, T >::operator STORAGE ( ) const`  
[inline]

Definition at line 35 of file max.h.

References `Rcpp::max()`, and `Rcpp::sugar::Max< RTYPE, NA, T >::obj`.

Here is the call graph for this function:



### 6.385.5 Member Data Documentation

6.385.5.1 `template<int RTYPE, bool NA, typename T > const T& Rcpp::sugar::Max< RTYPE, NA, T >::obj` `[private]`

Definition at line 50 of file max.h.

Referenced by `Rcpp::sugar::Max< RTYPE, NA, T >::operator STORAGE()`, and `Rcpp::sugar::Max< RTYPE, false, T >::operator STORAGE()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/max.h](#)

## 6.386 Rcpp::sugar::Max< RTYPE, false, T > Class Template Reference

```
#include <max.h>
```

### Public Types

- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) `STORAGE`

### Public Member Functions

- [Max](#) (const T &obj\_)
- [operator STORAGE](#) () const

### Private Attributes

- const T & [obj](#)

### 6.386.1 Detailed Description

```
template<int RTYPE, typename T>  
class Rcpp::sugar::Max< RTYPE, false, T >
```

Definition at line 55 of file max.h.

### 6.386.2 Member Typedef Documentation

6.386.2.1 `template<int RTYPE, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Max< RTYPE, false, T >::STORAGE`

Definition at line 57 of file max.h.



### 6.386.3 Constructor & Destructor Documentation

6.386.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Max< RTYPE, false, T >::Max ( const T & obj_ ) [inline]`

Definition at line 59 of file max.h.

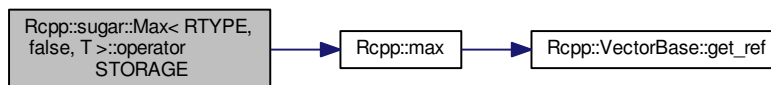
### 6.386.4 Member Function Documentation

6.386.4.1 `template<int RTYPE, typename T > Rcpp::sugar::Max< RTYPE, false, T >::operator STORAGE ( ) const [inline]`

Definition at line 61 of file max.h.

References `Rcpp::max()`, and `Rcpp::sugar::Max< RTYPE, NA, T >::obj`.

Here is the call graph for this function:



### 6.386.5 Member Data Documentation

6.386.5.1 `template<int RTYPE, typename T > const T& Rcpp::sugar::Max< RTYPE, false, T >::obj [private]`

Definition at line 74 of file max.h.

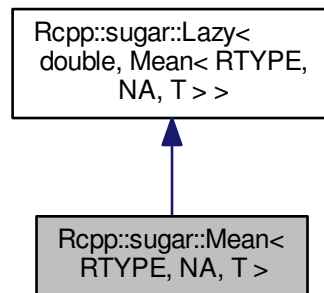
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/max.h`

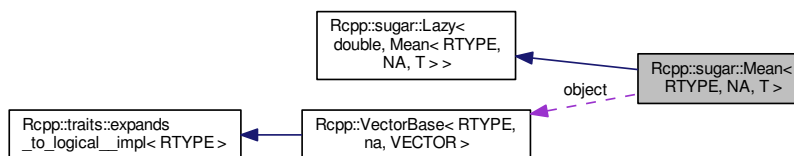
## 6.387 Rcpp::sugar::Mean< RTYPE, NA, T > Class Template Reference

```
#include <mean.h>
```

Inheritance diagram for Rcpp::sugar::Mean< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Mean< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::Vector< RTYPE >` `VECTOR`

### Public Member Functions

- `Mean` (const `VEC_TYPE` &object\_)
- double `get` () const

### Private Attributes

- const `VEC_TYPE` & `object`

### 6.387.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Mean< RTYPE, NA, T >
```

Definition at line 29 of file mean.h.

### 6.387.2 Member Typedef Documentation

6.387.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Mean< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file mean.h.

6.387.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::Vector<RTYPE> Rcpp::sugar::Mean< RTYPE, NA, T >::VECTOR`

Definition at line 32 of file mean.h.

### 6.387.3 Constructor & Destructor Documentation

6.387.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Mean< RTYPE, NA, T >::Mean ( const VEC_TYPE & object_ ) [inline]`

Definition at line 34 of file mean.h.

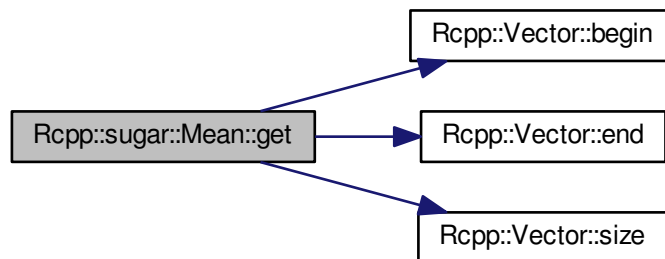
### 6.387.4 Member Function Documentation

6.387.4.1 `template<int RTYPE, bool NA, typename T > double Rcpp::sugar::Mean< RTYPE, NA, T >::get ( ) const [inline]`

Definition at line 36 of file mean.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::Vector< RTYPE, StoragePolicy >::end()`, `Rcpp::sugar::Mean< RTYPE, NA, T >::object`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



### 6.387.5 Member Data Documentation

6.387.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Mean< RTYPE, NA, T >::object`  
`[private]`

Definition at line 51 of file mean.h.

Referenced by `Rcpp::sugar::Mean< RTYPE, NA, T >::get()`, `Rcpp::sugar::Mean< CPLXSXP, NA, T >::get()`, `Rcpp::sugar::Mean< LGLSXP, NA, T >::get()`, and `Rcpp::sugar::Mean< INTSXP, NA, T >::get()`.

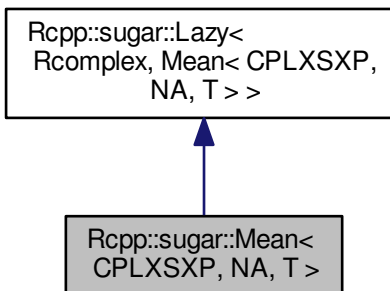
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/mean.h`

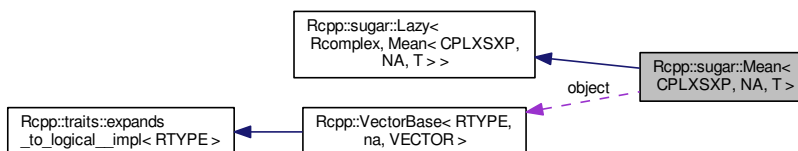
### 6.388 Rcpp::sugar::Mean< CPLXSXP, NA, T > Class Template Reference

```
#include <mean.h>
```

Inheritance diagram for `Rcpp::sugar::Mean< CPLXSXP, NA, T >`:



Collaboration diagram for `Rcpp::sugar::Mean< CPLXSXP, NA, T >`:



## Public Types

- typedef [Rcpp::VectorBase](#)< CPLXSXP, NA, T > [VEC\\_TYPE](#)

## Public Member Functions

- [Mean](#) (const [VEC\\_TYPE](#) &object\_)
- Rcomplex [get](#) () const

## Private Attributes

- const [VEC\\_TYPE](#) & [object](#)

### 6.388.1 Detailed Description

```
template<bool NA, typename T>
class Rcpp::sugar::Mean< CPLXSXP, NA, T >
```

Definition at line 55 of file mean.h.

### 6.388.2 Member Typedef Documentation

6.388.2.1 `template<bool NA, typename T > typedef Rcpp::VectorBase<CPLXSXP,NA,T> Rcpp::sugar::Mean< CPLXSXP, NA, T >::VEC_TYPE`

Definition at line 57 of file mean.h.

### 6.388.3 Constructor & Destructor Documentation

6.388.3.1 `template<bool NA, typename T > Rcpp::sugar::Mean< CPLXSXP, NA, T >::Mean ( const VEC_TYPE & object_ )`  
`[inline]`

Definition at line 59 of file mean.h.

### 6.388.4 Member Function Documentation

6.388.4.1 `template<bool NA, typename T> Rcomplex Rcpp::sugar::Mean< CPLXSCP, NA, T >::get ( ) const [inline]`

Definition at line 61 of file mean.h.

References `Rcpp::sugar::Mean< RTYPE, NA, T >::object`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



### 6.388.5 Member Data Documentation

6.388.5.1 `template<bool NA, typename T> const VEC_TYPE& Rcpp::sugar::Mean< CPLXSCP, NA, T >::object [private]`

Definition at line 88 of file mean.h.

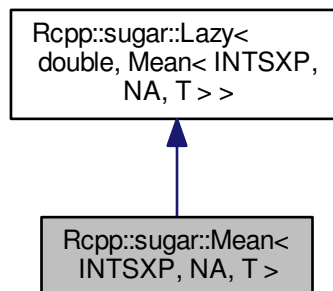
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/mean.h](#)

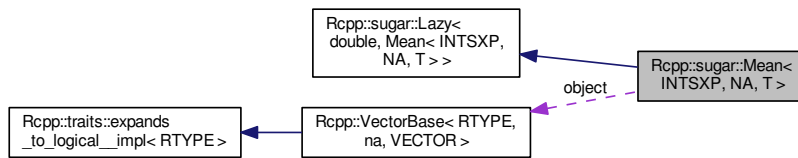
## 6.389 Rcpp::sugar::Mean< INTSCP, NA, T > Class Template Reference

```
#include <mean.h>
```

Inheritance diagram for `Rcpp::sugar::Mean< INTSCP, NA, T >`:



Collaboration diagram for Rcpp::sugar::Mean< INTSXP, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase< INTSXP, NA, T >](#) `VEC_TYPE`

## Public Member Functions

- [Mean](#) (const `VEC_TYPE` &object\_)
- double [get](#) () const

## Private Attributes

- const `VEC_TYPE` & `object`

### 6.389.1 Detailed Description

```
template<bool NA, typename T>
class Rcpp::sugar::Mean< INTSXP, NA, T >
```

Definition at line 114 of file mean.h.

### 6.389.2 Member Typedef Documentation

6.389.2.1 `template<bool NA, typename T > typedef Rcpp::VectorBase<INTSXP,NA,T> Rcpp::sugar::Mean< INTSXP, NA, T >::VEC_TYPE`

Definition at line 116 of file mean.h.

### 6.389.3 Constructor & Destructor Documentation

6.389.3.1 `template<bool NA, typename T > Rcpp::sugar::Mean< INTSXP, NA, T >::Mean ( const VEC_TYPE & object_ )`  
`[inline]`

Definition at line 118 of file mean.h.

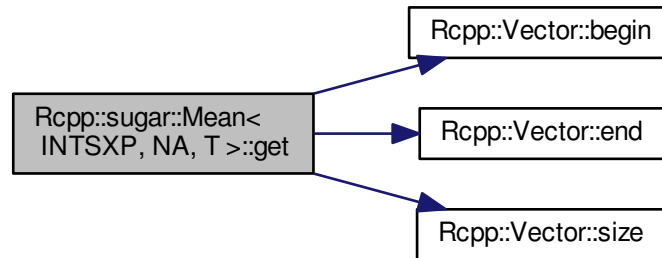
### 6.389.4 Member Function Documentation

6.389.4.1 `template<bool NA, typename T > double Rcpp::sugar::Mean< INTSXP, NA, T >::get ( ) const [inline]`

Definition at line 120 of file mean.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::Vector< RTYPE, StoragePolicy >::end()`, `Rcpp::sugar::Mean< RTYPE, NA, T >::object`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



### 6.389.5 Member Data Documentation

6.389.5.1 `template<bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Mean< INTSXP, NA, T >::object [private]`

Definition at line 134 of file mean.h.

The documentation for this class was generated from the following file:

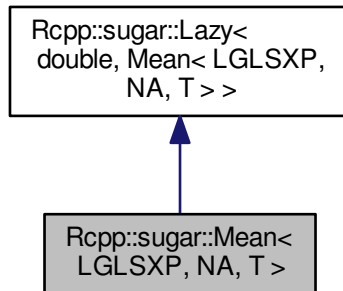
- [inst/include/Rcpp/sugar/functions/mean.h](#)

## 6.390 Rcpp::sugar::Mean< LGLSXP, NA, T > Class Template Reference

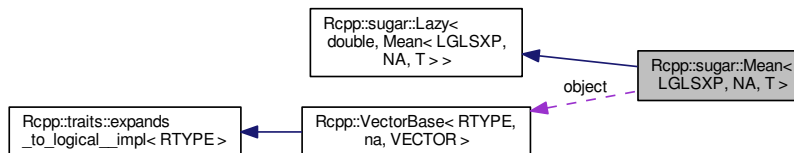
```
#include <mean.h>
```



Inheritance diagram for Rcpp::sugar::Mean< LGLSXP, NA, T >:



Collaboration diagram for Rcpp::sugar::Mean< LGLSXP, NA, T >:



## Public Types

- typedef `Rcpp::VectorBase< LGLSXP, NA, T >` `VEC_TYPE`

## Public Member Functions

- `Mean` (const `VEC_TYPE` &object\_)
- `double get ()` const

## Private Attributes

- const `VEC_TYPE` & `object`

### 6.390.1 Detailed Description

```
template<bool NA, typename T>
class Rcpp::sugar::Mean< LGLSXP, NA, T >
```

Definition at line 92 of file mean.h.

### 6.390.2 Member Typedef Documentation

6.390.2.1 `template<bool NA, typename T > typedef Rcpp::VectorBase<LGLSXP,NA,T> Rcpp::sugar::Mean< LGLSXP, NA, T >::VEC_TYPE`

Definition at line 94 of file mean.h.

### 6.390.3 Constructor & Destructor Documentation

6.390.3.1 `template<bool NA, typename T > Rcpp::sugar::Mean< LGLSXP, NA, T >::Mean ( const VEC_TYPE & object_ )`  
`[inline]`

Definition at line 96 of file mean.h.

### 6.390.4 Member Function Documentation

6.390.4.1 `template<bool NA, typename T > double Rcpp::sugar::Mean< LGLSXP, NA, T >::get ( ) const` `[inline]`

Definition at line 98 of file mean.h.

References `Rcpp::sugar::Mean< RTYPE, NA, T >::object`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



## 6.390.5 Member Data Documentation

6.390.5.1 `template<bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Mean< LGLXP, NA, T >::object`  
[private]

Definition at line 110 of file mean.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/mean.h](#)

## 6.391 Rcpp::sugar::Median< RTYPE, NA, T, NA\_RM > Class Template Reference

```
#include <median.h>
```

### Public Types

- enum { [RESULT\\_RTYPE](#) = median\_detail::result<RTYPE>::rtype }
- typedef [median\\_detail::result< RTYPE >::type](#) [result\\_type](#)
- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) [stored\\_type](#)
- typedef T [VECTOR](#)

### Public Member Functions

- [Median](#) (const [VECTOR](#) &xx)
- [operator result\\_type](#) ()

### Private Attributes

- [VECTOR](#) x

### 6.391.1 Detailed Description

```
template<int RTYPE, bool NA, typename T, bool NA_RM = false>  
class Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >
```

Definition at line 87 of file median.h.

## 6.391.2 Member Typedef Documentation

6.391.2.1 `template<int RTYPE, bool NA, typename T , bool NA_RM = false> typedef median_detail::result<RTYPE>::type Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >::result_type`

Definition at line 89 of file median.h.

6.391.2.2 `template<int RTYPE, bool NA, typename T , bool NA_RM = false> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >::stored_type`

Definition at line 90 of file median.h.

6.391.2.3 `template<int RTYPE, bool NA, typename T , bool NA_RM = false> typedef T Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >::VECTOR`

Definition at line 92 of file median.h.

## 6.391.3 Member Enumeration Documentation

6.391.3.1 `template<int RTYPE, bool NA, typename T , bool NA_RM = false> anonymous enum`

Enumerator

***RESULT\_RTYPE***

Definition at line 91 of file median.h.

## 6.391.4 Constructor & Destructor Documentation

6.391.4.1 `template<int RTYPE, bool NA, typename T , bool NA_RM = false> Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >::Median ( const VECTOR & xx ) [inline]`

Definition at line 98 of file median.h.

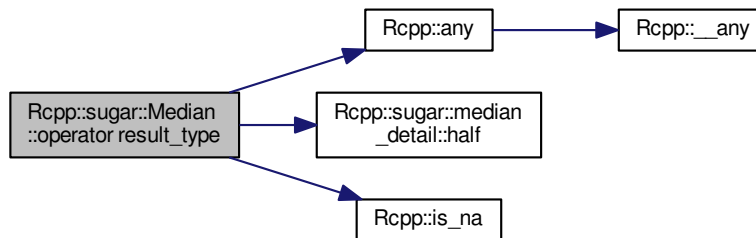
### 6.391.5 Member Function Documentation

6.391.5.1 `template<int RTYPE, bool NA, typename T , bool NA_RM = false> Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >::operator result_type ( ) [inline]`

Definition at line 101 of file median.h.

References `Rcpp::any()`, `Rcpp::sugar::median_detail::half()`, and `Rcpp::is_na()`.

Here is the call graph for this function:



### 6.391.6 Member Data Documentation

6.391.6.1 `template<int RTYPE, bool NA, typename T , bool NA_RM = false> VECTOR Rcpp::sugar::Median< RTYPE, NA, T, NA_RM >::x [private]`

Definition at line 95 of file median.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/median.h`

## 6.392 Rcpp::sugar::Median< RTYPE, false, T, NA\_RM > Class Template Reference

```
#include <median.h>
```

### Public Types

- enum { `RESULT_RTYPE` = `median_detail::result<RTYPE>::rtype` }
- typedef `median_detail::result< RTYPE >::type` `result_type`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `stored_type`
- typedef T `VECTOR`

## Public Member Functions

- [Median](#) (const [VECTOR](#) &xx)
- [operator result\\_type](#) ()

## Private Attributes

- [VECTOR](#) x

### 6.392.1 Detailed Description

```
template<int RTYPE, typename T, bool NA_RM>  
class Rcpp::sugar::Median< RTYPE, false, T, NA_RM >
```

Definition at line 159 of file median.h.

### 6.392.2 Member Typedef Documentation

6.392.2.1 `template<int RTYPE, typename T , bool NA_RM> typedef median_detail::result<RTYPE>::type  
Rcpp::sugar::Median< RTYPE, false, T, NA_RM >::result_type`

Definition at line 161 of file median.h.

6.392.2.2 `template<int RTYPE, typename T , bool NA_RM> typedef Rcpp::traits::storage_type<RTYPE>::type  
Rcpp::sugar::Median< RTYPE, false, T, NA_RM >::stored_type`

Definition at line 162 of file median.h.

6.392.2.3 `template<int RTYPE, typename T , bool NA_RM> typedef T Rcpp::sugar::Median< RTYPE, false, T, NA_RM  
>::VECTOR`

Definition at line 164 of file median.h.

### 6.392.3 Member Enumeration Documentation

6.392.3.1 `template<int RTYPE, typename T , bool NA_RM> anonymous enum`

Enumerator

***RESULT\_RTYPE***

Definition at line 163 of file median.h.

### 6.392.4 Constructor & Destructor Documentation

6.392.4.1 `template<int RTYPE, typename T , bool NA_RM> Rcpp::sugar::Median< RTYPE, false, T, NA_RM >::Median ( const VECTOR & xx ) [inline]`

Definition at line 170 of file median.h.

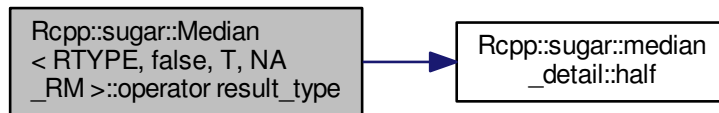
### 6.392.5 Member Function Documentation

6.392.5.1 `template<int RTYPE, typename T , bool NA_RM> Rcpp::sugar::Median< RTYPE, false, T, NA_RM >::operator result_type ( ) [inline]`

Definition at line 173 of file median.h.

References `Rcpp::sugar::median_detail::half()`.

Here is the call graph for this function:



### 6.392.6 Member Data Documentation

6.392.6.1 `template<int RTYPE, typename T , bool NA_RM> VECTOR Rcpp::sugar::Median< RTYPE, false, T, NA_RM >::x [private]`

Definition at line 167 of file median.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/median.h`

## 6.393 Rcpp::sugar::Median< RTYPE, NA, T, true > Class Template Reference

```
#include <median.h>
```

## Public Types

- enum { [RESULT\\_RTYPE](#) = median\_detail::result<RTYPE>::rtype }
- typedef [median\\_detail::result](#)< RTYPE >::type [result\\_type](#)
- typedef [Rcpp::traits::storage\\_type](#)< RTYPE >::type [stored\\_type](#)
- typedef T [VECTOR](#)

## Public Member Functions

- [Median](#) (const [VECTOR](#) &xx)
- [operator result\\_type](#) ()

## Private Attributes

- [VECTOR](#) x

### 6.393.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>  
class Rcpp::sugar::Median< RTYPE, NA, T, true >
```

Definition at line 125 of file median.h.

### 6.393.2 Member Typedef Documentation

6.393.2.1 `template<int RTYPE, bool NA, typename T > typedef median_detail::result<RTYPE>::type Rcpp::sugar::Median< RTYPE, NA, T, true >::result_type`

Definition at line 127 of file median.h.

6.393.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Median< RTYPE, NA, T, true >::stored_type`

Definition at line 128 of file median.h.

6.393.2.3 `template<int RTYPE, bool NA, typename T > typedef T Rcpp::sugar::Median< RTYPE, NA, T, true >::VECTOR`

Definition at line 130 of file median.h.



### 6.393.3 Member Enumeration Documentation

#### 6.393.3.1 template<int RTYPE, bool NA, typename T > anonymous enum

Enumerator

***RESULT\_RTYPE***

Definition at line 129 of file median.h.

### 6.393.4 Constructor & Destructor Documentation

#### 6.393.4.1 template<int RTYPE, bool NA, typename T > Rcpp::sugar::Median< RTYPE, NA, T, true >::Median ( const VECTOR & xx ) [inline]

Definition at line 136 of file median.h.

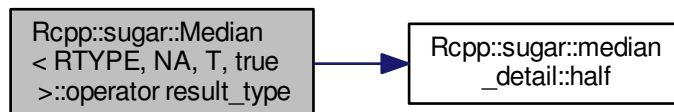
### 6.393.5 Member Function Documentation

#### 6.393.5.1 template<int RTYPE, bool NA, typename T > Rcpp::sugar::Median< RTYPE, NA, T, true >::operator result\_type ( ) [inline]

Definition at line 139 of file median.h.

References Rcpp::sugar::median\_detail::half().

Here is the call graph for this function:



### 6.393.6 Member Data Documentation

#### 6.393.6.1 template<int RTYPE, bool NA, typename T > VECTOR Rcpp::sugar::Median< RTYPE, NA, T, true >::x [private]

Definition at line 133 of file median.h.

The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/functions/[median.h](#)

## 6.394 Rcpp::sugar::Median< STRSXP, false, T, true > Class Template Reference

```
#include <median.h>
```

### Public Types

- typedef [median\\_detail::result< STRSXP >::type](#) [result\\_type](#)
- typedef [Rcpp::traits::storage\\_type< STRSXP >::type](#) [stored\\_type](#)
- typedef T [VECTOR](#)

### Public Member Functions

- [Median](#) (const [VECTOR](#) &xx)
- [operator result\\_type](#) ()

### Private Attributes

- [VECTOR](#) x

#### 6.394.1 Detailed Description

```
template<typename T>
class Rcpp::sugar::Median< STRSXP, false, T, true >
```

Definition at line 254 of file median.h.

#### 6.394.2 Member Typedef Documentation

6.394.2.1 `template<typename T > typedef median\_detail::result<STRSXP>::type Rcpp::sugar::Median< STRSXP, false, T, true >::result\_type`

Definition at line 256 of file median.h.

6.394.2.2 `template<typename T > typedef Rcpp::traits::storage\_type<STRSXP>::type Rcpp::sugar::Median< STRSXP, false, T, true >::stored\_type`

Definition at line 257 of file median.h.

6.394.2.3 `template<typename T > typedef T Rcpp::sugar::Median< STRSXP, false, T, true >::VECTOR`

Definition at line 258 of file median.h.

### 6.394.3 Constructor & Destructor Documentation

6.394.3.1 `template<typename T > Rcpp::sugar::Median< STRSXP, false, T, true >::Median ( const VECTOR & xx )`  
`[inline]`

Definition at line 264 of file median.h.

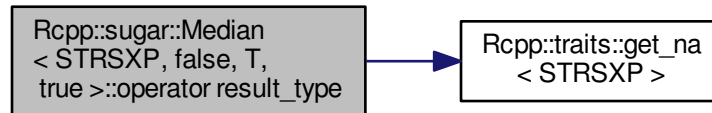
### 6.394.4 Member Function Documentation

6.394.4.1 `template<typename T > Rcpp::sugar::Median< STRSXP, false, T, true >::operator result_type ( )` `[inline]`

Definition at line 267 of file median.h.

References `Rcpp::traits::get_na< STRSXP >()`.

Here is the call graph for this function:



### 6.394.5 Member Data Documentation

6.394.5.1 `template<typename T > VECTOR Rcpp::sugar::Median< STRSXP, false, T, true >::x` `[private]`

Definition at line 261 of file median.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/median.h](#)

## 6.395 Rcpp::sugar::Median< STRSXP, NA, T, NA\_RM > Class Template Reference

```
#include <median.h>
```

## Public Types

- typedef `median_detail::result< STRSXP >::type` `result_type`
- typedef `Rcpp::traits::storage_type< STRSXP >::type` `stored_type`
- typedef T `VECTOR`

## Public Member Functions

- `Median` (const `VECTOR` &xx)
- `operator result_type` ()

## Private Attributes

- `VECTOR` x

### 6.395.1 Detailed Description

```
template<bool NA, typename T, bool NA_RM>
class Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >
```

Definition at line 196 of file median.h.

### 6.395.2 Member Typedef Documentation

6.395.2.1 `template<bool NA, typename T , bool NA_RM> typedef median_detail::result<STRSXP>::type Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >::result_type`

Definition at line 198 of file median.h.

6.395.2.2 `template<bool NA, typename T , bool NA_RM> typedef Rcpp::traits::storage_type<STRSXP>::type Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >::stored_type`

Definition at line 199 of file median.h.

6.395.2.3 `template<bool NA, typename T , bool NA_RM> typedef T Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >::VECTOR`

Definition at line 200 of file median.h.

### 6.395.3 Constructor & Destructor Documentation

6.395.3.1 `template<bool NA, typename T, bool NA_RM> Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >::Median ( const VECTOR & xx ) [inline]`

Definition at line 206 of file median.h.

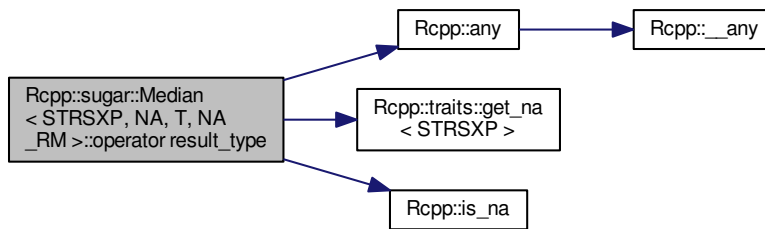
### 6.395.4 Member Function Documentation

6.395.4.1 `template<bool NA, typename T, bool NA_RM> Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >::operator result_type ( ) [inline]`

Definition at line 209 of file median.h.

References `Rcpp::any()`, `Rcpp::traits::get_na< STRSXP >()`, and `Rcpp::is_na()`.

Here is the call graph for this function:



### 6.395.5 Member Data Documentation

6.395.5.1 `template<bool NA, typename T, bool NA_RM> VECTOR Rcpp::sugar::Median< STRSXP, NA, T, NA_RM >::x [private]`

Definition at line 203 of file median.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/median.h`

## 6.396 Rcpp::sugar::Median< STRSXP, NA, T, true > Class Template Reference

```
#include <median.h>
```

## Public Types

- typedef `median_detail::result< STRSXP >::type` `result_type`
- typedef `Rcpp::traits::storage_type< STRSXP >::type` `stored_type`
- typedef T `VECTOR`

## Public Member Functions

- `Median` (const `VECTOR` &xx)
- `operator result_type` ()

## Private Attributes

- `VECTOR` x

### 6.396.1 Detailed Description

```
template<bool NA, typename T>
class Rcpp::sugar::Median< STRSXP, NA, T, true >
```

Definition at line 227 of file median.h.

### 6.396.2 Member Typedef Documentation

6.396.2.1 `template<bool NA, typename T > typedef median_detail::result<STRSXP>::type Rcpp::sugar::Median< STRSXP, NA, T, true >::result_type`

Definition at line 229 of file median.h.

6.396.2.2 `template<bool NA, typename T > typedef Rcpp::traits::storage_type<STRSXP>::type Rcpp::sugar::Median< STRSXP, NA, T, true >::stored_type`

Definition at line 230 of file median.h.

6.396.2.3 `template<bool NA, typename T > typedef T Rcpp::sugar::Median< STRSXP, NA, T, true >::VECTOR`

Definition at line 231 of file median.h.

### 6.396.3 Constructor & Destructor Documentation

6.396.3.1 `template<bool NA, typename T > Rcpp::sugar::Median< STRSXP, NA, T, true >::Median ( const VECTOR & xx )`  
`[inline]`

Definition at line 237 of file median.h.

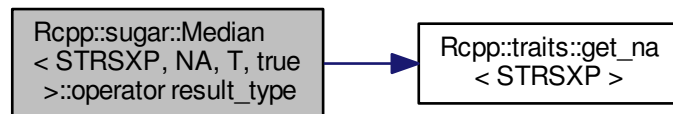
### 6.396.4 Member Function Documentation

6.396.4.1 `template<bool NA, typename T > Rcpp::sugar::Median< STRSXP, NA, T, true >::operator result_type ( )`  
`[inline]`

Definition at line 240 of file median.h.

References `Rcpp::traits::get_na< STRSXP >()`.

Here is the call graph for this function:



### 6.396.5 Member Data Documentation

6.396.5.1 `template<bool NA, typename T > VECTOR Rcpp::sugar::Median< STRSXP, NA, T, true >::x` `[private]`

Definition at line 234 of file median.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/median.h`

## 6.397 Rcpp::sugar::Min< RTYPE, NA, T > Class Template Reference

```
#include <min.h>
```

## Public Types

- typedef [Rcpp::traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)

## Public Member Functions

- [Min](#) (const T &obj\_)
- [operator STORAGE](#) () const

## Public Attributes

- const T & [obj](#)

### 6.397.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>  
class Rcpp::sugar::Min< RTYPE, NA, T >
```

Definition at line 29 of file min.h.

### 6.397.2 Member Typedef Documentation

6.397.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Min< RTYPE, NA, T >::STORAGE`

Definition at line 31 of file min.h.

### 6.397.3 Constructor & Destructor Documentation

6.397.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Min< RTYPE, NA, T >::Min ( const T & obj_ )  
[inline]`

Definition at line 33 of file min.h.



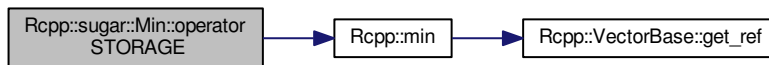
### 6.397.4 Member Function Documentation

6.397.4.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Min< RTYPE, NA, T >::operator STORAGE ( ) const`  
`[inline]`

Definition at line 35 of file min.h.

References `Rcpp::min()`, and `Rcpp::sugar::Min< RTYPE, NA, T >::obj`.

Here is the call graph for this function:



### 6.397.5 Member Data Documentation

6.397.5.1 `template<int RTYPE, bool NA, typename T > const T& Rcpp::sugar::Min< RTYPE, NA, T >::obj`

Definition at line 49 of file min.h.

Referenced by `Rcpp::sugar::Min< RTYPE, NA, T >::operator STORAGE()`, and `Rcpp::sugar::Min< RTYPE, false, T >::operator STORAGE()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/min.h](#)

## 6.398 Rcpp::sugar::Min< RTYPE, false, T > Class Template Reference

```
#include <min.h>
```

### Public Types

- typedef [Rcpp::traits::storage\\_type< RTYPE >::type STORAGE](#)

### Public Member Functions

- [Min](#) (const T &obj\_)
- [operator STORAGE](#) () const

## Public Attributes

- const T & [obj](#)

### 6.398.1 Detailed Description

```
template<int RTYPE, typename T>
class Rcpp::sugar::Min< RTYPE, false, T >
```

Definition at line 54 of file min.h.

### 6.398.2 Member Typedef Documentation

6.398.2.1 `template<int RTYPE, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Min< RTYPE, false, T >::STORAGE`

Definition at line 56 of file min.h.

### 6.398.3 Constructor & Destructor Documentation

6.398.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Min< RTYPE, false, T >::Min ( const T & obj_ ) [inline]`

Definition at line 58 of file min.h.

### 6.398.4 Member Function Documentation

6.398.4.1 `template<int RTYPE, typename T > Rcpp::sugar::Min< RTYPE, false, T >::operator STORAGE ( ) const [inline]`

Definition at line 60 of file min.h.

References [Rcpp::min\(\)](#), and [Rcpp::sugar::Min< RTYPE, NA, T >::obj](#).

Here is the call graph for this function:



### 6.398.5 Member Data Documentation

6.398.5.1 `template<int RTYPE, typename T > const T& Rcpp::sugar::Min< RTYPE, false, T >::obj`

Definition at line 72 of file min.h.

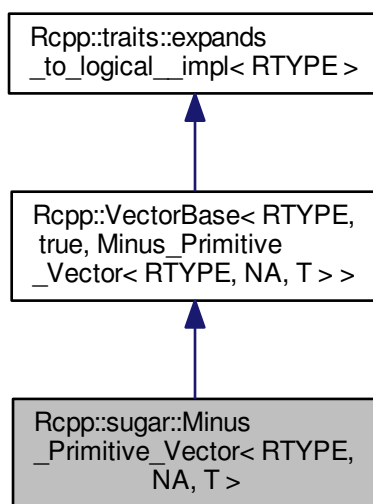
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/min.h](#)

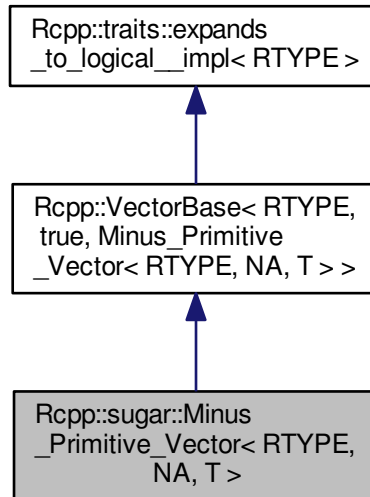
## 6.399 Rcpp::sugar::Minus\_Primitive\_Vector< RTYPE, NA, T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Primitive\_Vector< RTYPE, NA, T >:



Collaboration diagram for `Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >`:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::traits::Extractor< RTYPE, NA, T >::type` `VEC_EXT`

## Public Member Functions

- `Minus_Primitive_Vector` (`STORAGE lhs_`, `const VEC_TYPE &rhs_`)
- `STORAGE operator[]` (`R_xlen_t i`) `const`
- `R_xlen_t size` () `const`

## Private Attributes

- `STORAGE lhs`
- `const VEC_EXT & rhs`
- `bool lhs_na`

### 6.399.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >
  
```

Definition at line 324 of file `minus.h`.

## 6.399.2 Member Typedef Documentation

6.399.2.1 `template<int RTYPE, bool NA, typename T> typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >::STORAGE`

Definition at line 328 of file minus.h.

6.399.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::Extractor<RTYPE,NA,T>::type  
Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >::VEC_EXT`

Definition at line 329 of file minus.h.

6.399.2.3 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >::VEC_TYPE`

Definition at line 327 of file minus.h.

## 6.399.3 Constructor & Destructor Documentation

6.399.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T  
>::Minus_Primitive_Vector ( STORAGE lhs_, const VEC_TYPE & rhs_ ) [inline]`

Definition at line 331 of file minus.h.

## 6.399.4 Member Function Documentation

6.399.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 334 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.399.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T  
>::size ( ) const [inline]`

Definition at line 338 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

### 6.399.5 Member Data Documentation

6.399.5.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >::lhs [private]`

Definition at line 341 of file minus.h.

6.399.5.2 `template<int RTYPE, bool NA, typename T> bool Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >::lhs_na [private]`

Definition at line 343 of file minus.h.

6.399.5.3 `template<int RTYPE, bool NA, typename T> const VEC_EXT& Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >::rhs [private]`

Definition at line 342 of file minus.h.

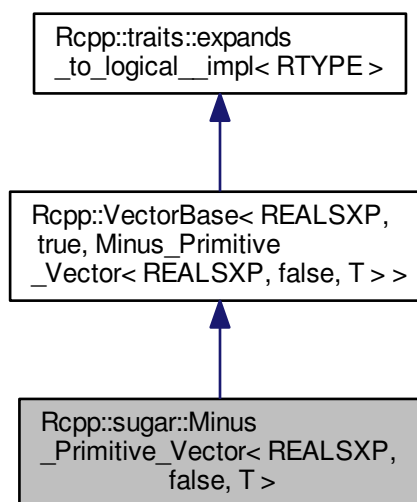
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/minus.h](#)

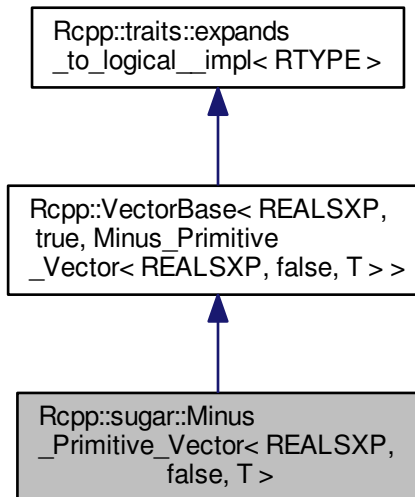
## 6.400 Rcpp::sugar::Minus\_Primitive\_Vector< REALSXP, false, T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Primitive\_Vector< REALSXP, false, T >:



Collaboration diagram for Rcpp::sugar::Minus\_Primitive\_Vector< REALSXP, false, T >:



## Public Types

- typedef [Rcpp::VectorBase< REALSXP, false, T >](#) `VEC_TYPE`
- typedef [Rcpp::traits::Extractor< REALSXP, false, T >::type](#) `VEC_EXT`

## Public Member Functions

- [Minus\\_Primitive\\_Vector](#) (double lhs\_, const `VEC_TYPE` &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- double `lhs`
- const `VEC_EXT` & `rhs`

### 6.400.1 Detailed Description

```

template<typename T>
class Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T >
  
```

Definition at line 392 of file `minus.h`.

## 6.400.2 Member Typedef Documentation

6.400.2.1 `template<typename T > typedef Rcpp::traits::Extractor<REALSXP,false,T>::type  
Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T >::VEC_EXT`

Definition at line 396 of file minus.h.

6.400.2.2 `template<typename T > typedef Rcpp::VectorBase<REALSXP,false,T> Rcpp::sugar::Minus_Primitive_↔  
Vector< REALSXP, false, T >::VEC_TYPE`

Definition at line 395 of file minus.h.

## 6.400.3 Constructor & Destructor Documentation

6.400.3.1 `template<typename T > Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T  
>::Minus_Primitive_Vector( double lhs_, const VEC_TYPE & rhs_ ) [inline]`

Definition at line 398 of file minus.h.

## 6.400.4 Member Function Documentation

6.400.4.1 `template<typename T > double Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T >::operator[] (↔  
R_xlen_t i ) const [inline]`

Definition at line 401 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp↔  
::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.400.4.2 `template<typename T > R_xlen_t Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T >::size ( ) const  
[inline]`

Definition at line 405 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

## 6.400.5 Member Data Documentation

6.400.5.1 `template<typename T > double Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T >::lhs  
[private]`

Definition at line 408 of file minus.h.



6.400.5.2 `template<typename T > const VEC_EXT& Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T >::rhs`  
`[private]`

Definition at line 409 of file minus.h.

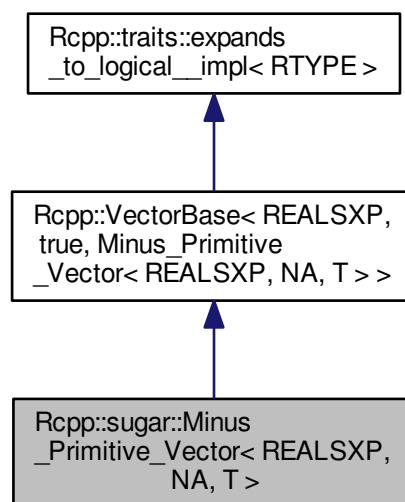
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/minus.h](#)

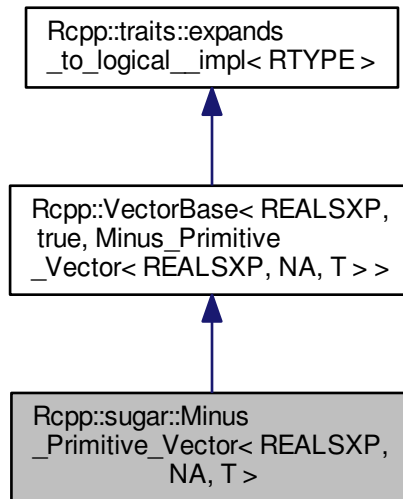
## 6.401 Rcpp::sugar::Minus\_Primitive\_Vector< REALSXP, NA, T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Primitive\_Vector< REALSXP, NA, T >:



Collaboration diagram for `Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T >`:



## Public Types

- typedef `Rcpp::VectorBase< REALSXP, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::Extractor< REALSXP, NA, T >::type` `VEC_EXT`

## Public Member Functions

- `Minus_Primitive_Vector` (double lhs\_, const `VEC_TYPE` &rhs\_)
- double `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- double lhs
- const `VEC_EXT` & rhs

### 6.401.1 Detailed Description

```

template<bool NA, typename T>
class Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T >
  
```

Definition at line 346 of file `minus.h`.

## 6.401.2 Member Typedef Documentation

6.401.2.1 `template<bool NA, typename T > typedef Rcpp::traits::Extractor<REALSXP,NA,T>::type  
Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T >::VEC_EXT`

Definition at line 350 of file minus.h.

6.401.2.2 `template<bool NA, typename T > typedef Rcpp::VectorBase<REALSXP,NA,T>  
Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T >::VEC_TYPE`

Definition at line 349 of file minus.h.

## 6.401.3 Constructor & Destructor Documentation

6.401.3.1 `template<bool NA, typename T > Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T  
>::Minus_Primitive_Vector( double lhs_, const VEC_TYPE & rhs_ ) [inline]`

Definition at line 352 of file minus.h.

## 6.401.4 Member Function Documentation

6.401.4.1 `template<bool NA, typename T > double Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T >::operator[]  
( R_xlen_t i ) const [inline]`

Definition at line 355 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.401.4.2 `template<bool NA, typename T > R_xlen_t Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T >::size ( )  
const [inline]`

Definition at line 358 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

## 6.401.5 Member Data Documentation

6.401.5.1 `template<bool NA, typename T > double Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T >::lhs  
[private]`

Definition at line 361 of file minus.h.

```
6.401.5.2 template<bool NA, typename T > const VEC_EXT& Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T
>::rhs [private]
```

Definition at line 362 of file minus.h.

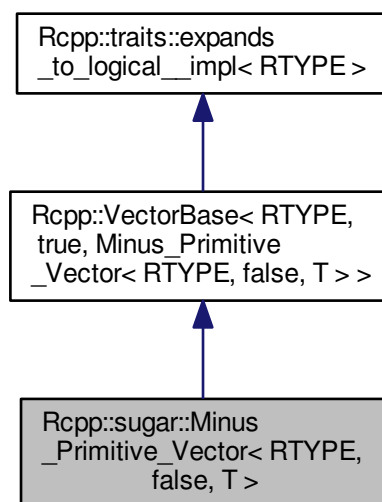
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/minus.h](#)

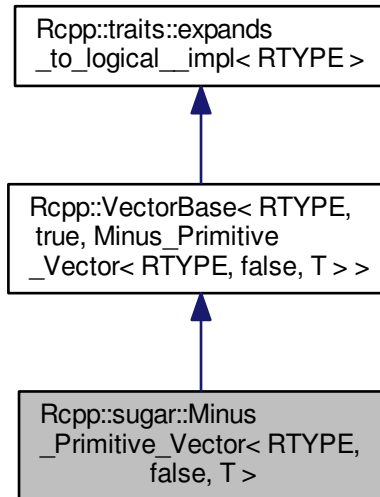
## 6.402 Rcpp::sugar::Minus\_Primitive\_Vector< RTYPE, false, T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Primitive\_Vector< RTYPE, false, T >:



Collaboration diagram for Rcpp::sugar::Minus\_Primitive\_Vector< RTYPE, false, T >:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, false, T >` `VEC_TYPE`
- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::traits::Extractor< REALSXP, false, T >::type` `VEC_EXT`

## Public Member Functions

- `Minus_Primitive_Vector` (`STORAGE lhs_`, `const VEC_TYPE &rhs_`)
- `STORAGE operator[]` (`R_xlen_t i`) `const`
- `R_xlen_t size` () `const`

## Private Attributes

- `STORAGE lhs`
- `const VEC_EXT & rhs`
- `bool lhs_na`

### 6.402.1 Detailed Description

```

template<int RTYPE, typename T>
class Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >
  
```

Definition at line 368 of file `minus.h`.

## 6.402.2 Member Typedef Documentation

6.402.2.1 `template<int RTYPE, typename T > typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >::STORAGE`

Definition at line 372 of file minus.h.

6.402.2.2 `template<int RTYPE, typename T > typedef Rcpp::traits::Extractor<REALSXP,false,T>::type  
Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >::VEC_EXT`

Definition at line 373 of file minus.h.

6.402.2.3 `template<int RTYPE, typename T > typedef Rcpp::VectorBase<RTYPE,false,T>  
Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >::VEC_TYPE`

Definition at line 371 of file minus.h.

## 6.402.3 Constructor & Destructor Documentation

6.402.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T  
>::Minus_Primitive_Vector ( STORAGE lhs_, const VEC_TYPE & rhs_ ) [inline]`

Definition at line 375 of file minus.h.

## 6.402.4 Member Function Documentation

6.402.4.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T  
>::operator[]( R_xlen_t i ) const [inline]`

Definition at line 378 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.402.4.2 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >::size ( )  
const [inline]`

Definition at line 383 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

### 6.402.5 Member Data Documentation

6.402.5.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >::lhs`  
`[private]`

Definition at line 386 of file minus.h.

6.402.5.2 `template<int RTYPE, typename T > bool Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >::lhs_na`  
`[private]`

Definition at line 388 of file minus.h.

6.402.5.3 `template<int RTYPE, typename T > const VEC_EXT& Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >::rhs`  
`[private]`

Definition at line 387 of file minus.h.

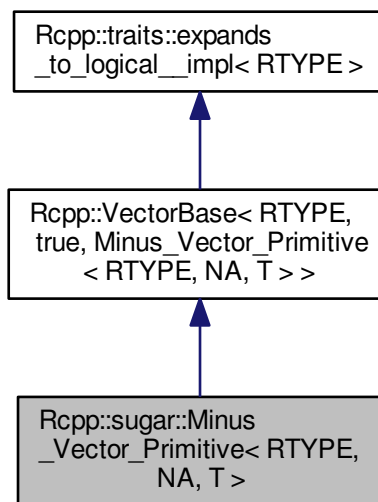
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/minus.h](#)

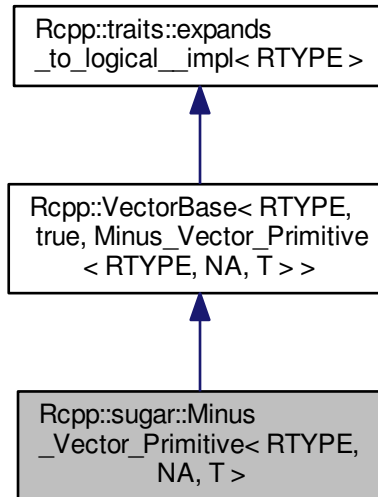
## 6.403 Rcpp::sugar::Minus\_Vector\_Primitive< RTYPE, NA, T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Vector\_Primitive< RTYPE, NA, T >:



Collaboration diagram for `Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >`:



## Public Types

- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::Extractor< RTYPE, NA, T >::type` `VEC_EXT`

## Public Member Functions

- `Minus_Vector_Primitive` (const `VEC_TYPE` &lhs\_, `STORAGE` rhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- const `VEC_EXT` & lhs
- `STORAGE` rhs
- bool rhs\_na

### 6.403.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >
  
```

Definition at line 228 of file `minus.h`.



## 6.403.2 Member Typedef Documentation

6.403.2.1 `template<int RTYPE, bool NA, typename T> typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >::STORAGE`

Definition at line 231 of file minus.h.

6.403.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::Extractor<RTYPE,NA,T>::type  
Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >::VEC_EXT`

Definition at line 233 of file minus.h.

6.403.2.3 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >::VEC_TYPE`

Definition at line 232 of file minus.h.

## 6.403.3 Constructor & Destructor Documentation

6.403.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T  
>::Minus_Vector_Primitive ( const VEC_TYPE & lhs_, STORAGE rhs_ ) [inline]`

Definition at line 235 of file minus.h.

## 6.403.4 Member Function Documentation

6.403.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 238 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.403.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T  
>::size ( ) const [inline]`

Definition at line 244 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.403.5 Member Data Documentation

6.403.5.1 `template<int RTYPE, bool NA, typename T> const VEC_EXT& Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >::lhs [private]`

Definition at line 247 of file minus.h.

6.403.5.2 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >::rhs [private]`

Definition at line 248 of file minus.h.

6.403.5.3 `template<int RTYPE, bool NA, typename T> bool Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >::rhs_na [private]`

Definition at line 249 of file minus.h.

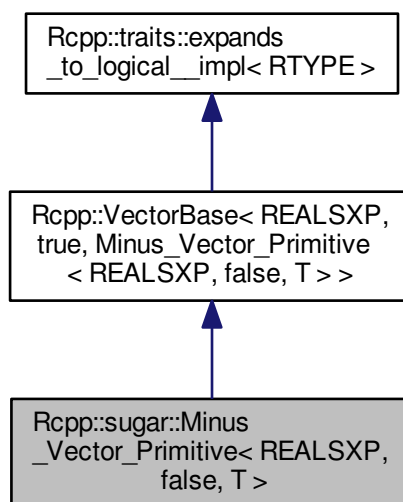
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/minus.h](#)

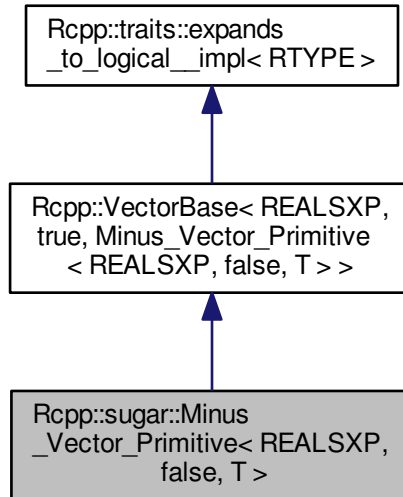
## 6.404 Rcpp::sugar::Minus\_Vector\_Primitive< REALSXP, false, T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Vector\_Primitive< REALSXP, false, T >:



Collaboration diagram for Rcpp::sugar::Minus\_Vector\_Primitive< REALSXP, false, T >:



## Public Types

- typedef [Rcpp::VectorBase< REALSXP, false, T >](#) `VEC_TYPE`
- typedef [Rcpp::traits::Extractor< REALSXP, false, T >::type](#) `VEC_EXT`

## Public Member Functions

- [Minus\\_Vector\\_Primitive](#) (const [VEC\\_TYPE](#) &lhs\_, double rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [VEC\\_EXT](#) & lhs
- double rhs

### 6.404.1 Detailed Description

```

template<typename T>
class Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T >
  
```

Definition at line 298 of file minus.h.

### 6.404.2 Member Typedef Documentation

6.404.2.1 `template<typename T > typedef Rcpp::traits::Extractor<REALSXP,false,T>::type  
Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T >::VEC_EXT`

Definition at line 302 of file minus.h.

6.404.2.2 `template<typename T > typedef Rcpp::VectorBase<REALSXP,false,T> Rcpp::sugar::Minus_Vector_↔  
Primitive< REALSXP, false, T >::VEC_TYPE`

Definition at line 301 of file minus.h.

### 6.404.3 Constructor & Destructor Documentation

6.404.3.1 `template<typename T > Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T  
>::Minus_Vector_Primitive ( const VEC_TYPE & lhs_, double rhs_ ) [inline]`

Definition at line 304 of file minus.h.

### 6.404.4 Member Function Documentation

6.404.4.1 `template<typename T > double Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T >::operator[] (   
R_xlen_t i ) const [inline]`

Definition at line 307 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp↔  
::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.404.4.2 `template<typename T > R_xlen_t Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T >::size ( ) const  
[inline]`

Definition at line 311 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.404.5 Member Data Documentation

6.404.5.1 `template<typename T > const VEC_EXT& Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T >::lhs  
[private]`

Definition at line 314 of file minus.h.

6.404.5.2 `template<typename T > double Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T >::rhs`  
`[private]`

Definition at line 315 of file `minus.h`.

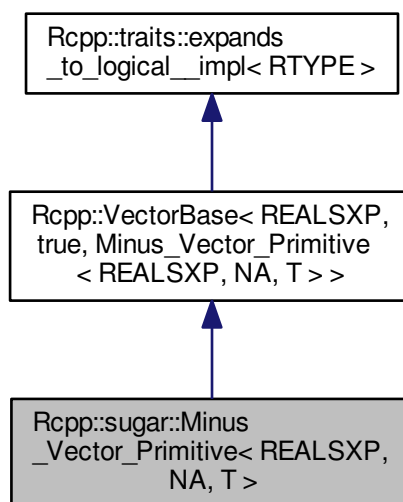
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/minus.h`

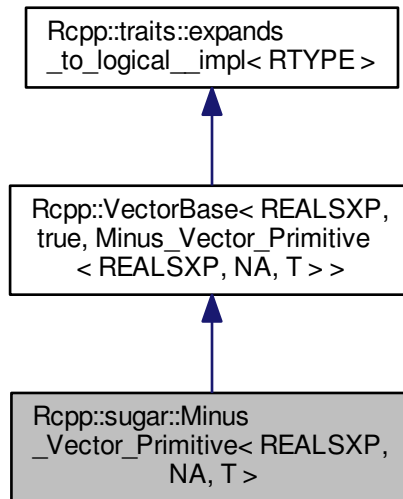
## 6.405 Rcpp::sugar::Minus\_Vector\_Primitive< REALSXP, NA, T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for `Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >`:



Collaboration diagram for `Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >`:



## Public Types

- typedef `Rcpp::VectorBase< REALSXP, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::Extractor< REALSXP, NA, T >::type` `VEC_EXT`

## Public Member Functions

- `Minus_Vector_Primitive` (const `VEC_TYPE` &lhs\_, double rhs\_)
- double `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- const `VEC_EXT` & lhs
- double rhs

### 6.405.1 Detailed Description

```

template<bool NA, typename T>
class Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >

```

Definition at line 252 of file `minus.h`.

## 6.405.2 Member Typedef Documentation

6.405.2.1 `template<bool NA, typename T > typedef Rcpp::traits::Extractor<REALSXP,NA,T>::type  
Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >::VEC_EXT`

Definition at line 256 of file minus.h.

6.405.2.2 `template<bool NA, typename T > typedef Rcpp::VectorBase<REALSXP,NA,T>  
Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >::VEC_TYPE`

Definition at line 255 of file minus.h.

## 6.405.3 Constructor & Destructor Documentation

6.405.3.1 `template<bool NA, typename T > Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T  
>::Minus_Vector_Primitive ( const VEC_TYPE & lhs_, double rhs_ ) [inline]`

Definition at line 258 of file minus.h.

## 6.405.4 Member Function Documentation

6.405.4.1 `template<bool NA, typename T > double Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >::operator[]  
( R_xlen_t i ) const [inline]`

Definition at line 261 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.405.4.2 `template<bool NA, typename T > R_xlen_t Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >::size ( )  
const [inline]`

Definition at line 265 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.405.5 Member Data Documentation

6.405.5.1 `template<bool NA, typename T > const VEC_EXT& Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T  
>::lhs [private]`

Definition at line 268 of file minus.h.

6.405.5.2 `template<bool NA, typename T > double Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >::rhs`  
`[private]`

Definition at line 269 of file minus.h.

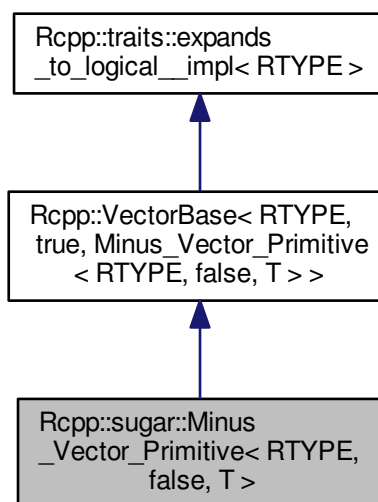
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/minus.h](#)

## 6.406 Rcpp::sugar::Minus\_Vector\_Primitive< RTYPE, false, T > Class Template Reference

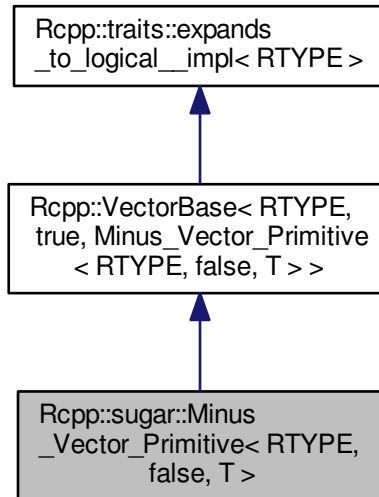
```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Vector\_Primitive< RTYPE, false, T >:





Collaboration diagram for Rcpp::sugar::Minus\_Vector\_Primitive< RTYPE, false, T >:



## Public Types

- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::VectorBase< RTYPE, false, T >` `VEC_TYPE`
- typedef `Rcpp::traits::Extractor< RTYPE, false, T >::type` `VEC_EXT`

## Public Member Functions

- `Minus_Vector_Primitive` (const `VEC_TYPE` &lhs\_, `STORAGE` rhs\_)
- `STORAGE operator[]` (`R_xlen_t` i) const
- `R_xlen_t size` () const

## Private Attributes

- const `VEC_EXT` & lhs
- `STORAGE` rhs
- bool `rhs_na`

### 6.406.1 Detailed Description

```

template<int RTYPE, typename T>
class Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >
  
```

Definition at line 274 of file `minus.h`.

## 6.406.2 Member Typedef Documentation

6.406.2.1 `template<int RTYPE, typename T > typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >::STORAGE`

Definition at line 277 of file minus.h.

6.406.2.2 `template<int RTYPE, typename T > typedef Rcpp::traits::Extractor<RTYPE,false,T>::type  
Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >::VEC_EXT`

Definition at line 279 of file minus.h.

6.406.2.3 `template<int RTYPE, typename T > typedef Rcpp::VectorBase<RTYPE,false,T>  
Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >::VEC_TYPE`

Definition at line 278 of file minus.h.

## 6.406.3 Constructor & Destructor Documentation

6.406.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T  
>::Minus_Vector_Primitive ( const VEC_TYPE & lhs_, STORAGE rhs_ ) [inline]`

Definition at line 281 of file minus.h.

## 6.406.4 Member Function Documentation

6.406.4.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 284 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.406.4.2 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >::size ( )  
const [inline]`

Definition at line 290 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

6.406.5 Member Data Documentation

6.406.5.1 `template<int RTYPE, typename T > const VEC_EXT& Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >::lhs [private]`

Definition at line 293 of file minus.h.

6.406.5.2 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >::rhs [private]`

Definition at line 294 of file minus.h.

6.406.5.3 `template<int RTYPE, typename T > bool Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >::rhs_na [private]`

Definition at line 295 of file minus.h.

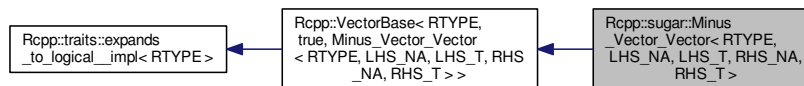
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/minus.h](#)

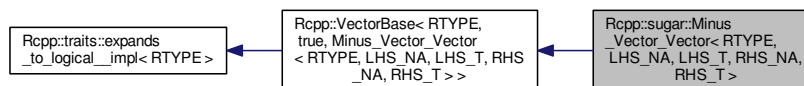
6.407 Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

`#include <minus.h>`

Inheritance diagram for Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

## Public Member Functions

- [Minus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [LHS\\_EXT](#) & lhs
- const [RHS\\_EXT](#) & rhs

### 6.407.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 29 of file minus.h.

### 6.407.2 Member Typedef Documentation

6.407.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, LHS_NA, LHS_T>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 35 of file minus.h.

6.407.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,LHS_NA,LHS_T> Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 32 of file minus.h.

6.407.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, RHS_NA, RHS_T>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 36 of file minus.h.

6.407.2.4 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 33 of file minus.h.

6.407.2.5 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 34 of file minus.h.

### 6.407.3 Constructor & Destructor Documentation

6.407.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Minus_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 38 of file minus.h.

### 6.407.4 Member Function Documentation

6.407.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > STORAGE Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 41 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.407.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 48 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.407.5 Member Data Documentation

6.407.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const LHS_EXT& Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 51 of file minus.h.

Referenced by `Rcpp::operator()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T >::operator[]()`, `Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >::operator[]()`, `Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T >::operator[]()`, `Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >::operator[]()`, `Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::size()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::size()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::size()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::size()`, `Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >::size()`, `Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >::size()`, `Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >::size()`, and `Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T >::size()`.

6.407.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT& Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 52 of file minus.h.

Referenced by `Rcpp::operator()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Primitive< RTYPE, NA, T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Primitive< REALSXP, NA, T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Primitive< RTYPE, false, T >::operator[]()`, `Rcpp::sugar::Minus_Vector_Primitive< REALSXP, false, T >::operator[]()`, `Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >::operator[]()`, `Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T >::operator[]()`, `Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >::operator[]()`, `Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T >::operator[]()`, `Rcpp::sugar::Minus_Primitive_Vector< RTYPE, NA, T >::size()`, `Rcpp::sugar::Minus_Primitive_Vector< REALSXP, NA, T >::size()`, `Rcpp::sugar::Minus_Primitive_Vector< RTYPE, false, T >::size()`, and `Rcpp::sugar::Minus_Primitive_Vector< REALSXP, false, T >::size()`.

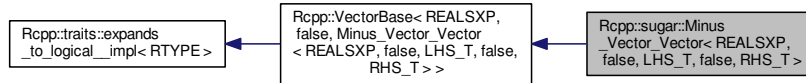
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/minus.h`

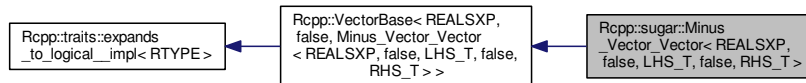
## 6.408 Rcpp::sugar::Minus\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Minus\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Minus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.408.1 Detailed Description

```
template<typename LHS_T, typename RHS_T>
class Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >
```

Definition at line 201 of file minus.h.

### 6.408.2 Member Typedef Documentation

6.408.2.1 `template<typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, LHS_T>::type Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 206 of file minus.h.

6.408.2.2 `template<typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,LHS_T> Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 204 of file minus.h.

6.408.2.3 `template<typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, RHS_T>::type Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 207 of file minus.h.

6.408.2.4 `template<typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,RHS_T> Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 205 of file minus.h.

### 6.408.3 Constructor & Destructor Documentation

6.408.3.1 `template<typename LHS_T, typename RHS_T > Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::Minus_Vector_Vector( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 209 of file minus.h.

### 6.408.4 Member Function Documentation

6.408.4.1 `template<typename LHS_T, typename RHS_T > double Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 212 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.



6.408.4.2 `template<typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::size ( ) const [inline]`

Definition at line 216 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.408.5 Member Data Documentation

6.408.5.1 `template<typename LHS_T, typename RHS_T > const LHS_EXT& Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 219 of file minus.h.

6.408.5.2 `template<typename LHS_T, typename RHS_T > const RHS_EXT& Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 220 of file minus.h.

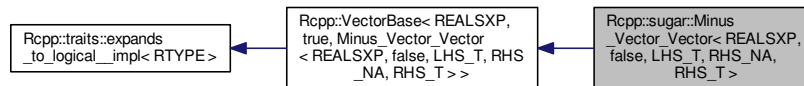
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/minus.h](#)

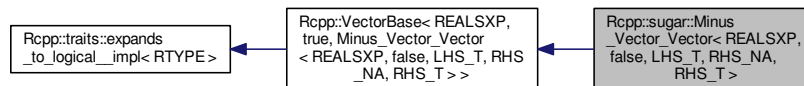
## 6.409 Rcpp::sugar::Minus\_Vector\_Vector< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for `Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >`:



Collaboration diagram for `Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >`:



## Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

## Public Member Functions

- [Minus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [LHS\\_EXT](#) & lhs
- const [RHS\\_EXT](#) & rhs

### 6.409.1 Detailed Description

```
template<typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 105 of file minus.h.

### 6.409.2 Member Typedef Documentation

6.409.2.1 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, LHS_T>::type Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 110 of file minus.h.

6.409.2.2 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,LHS_T> Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 108 of file minus.h.

6.409.2.3 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, RHS_NA, RHS_T>::type Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 111 of file minus.h.

```
6.409.2.4 template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, RHS_NA, RHS_T> Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::RHS_TYPE
```

Definition at line 109 of file minus.h.

### 6.409.3 Constructor & Destructor Documentation

```
6.409.3.1 template<typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::Minus_Vector_Vector ( const LHS_TYPE & lhs, const RHS_TYPE & rhs_ ) [inline]
```

Definition at line 113 of file minus.h.

### 6.409.4 Member Function Documentation

```
6.409.4.1 template<typename LHS_T, bool RHS_NA, typename RHS_T > double Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]
```

Definition at line 116 of file minus.h.

References Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

```
6.409.4.2 template<typename LHS_T, bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]
```

Definition at line 120 of file minus.h.

References Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs.

### 6.409.5 Member Data Documentation

```
6.409.5.1 template<typename LHS_T, bool RHS_NA, typename RHS_T > const LHS_EXT& Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::lhs [private]
```

Definition at line 123 of file minus.h.

```
6.409.5.2 template<typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT& Rcpp::sugar::Minus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::rhs [private]
```

Definition at line 124 of file minus.h.

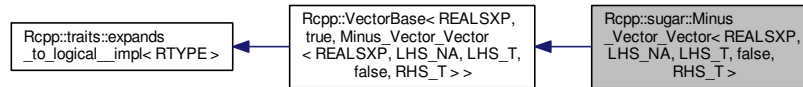
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/operators/minus.h

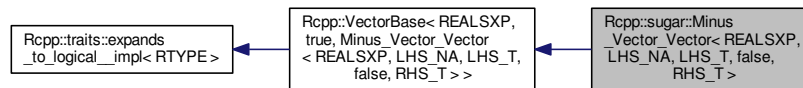
## 6.410 Rcpp::sugar::Minus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Minus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Minus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.410.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 154 of file minus.h.

### 6.410.2 Member Typedef Documentation

6.410.2.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, LHS_NA, LHS_T>::type Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 159 of file minus.h.

6.410.2.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, LHS_NA, LHS_T> Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 157 of file minus.h.

6.410.2.3 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, RHS_T>::type Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 160 of file minus.h.

6.410.2.4 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, false, RHS_T> Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 158 of file minus.h.

### 6.410.3 Constructor & Destructor Documentation

6.410.3.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::Minus_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ )`  
`[inline]`

Definition at line 162 of file minus.h.

## 6.410.4 Member Function Documentation

6.410.4.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > double Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 165 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.410.4.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::size( ) const [inline]`

Definition at line 169 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.410.5 Member Data Documentation

6.410.5.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > const LHS_EXT& Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 172 of file minus.h.

6.410.5.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > const RHS_EXT& Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 173 of file minus.h.

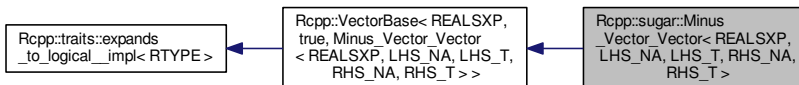
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/minus.h`

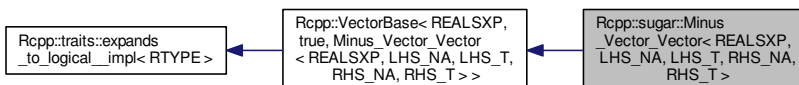
## 6.411 Rcpp::sugar::Minus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Minus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Minus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.411.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 56 of file minus.h.

### 6.411.2 Member Typedef Documentation

6.411.2.1 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, LHS_NA, LHS_T>::type Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 61 of file minus.h.

6.411.2.2 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,LHS_NA,LHS_T> Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 59 of file minus.h.

6.411.2.3 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, RHS_NA, RHS_T>::type Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 62 of file minus.h.

6.411.2.4 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,RHS_NA,RHS_T> Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 60 of file minus.h.

### 6.411.3 Constructor & Destructor Documentation

6.411.3.1 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::Minus_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 64 of file minus.h.



#### 6.411.4 Member Function Documentation

6.411.4.1 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > double Rcpp::sugar::↵  
Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 67 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp↵  
::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.411.4.2 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t  
Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const  
[inline]`

Definition at line 71 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

#### 6.411.5 Member Data Documentation

6.411.5.1 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_EXT&  
Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 74 of file minus.h.

6.411.5.2 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > const RHS_EXT&  
Rcpp::sugar::Minus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 75 of file minus.h.

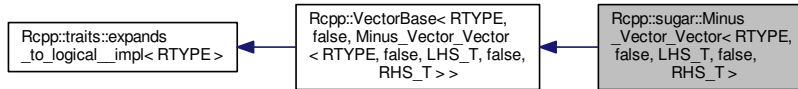
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/minus.h`

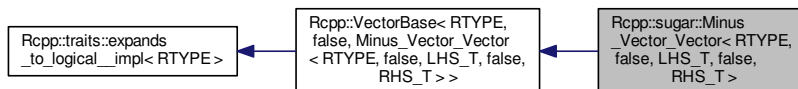
## 6.412 Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Minus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.412.1 Detailed Description

```
template<int RTYPE, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >
```

Definition at line 178 of file minus.h.

### 6.412.2 Member Typedef Documentation

6.412.2.1 `template<int RTYPE, typename LHS_T , typename RHS_T > typedef Rcpp::traits::Extractor<RTYPE, false, LHS_T>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 184 of file minus.h.

6.412.2.2 `template<int RTYPE, typename LHS_T , typename RHS_T > typedef Rcpp::VectorBase<RTYPE,false,LHS_T> Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 181 of file minus.h.

6.412.2.3 `template<int RTYPE, typename LHS_T , typename RHS_T > typedef Rcpp::traits::Extractor<RTYPE, false, RHS_T>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 185 of file minus.h.

6.412.2.4 `template<int RTYPE, typename LHS_T , typename RHS_T > typedef Rcpp::VectorBase<RTYPE,false,RHS_T> Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 182 of file minus.h.

6.412.2.5 `template<int RTYPE, typename LHS_T , typename RHS_T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::STORAGE`

Definition at line 183 of file minus.h.

### 6.412.3 Constructor & Destructor Documentation

6.412.3.1 `template<int RTYPE, typename LHS_T , typename RHS_T > Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::Minus_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 187 of file minus.h.

#### 6.412.4 Member Function Documentation

6.412.4.1 `template<int RTYPE, typename LHS_T, typename RHS_T > STORAGE Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 190 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.412.4.2 `template<int RTYPE, typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::size ( ) const [inline]`

Definition at line 194 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

#### 6.412.5 Member Data Documentation

6.412.5.1 `template<int RTYPE, typename LHS_T, typename RHS_T > const LHS_EXT& Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 197 of file minus.h.

6.412.5.2 `template<int RTYPE, typename LHS_T, typename RHS_T > const RHS_EXT& Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 198 of file minus.h.

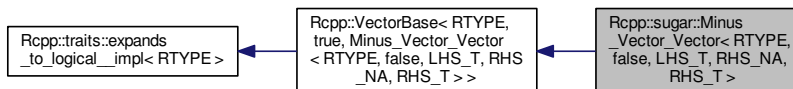
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/minus.h`

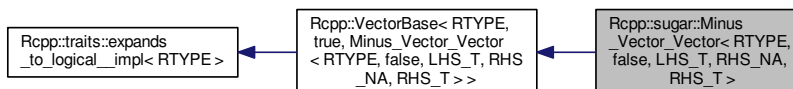
## 6.413 Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase< RTYPE, false, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase< RTYPE, RHS\\_NA, RHS\\_T >](#) [RHS\\_TYPE](#)
- typedef [traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)
- typedef [Rcpp::traits::Extractor< RTYPE, false, LHS\\_T >::type](#) [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor< RTYPE, RHS\\_NA, RHS\\_T >::type](#) [RHS\\_EXT](#)

### Public Member Functions

- [Minus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.413.1 Detailed Description

```
template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 80 of file minus.h.

### 6.413.2 Member Typedef Documentation

6.413.2.1 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<RTYPE, false, LHS_T>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 85 of file minus.h.

6.413.2.2 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<R<RTYPE,false,LHS_T> Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 82 of file minus.h.

6.413.2.3 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<RTYPE, RHS_NA, RHS_T>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 86 of file minus.h.

6.413.2.4 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<R<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 83 of file minus.h.

6.413.2.5 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef traits::storage_<RTYPE>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 84 of file minus.h.

### 6.413.3 Constructor & Destructor Documentation

6.413.3.1 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::Minus_Vector_Vector ( const LHS_TYPE & lhs, const RHS_TYPE & rhs ) [inline]`

Definition at line 88 of file minus.h.

### 6.413.4 Member Function Documentation

6.413.4.1 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > STORAGE Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 91 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.413.4.2 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 97 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.413.5 Member Data Documentation

6.413.5.1 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > const LHS_EXT& Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 100 of file minus.h.

6.413.5.2 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT& Rcpp::sugar::Minus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 101 of file minus.h.

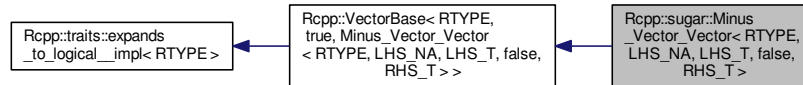
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/minus.h`

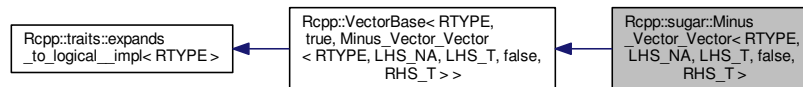
## 6.414 Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <minus.h>
```

Inheritance diagram for Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Minus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Minus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs



### 6.414.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 129 of file minus.h.

### 6.414.2 Member Typedef Documentation

6.414.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<RTYPE, LHS_NA, LHS_T>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 134 of file minus.h.

6.414.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<RTYPE, LHS_NA, LHS_T> Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 131 of file minus.h.

6.414.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<RTYPE, false, RHS_T>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 135 of file minus.h.

6.414.2.4 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<RTYPE, false, RHS_T> Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 132 of file minus.h.

6.414.2.5 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::STORAGE`

Definition at line 133 of file minus.h.

### 6.414.3 Constructor & Destructor Documentation

6.414.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::Minus_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 137 of file minus.h.

### 6.414.4 Member Function Documentation

6.414.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > STORAGE Rcpp::sugar↵  
::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 140 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp↵  
::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.414.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > R_xlen_t Rcpp↵  
::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::size ( ) const  
[inline]`

Definition at line 146 of file minus.h.

References `Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.414.5 Member Data Documentation

6.414.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > const LHS_EXT&  
Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 149 of file minus.h.

6.414.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > const RHS_EXT&  
Rcpp::sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 150 of file minus.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/minus.h`

## 6.415 Rcpp::Module Class Reference

```
#include <Module.h>
```

### Public Types

- typedef std::map< std::string, [CppFunction \\*](#) > [MAP](#)
- typedef std::pair< const std::string, [CppFunction \\*](#) > [FUNCTION\\_PAIR](#)
- typedef std::map< std::string, [class\\_Base \\*](#) > [CLASS\\_MAP](#)
- typedef std::pair< const std::string, [class\\_Base \\*](#) > [CLASS\\_PAIR](#)
- typedef [CLASS\\_MAP::iterator](#) [CLASS\\_ITERATOR](#)

### Public Member Functions

- [Module](#) ()
- [Module](#) (const char \*name\_)
- SEXP [invoke](#) (const std::string &name\_, SEXP \*args, int nargs)
- [IntegerVector](#) [functions\\_arity](#) ()
- [CharacterVector](#) [functions\\_names](#) ()
- [CharacterVector](#) [class\\_names](#) ()
- [List](#) [classes\\_info](#) ()
- [CharacterVector](#) [complete](#) ()
- SEXP [get\\_function](#) (const std::string &name\_)
- DL\_FUNC [get\\_function\\_ptr](#) (const std::string &name\_)
- void [Add](#) (const char \*name\_, [CppFunction \\*](#)ptr)
- void [AddClass](#) (const char \*name\_, [class\\_Base \\*](#)cptr)
- bool [has\\_function](#) (const std::string &m)
- bool [has\\_class](#) (const std::string &m)
- [CppClass](#) [get\\_class](#) (const std::string &cl)
- [class\\_Base \\*](#) [get\\_class\\_pointer](#) (const std::string &cl)
- void [add\\_enum](#) (const std::string &parent\_class\_typeinfo\_name, const std::string &enum\_name, const std::map< std::string, int > &value)

### Public Attributes

- std::string [name](#)

### Private Attributes

- [MAP](#) [functions](#)
- [CLASS\\_MAP](#) [classes](#)
- std::string [prefix](#)

### 6.415.1 Detailed Description

holds information about exposed functions and classes

Definition at line 30 of file Module.h.

### 6.415.2 Member Typedef Documentation

#### 6.415.2.1 typedef CLASS\_MAP::iterator Rcpp::Module::CLASS\_ITERATOR

Definition at line 37 of file Module.h.

#### 6.415.2.2 typedef std::map<std::string,class\_Base\*> Rcpp::Module::CLASS\_MAP

Definition at line 35 of file Module.h.

#### 6.415.2.3 typedef std::pair<const std::string,class\_Base\*> Rcpp::Module::CLASS\_PAIR

Definition at line 36 of file Module.h.

#### 6.415.2.4 typedef std::pair<const std::string,CppFunction\*> Rcpp::Module::FUNCTION\_PAIR

Definition at line 33 of file Module.h.

#### 6.415.2.5 typedef std::map<std::string,CppFunction\*> Rcpp::Module::MAP

Definition at line 32 of file Module.h.

### 6.415.3 Constructor & Destructor Documentation

#### 6.415.3.1 Rcpp::Module::Module ( ) [inline]

Definition at line 39 of file Module.h.

#### 6.415.3.2 Rcpp::Module::Module ( const char \* *name\_* ) [inline]

Definition at line 42 of file Module.h.

References `name`, and `prefix`.

## 6.415.4 Member Function Documentation

### 6.415.4.1 void Rcpp::Module::Add ( const char \* *name\_*, CppFunction \* *ptr* ) [inline]

Definition at line 193 of file Module.h.

References functions, Rcpp::CppFunction::get\_function\_ptr(), and prefix.

Here is the call graph for this function:



### 6.415.4.2 void Rcpp::Module::add\_enum ( const std::string & *parent\_class\_typeinfo\_name*, const std::string & *enum\_name*, const std::map< std::string, int > & *value* ) [inline]

Definition at line 220 of file Module.h.

References Rcpp::class\_Base::add\_enum(), and classes.

Referenced by Rcpp::enum\_< Enum, Parent >::~~enum\_().

Here is the call graph for this function:



### 6.415.4.3 void Rcpp::Module::AddClass ( const char \* *name\_*, class\_Base \* *cptr* ) [inline]

Definition at line 198 of file Module.h.

References classes.

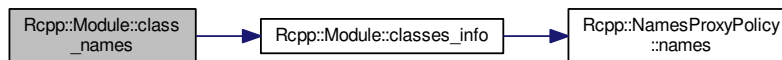
#### 6.415.4.4 `CharacterVector Rcpp::Module::class_names ( ) [inline]`

exposed class names

Definition at line 102 of file Module.h.

References classes, and `classes_info()`.

Here is the call graph for this function:



#### 6.415.4.5 `List Rcpp::Module::classes_info ( ) [inline]`

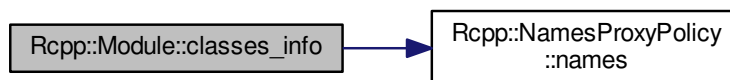
information about the classes

Definition at line 25 of file Module.h.

References classes, and `Rcpp::NamesProxyPolicy< CLASS >::names()`.

Referenced by `class_names()`.

Here is the call graph for this function:



#### 6.415.4.6 `CharacterVector Rcpp::Module::complete ( ) [inline]`

completion information

Definition at line 120 of file Module.h.

References classes, and functions.

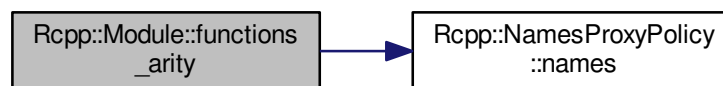
#### 6.415.4.7 IntegerVector Rcpp::Module::functions\_arity ( ) [inline]

vector of arity of all the functions exported by the module

Definition at line 73 of file Module.h.

References functions, and Rcpp::NamesProxyPolicy< CLASS >::names().

Here is the call graph for this function:



#### 6.415.4.8 CharacterVector Rcpp::Module::functions\_names ( ) [inline]

vector of names of the functions

Definition at line 89 of file Module.h.

References functions.

#### 6.415.4.9 CppClass Rcpp::Module::get\_class ( const std::string & cl ) [inline]

Definition at line 39 of file Module.h.

References BEGIN\_RCPP, classes, and END\_RCPP.

Referenced by has\_class().

#### 6.415.4.10 class\_Base\* Rcpp::Module::get\_class\_pointer ( const std::string & cl ) [inline]

Definition at line 212 of file Module.h.

References classes.

#### 6.415.4.11 SEXP Rcpp::Module::get\_function ( const std::string & name\_ ) [inline]

Returns a list that contains:

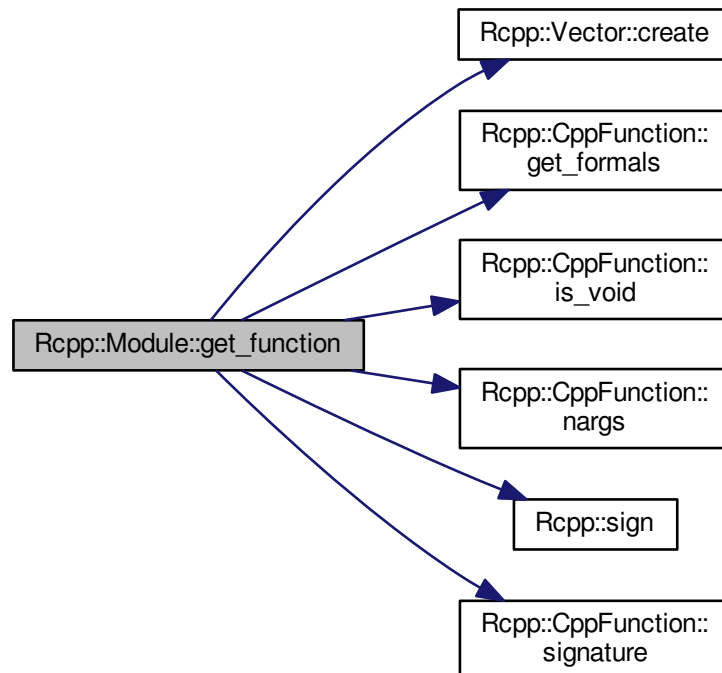
- an external pointer that encapsulates a CppFunction\*
- voidness of the function (logical)
- docstring (character)
- signature (character)
- formal arguments of the function

The [R](#) code in Module.R uses this information to create a C++Function object

Definition at line 155 of file Module.h.

References [Rcpp::Vector< RTYPE, StoragePolicy >::create\(\)](#), [Rcpp::CppFunction::docstring](#), [functions](#), [Rcpp::CppFunction::get\\_formals\(\)](#), [Rcpp::CppFunction::is\\_void\(\)](#), [Rcpp::CppFunction::nargs\(\)](#), [Rcpp::sign\(\)](#), and [Rcpp::CppFunction::signature\(\)](#).

Here is the call graph for this function:





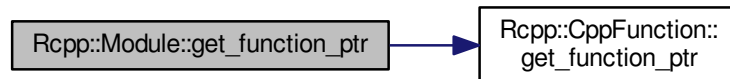
**6.415.4.12** DL\_FUNC Rcpp::Module::get\_function\_ptr ( const std::string & name\_ ) [inline]

get the underlying C++ function pointer as a DL\_FUNC

Definition at line 180 of file Module.h.

References functions, and Rcpp::CppMethod::get\_function\_ptr().

Here is the call graph for this function:

**6.415.4.13** bool Rcpp::Module::has\_class ( const std::string & m ) [inline]

Definition at line 206 of file Module.h.

References classes, and get\_class().

Here is the call graph for this function:

**6.415.4.14** bool Rcpp::Module::has\_function ( const std::string & m ) [inline]

Definition at line 202 of file Module.h.

References functions.

**6.415.4.15** SEXP Rcpp::Module::invoke ( const std::string & name\_, SEXP \* args, int nargs ) [inline]

calls a function from that module with the specified arguments

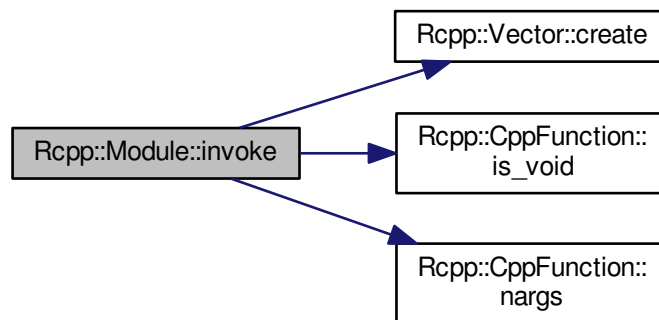
## Parameters

<i>name</i>	the name of the function to call
<i>args</i>	an array of <a href="#">R</a> objects to use as arguments for the function
<i>nargs</i>	number of arguments

Definition at line 54 of file Module.h.

References [Rcpp::\\_](#), [Rcpp::Vector< RTYPE, StoragePolicy >::create\(\)](#), [functions](#), [Rcpp::CppClass::is\\_void\(\)](#), and [Rcpp::CppClass::nargs\(\)](#).

Here is the call graph for this function:



### 6.415.5 Member Data Documentation

#### 6.415.5.1 CLASS\_MAP Rcpp::Module::classes [private]

Definition at line 236 of file Module.h.

Referenced by [add\\_enum\(\)](#), [AddClass\(\)](#), [class\\_names\(\)](#), [classes\\_info\(\)](#), [complete\(\)](#), [get\\_class\(\)](#), [get\\_class\\_pointer\(\)](#), and [has\\_class\(\)](#).

#### 6.415.5.2 MAP Rcpp::Module::functions [private]

Definition at line 235 of file Module.h.

Referenced by [Add\(\)](#), [complete\(\)](#), [functions\\_arity\(\)](#), [functions\\_names\(\)](#), [get\\_function\(\)](#), [get\\_function\\_ptr\(\)](#), [has\\_↔function\(\)](#), and [invoke\(\)](#).

### 6.415.5.3 std::string Rcpp::Module::name

Definition at line 218 of file Module.h.

Referenced by Module().

### 6.415.5.4 std::string Rcpp::Module::prefix [private]

Definition at line 237 of file Module.h.

Referenced by Add(), and Module().

The documentation for this class was generated from the following file:

- inst/include/Rcpp/module/[Module.h](#)

## 6.416 Rcpp::traits::module\_wrap\_traits< T > Struct Template Reference

```
#include <module_wrap_traits.h>
```

### Public Types

- typedef [normal\\_wrap\\_tag](#) category

### 6.416.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::module_wrap_traits< T >
```

Definition at line 33 of file module\_wrap\_traits.h.

### 6.416.2 Member Typedef Documentation

#### 6.416.2.1 template<typename T > typedef normal\_wrap\_tag Rcpp::traits::module\_wrap\_traits< T >::category

Definition at line 33 of file module\_wrap\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[module\\_wrap\\_traits.h](#)

## 6.417 Rcpp::traits::module\_wrap\_traits< T \* > Struct Template Reference

```
#include <module_wrap_traits.h>
```

### Public Types

- typedef [pointer\\_wrap\\_tag](#) category

### 6.417.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::module_wrap_traits< T * >
```

Definition at line 35 of file module\_wrap\_traits.h.

### 6.417.2 Member Typedef Documentation

6.417.2.1 `template<typename T > typedef pointer_wrap_tag Rcpp::traits::module_wrap_traits< T * >::category`

Definition at line 35 of file module\_wrap\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[module\\_wrap\\_traits.h](#)

## 6.418 Rcpp::traits::module\_wrap\_traits< void > Struct Template Reference

```
#include <module_wrap_traits.h>
```

### Public Types

- typedef [void\\_wrap\\_tag](#) category

### 6.418.1 Detailed Description

```
template<>  
struct Rcpp::traits::module_wrap_traits< void >
```

Definition at line 34 of file module\_wrap\_traits.h.

## 6.418.2 Member Typedef Documentation

### 6.418.2.1 typedef void\_wrap\_tag Rcpp::traits::module\_wrap\_traits< void >::category

Definition at line 34 of file module\_wrap\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/module\_wrap\_traits.h

## 6.419 Rcpp::Na\_Proxy Class Reference

```
#include <Na_Proxy.h>
```

### Friends

- bool operator==(double x, Rcpp::Na\_Proxy)
- bool operator==(int x, Rcpp::Na\_Proxy)
- bool operator==(Rcpp::String x, Rcpp::Na\_Proxy)
- bool operator==(Rcomplex x, Rcpp::Na\_Proxy)
- bool operator==(SEXP x, Rcpp::Na\_Proxy)
- bool operator==(std::string, Rcpp::Na\_Proxy)
- bool operator==(const char \*, Rcpp::Na\_Proxy)
- bool operator==(Rcpp::internal::string\_proxy< STRSXP > x, Rcpp::Na\_Proxy)
- bool operator==(Rcpp::internal::const\_string\_proxy< STRSXP > x, Rcpp::Na\_Proxy)
- bool operator==(Rcpp::Na\_Proxy, double x)
- bool operator==(Rcpp::Na\_Proxy, int x)
- bool operator==(Rcpp::Na\_Proxy, Rcpp::String x)
- bool operator==(Rcpp::Na\_Proxy, SEXP x)
- bool operator==(Rcpp::Na\_Proxy, Rcomplex x)
- bool operator==(Rcpp::Na\_Proxy, std::string)
- bool operator==(Rcpp::Na\_Proxy, const char \*)
- bool operator==(Rcpp::Na\_Proxy, Rcpp::internal::string\_proxy< STRSXP > x)
- bool operator==(Rcpp::Na\_Proxy, Rcpp::internal::const\_string\_proxy< STRSXP > x)

### 6.419.1 Detailed Description

Definition at line 22 of file Na\_Proxy.h.

### 6.419.2 Friends And Related Function Documentation

#### 6.419.2.1 bool operator==( double x, Rcpp::Na\_Proxy ) [friend]

Definition at line 24 of file Na\_Proxy.h.

6.419.2.2 `bool operator==( int x, Rcpp::Na_Proxy ) [friend]`

Definition at line 25 of file Na\_Proxy.h.

6.419.2.3 `bool operator==( Rcpp::String x, Rcpp::Na_Proxy ) [friend]`

Definition at line 26 of file Na\_Proxy.h.

6.419.2.4 `bool operator==( Rcomplex x, Rcpp::Na_Proxy ) [friend]`

Definition at line 27 of file Na\_Proxy.h.

6.419.2.5 `bool operator==( SEXP x, Rcpp::Na_Proxy ) [friend]`

Definition at line 28 of file Na\_Proxy.h.

6.419.2.6 `bool operator==( std::string, Rcpp::Na_Proxy ) [friend]`

Definition at line 29 of file Na\_Proxy.h.

6.419.2.7 `bool operator==( const char *, Rcpp::Na_Proxy ) [friend]`

Definition at line 30 of file Na\_Proxy.h.

6.419.2.8 `bool operator==( Rcpp::internal::string_proxy< STRSXP > x, Rcpp::Na_Proxy ) [friend]`

Definition at line 31 of file Na\_Proxy.h.

6.419.2.9 `bool operator==( Rcpp::internal::const_string_proxy< STRSXP > x, Rcpp::Na_Proxy ) [friend]`

Definition at line 34 of file Na\_Proxy.h.

6.419.2.10 `bool operator==( Rcpp::Na_Proxy, double x ) [friend]`

Definition at line 38 of file Na\_Proxy.h.

6.419.2.11 `bool operator==( Rcpp::Na_Proxy, int x ) [friend]`

Definition at line 39 of file Na\_Proxy.h.

6.419.2.12 `bool operator==( Rcpp::Na_Proxy, Rcpp::String x )` [*friend*]

Definition at line 40 of file Na\_Proxy.h.

6.419.2.13 `bool operator==( Rcpp::Na_Proxy, SEXP x )` [*friend*]

Definition at line 41 of file Na\_Proxy.h.

6.419.2.14 `bool operator==( Rcpp::Na_Proxy, Rcomplex x )` [*friend*]

Definition at line 42 of file Na\_Proxy.h.

6.419.2.15 `bool operator==( Rcpp::Na_Proxy, std::string )` [*friend*]

Definition at line 43 of file Na\_Proxy.h.

6.419.2.16 `bool operator==( Rcpp::Na_Proxy, const char * )` [*friend*]

Definition at line 44 of file Na\_Proxy.h.

6.419.2.17 `bool operator==( Rcpp::Na_Proxy, Rcpp::internal::string_proxy< STRSXP > x )` [*friend*]

Definition at line 45 of file Na\_Proxy.h.

6.419.2.18 `bool operator==( Rcpp::Na_Proxy, Rcpp::internal::const_string_proxy< STRSXP > x )` [*friend*]

Definition at line 48 of file Na\_Proxy.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Na\\_Proxy.h](#)

## 6.420 Rcpp::traits::named\_object< T > Class Template Reference

```
#include <named_object.h>
```

### Public Member Functions

- [named\\_object](#) (const std::string &name\_, const T &o\_)

## Public Attributes

- const std::string & [name](#)
- const T & [object](#)

### 6.420.1 Detailed Description

```
template<typename T>  
class Rcpp::traits::named_object< T >
```

Definition at line 34 of file `named_object.h`.

### 6.420.2 Constructor & Destructor Documentation

6.420.2.1 `template<typename T> Rcpp::traits::named_object< T >::named_object ( const std::string & name_, const T & o_ )` `[inline]`

Definition at line 36 of file `named_object.h`.

### 6.420.3 Member Data Documentation

6.420.3.1 `template<typename T> const std::string& Rcpp::traits::named_object< T >::name`

Definition at line 38 of file `named_object.h`.

Referenced by `Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator=()`.

6.420.3.2 `template<typename T> const T& Rcpp::traits::named_object< T >::object`

Definition at line 39 of file `named_object.h`.

Referenced by `Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy::operator=()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/traits/named_object.h`

## 6.421 Rcpp::traits::named\_object< SEXP > Class Template Reference

```
#include <named_object.h>
```



## Public Member Functions

- [named\\_object](#) (const std::string &name\_, const SEXP &o\_)
- [named\\_object](#) (const [named\\_object](#)< SEXP > &other)
- [~named\\_object](#) ()

## Public Attributes

- const std::string & [name](#)
- SEXP [object](#)

### 6.421.1 Detailed Description

```
template<>
class Rcpp::traits::named_object< SEXP >
```

Definition at line 41 of file `named_object.h`.

### 6.421.2 Constructor & Destructor Documentation

6.421.2.1 `Rcpp::traits::named_object< SEXP >::named_object ( const std::string & name_, const SEXP & o_ )`  
[inline]

Definition at line 43 of file `named_object.h`.

6.421.2.2 `Rcpp::traits::named_object< SEXP >::named_object ( const named_object< SEXP > & other )`  
[inline]

Definition at line 49 of file `named_object.h`.

6.421.2.3 `Rcpp::traits::named_object< SEXP >::~named_object ( )` [inline]

Definition at line 54 of file `named_object.h`.

### 6.421.3 Member Data Documentation

6.421.3.1 `const std::string & Rcpp::traits::named_object< SEXP >::name`

Definition at line 57 of file `named_object.h`.

### 6.421.3.2 SEXP Rcpp::traits::named\_object<SEXP>::object

Definition at line 58 of file named\_object.h.

The documentation for this class was generated from the following file:

- inst/include/Rcpp/traits/named\_object.h

## 6.422 Rcpp::internal::NamedPlaceholder Class Reference

```
#include <Named.h>
```

### Public Member Functions

- [NamedPlaceholder](#) ()
- [~NamedPlaceholder](#) ()
- [Argument operator\[\]](#) (const std::string &arg) const
- [Argument operator\(\)](#) (const std::string &arg) const
- [operator SEXP](#) () const

### 6.422.1 Detailed Description

Definition at line 50 of file Named.h.

### 6.422.2 Constructor & Destructor Documentation

6.422.2.1 [Rcpp::internal::NamedPlaceholder::NamedPlaceholder \( \)](#) `[inline]`

Definition at line 52 of file Named.h.

6.422.2.2 [Rcpp::internal::NamedPlaceholder::~~NamedPlaceholder \( \)](#) `[inline]`

Definition at line 53 of file Named.h.

### 6.422.3 Member Function Documentation

6.422.3.1 [Rcpp::internal::NamedPlaceholder::operator SEXP \( \)](#) const `[inline]`

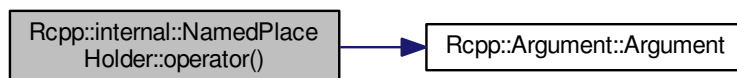
Definition at line 60 of file Named.h.

### 6.422.3.2 Argument Rcpp::internal::NamedPlaceholder::operator() ( const std::string & arg ) const [inline]

Definition at line 57 of file Named.h.

References Rcpp::Argument::Argument().

Here is the call graph for this function:

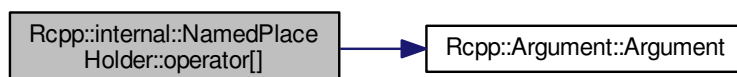


### 6.422.3.3 Argument Rcpp::internal::NamedPlaceholder::operator[] ( const std::string & arg ) const [inline]

Definition at line 54 of file Named.h.

References Rcpp::Argument::Argument().

Here is the call graph for this function:



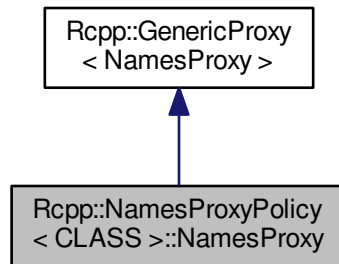
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Named.h](#)

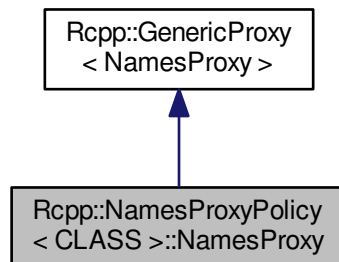
## 6.423 Rcpp::NamesProxyPolicy< CLASS >::NamesProxy Class Reference

```
#include <NamesProxy.h>
```

Inheritance diagram for Rcpp::NamesProxyPolicy< CLASS >::NamesProxy:



Collaboration diagram for Rcpp::NamesProxyPolicy< CLASS >::NamesProxy:



### Public Member Functions

- [NamesProxy](#) (CLASS &v)
- [NamesProxy](#) & [operator=](#) (const [NamesProxy](#) &rhs)
- template<typename T >  
[NamesProxy](#) & [operator=](#) (const T &rhs)
- template<typename T >  
[operator T](#) () const
- template<typename T >  
[NamesProxyPolicy](#)< CLASS >::[NamesProxy](#) & [operator=](#) (const T &rhs)

## Private Member Functions

- SEXP [get](#) () const
- void [set](#) (SEXP x)

## Private Attributes

- CLASS & [parent](#)

### 6.423.1 Detailed Description

```
template<typename CLASS>  
class Rcpp::NamesProxyPolicy< CLASS >::NamesProxy
```

Definition at line 27 of file NamesProxy.h.

### 6.423.2 Constructor & Destructor Documentation

6.423.2.1 `template<typename CLASS> Rcpp::NamesProxyPolicy< CLASS >::NamesProxy ( CLASS & v )`  
[[inline](#)]

Definition at line 29 of file NamesProxy.h.

Referenced by `Rcpp::NamesProxyPolicy< Vector< RTYPE, StoragePolicy > >::names()`.

### 6.423.3 Member Function Documentation

6.423.3.1 `template<typename CLASS> SEXP Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::get ( ) const`  
[[inline](#)], [[private](#)]

Definition at line 45 of file NamesProxy.h.

References `RCPP_GET_NAMES`.

Referenced by `Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::operator=()`.

6.423.3.2 `template<typename CLASS > template<typename T > Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::operator T ( ) const`

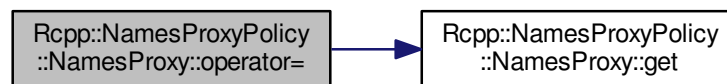
Definition at line 70 of file proxy.h.

6.423.3.3 `template<typename CLASS> NamesProxy& Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::operator= ( const NamesProxy & rhs ) [inline]`

Definition at line 32 of file NamesProxy.h.

References `Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::get()`.

Here is the call graph for this function:



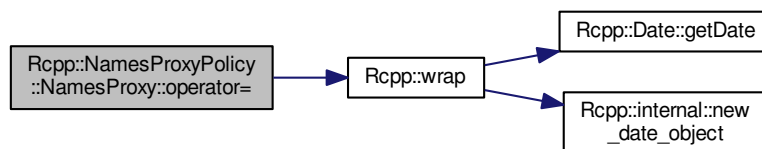
6.423.3.4 `template<typename CLASS> template<typename T > NamesProxy& Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::operator= ( const T & rhs )`

6.423.3.5 `template<typename CLASS> template<typename T > NamesProxyPolicy<CLASS>::NamesProxy& Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::operator= ( const T & rhs )`

Definition at line 63 of file proxy.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:

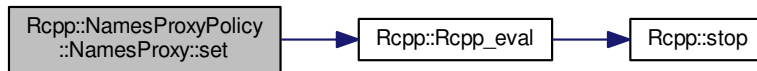


6.423.3.6 `template<typename CLASS> void Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::set ( SEXP x )`  
`[inline], [private]`

Definition at line 49 of file NamesProxy.h.

References Rcpp::Rcpp\_eval().

Here is the call graph for this function:



#### 6.423.4 Member Data Documentation

6.423.4.1 `template<typename CLASS> CLASS& Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::parent`  
`[private]`

Definition at line 43 of file NamesProxy.h.

The documentation for this class was generated from the following files:

- [inst/include/Rcpp/proxy/NamesProxy.h](#)
- [inst/include/Rcpp/api/meat/proxy.h](#)

## 6.424 Rcpp::NamesProxyPolicy< CLASS > Class Template Reference

```
#include <NamesProxy.h>
```

### Classes

- class [const\\_NamesProxy](#)
- class [NamesProxy](#)

### Public Member Functions

- [NamesProxy names \(\)](#)
- [const\\_NamesProxy names \(\) const](#)

### 6.424.1 Detailed Description

```
template<typename CLASS>
class Rcpp::NamesProxyPolicy< CLASS >
```

Definition at line 24 of file NamesProxy.h.

### 6.424.2 Member Function Documentation

6.424.2.1 `template<typename CLASS> NamesProxy Rcpp::NamesProxyPolicy< CLASS >::names ( ) [inline]`

Definition at line 80 of file NamesProxy.h.

Referenced by `Rcpp::Module::classes_info()`, `class_< Class >::fields()`, `Rcpp::Module::functions_arity()`, `class_< Class >::getMethods()`, `lapplyCpp()`, `class_< Class >::methods_arity()`, `class_< Class >::methods_voidness()`, and `class_< Class >::property_classes()`.

6.424.2.2 `template<typename CLASS> const_NamesProxy Rcpp::NamesProxyPolicy< CLASS >::names ( ) const [inline]`

Definition at line 84 of file NamesProxy.h.

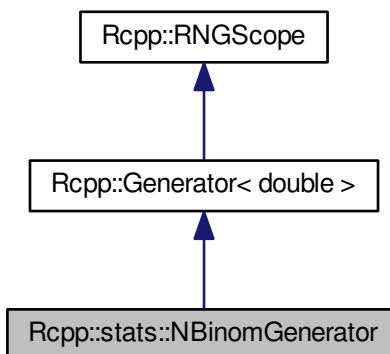
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/proxy/NamesProxy.h](#)

## 6.425 Rcpp::stats::NBinomGenerator Class Reference

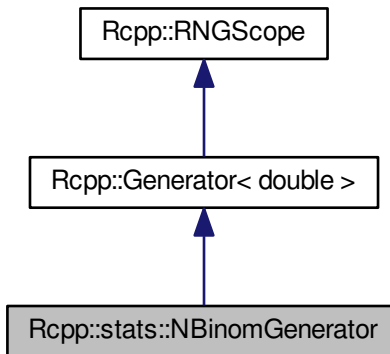
```
#include <rnbinom.h>
```

Inheritance diagram for `Rcpp::stats::NBinomGenerator`:





Collaboration diagram for Rcpp::stats::NBinomGenerator:



### Public Member Functions

- [NBinomGenerator](#) (double *siz\_*, double *prob\_*)
- double [operator\(\)](#) () const

### Private Attributes

- double [siz](#)
- double [lambda](#)

### Additional Inherited Members

#### 6.425.1 Detailed Description

Definition at line 28 of file `rnbinom.h`.

#### 6.425.2 Constructor & Destructor Documentation

6.425.2.1 `Rcpp::stats::NBinomGenerator::NBinomGenerator ( double siz_, double prob_ )` `[inline]`

Definition at line 31 of file `rnbinom.h`.

### 6.425.3 Member Function Documentation

6.425.3.1 `double Rcpp::stats::NBinomGenerator::operator()( ) const [inline]`

Definition at line 34 of file `rnbinom.h`.

References `lambda`, and `siz`.

### 6.425.4 Member Data Documentation

6.425.4.1 `double Rcpp::stats::NBinomGenerator::lambda [private]`

Definition at line 40 of file `rnbinom.h`.

Referenced by `operator()`.

6.425.4.2 `double Rcpp::stats::NBinomGenerator::siz [private]`

Definition at line 39 of file `rnbinom.h`.

Referenced by `operator()`.

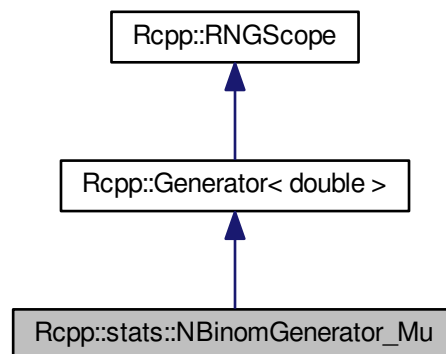
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rnbinom.h](#)

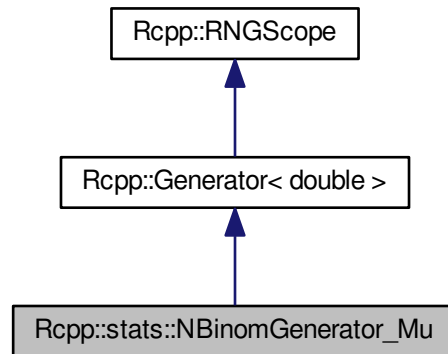
## 6.426 Rcpp::stats::NBinomGenerator\_Mu Class Reference

```
#include <rnbinom_mu.h>
```

Inheritance diagram for `Rcpp::stats::NBinomGenerator_Mu`:



Collaboration diagram for Rcpp::stats::NBinomGenerator\_Mu:



### Public Member Functions

- [NBinomGenerator\\_Mu](#) (double siz\_, double mu\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [siz](#)
- double [lambda](#)

### Additional Inherited Members

#### 6.426.1 Detailed Description

Definition at line 28 of file rnbinom\_mu.h.

#### 6.426.2 Constructor & Destructor Documentation

6.426.2.1 `Rcpp::stats::NBinomGenerator_Mu::NBinomGenerator_Mu ( double siz_, double mu_ ) [inline]`

Definition at line 31 of file rnbinom\_mu.h.

### 6.426.3 Member Function Documentation

6.426.3.1 `double Rcpp::stats::NBinomGenerator_Mu::operator()( ) const [inline]`

Definition at line 34 of file `rnbinom_mu.h`.

References `lambda`, and `siz`.

### 6.426.4 Member Data Documentation

6.426.4.1 `double Rcpp::stats::NBinomGenerator_Mu::lambda [private]`

Definition at line 40 of file `rnbinom_mu.h`.

Referenced by `operator()`.

6.426.4.2 `double Rcpp::stats::NBinomGenerator_Mu::siz [private]`

Definition at line 39 of file `rnbinom_mu.h`.

Referenced by `operator()`.

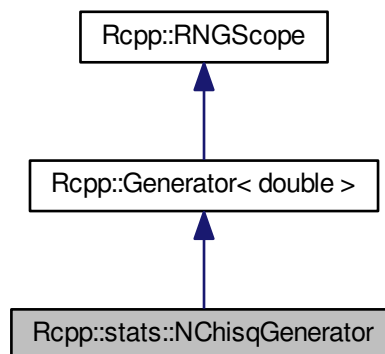
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rnbinom\\_mu.h](#)

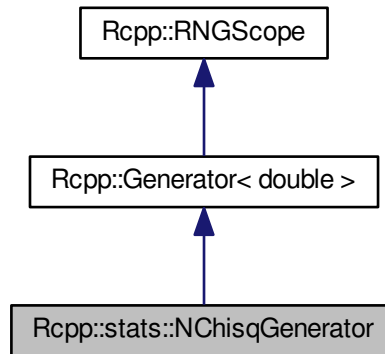
## 6.427 Rcpp::stats::NChisqGenerator Class Reference

```
#include <rnchisq.h>
```

Inheritance diagram for `Rcpp::stats::NChisqGenerator`:



Collaboration diagram for Rcpp::stats::NChisqGenerator:



### Public Member Functions

- [NChisqGenerator](#) (double df\_, double lambda\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [df](#)
- double [df\\_2](#)
- double [lambda\\_2](#)

### Additional Inherited Members

#### 6.427.1 Detailed Description

Definition at line 28 of file rnchisq.h.

#### 6.427.2 Constructor & Destructor Documentation

6.427.2.1 `Rcpp::stats::NChisqGenerator::NChisqGenerator ( double df, double lambda_ ) [inline]`

Definition at line 31 of file rnchisq.h.

### 6.427.3 Member Function Documentation

6.427.3.1 `double Rcpp::stats::NChisqGenerator::operator() ( ) const [inline]`

Definition at line 34 of file `rnchisq.h`.

References `df`, `df_2`, and `lambda_2`.

### 6.427.4 Member Data Documentation

6.427.4.1 `double Rcpp::stats::NChisqGenerator::df [private]`

Definition at line 46 of file `rnchisq.h`.

Referenced by `operator()`.

6.427.4.2 `double Rcpp::stats::NChisqGenerator::df_2 [private]`

Definition at line 47 of file `rnchisq.h`.

Referenced by `operator()`.

6.427.4.3 `double Rcpp::stats::NChisqGenerator::lambda_2 [private]`

Definition at line 48 of file `rnchisq.h`.

Referenced by `operator()`.

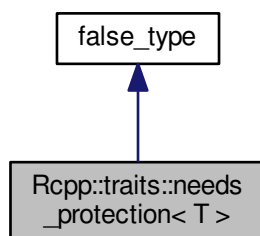
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rnchisq.h](#)

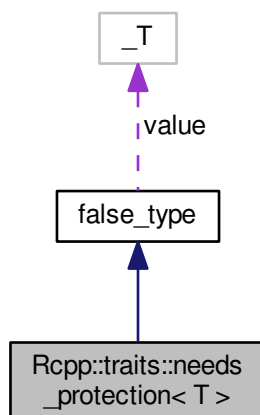
## 6.428 Rcpp::traits::needs\_protection< T > Struct Template Reference

```
#include <named_object.h>
```

Inheritance diagram for Rcpp::traits::needs\_protection< T >:



Collaboration diagram for Rcpp::traits::needs\_protection< T >:



### Additional Inherited Members

#### 6.428.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::needs_protection< T >
```

Definition at line 31 of file named\_object.h.

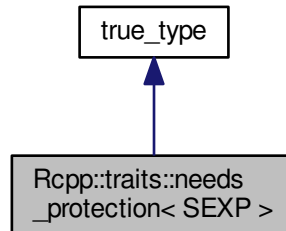
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/named\_object.h

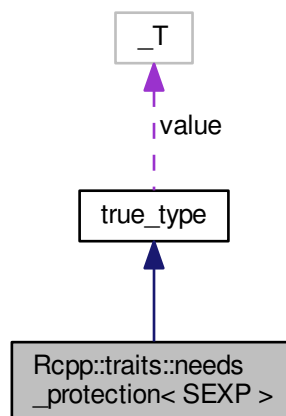
## 6.429 Rcpp::traits::needs\_protection< SEXP > Struct Template Reference

```
#include <named_object.h>
```

Inheritance diagram for Rcpp::traits::needs\_protection< SEXP >:



Collaboration diagram for Rcpp::traits::needs\_protection< SEXP >:





## Additional Inherited Members

### 6.429.1 Detailed Description

```
template<>
struct Rcpp::traits::needs_protection< SEXP >
```

Definition at line 32 of file named\_object.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/named\_object.h

## 6.430 Rcpp::sugar::negate< NA > Struct Template Reference

```
#include <not.h>
```

### Static Public Member Functions

- static int [apply](#) (int x)

### 6.430.1 Detailed Description

```
template<bool NA>
struct Rcpp::sugar::negate< NA >
```

Definition at line 28 of file not.h.

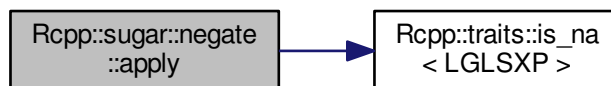
### 6.430.2 Member Function Documentation

6.430.2.1 `template<bool NA> static int Rcpp::sugar::negate< NA >::apply ( int x ) [inline], [static]`

Definition at line 29 of file not.h.

References `Rcpp::traits::is_na< LGLSXP >()`.

Here is the call graph for this function:



The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/logical/not.h

## 6.431 Rcpp::sugar::negate< false > Struct Template Reference

```
#include <not.h>
```

### Static Public Member Functions

- static int [apply](#) (int x)

### 6.431.1 Detailed Description

```
template<>
struct Rcpp::sugar::negate< false >
```

Definition at line 34 of file not.h.

### 6.431.2 Member Function Documentation

6.431.2.1 static int [Rcpp::sugar::negate< false >::apply](#) ( int x ) `[inline]`, `[static]`

Definition at line 35 of file not.h.

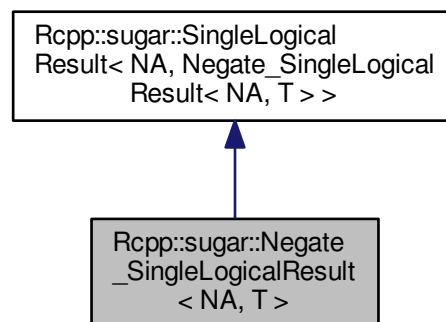
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/logical/not.h](#)

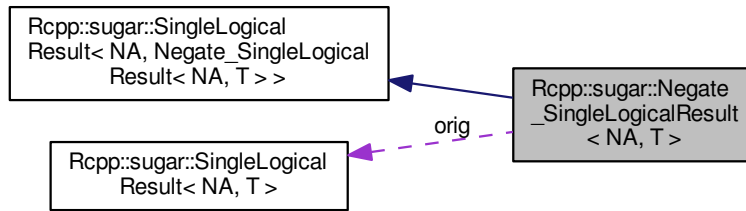
## 6.432 Rcpp::sugar::Negate\_SingleLogicalResult< NA, T > Class Template Reference

```
#include <not.h>
```

Inheritance diagram for `Rcpp::sugar::Negate_SingleLogicalResult< NA, T >`:



Collaboration diagram for Rcpp::sugar::Negate\_SingleLogicalResult< NA, T >:



## Public Types

- typedef [SingleLogicalResult< NA, T > TYPE](#)
- typedef [SingleLogicalResult< NA, Negate\\_SingleLogicalResult< NA, T > > BASE](#)

## Public Member Functions

- [Negate\\_SingleLogicalResult](#) (const [TYPE](#) &orig\_)
- void [apply](#) ()

## Private Attributes

- const [TYPE](#) & [orig](#)

## Additional Inherited Members

### 6.432.1 Detailed Description

```

template<bool NA, typename T>
class Rcpp::sugar::Negate_SingleLogicalResult< NA, T >

```

Definition at line 42 of file not.h.

### 6.432.2 Member Typedef Documentation

6.432.2.1 `template<bool NA, typename T > typedef SingleLogicalResult<NA, Negate\_SingleLogicalResult<NA,T> > Rcpp::sugar::Negate\_SingleLogicalResult< NA, T >::BASE`

Definition at line 45 of file not.h.

6.432.2 `template<bool NA, typename T > typedef SingleLogicalResult<NA,T> Rcpp::sugar::Negate_SingleLogicalResult< NA, T >::TYPE`

Definition at line 44 of file not.h.

### 6.432.3 Constructor & Destructor Documentation

6.432.3.1 `template<bool NA, typename T > Rcpp::sugar::Negate_SingleLogicalResult< NA, T >::Negate_SingleLogicalResult ( const TYPE & orig_ ) [inline]`

Definition at line 46 of file not.h.

### 6.432.4 Member Function Documentation

6.432.4.1 `template<bool NA, typename T > void Rcpp::sugar::Negate_SingleLogicalResult< NA, T >::apply ( ) [inline]`

Definition at line 48 of file not.h.

### 6.432.5 Member Data Documentation

6.432.5.1 `template<bool NA, typename T > const TYPE& Rcpp::sugar::Negate_SingleLogicalResult< NA, T >::orig [private]`

Definition at line 53 of file not.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/logical/not.h](#)

## 6.433 Rcpp::sugar::cbind\_impl::detail::has\_stored\_type< T >::no Struct Reference

### Public Attributes

- char [array](#) [2]

### 6.433.1 Detailed Description

```
template<typename T>
struct Rcpp::sugar::cbind_impl::detail::has_stored_type< T >::no
```

Definition at line 376 of file cbind.h.

## 6.433.2 Member Data Documentation

### 6.433.2.1 `template<typename T > char Rcpp::sugar::cbind_impl::detail::has_stored_type< T >::no::array[2]`

Definition at line 377 of file `cbind.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/sugar/functions/cbind.h`

## 6.434 Rcpp::no\_init\_matrix Class Reference

```
#include <no_init.h>
```

### Public Member Functions

- `no_init_matrix` (int nr\_, int nc\_)
- int `nrow` () const
- int `ncol` () const
- `template<int RTYPE, template< class > class StoragePolicy>`  
`operator Matrix< RTYPE, StoragePolicy > () const`

### Private Attributes

- int `nr`
- int `nc`

### 6.434.1 Detailed Description

Definition at line 47 of file `no_init.h`.

### 6.434.2 Constructor & Destructor Documentation

#### 6.434.2.1 `Rcpp::no_init_matrix::no_init_matrix ( int nr_, int nc_ ) [inline]`

Definition at line 49 of file `no_init.h`.

### 6.434.3 Member Function Documentation

6.434.3.1 `int Rcpp::no_init_matrix::ncol ( ) const [inline]`

Definition at line 55 of file `no_init.h`.

Referenced by `Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix()`.

6.434.3.2 `int Rcpp::no_init_matrix::nrow ( ) const [inline]`

Definition at line 51 of file `no_init.h`.

Referenced by `Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix()`.

6.434.3.3 `template<int RTYPE, template< class > class StoragePolicy> Rcpp::no_init_matrix::operator Matrix< RTYPE, StoragePolicy > ( ) const [inline]`

Definition at line 60 of file `no_init.h`.

### 6.434.4 Member Data Documentation

6.434.4.1 `int Rcpp::no_init_matrix::nc [private]`

Definition at line 66 of file `no_init.h`.

6.434.4.2 `int Rcpp::no_init_matrix::nr [private]`

Definition at line 65 of file `no_init.h`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/vector/no_init.h`

## 6.435 Rcpp::no\_init\_vector Class Reference

```
#include <no_init.h>
```

### Public Member Functions

- `no_init_vector (R_xlen_t size_)`
- `R_xlen_t get () const`
- `template<int RTYPE, template< class > class StoragePolicy> operator Vector< RTYPE, StoragePolicy > () const`

## Private Attributes

- [R\\_xlen\\_t size](#)

### 6.435.1 Detailed Description

Definition at line 30 of file no\_init.h.

### 6.435.2 Constructor & Destructor Documentation

#### 6.435.2.1 Rcpp::no\_init\_vector::no\_init\_vector ( R\_xlen\_t size\_ ) `[inline]`

Definition at line 32 of file no\_init.h.

Referenced by Rcpp::no\_init().

### 6.435.3 Member Function Documentation

#### 6.435.3.1 R\_xlen\_t Rcpp::no\_init\_vector::get ( ) const `[inline]`

Definition at line 34 of file no\_init.h.

References [size](#).

Referenced by Rcpp::Vector< INTSXP >::Vector().

#### 6.435.3.2 `template<int RTYPE, template< class > class StoragePolicy> Rcpp::no_init_vector::operator Vector< RTYPE, StoragePolicy > ( ) const [inline]`

Definition at line 39 of file no\_init.h.

References [size](#).

### 6.435.4 Member Data Documentation

#### 6.435.4.1 R\_xlen\_t Rcpp::no\_init\_vector::size `[private]`

Definition at line 44 of file no\_init.h.

Referenced by [get\(\)](#), and [operator Vector< RTYPE, StoragePolicy >\(\)](#).

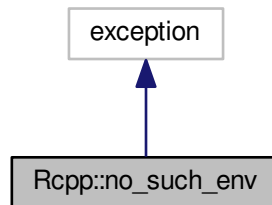
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/no\\_init.h](#)

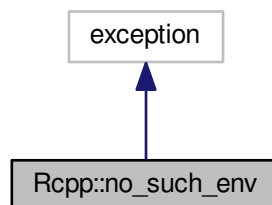
## 6.436 Rcpp::no\_such\_env Class Reference

```
#include <exceptions.h>
```

Inheritance diagram for Rcpp::no\_such\_env:



Collaboration diagram for Rcpp::no\_such\_env:



### Public Member Functions

- `no_such_env` (const std::string &name) throw ()
- `no_such_env` (int pos) throw ()
- virtual `~no_such_env` () throw ()
- virtual const char \* `what` () const throw ()

### Private Attributes

- std::string `message`



### 6.436.1 Detailed Description

Definition at line 50 of file exceptions.h.

### 6.436.2 Constructor & Destructor Documentation

6.436.2.1 Rcpp::no\_such\_env::no\_such\_env ( const std::string & name ) throw [inline]

Definition at line 52 of file exceptions.h.

6.436.2.2 Rcpp::no\_such\_env::no\_such\_env ( int pos ) throw [inline]

Definition at line 53 of file exceptions.h.

6.436.2.3 virtual Rcpp::no\_such\_env::~no\_such\_env ( ) throw [inline],[virtual]

Definition at line 54 of file exceptions.h.

### 6.436.3 Member Function Documentation

6.436.3.1 virtual const char\* Rcpp::no\_such\_env::what ( ) const throw [inline],[virtual]

Definition at line 55 of file exceptions.h.

References Rcpp::exception::message.

### 6.436.4 Member Data Documentation

6.436.4.1 std::string Rcpp::no\_such\_env::message [private]

Definition at line 55 of file exceptions.h.

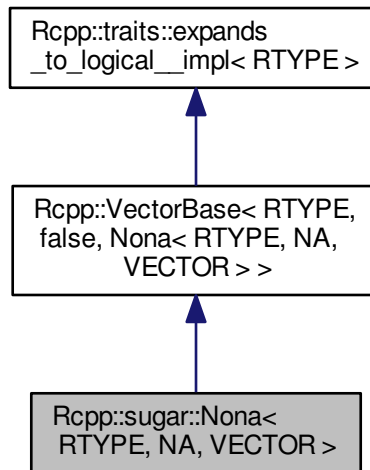
The documentation for this class was generated from the following file:

- inst/include/Rcpp/[exceptions.h](#)

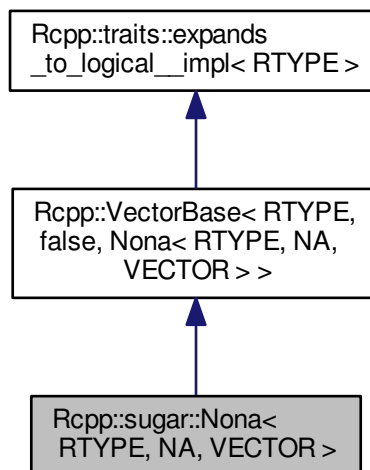
## 6.437 Rcpp::sugar::Nona< RTYPE, NA, VECTOR > Class Template Reference

```
#include <nona.h>
```

Inheritance diagram for Rcpp::sugar::Nona< RTYPE, NA, VECTOR >:



Collaboration diagram for Rcpp::sugar::Nona< RTYPE, NA, VECTOR >:



## Public Types

- typedef [Rcpp::VectorBase< RTYPE, NA, VECTOR >](#) [SUGAR\\_TYPE](#)
- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)

## Public Member Functions

- [Nona](#) (const [SUGAR\\_TYPE](#) &expr)
- [R\\_xlen\\_t size](#) () const
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const

## Private Attributes

- const VECTOR & [data](#)

### 6.437.1 Detailed Description

```
template<int RTYPE, bool NA, typename VECTOR>  
class Rcpp::sugar::Nona< RTYPE, NA, VECTOR >
```

Definition at line 29 of file nona.h.

### 6.437.2 Member Typedef Documentation

6.437.2.1 `template<int RTYPE, bool NA, typename VECTOR > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Nona< RTYPE, NA, VECTOR >::STORAGE`

Definition at line 32 of file nona.h.

6.437.2.2 `template<int RTYPE, bool NA, typename VECTOR > typedef Rcpp::VectorBase<RTYPE,NA,VECTOR> Rcpp::sugar::Nona< RTYPE, NA, VECTOR >::SUGAR_TYPE`

Definition at line 31 of file nona.h.

### 6.437.3 Constructor & Destructor Documentation

6.437.3.1 `template<int RTYPE, bool NA, typename VECTOR > Rcpp::sugar::Nona< RTYPE, NA, VECTOR >::Nona ( const SUGAR_TYPE & expr ) [inline]`

Definition at line 34 of file nona.h.

#### 6.437.4 Member Function Documentation

6.437.4.1 `template<int RTYPE, bool NA, typename VECTOR > STORAGE Rcpp::sugar::Nona< RTYPE, NA, VECTOR >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 37 of file nona.h.

References `Rcpp::sugar::Nona< RTYPE, NA, VECTOR >::data`.

6.437.4.2 `template<int RTYPE, bool NA, typename VECTOR > R_xlen_t Rcpp::sugar::Nona< RTYPE, NA, VECTOR >::size ( ) const [inline]`

Definition at line 36 of file nona.h.

References `Rcpp::sugar::Nona< RTYPE, NA, VECTOR >::data`.

#### 6.437.5 Member Data Documentation

6.437.5.1 `template<int RTYPE, bool NA, typename VECTOR > const VECTOR& Rcpp::sugar::Nona< RTYPE, NA, VECTOR >::data [private]`

Definition at line 40 of file nona.h.

Referenced by `Rcpp::sugar::Nona< RTYPE, NA, VECTOR >::operator[]()`, `Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >::operator[]()`, and `Rcpp::sugar::Nona< RTYPE, NA, VECTOR >::size()`.

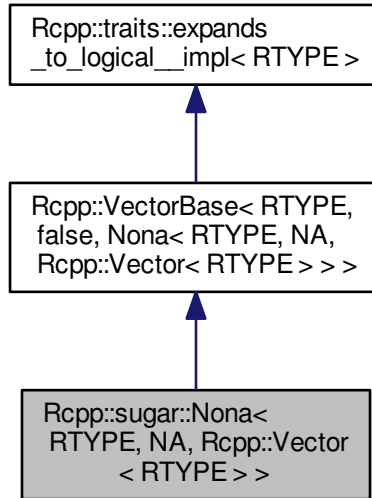
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/nona/nona.h](#)

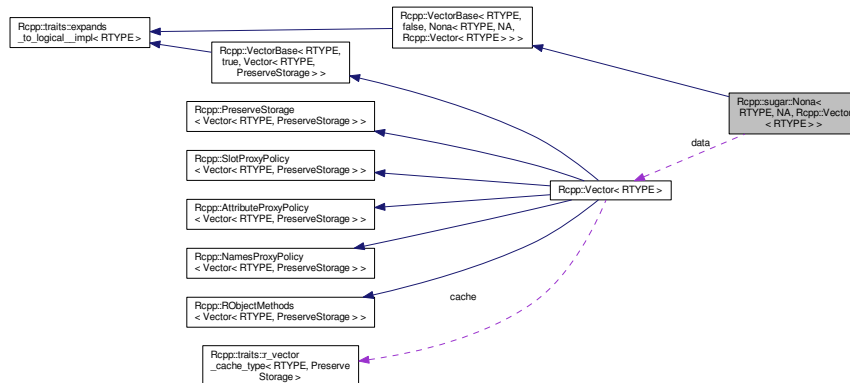
#### 6.438 `Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >` Class Template Reference

```
#include <nona.h>
```

Inheritance diagram for Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >:



Collaboration diagram for Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, Rcpp::Vector< RTYPE > >` `SUGAR_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::Vector< RTYPE >::const_iterator` `iterator`

## Public Member Functions

- [Nona](#) (const [SUGAR\\_TYPE](#) &expr)
- [R\\_xlen\\_t size](#) () const
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const

## Private Attributes

- [iterator data](#)
- [R\\_xlen\\_t n](#)

### 6.438.1 Detailed Description

```
template<int RTYPE, bool NA>
class Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >
```

Definition at line 45 of file nona.h.

### 6.438.2 Member Typedef Documentation

6.438.2.1 `template<int RTYPE, bool NA> typedef Rcpp::Vector<RTYPE>::const_iterator Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >::iterator`

Definition at line 49 of file nona.h.

6.438.2.2 `template<int RTYPE, bool NA> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >::STORAGE`

Definition at line 48 of file nona.h.

6.438.2.3 `template<int RTYPE, bool NA> typedef Rcpp::VectorBase<RTYPE,NA, Rcpp::Vector<RTYPE> > Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >::SUGAR_TYPE`

Definition at line 47 of file nona.h.

### 6.438.3 Constructor & Destructor Documentation

6.438.3.1 `template<int RTYPE, bool NA> Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >::Nona ( const SUGAR_TYPE & expr ) [inline]`

Definition at line 51 of file nona.h.

#### 6.438.4 Member Function Documentation

6.438.4.1 `template<int RTYPE, bool NA> STORAGE Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE >  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 54 of file nona.h.

References `Rcpp::sugar::Nona< RTYPE, NA, VECTOR >::data`.

6.438.4.2 `template<int RTYPE, bool NA> R_xlen_t Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >::size ( )  
const [inline]`

Definition at line 53 of file nona.h.

#### 6.438.5 Member Data Documentation

6.438.5.1 `template<int RTYPE, bool NA> iterator Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >::data  
[private]`

Definition at line 57 of file nona.h.

6.438.5.2 `template<int RTYPE, bool NA> R_xlen_t Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >::n  
[private]`

Definition at line 58 of file nona.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/nona/nona.h](#)

### 6.439 Rcpp::sugar::NonaPrimitive< T > Class Template Reference

```
#include <nona.h>
```

#### Public Member Functions

- [NonaPrimitive](#) (T t)
- [operator T](#) ()

#### Private Attributes

- [T x](#)

### 6.439.1 Detailed Description

```
template<typename T>
class Rcpp::sugar::NonaPrimitive< T >
```

Definition at line 62 of file nona.h.

### 6.439.2 Constructor & Destructor Documentation

6.439.2.1 `template<typename T> Rcpp::sugar::NonaPrimitive< T >::NonaPrimitive ( T t )` `[inline]`

Definition at line 64 of file nona.h.

### 6.439.3 Member Function Documentation

6.439.3.1 `template<typename T> Rcpp::sugar::NonaPrimitive< T >::operator T ( )` `[inline]`

Definition at line 65 of file nona.h.

### 6.439.4 Member Data Documentation

6.439.4.1 `template<typename T> T Rcpp::sugar::NonaPrimitive< T >::x` `[private]`

Definition at line 68 of file nona.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/nona/nona.h](#)

## 6.440 Rcpp::NoProtectStorage< CLASS > Class Template Reference

```
#include <NoProtectStorage.h>
```

### Public Member Functions

- [NoProtectStorage](#) ()
- [~NoProtectStorage](#) ()
- void [set\\_\\_](#) (SEXP x)
- SEXP [get\\_\\_](#) () const
- SEXP [invalidate\\_\\_](#) ()
- CLASS & [copy\\_\\_](#) (const CLASS &other)
- bool [inherits](#) (const char \*clazz) const
- [operator SEXP](#) () const



## Private Attributes

- [SEXP data](#)

### 6.440.1 Detailed Description

```
template<typename CLASS>  
class Rcpp::NoProtectStorage< CLASS >
```

Definition at line 7 of file NoProtectStorage.h.

### 6.440.2 Constructor & Destructor Documentation

6.440.2.1 `template<typename CLASS > Rcpp::NoProtectStorage< CLASS >::NoProtectStorage ( ) [inline]`

Definition at line 10 of file NoProtectStorage.h.

6.440.2.2 `template<typename CLASS > Rcpp::NoProtectStorage< CLASS >::~NoProtectStorage ( ) [inline]`

Definition at line 12 of file NoProtectStorage.h.

References `Rcpp::NoProtectStorage< CLASS >::data`.

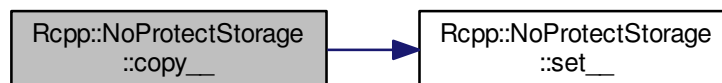
### 6.440.3 Member Function Documentation

6.440.3.1 `template<typename CLASS > CLASS& Rcpp::NoProtectStorage< CLASS >::copy__ ( const CLASS & other ) [inline]`

Definition at line 33 of file NoProtectStorage.h.

References `Rcpp::NoProtectStorage< CLASS >::set__()`.

Here is the call graph for this function:



6.440.3.2 `template<typename CLASS > SEXP Rcpp::NoProtectStorage< CLASS >::get_( ) const [inline]`

Definition at line 24 of file NoProtectStorage.h.

References Rcpp::NoProtectStorage< CLASS >::data.

6.440.3.3 `template<typename CLASS > bool Rcpp::NoProtectStorage< CLASS >::inherits ( const char * clazz ) const [inline]`

Definition at line 40 of file NoProtectStorage.h.

References Rcpp::NoProtectStorage< CLASS >::data.

6.440.3.4 `template<typename CLASS > SEXP Rcpp::NoProtectStorage< CLASS >::invalidate_( ) [inline]`

Definition at line 28 of file NoProtectStorage.h.

References Rcpp::NoProtectStorage< CLASS >::data.

6.440.3.5 `template<typename CLASS > Rcpp::NoProtectStorage< CLASS >::operator SEXP ( ) const [inline]`

Definition at line 44 of file NoProtectStorage.h.

References Rcpp::NoProtectStorage< CLASS >::data.

6.440.3.6 `template<typename CLASS > void Rcpp::NoProtectStorage< CLASS >::set_( SEXP x ) [inline]`

Definition at line 16 of file NoProtectStorage.h.

References Rcpp::NoProtectStorage< CLASS >::data.

Referenced by Rcpp::NoProtectStorage< CLASS >::copy\_\_().

## 6.440.4 Member Data Documentation

6.440.4.1 `template<typename CLASS > SEXP Rcpp::NoProtectStorage< CLASS >::data [private]`

Definition at line 49 of file NoProtectStorage.h.

Referenced by Rcpp::NoProtectStorage< CLASS >::get\_\_(), Rcpp::NoProtectStorage< CLASS >::inherits(), Rcpp::NoProtectStorage< CLASS >::invalidate\_\_(), Rcpp::NoProtectStorage< CLASS >::operator SEXP(), Rcpp::NoProtectStorage< CLASS >::set\_\_(), and Rcpp::NoProtectStorage< CLASS >::~NoProtectStorage().

The documentation for this class was generated from the following file:

- <inst/include/Rcpp/storage/NoProtectStorage.h>

## 6.441 Rcpp::traits::normal\_wrap\_tag Struct Reference

```
#include <module_wrap_traits.h>
```

### 6.441.1 Detailed Description

Definition at line 29 of file `module_wrap_traits.h`.

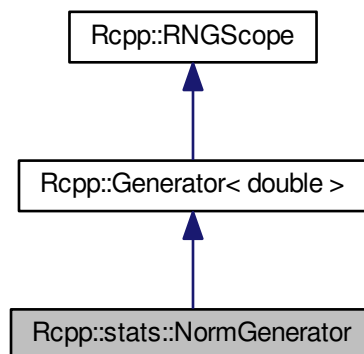
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/module_wrap_traits.h`

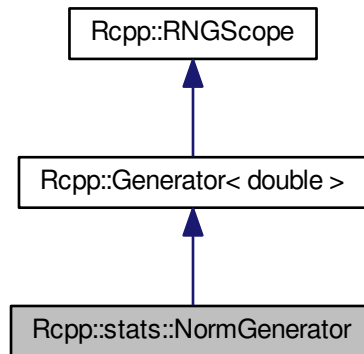
## 6.442 Rcpp::stats::NormGenerator Class Reference

```
#include <rnorm.h>
```

Inheritance diagram for `Rcpp::stats::NormGenerator`:



Collaboration diagram for Rcpp::stats::NormGenerator:



## Public Member Functions

- [NormGenerator](#) (double mean\_=0.0, double sd\_=1.0)
- double [operator\(\)](#) () const

## Private Attributes

- double [mean](#)
- double [sd](#)

## Additional Inherited Members

### 6.442.1 Detailed Description

Definition at line 28 of file rnorm.h.

### 6.442.2 Constructor & Destructor Documentation

6.442.2.1 `Rcpp::stats::NormGenerator::NormGenerator ( double mean_ = 0.0, double sd_ = 1.0 )` [inline]

Definition at line 31 of file rnorm.h.

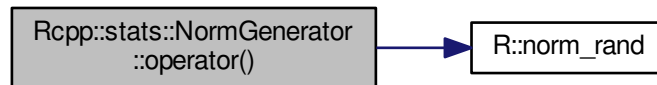
### 6.442.3 Member Function Documentation

6.442.3.1 `double Rcpp::stats::NormGenerator::operator() ( ) const` `[inline]`

Definition at line 34 of file `rnorm.h`.

References `mean`, `R::norm_rand()`, and `sd`.

Here is the call graph for this function:



### 6.442.4 Member Data Documentation

6.442.4.1 `double Rcpp::stats::NormGenerator::mean` `[private]`

Definition at line 39 of file `rnorm.h`.

Referenced by `operator()`, and `Rcpp::stats::NormGenerator__sd1::operator()`.

6.442.4.2 `double Rcpp::stats::NormGenerator::sd` `[private]`

Definition at line 40 of file `rnorm.h`.

Referenced by `operator()`, and `Rcpp::stats::NormGenerator__mean0::operator()`.

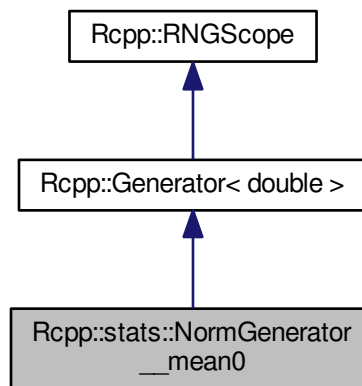
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rnorm.h`

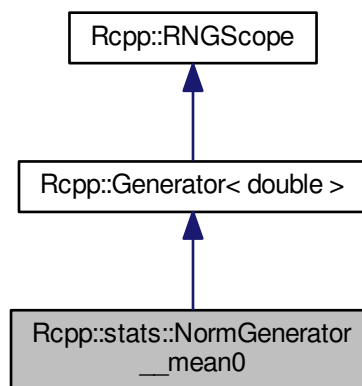
## 6.443 Rcpp::stats::NormGenerator\_\_mean0 Class Reference

```
#include <rnorm.h>
```

Inheritance diagram for Rcpp::stats::NormGenerator\_\_mean0:



Collaboration diagram for Rcpp::stats::NormGenerator\_\_mean0:



### Public Member Functions

- [NormGenerator\\_\\_mean0](#) (double sd\_=1.0)
- double [operator\(\)](#) () const

## Private Attributes

- double [sd](#)

## Additional Inherited Members

### 6.443.1 Detailed Description

Definition at line 56 of file `rnorm.h`.

### 6.443.2 Constructor & Destructor Documentation

6.443.2.1 `Rcpp::stats::NormGenerator__mean0::NormGenerator__mean0 ( double sd = 1.0 )` `[inline]`

Definition at line 59 of file `rnorm.h`.

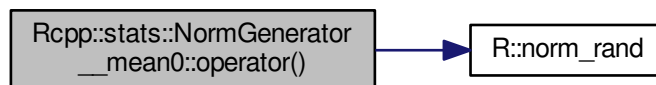
### 6.443.3 Member Function Documentation

6.443.3.1 `double Rcpp::stats::NormGenerator__mean0::operator() ( ) const` `[inline]`

Definition at line 61 of file `rnorm.h`.

References `R::norm_rand()`, and `Rcpp::stats::NormGenerator::sd`.

Here is the call graph for this function:



### 6.443.4 Member Data Documentation

6.443.4.1 `double Rcpp::stats::NormGenerator__mean0::sd` `[private]`

Definition at line 66 of file `rnorm.h`.

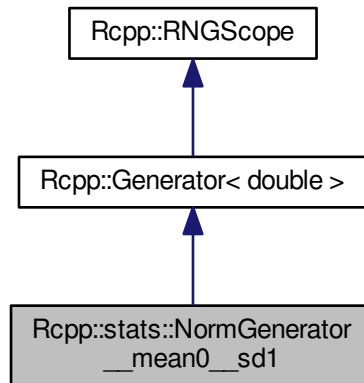
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rnorm.h`

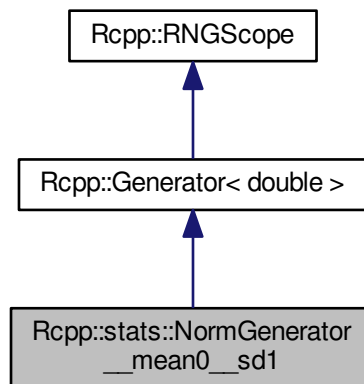
## 6.444 Rcpp::stats::NormGenerator\_\_mean0\_\_sd1 Class Reference

```
#include <rnorm.h>
```

Inheritance diagram for Rcpp::stats::NormGenerator\_\_mean0\_\_sd1:



Collaboration diagram for Rcpp::stats::NormGenerator\_\_mean0\_\_sd1:



### Public Member Functions

- [NormGenerator\\_\\_mean0\\_\\_sd1 \(\)](#)
- `double operator() () const`



## Additional Inherited Members

### 6.444.1 Detailed Description

Definition at line 69 of file rnorm.h.

### 6.444.2 Constructor & Destructor Documentation

#### 6.444.2.1 Rcpp::stats::NormGenerator\_\_mean0\_\_sd1::NormGenerator\_\_mean0\_\_sd1 ( ) [inline]

Definition at line 72 of file rnorm.h.

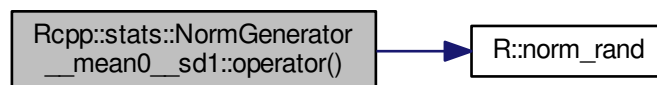
### 6.444.3 Member Function Documentation

#### 6.444.3.1 double Rcpp::stats::NormGenerator\_\_mean0\_\_sd1::operator() ( ) const [inline]

Definition at line 74 of file rnorm.h.

References R::norm\_rand().

Here is the call graph for this function:



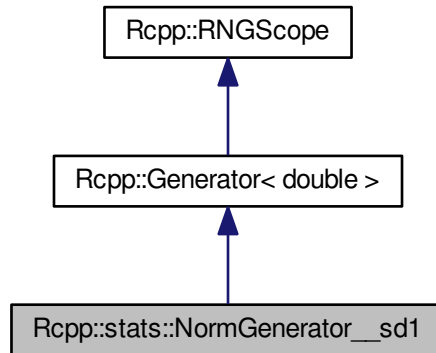
The documentation for this class was generated from the following file:

- inst/include/Rcpp/stats/random/rnorm.h

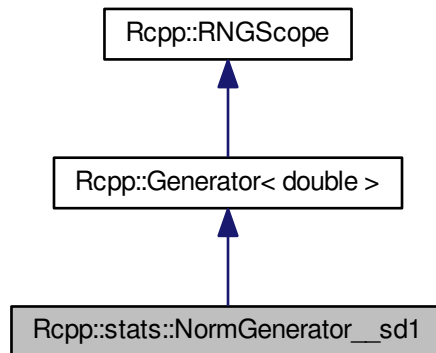
## 6.445 Rcpp::stats::NormGenerator\_\_sd1 Class Reference

```
#include <rnorm.h>
```

Inheritance diagram for Rcpp::stats::NormGenerator\_\_sd1:



Collaboration diagram for Rcpp::stats::NormGenerator\_\_sd1:



### Public Member Functions

- [NormGenerator\\_\\_sd1](#) (double mean\_=0.0)
- double [operator\(\)](#) () const

## Private Attributes

- double [mean](#)

## Additional Inherited Members

### 6.445.1 Detailed Description

Definition at line 43 of file `rnorm.h`.

### 6.445.2 Constructor & Destructor Documentation

6.445.2.1 `Rcpp::stats::NormGenerator__sd1::NormGenerator__sd1 ( double mean_ = 0.0 )` `[inline]`

Definition at line 46 of file `rnorm.h`.

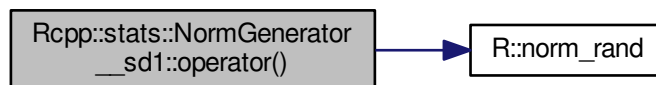
### 6.445.3 Member Function Documentation

6.445.3.1 `double Rcpp::stats::NormGenerator__sd1::operator() ( ) const` `[inline]`

Definition at line 48 of file `rnorm.h`.

References `Rcpp::stats::NormGenerator::mean`, and `R::norm_rand()`.

Here is the call graph for this function:



### 6.445.4 Member Data Documentation

6.445.4.1 `double Rcpp::stats::NormGenerator__sd1::mean` `[private]`

Definition at line 53 of file `rnorm.h`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rnorm.h`

## 6.446 Rcpp::sugar::not\_< RTYPE, NA > Class Template Reference

```
#include <not.h>
```

### Public Types

- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)

### Public Member Functions

- int [apply](#) ([STORAGE](#) x) const

#### 6.446.1 Detailed Description

```
template<int RTYPE, bool NA>  
class Rcpp::sugar::not_< RTYPE, NA >
```

Definition at line 29 of file not.h.

#### 6.446.2 Member Typedef Documentation

6.446.2.1 `template<int RTYPE, bool NA> typedef traits::storage_type<RTYPE>::type Rcpp::sugar::not_< RTYPE, NA >::STORAGE`

Definition at line 31 of file not.h.

#### 6.446.3 Member Function Documentation

6.446.3.1 `template<int RTYPE, bool NA> int Rcpp::sugar::not_< RTYPE, NA >::apply ( STORAGE x ) const [inline]`

Definition at line 32 of file not.h.

The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/operators/[not.h](#)

## 6.447 Rcpp::sugar::not\_< CPLXSCP, false > Class Template Reference

```
#include <not.h>
```

## Public Member Functions

- int [apply](#) (Rcomplex x) const

### 6.447.1 Detailed Description

```
template<>
class Rcpp::sugar::not_< CPLXSP, false >
```

Definition at line 66 of file not.h.

### 6.447.2 Member Function Documentation

6.447.2.1 int Rcpp::sugar::not\_< CPLXSP, false >::apply ( Rcomplex x ) const [\[inline\]](#)

Definition at line 68 of file not.h.

The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/operators/[not.h](#)

## 6.448 Rcpp::sugar::not\_< CPLXSP, NA > Class Template Reference

```
#include <not.h>
```

## Public Member Functions

- int [apply](#) (Rcomplex x) const

### 6.448.1 Detailed Description

```
template<bool NA>
class Rcpp::sugar::not_< CPLXSP, NA >
```

Definition at line 59 of file not.h.

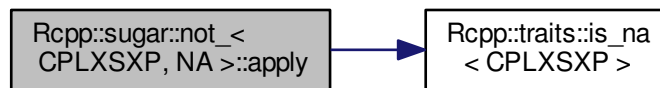
## 6.448.2 Member Function Documentation

6.448.2.1 `template<bool NA> int Rcpp::sugar::not_< CPLXSCP, NA >::apply ( Rcomplex x ) const` `[inline]`

Definition at line 61 of file not.h.

References `Rcpp::traits::is_na< CPLXSCP >()`.

Here is the call graph for this function:



The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/not.h](#)

## 6.449 Rcpp::sugar::not\_< REALSCP, false > Class Template Reference

```
#include <not.h>
```

### Public Member Functions

- int [apply](#) (double x) const

### 6.449.1 Detailed Description

```
template<>
class Rcpp::sugar::not_< REALSCP, false >
```

Definition at line 52 of file not.h.

## 6.449.2 Member Function Documentation

6.449.2.1 `int Rcpp::sugar::not_< REALSXP, false >::apply ( double x ) const` `[inline]`

Definition at line 54 of file not.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/not.h](#)

## 6.450 Rcpp::sugar::not\_< REALSXP, NA > Class Template Reference

```
#include <not.h>
```

### Public Member Functions

- `int apply (double x) const`

### 6.450.1 Detailed Description

```
template<bool NA>
class Rcpp::sugar::not_< REALSXP, NA >
```

Definition at line 45 of file not.h.

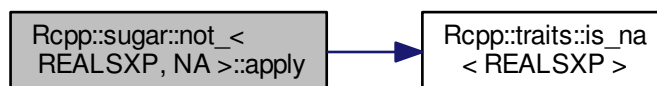
## 6.450.2 Member Function Documentation

6.450.2.1 `template<bool NA> int Rcpp::sugar::not_< REALSXP, NA >::apply ( double x ) const` `[inline]`

Definition at line 47 of file not.h.

References `Rcpp::traits::is_na< REALSXP >()`.

Here is the call graph for this function:



The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/not.h](#)

## 6.451 Rcpp::sugar::not\_ < RTYPE, false > Class Template Reference

```
#include <not.h>
```

### Public Types

- typedef [Rcpp::traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)

### Public Member Functions

- int [apply](#) ([STORAGE](#) x) const

#### 6.451.1 Detailed Description

```
template<int RTYPE>  
class Rcpp::sugar::not_ < RTYPE, false >
```

Definition at line 37 of file not.h.

#### 6.451.2 Member Typedef Documentation

6.451.2.1 `template<int RTYPE> typedef Rcpp::traits::storage\_type<RTYPE>::type Rcpp::sugar::not\_ < RTYPE, false >::STORAGE`

Definition at line 39 of file not.h.

#### 6.451.3 Member Function Documentation

6.451.3.1 `template<int RTYPE> int Rcpp::sugar::not\_ < RTYPE, false >::apply ( STORAGE x ) const [inline]`

Definition at line 40 of file not.h.

The documentation for this class was generated from the following file:

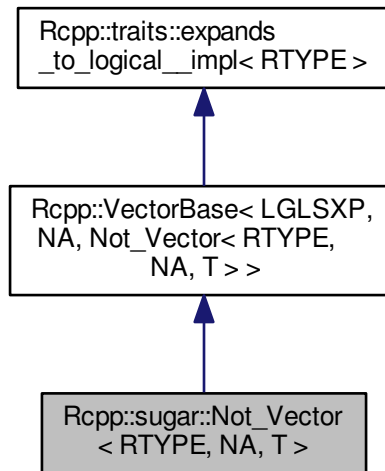
- [inst/include/Rcpp/sugar/operators/not.h](#)



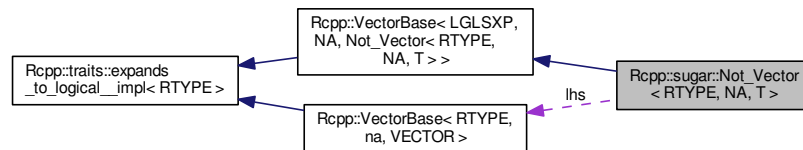
## 6.452 Rcpp::sugar::Not\_Vector< RTYPE, NA, T > Class Template Reference

```
#include <not.h>
```

Inheritance diagram for Rcpp::sugar::Not\_Vector< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Not\_Vector< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `not_< RTYPE, NA >` `OPERATOR`

### Public Member Functions

- `Not_Vector` (const `VEC_TYPE` &lhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- const [VEC\\_TYPE](#) & lhs
- [OPERATOR](#) op

### 6.452.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Not_Vector< RTYPE, NA, T >
```

Definition at line 76 of file not.h.

### 6.452.2 Member Typedef Documentation

6.452.2.1 `template<int RTYPE, bool NA, typename T > typedef not_<RTYPE,NA> Rcpp::sugar::Not_Vector< RTYPE, NA, T >::OPERATOR`

Definition at line 80 of file not.h.

6.452.2.2 `template<int RTYPE, bool NA, typename T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Not_Vector< RTYPE, NA, T >::STORAGE`

Definition at line 79 of file not.h.

6.452.2.3 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Not_Vector< RTYPE, NA, T >::VEC_TYPE`

Definition at line 78 of file not.h.

### 6.452.3 Constructor & Destructor Documentation

6.452.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Not_Vector< RTYPE, NA, T >::Not_Vector ( const VEC_TYPE & lhs_ ) [inline]`

Definition at line 82 of file not.h.

### 6.452.4 Member Function Documentation

6.452.4.1 `template<int RTYPE, bool NA, typename T > STORAGE Rcpp::sugar::Not_Vector< RTYPE, NA, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 85 of file not.h.

6.452.4.2 `template<int RTYPE, bool NA, typename T > R_xlen_t Rcpp::sugar::Not_Vector< RTYPE, NA, T >::size ( ) const`  
`[inline]`

Definition at line 89 of file not.h.

### 6.452.5 Member Data Documentation

6.452.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Not_Vector< RTYPE, NA, T >::lhs`  
`[private]`

Definition at line 92 of file not.h.

6.452.5.2 `template<int RTYPE, bool NA, typename T > OPERATOR Rcpp::sugar::Not_Vector< RTYPE, NA, T >::op`  
`[private]`

Definition at line 93 of file not.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/not.h](#)

## 6.453 Rcpp::Nullable< T > Class Template Reference

```
#include <Nullable.h>
```

### Public Member Functions

- [Nullable](#) ()
- [Nullable](#) (const T &t)
- [Nullable](#) (SEXP t)
- [Nullable](#) & [operator=](#) (SEXP sexp)
- [operator SEXP](#) () const
- SEXP [get](#) () const
- bool [isUsable](#) () const
- bool [isNull](#) () const
- bool [isNotNull](#) () const
- bool [isSet](#) (void) const
- T [as](#) ()
- T [clone](#) () const

### Private Member Functions

- void [checkIfSet](#) (void) const

## Private Attributes

- SEXP [m\\_sexp](#)
- bool [m\\_set](#)

### 6.453.1 Detailed Description

```
template<class T>  
class Rcpp::Nullable< T >
```

Definition at line 33 of file Nullable.h.

### 6.453.2 Constructor & Destructor Documentation

6.453.2.1 `template<class T> Rcpp::Nullable< T >::Nullable ( ) [inline]`

Empty no-argument constructor of a [Nullable](#) object

Assigns (R's) NULL value, and sets validator to FALSE

Definition at line 41 of file Nullable.h.

6.453.2.2 `template<class T> Rcpp::Nullable< T >::Nullable ( const T & t ) [inline]`

Template constructor of a [Nullable](#) object

Assigns object, and set validator to TRUE

Definition at line 49 of file Nullable.h.

6.453.2.3 `template<class T> Rcpp::Nullable< T >::Nullable ( SEXP t ) [inline]`

Standard constructor of a [Nullable](#) object

#### Parameters

<i>SEXP</i>	is stored
-------------	-----------

Definition at line 56 of file Nullable.h.

References `Rcpp::Nullable< T >::m_set`, and `Rcpp::Nullable< T >::m_sexp`.

### 6.453.3 Member Function Documentation

6.453.3.1 `template<class T> T Rcpp::Nullable< T >::as ( ) [inline]`

Returns `m_sexp` as a `T`

Definition at line 129 of file `Nullable.h`.

6.453.3.2 `template<class T> void Rcpp::Nullable< T >::checkIfSet ( void ) const [inline],[private]`

Definition at line 140 of file `Nullable.h`.

Referenced by `Rcpp::Nullable< T >::get()`, `Rcpp::Nullable< T >::isNull()`, and `Rcpp::Nullable< T >::operator SEXP()`.

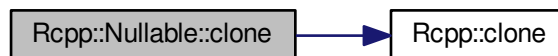
6.453.3.3 `template<class T> T Rcpp::Nullable< T >::clone ( ) const [inline]`

Return a clone of `m_sexp` as a `T`

Definition at line 134 of file `Nullable.h`.

References `Rcpp::clone()`.

Here is the call graph for this function:



6.453.3.4 `template<class T> SEXP Rcpp::Nullable< T >::get ( ) const [inline]`

`get()` accessor for object

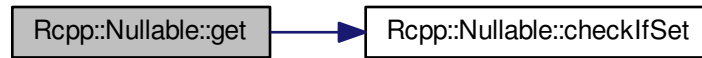
#### Exceptions

'not	initialized' if object has not been set
------	---

Definition at line 89 of file `Nullable.h`.

References `Rcpp::Nullable< T >::checkIfSet()`, and `Rcpp::Nullable< T >::m_sexp`.

Here is the call graph for this function:



**6.453.3.5** `template<class T> bool Rcpp::Nullable< T >::isNotNull ( ) const` `[inline]`

Boolean test for not NULL

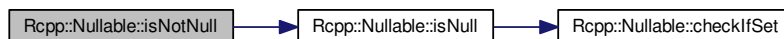
#### Exceptions

'not	initialized' if object has not been set
------	---

Definition at line 116 of file Nullable.h.

References `Rcpp::Nullable< T >::isNull()`.

Here is the call graph for this function:



**6.453.3.6** `template<class T> bool Rcpp::Nullable< T >::isNull ( ) const` `[inline]`

Boolean test for NULL

#### Exceptions

'not	initialized' if object has not been set
------	---

Definition at line 106 of file Nullable.h.

References `Rcpp::Nullable< T >::checkIfSet()`, and `Rcpp::Nullable< T >::m_sexp`.

Referenced by Rcpp::Nullable< T >::isNotNull().

Here is the call graph for this function:



**6.453.3.7** `template<class T> bool Rcpp::Nullable< T >::isSet( void ) const [inline]`

Test function to check if object has been initialized

Definition at line 124 of file Nullable.h.

References Rcpp::Nullable< T >::m\_set.

**6.453.3.8** `template<class T> bool Rcpp::Nullable< T >::isUsable( ) const [inline]`

Boolean test for usability as a T

Definition at line 97 of file Nullable.h.

References Rcpp::Nullable< T >::m\_set, and Rcpp::Nullable< T >::m\_sexp.

**6.453.3.9** `template<class T> Rcpp::Nullable< T >::operator SEXP( ) const [inline]`

operator SEXP() to return nullable object

#### Exceptions

'not	initialized' if object has not been set
------	---

Definition at line 79 of file Nullable.h.

References Rcpp::Nullable< T >::checkIfSet(), and Rcpp::Nullable< T >::m\_sexp.

Here is the call graph for this function:



6.453.3.10 `template<class T> Nullable& Rcpp::Nullable< T >::operator=( SEXP sexp ) [inline]`

Copy constructor for [Nullable](#) object

Parameters

<i>SEXP</i>	is used to update internal copy
-------------	---------------------------------

Definition at line 68 of file `Nullable.h`.

References `Rcpp::Nullable< T >::m_set`, and `Rcpp::Nullable< T >::m_sexp`.

#### 6.453.4 Member Data Documentation

6.453.4.1 `template<class T> bool Rcpp::Nullable< T >::m_set [private]`

Definition at line 138 of file `Nullable.h`.

Referenced by `Rcpp::Nullable< T >::isSet()`, `Rcpp::Nullable< T >::isUsable()`, `Rcpp::Nullable< T >::Nullable()`, and `Rcpp::Nullable< T >::operator=()`.

6.453.4.2 `template<class T> SEXP Rcpp::Nullable< T >::m_sexp [private]`

Definition at line 137 of file `Nullable.h`.

Referenced by `Rcpp::Nullable< T >::get()`, `Rcpp::Nullable< T >::isNull()`, `Rcpp::Nullable< T >::isUsable()`, `Rcpp::Nullable< T >::Nullable()`, `Rcpp::Nullable< T >::operator SEXP()`, and `Rcpp::Nullable< T >::operator=()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/Nullable.h`



## 6.454 Rcpp::traits::num2type< N > Struct Template Reference

```
#include <num2type.h>
```

### 6.454.1 Detailed Description

```
template<std::size_t N>  
struct Rcpp::traits::num2type< N >
```

Definition at line 29 of file num2type.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[num2type.h](#)

## 6.455 Rcpp::object< T > Class Template Reference

```
#include <Module.h>
```

### Public Types

- typedef T [object\\_type](#)

### Public Member Functions

- [object](#) (T \*ptr\_)
- [operator T \\* \(\)](#)
- T \* [operator-> \(\)](#)
- T & [operator& \(\)](#)

### Public Attributes

- T \* [ptr](#)

### 6.455.1 Detailed Description

```
template<typename T>  
class Rcpp::object< T >
```

Definition at line 65 of file Module.h.

## 6.455.2 Member Typedef Documentation

### 6.455.2.1 `template<typename T > typedef T Rcpp::object< T >::object_type`

Definition at line 67 of file Module.h.

## 6.455.3 Constructor & Destructor Documentation

### 6.455.3.1 `template<typename T > Rcpp::object< T >::object ( T * ptr_ ) [inline]`

Definition at line 68 of file Module.h.

## 6.455.4 Member Function Documentation

### 6.455.4.1 `template<typename T > Rcpp::object< T >::operator T * ( ) [inline]`

Definition at line 69 of file Module.h.

### 6.455.4.2 `template<typename T > T& Rcpp::object< T >::operator& ( ) [inline]`

Definition at line 71 of file Module.h.

### 6.455.4.3 `template<typename T > T* Rcpp::object< T >::operator-> ( ) [inline]`

Definition at line 70 of file Module.h.

## 6.455.5 Member Data Documentation

### 6.455.5.1 `template<typename T > T* Rcpp::object< T >::ptr`

Definition at line 72 of file Module.h.

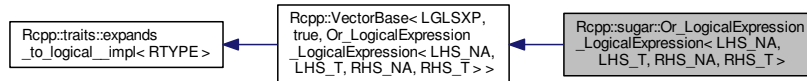
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

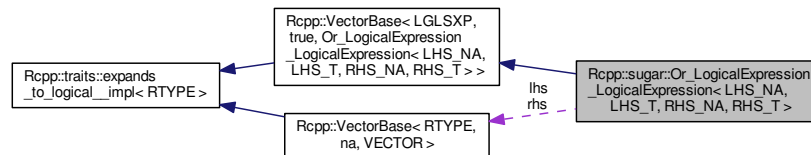
## 6.456 Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <or.h>
```

Inheritance diagram for Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase< LGLSXP, LHS\\_NA, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase< LGLSXP, RHS\\_NA, RHS\\_T >](#) [RHS\\_TYPE](#)

### Public Member Functions

- [Or\\_LogicalExpression\\_LogicalExpression](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_TYPE](#) &lhs
- const [RHS\\_TYPE](#) &rhs

### 6.456.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 202 of file or.h.

### 6.456.2 Member Typedef Documentation

6.456.2.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef Rcpp::VectorBase<LGLS↔XP,LHS_NA,LHS_T> Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 204 of file or.h.

6.456.2.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef Rcpp::VectorBase<LGLS↔XP,RHS_NA,RHS_T> Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 205 of file or.h.

### 6.456.3 Constructor & Destructor Documentation

6.456.3.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> Rcpp::sugar↔::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::Or_LogicalExpression_LogicalExpression ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 207 of file or.h.

### 6.456.4 Member Function Documentation

6.456.4.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> int Rcpp::sugar::Or_Logical↔Expression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 209 of file or.h.

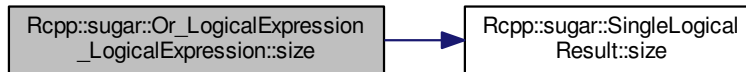
References `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.456.4.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> R_xlen_t Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const`  
`[inline]`

Definition at line 214 of file or.h.

References `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`,  
and `Rcpp::sugar::SingleLogicalResult< NA, T >::size()`.

Here is the call graph for this function:



## 6.456.5 Member Data Documentation

6.456.5.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const LHS_TYPE& Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`  
`[private]`

Definition at line 217 of file or.h.

6.456.5.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const RHS_TYPE& Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`  
`[private]`

Definition at line 218 of file or.h.

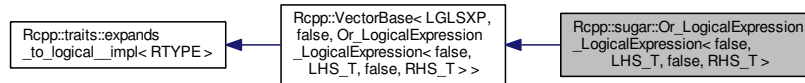
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/logical/or.h`

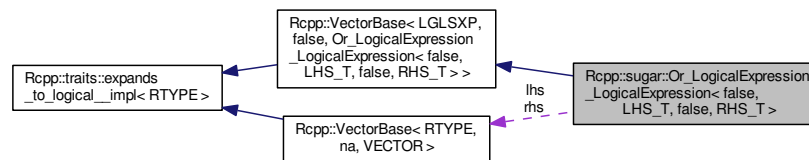
## 6.457 Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <or.h>
```

Inheritance diagram for Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< false, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< false, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase< LGLSXP, false, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase< LGLSXP, false, RHS\\_T >](#) [RHS\\_TYPE](#)

### Public Member Functions

- [Or\\_LogicalExpression\\_LogicalExpression](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_TYPE](#) &lhs
- const [RHS\\_TYPE](#) &rhs

### 6.457.1 Detailed Description

```
template<typename LHS_T, typename RHS_T>  
class Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >
```

Definition at line 261 of file or.h.

### 6.457.2 Member Typedef Documentation

6.457.2.1 `template<typename LHS_T , typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,false,LHS_T> Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 264 of file or.h.

6.457.2.2 `template<typename LHS_T , typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,false,RHS_T> Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 265 of file or.h.

### 6.457.3 Constructor & Destructor Documentation

6.457.3.1 `template<typename LHS_T , typename RHS_T > Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::Or_LogicalExpression_LogicalExpression ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 267 of file or.h.

### 6.457.4 Member Function Documentation

6.457.4.1 `template<typename LHS_T, typename RHS_T > int Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 269 of file or.h.

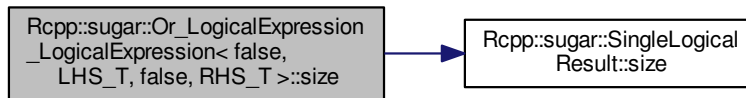
References `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.457.4.2 `template<typename LHS_T, typename RHS_T> R_xlen_t Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::size ( ) const [inline]`

Definition at line 273 of file or.h.

References `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::SingleLogicalResult< NA, T >::size()`.

Here is the call graph for this function:



## 6.457.5 Member Data Documentation

6.457.5.1 `template<typename LHS_T, typename RHS_T> const LHS_TYPE& Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 276 of file or.h.

6.457.5.2 `template<typename LHS_T, typename RHS_T> const RHS_TYPE& Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 277 of file or.h.

The documentation for this class was generated from the following file:

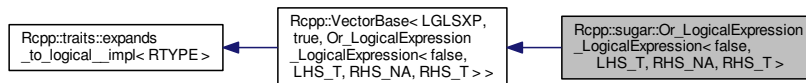
- `inst/include/Rcpp/sugar/logical/or.h`



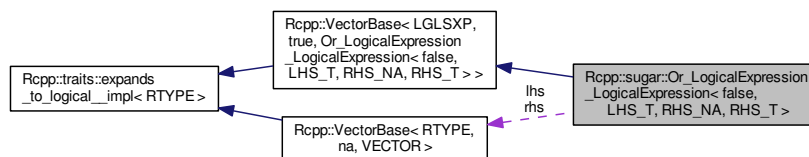
## 6.458 Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <or.h>
```

Inheritance diagram for Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< false, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< false, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase< LGLSXP, false, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase< LGLSXP, RHS\\_NA, RHS\\_T >](#) [RHS\\_TYPE](#)

### Public Member Functions

- [Or\\_LogicalExpression\\_LogicalExpression](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_TYPE](#) &lhs
- const [RHS\\_TYPE](#) &rhs

### 6.458.1 Detailed Description

```
template<typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 221 of file or.h.

### 6.458.2 Member Typedef Documentation

6.458.2.1 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,false,LHS_T> Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 224 of file or.h.

6.458.2.2 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,RHS_NA,RHS_T> Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 225 of file or.h.

### 6.458.3 Constructor & Destructor Documentation

6.458.3.1 `template<typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Or_LogicalExpression_↔ LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::Or_LogicalExpression_LogicalExpression ( const LHS_TYPE & lhs, const RHS_TYPE & rhs ) [inline]`

Definition at line 227 of file or.h.

### 6.458.4 Member Function Documentation

6.458.4.1 `template<typename LHS_T, bool RHS_NA, typename RHS_T > int Rcpp::sugar::Or_Logical_↔ Expression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 229 of file or.h.

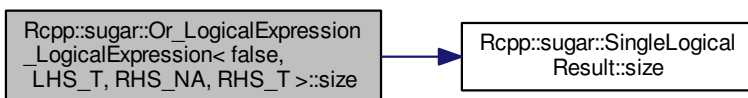
References `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.458.4.2 `template<typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Or_↵  
LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::size ( ) const  
[inline]`

Definition at line 234 of file or.h.

References Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs,  
and Rcpp::sugar::SingleLogicalResult< NA, T >::size().

Here is the call graph for this function:



## 6.458.5 Member Data Documentation

6.458.5.1 `template<typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_TYPE& Rcpp_↵  
::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::lhs  
[private]`

Definition at line 237 of file or.h.

6.458.5.2 `template<typename LHS_T , bool RHS_NA, typename RHS_T > const RHS_TYPE& Rcpp_↵  
::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::rhs  
[private]`

Definition at line 238 of file or.h.

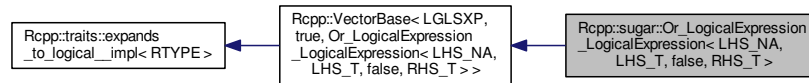
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/logical/or.h`

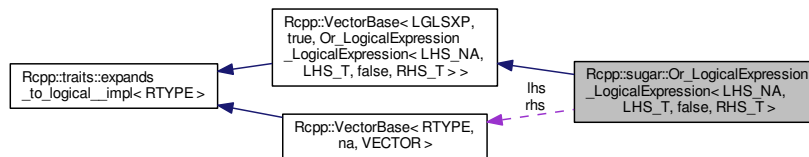
## 6.459 Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <or.h>
```

Inheritance diagram for Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase< LGLSXP, LHS\\_NA, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase< LGLSXP, false, RHS\\_T >](#) [RHS\\_TYPE](#)

### Public Member Functions

- [Or\\_LogicalExpression\\_LogicalExpression](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- int [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_TYPE](#) &lhs
- const [RHS\\_TYPE](#) &rhs

### 6.459.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, typename RHS_T>  
class Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 241 of file or.h.

### 6.459.2 Member Typedef Documentation

6.459.2.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,LHS_NA,LHS_T>  
Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 244 of file or.h.

6.459.2.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<LGLSXP,false,RHS_T>  
Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 245 of file or.h.

### 6.459.3 Constructor & Destructor Documentation

6.459.3.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > Rcpp::sugar::Or_LogicalExpression_↔  
LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::Or_LogicalExpression_LogicalExpression ( const  
LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 247 of file or.h.

### 6.459.4 Member Function Documentation

6.459.4.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > int Rcpp::sugar::Or_Logical_↔  
Expression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 249 of file or.h.

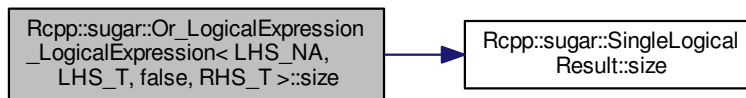
References Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs,  
and Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

6.459.4.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T> R_xlen_t Rcpp::sugar::Or_↵  
LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::size ( ) const  
[inline]`

Definition at line 254 of file or.h.

References `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`,  
and `Rcpp::sugar::SingleLogicalResult< NA, T >::size()`.

Here is the call graph for this function:



## 6.459.5 Member Data Documentation

6.459.5.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T> const LHS_TYPE& Rcpp_↵  
::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::lhs  
[private]`

Definition at line 257 of file or.h.

6.459.5.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T> const RHS_TYPE& Rcpp_↵  
::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::rhs  
[private]`

Definition at line 258 of file or.h.

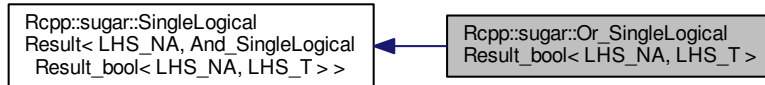
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/logical/or.h`

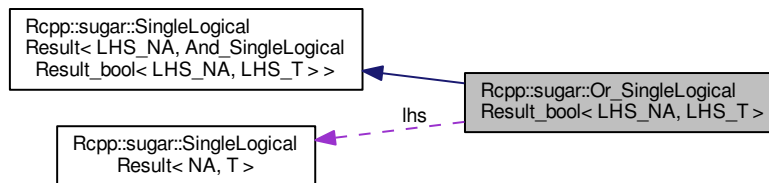
## 6.460 Rcpp::sugar::Or\_SingleLogicalResult\_bool< LHS\_NA, LHS\_T > Class Template Reference

```
#include <or.h>
```

Inheritance diagram for Rcpp::sugar::Or\_SingleLogicalResult\_bool< LHS\_NA, LHS\_T >:



Collaboration diagram for Rcpp::sugar::Or\_SingleLogicalResult\_bool< LHS\_NA, LHS\_T >:



### Public Types

- typedef [SingleLogicalResult< LHS\\_NA, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [SingleLogicalResult< LHS\\_NA, Or\\_SingleLogicalResult\\_bool< LHS\\_NA, LHS\\_T > >](#) [BASE](#)

### Public Member Functions

- [Or\\_SingleLogicalResult\\_bool](#) (const [LHS\\_TYPE](#) &lhs\_, bool rhs\_)
- void [apply](#) ()

### Private Attributes

- const [LHS\\_TYPE](#) & lhs
- bool rhs

## Additional Inherited Members

### 6.460.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T>
class Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T >
```

Definition at line 170 of file or.h.

### 6.460.2 Member Typedef Documentation

```
6.460.2.1 template<bool LHS_NA, typename LHS_T> typedef SingleLogicalResult< LHS_NA , Or_SingleLogical↔
Result_bool<LHS_NA,LHS_T> > Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T
>::BASE
```

Definition at line 181 of file or.h.

```
6.460.2.2 template<bool LHS_NA, typename LHS_T> typedef SingleLogicalResult<LHS_NA,LHS_T>
Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T >::LHS_TYPE
```

Definition at line 177 of file or.h.

### 6.460.3 Constructor & Destructor Documentation

```
6.460.3.1 template<bool LHS_NA, typename LHS_T> Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T
>::Or_SingleLogicalResult_bool( const LHS_TYPE & lhs_, bool rhs_ ) [inline]
```

Definition at line 183 of file or.h.

### 6.460.4 Member Function Documentation

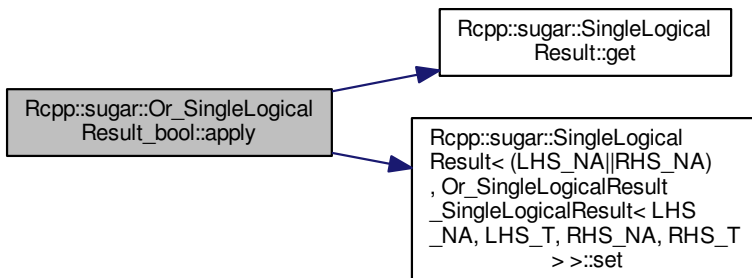
```
6.460.4.1 template<bool LHS_NA, typename LHS_T> void Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T
>::apply( ) [inline]
```

Definition at line 186 of file or.h.

References Rcpp::sugar::SingleLogicalResult< NA, T >::get(), Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogical↔Result< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< L↔HS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs, and Rcpp::sugar::SingleLogicalResult< (LHS\_NA||RHS\_NA), Or\_Single↔LogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > >::set().



Here is the call graph for this function:



### 6.460.5 Member Data Documentation

6.460.5.1 `template<bool LHS_NA, typename LHS_T> const LHS_TYPE& Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T>::lhs [private]`

Definition at line 195 of file or.h.

6.460.5.2 `template<bool LHS_NA, typename LHS_T> bool Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T >::rhs [private]`

Definition at line 196 of file or.h.

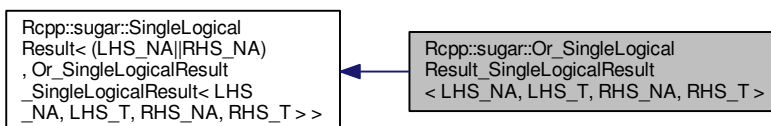
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/logical/or.h

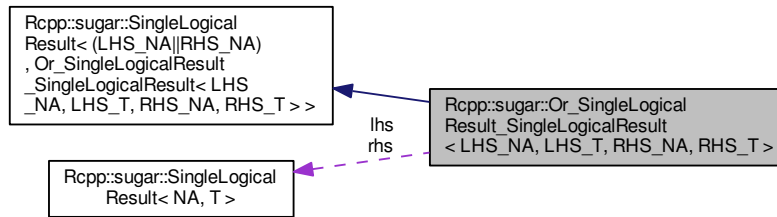
## 6.461 Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <or.h>
```

Inheritance diagram for Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >`:



## Public Types

- typedef `SingleLogicalResult< LHS_NA, LHS_T >` `LHS_TYPE`
- typedef `SingleLogicalResult< RHS_NA, RHS_T >` `RHS_TYPE`
- typedef `SingleLogicalResult< (LHS_NA||RHS_NA), Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > >` `BASE`

## Public Member Functions

- `Or_SingleLogicalResult_SingleLogicalResult` (const `LHS_TYPE` &lhs\_, const `RHS_TYPE` &rhs\_)
- void `apply` ()

## Private Attributes

- const `LHS_TYPE` &lhs
- const `RHS_TYPE` &rhs

## Additional Inherited Members

### 6.461.1 Detailed Description

```

template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >
  
```

Definition at line 29 of file or.h.

## 6.461.2 Member Typedef Documentation

6.461.2.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef SingleLogicalResult<(LHS_NA || RHS_NA), Or_SingleLogicalResult_SingleLogicalResult<LHS_NA,LHS_T,RHS_NA,RHS_T> > Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::BASE`

Definition at line 41 of file or.h.

6.461.2.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef SingleLogicalResult<LHS_↵NA,LHS_T> Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 36 of file or.h.

6.461.2.3 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef SingleLogicalResult<RHS_↵NA,RHS_T> Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 37 of file or.h.

## 6.461.3 Constructor & Destructor Documentation

6.461.3.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> Rcpp::sugar↵↵::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::Or_SingleLogicalResult_SingleLogicalResult ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 43 of file or.h.

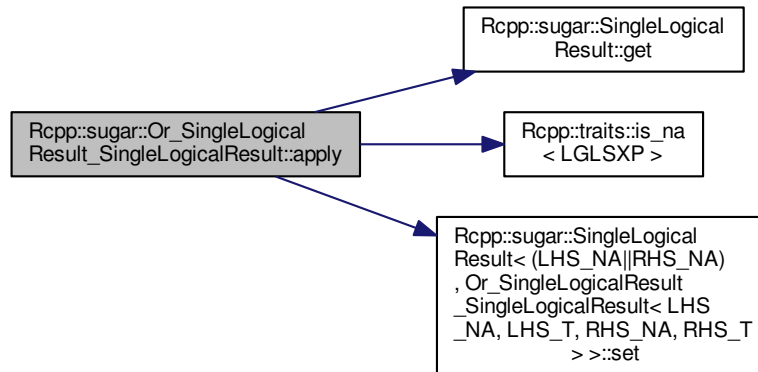
## 6.461.4 Member Function Documentation

6.461.4.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> void Rcpp::sugar↵↵_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::apply ( ) [inline]`

Definition at line 46 of file or.h.

References `Rcpp::sugar::SingleLogicalResult< NA, T >::get()`, `Rcpp::traits::is_na< LGLSXP >()`, `Rcpp::sugar::↵↵Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::↵↵Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`, and `Rcpp::sugar::SingleLogical↵↵Result< (LHS_NA||RHS_NA), Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > >::set()`.

Here is the call graph for this function:



## 6.461.5 Member Data Documentation

6.461.5.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const LHS_TYPE& Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 58 of file or.h.

Referenced by `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::apply()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::apply()`, `Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T >::apply()`, `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::operator[]()`, `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::operator[]()`, `operator|()`, `operator|()`, `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::size()`, and `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::size()`.

6.461.5.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const RHS_TYPE& Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 59 of file or.h.

Referenced by `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::apply()`,

Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, RHS\_NA, RHS\_T >::apply(), Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, false, RHS\_T >::apply(), Rcpp::sugar::Or\_SingleLogicalResult\_bool< LHS\_NA, LHS\_T >::apply(), Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< false, LHS\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< LHS\_NA, LHS\_T, false, RHS\_T >::operator[](), Rcpp::sugar::Or\_LogicalExpression\_LogicalExpression< false, LHS\_T, false, RHS\_T >::operator[](), operator|(), and operator||().

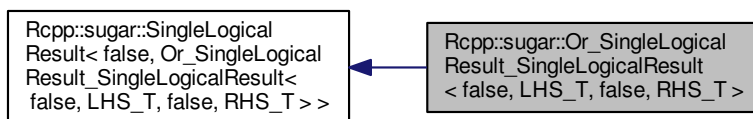
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/logical/or.h

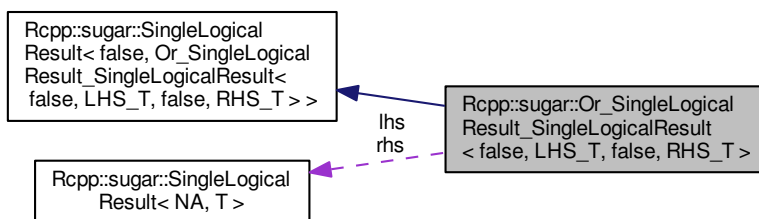
## 6.462 Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <or.h>
```

Inheritance diagram for Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [SingleLogicalResult< false, LHS\\_T >](#) LHS\_TYPE
- typedef [SingleLogicalResult< false, RHS\\_T >](#) RHS\_TYPE
- typedef [SingleLogicalResult< false, Or\\_SingleLogicalResult\\_SingleLogicalResult< false, LHS\\_T, false, RHS\\_T > >](#) BASE

## Public Member Functions

- [Or\\_SingleLogicalResult\\_SingleLogicalResult](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- void [apply](#) ()

## Private Attributes

- const [LHS\\_TYPE](#) & lhs
- const [RHS\\_TYPE](#) & rhs

## Additional Inherited Members

### 6.462.1 Detailed Description

```
template<typename LHS_T, typename RHS_T>
class Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >
```

Definition at line 136 of file or.h.

### 6.462.2 Member Typedef Documentation

6.462.2.1 `template<typename LHS_T , typename RHS_T > typedef SingleLogicalResult< false, Or_SingleLogicalResult_SingleLogicalResult<false,LHS_T,false,RHS_T> > Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::BASE`

Definition at line 148 of file or.h.

6.462.2.2 `template<typename LHS_T , typename RHS_T > typedef SingleLogicalResult<false,LHS_T> Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 143 of file or.h.

6.462.2.3 `template<typename LHS_T , typename RHS_T > typedef SingleLogicalResult<false,RHS_T> Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 144 of file or.h.

### 6.462.3 Constructor & Destructor Documentation

6.462.3.1 `template<typename LHS_T, typename RHS_T > Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::Or_SingleLogicalResult_SingleLogicalResult ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 150 of file or.h.

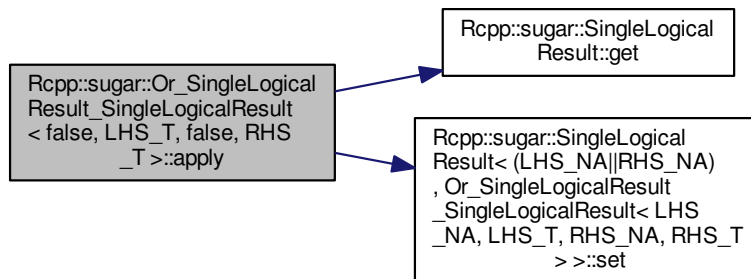
### 6.462.4 Member Function Documentation

6.462.4.1 `template<typename LHS_T, typename RHS_T > void Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::apply ( ) [inline]`

Definition at line 153 of file or.h.

References `Rcpp::sugar::SingleLogicalResult< NA, T >::get()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`, and `Rcpp::sugar::SingleLogicalResult< (LHS_NA||RHS_NA), Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > >::set()`.

Here is the call graph for this function:



### 6.462.5 Member Data Documentation

6.462.5.1 `template<typename LHS_T, typename RHS_T > const LHS_TYPE& Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 163 of file or.h.

```
6.462.5.2 template<typename LHS_T , typename RHS_T > const RHS_TYPE& Rcpp::sugar::↵
Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::rhs
[private]
```

Definition at line 164 of file or.h.

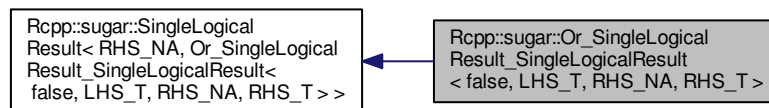
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/logical/or.h

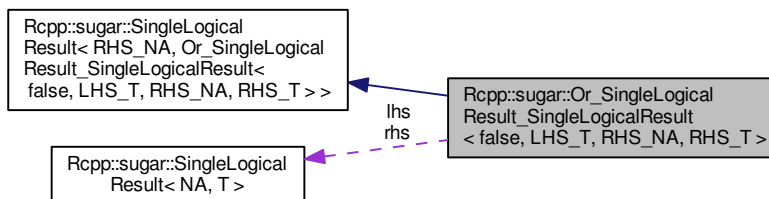
## 6.463 Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <or.h>
```

Inheritance diagram for Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< false, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [SingleLogicalResult< false, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [SingleLogicalResult< RHS\\_NA, RHS\\_T >](#) [RHS\\_TYPE](#)
- typedef [SingleLogicalResult< RHS\\_NA, Or\\_SingleLogicalResult\\_SingleLogicalResult< false, LHS\\_T, RHS\\_NA, RHS\\_T > >](#) [BASE](#)



## Public Member Functions

- [Or\\_SingleLogicalResult\\_SingleLogicalResult](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- void [apply](#) ()

## Private Attributes

- const [LHS\\_TYPE](#) & lhs
- const [RHS\\_TYPE](#) & rhs

## Additional Inherited Members

### 6.463.1 Detailed Description

```
template<typename LHS_T, bool RHS_NA, typename RHS_T>  
class Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 101 of file or.h.

### 6.463.2 Member Typedef Documentation

```
6.463.2.1 template<typename LHS_T , bool RHS_NA, typename RHS_T > typedef SingleLogicalResult<  
RHS_NA, Or_SingleLogicalResult_SingleLogicalResult<false,LHS_T,RHS_NA,RHS_T> >  
Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::BASE
```

Definition at line 113 of file or.h.

```
6.463.2.2 template<typename LHS_T , bool RHS_NA, typename RHS_T > typedef SingleLogicalResult<false,LHS_T>  
Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE
```

Definition at line 108 of file or.h.

```
6.463.2.3 template<typename LHS_T , bool RHS_NA, typename RHS_T > typedef SingleLogicalResult<RHS_NA,RHS_T>  
Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::RHS_TYPE
```

Definition at line 109 of file or.h.

### 6.463.3 Constructor & Destructor Documentation

```
6.463.3.1 template<typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::Or_SingleLogicalResult_Single  
LogicalResult< false, LHS_T, RHS_NA, RHS_T >::Or_SingleLogicalResult_SingleLogicalResult ( const  
LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]
```

Definition at line 115 of file or.h.

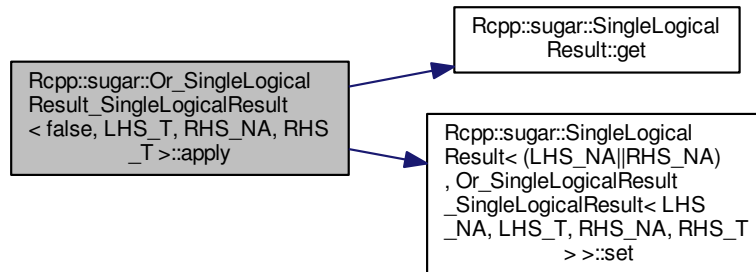
### 6.463.4 Member Function Documentation

6.463.4.1 `template<typename LHS_T , bool RHS_NA, typename RHS_T > void Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::apply ( )`  
`[inline]`

Definition at line 118 of file or.h.

References `Rcpp::sugar::SingleLogicalResult< NA, T >::get()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`, and `Rcpp::sugar::SingleLogicalResult< (LHS_NA||RHS_NA), Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > >::set()`.

Here is the call graph for this function:



### 6.463.5 Member Data Documentation

6.463.5.1 `template<typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_TYPE& Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::lhs`  
`[private]`

Definition at line 129 of file or.h.

6.463.5.2 `template<typename LHS_T , bool RHS_NA, typename RHS_T > const RHS_TYPE& Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::rhs`  
`[private]`

Definition at line 130 of file or.h.

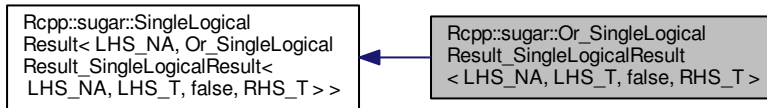
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/logical/or.h`

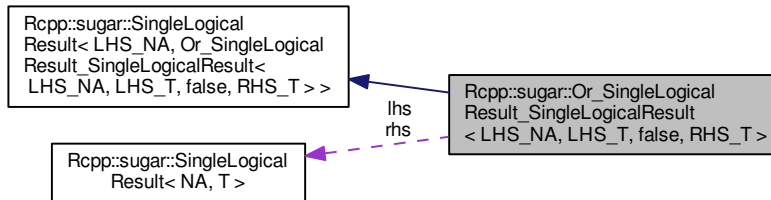
## 6.464 Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <or.h>
```

Inheritance diagram for Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Or\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [SingleLogicalResult< LHS\\_NA, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [SingleLogicalResult< false, RHS\\_T >](#) [RHS\\_TYPE](#)
- typedef [SingleLogicalResult< LHS\\_NA, Or\\_SingleLogicalResult\\_SingleLogicalResult< LHS\\_NA, LHS\\_T, false, RHS\\_T > >](#) [BASE](#)

### Public Member Functions

- [Or\\_SingleLogicalResult\\_SingleLogicalResult](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- void [apply](#) ()

### Private Attributes

- const [LHS\\_TYPE](#) & [lhs](#)
- const [RHS\\_TYPE](#) & [rhs](#)

## Additional Inherited Members

### 6.464.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 65 of file or.h.

### 6.464.2 Member Typedef Documentation

```
6.464.2.1 template<bool LHS_NA, typename LHS_T , typename RHS_T > typedef SingleLogicalResult<
LHS_NA, Or_SingleLogicalResult_SingleLogicalResult<LHS_NA,LHS_T,false,RHS_T> >
Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::BASE
```

Definition at line 77 of file or.h.

```
6.464.2.2 template<bool LHS_NA, typename LHS_T , typename RHS_T > typedef SingleLogicalResult<LHS_NA,LHS_T>
Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE
```

Definition at line 72 of file or.h.

```
6.464.2.3 template<bool LHS_NA, typename LHS_T , typename RHS_T > typedef SingleLogicalResult<false,RHS_T>
Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE
```

Definition at line 73 of file or.h.

### 6.464.3 Constructor & Destructor Documentation

```
6.464.3.1 template<bool LHS_NA, typename LHS_T , typename RHS_T > Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::Or_SingleLogicalResult_SingleLogicalResult ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]
```

Definition at line 79 of file or.h.

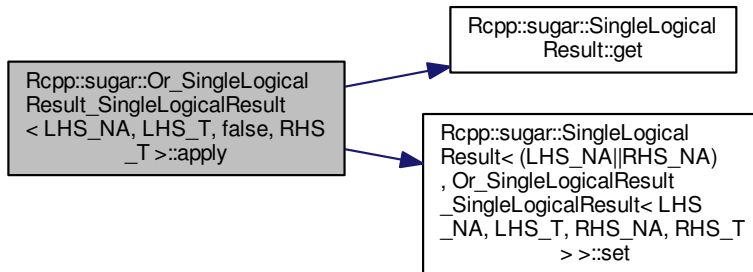
### 6.464.4 Member Function Documentation

6.464.4.1 `template<bool LHS_NA, typename LHS_T , typename RHS_T > void Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::apply ( )`  
 [inline]

Definition at line 82 of file or.h.

References `Rcpp::sugar::SingleLogicalResult< NA, T >::get()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`, and `Rcpp::sugar::SingleLogicalResult< (LHS_NA||RHS_NA), Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > >::set()`.

Here is the call graph for this function:



### 6.464.5 Member Data Documentation

6.464.5.1 `template<bool LHS_NA, typename LHS_T , typename RHS_T > const LHS_TYPE& Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::lhs`  
 [private]

Definition at line 93 of file or.h.

6.464.5.2 `template<bool LHS_NA, typename LHS_T , typename RHS_T > const RHS_TYPE& Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::rhs`  
 [private]

Definition at line 94 of file or.h.

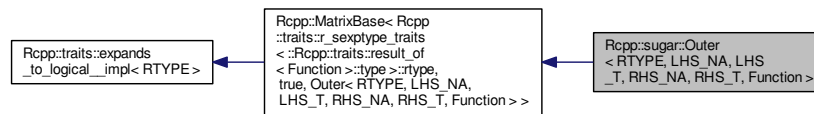
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/logical/or.h`

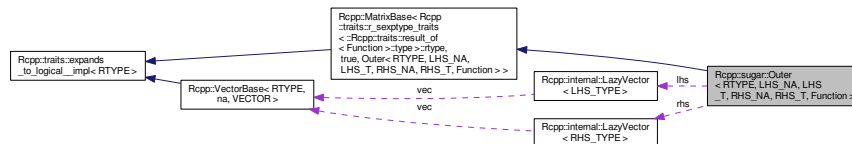
## 6.465 Rcpp::sugar::Outer< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T, Function > Class Template Reference

```
#include <outer.h>
```

Inheritance diagram for Rcpp::sugar::Outer< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T, Function > :



Collaboration diagram for Rcpp::sugar::Outer< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T, Function > :



### Public Types

- typedef `Rcpp::traits::result_of< Function >::type` `result_type`
- typedef `Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T >` `LHS_TYPE`
- typedef `Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T >` `RHS_TYPE`
- typedef `Rcpp::internal::LazyVector< LHS_TYPE >` `LHS_LAZY`
- typedef `Rcpp::internal::LazyVector< RHS_TYPE >` `RHS_LAZY`
- typedef `Rcpp::traits::r_vector_element_converter< RESULT_R_TYPE >::type` `converter_type`
- typedef `Rcpp::traits::storage_type< RESULT_R_TYPE >::type` `STORAGE`

### Public Member Functions

- `Outer` (const `LHS_TYPE` &lhs\_, const `RHS_TYPE` &rhs\_, `Function` fun\_)
- `STORAGE operator()` (int i, int j) const
- `R_xlen_t size` () const
- `int nrow` () const
- `int ncol` () const

### Static Public Attributes

- static const int `RESULT_R_TYPE`

## Private Attributes

- [LHS\\_LAZY lhs](#)
- [RHS\\_LAZY rhs](#)
- [Function fun](#)
- [int nr](#)
- [int nc](#)

### 6.465.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function>
class Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >
```

Definition at line 32 of file outer.h.

### 6.465.2 Member Typedef Documentation

6.465.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> typedef Rcpp::traits::r_vector_element_converter<RESULT_R_TYPE>::type Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::converter_type`

Definition at line 50 of file outer.h.

6.465.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> typedef Rcpp::internal::LazyVector<LHS_TYPE> Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::LHS_LAZY`

Definition at line 47 of file outer.h.

6.465.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> typedef Rcpp::VectorBase<RTYPE,LHS_NA,LHS_T> Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::LHS_TYPE`

Definition at line 44 of file outer.h.

6.465.2.4 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> typedef ::Rcpp::traits::result_of<Function>::type Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::result_type`

Definition at line 40 of file outer.h.

6.465.2.5 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> typedef Rcpp::internal::LazyVector<RHS_TYPE> Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::RHS_LAZY`

Definition at line 48 of file outer.h.

6.465.2.6 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> typedef Rcpp::VectorBase<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::RHS_TYPE`

Definition at line 45 of file outer.h.

6.465.2.7 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> typedef Rcpp::traits::storage_type<RESULT_R_TYPE>::type Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::STORAGE`

Definition at line 51 of file outer.h.

### 6.465.3 Constructor & Destructor Documentation

6.465.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::Outer ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_, Function fun_ ) [inline]`

Definition at line 53 of file outer.h.

### 6.465.4 Member Function Documentation

6.465.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> int Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::ncol ( ) const [inline]`

Definition at line 62 of file outer.h.

References `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::nc`.

6.465.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> int Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::nrow ( ) const [inline]`

Definition at line 61 of file outer.h.

References `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::nr`.

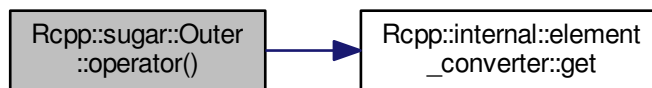


6.465.4.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> STORAGE Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::operator() ( int i, int j ) const [inline]`

Definition at line 56 of file outer.h.

References `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::fun`, `Rcpp::internal::element_converter< RTYPE >::get()`, `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::lhs`, and `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::rhs`.

Here is the call graph for this function:



6.465.4.4 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> R_xlen_t Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::size ( ) const [inline]`

Definition at line 60 of file outer.h.

References `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::nc`, and `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::nr`.

## 6.465.5 Member Data Documentation

6.465.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> Function Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::fun [private]`

Definition at line 69 of file outer.h.

Referenced by `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::operator()()`, and `Rcpp::outer()`.

6.465.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> LHS_LAZY Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::lhs [private]`

Definition at line 66 of file outer.h.

Referenced by `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::operator()()`, and `Rcpp::outer()`.

6.465.5.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> int Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::nc [private]`

Definition at line 70 of file outer.h.

Referenced by `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::ncol()`, and `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::size()`.

6.465.5.4 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> int Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::nr [private]`

Definition at line 70 of file outer.h.

Referenced by `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::nrow()`, and `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::size()`.

6.465.5.5 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> const int Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::RESULT_R_TYPE [static]`

#### Initial value:

```
=
    Rcpp::traits::r_sexptype_traits<result_type>::rtype
```

Definition at line 41 of file outer.h.

6.465.5.6 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function> RHS_LAZY Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::rhs [private]`

Definition at line 67 of file outer.h.

Referenced by `Rcpp::sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function >::operator()()`, and `Rcpp::sugar::outer()`.

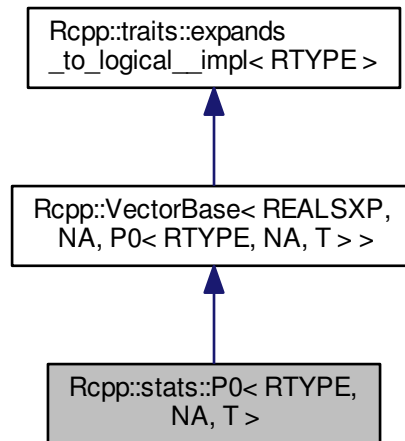
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/matrix/outer.h`

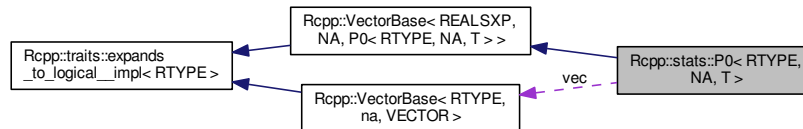
## 6.466 Rcpp::stats::P0< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::P0< RTYPE, NA, T >:



Collaboration diagram for Rcpp::stats::P0< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `double(* FunPtr) (double, int, int)`

### Public Member Functions

- `P0 (FunPtr ptr_, const VEC_TYPE &vec_, bool lower_tail=true, bool log_=false)`
- `double operator[] (int i) const`
- `int size () const`

## Private Attributes

- [FunPtr ptr](#)
- const [VEC\\_TYPE](#) & [vec](#)
- int [lower](#)
- int [log](#)

### 6.466.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::stats::P0< RTYPE, NA, T >
```

Definition at line 123 of file dpq.h.

### 6.466.2 Member Typedef Documentation

6.466.2.1 `template<int RTYPE, bool NA, typename T > typedef double(* Rcpp::stats::P0< RTYPE, NA, T >::FunPtr)(double, int, int)`

Definition at line 126 of file dpq.h.

6.466.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::P0< RTYPE, NA, T >::VEC_TYPE`

Definition at line 125 of file dpq.h.

### 6.466.3 Constructor & Destructor Documentation

6.466.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::stats::P0< RTYPE, NA, T >::P0 ( FunPtr ptr_, const VEC_TYPE & vec_, bool lower_tail = true, bool log_ = false ) [inline]`

Definition at line 128 of file dpq.h.

### 6.466.4 Member Function Documentation

6.466.4.1 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::P0< RTYPE, NA, T >::operator[]( int i ) const [inline]`

Definition at line 132 of file dpq.h.

References [Rcpp::stats::D0< RTYPE, NA, T >::log](#), [Rcpp::stats::D0< RTYPE, NA, T >::ptr](#), and [Rcpp::stats::D0< RTYPE, NA, T >::vec](#).

6.466.4.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::P0< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 136 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



## 6.466.5 Member Data Documentation

6.466.5.1 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::P0< RTYPE, NA, T >::log [private]`

Definition at line 141 of file dpq.h.

6.466.5.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::P0< RTYPE, NA, T >::lower [private]`

Definition at line 141 of file dpq.h.

6.466.5.3 `template<int RTYPE, bool NA, typename T > FunPtr Rcpp::stats::P0< RTYPE, NA, T >::ptr [private]`

Definition at line 139 of file dpq.h.

6.466.5.4 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::stats::P0< RTYPE, NA, T >::vec [private]`

Definition at line 140 of file dpq.h.

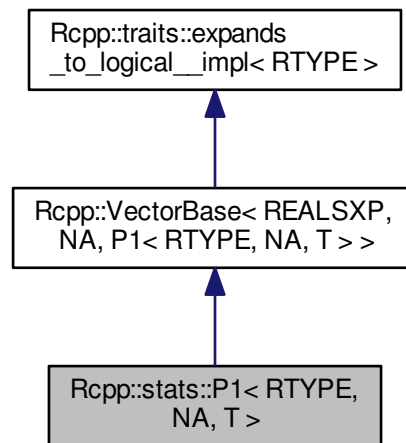
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/dpq/dpq.h](#)

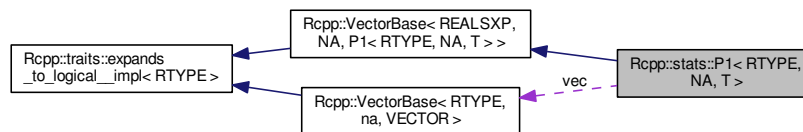
## 6.467 Rcpp::stats::P1< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::P1< RTYPE, NA, T >:



Collaboration diagram for Rcpp::stats::P1< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `double(* FunPtr) (double, double, int, int)`

### Public Member Functions

- `P1 (FunPtr ptr_, const VEC_TYPE &vec_, double p0_, bool lower_tail=true, bool log_=false)`
- `double operator[] (int i) const`
- `int size () const`

## Private Attributes

- [FunPtr ptr](#)
- const [VEC\\_TYPE](#) & [vec](#)
- double [p0](#)
- int [lower](#)
- int [log](#)

### 6.467.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::stats::P1< RTYPE, NA, T >
```

Definition at line 147 of file dpq.h.

### 6.467.2 Member Typedef Documentation

6.467.2.1 `template<int RTYPE, bool NA, typename T> typedef double(* Rcpp::stats::P1< RTYPE, NA, T >::FunPtr) (double, double, int, int)`

Definition at line 150 of file dpq.h.

6.467.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::P1< RTYPE, NA, T >::VEC_TYPE`

Definition at line 149 of file dpq.h.

### 6.467.3 Constructor & Destructor Documentation

6.467.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::stats::P1< RTYPE, NA, T >::P1 ( FunPtr ptr_, const VEC_TYPE & vec_, double p0_, bool lower_tail = true, bool log_ = false ) [inline]`

Definition at line 152 of file dpq.h.

### 6.467.4 Member Function Documentation

6.467.4.1 `template<int RTYPE, bool NA, typename T> double Rcpp::stats::P1< RTYPE, NA, T >::operator[] ( int i ) const [inline]`

Definition at line 156 of file dpq.h.

References [Rcpp::stats::D0< RTYPE, NA, T >::log](#), [Rcpp::stats::D0< RTYPE, NA, T >::ptr](#), and [Rcpp::stats::D0< RTYPE, NA, T >::vec](#).

6.467.4.2 `template<int RTYPE, bool NA, typename T> int Rcpp::stats::P1< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 160 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



### 6.467.5 Member Data Documentation

6.467.5.1 `template<int RTYPE, bool NA, typename T> int Rcpp::stats::P1< RTYPE, NA, T >::log [private]`

Definition at line 166 of file dpq.h.

6.467.5.2 `template<int RTYPE, bool NA, typename T> int Rcpp::stats::P1< RTYPE, NA, T >::lower [private]`

Definition at line 166 of file dpq.h.

6.467.5.3 `template<int RTYPE, bool NA, typename T> double Rcpp::stats::P1< RTYPE, NA, T >::p0 [private]`

Definition at line 165 of file dpq.h.

6.467.5.4 `template<int RTYPE, bool NA, typename T> FunPtr Rcpp::stats::P1< RTYPE, NA, T >::ptr [private]`

Definition at line 163 of file dpq.h.

6.467.5.5 `template<int RTYPE, bool NA, typename T> const VEC_TYPE& Rcpp::stats::P1< RTYPE, NA, T >::vec [private]`

Definition at line 164 of file dpq.h.

The documentation for this class was generated from the following file:

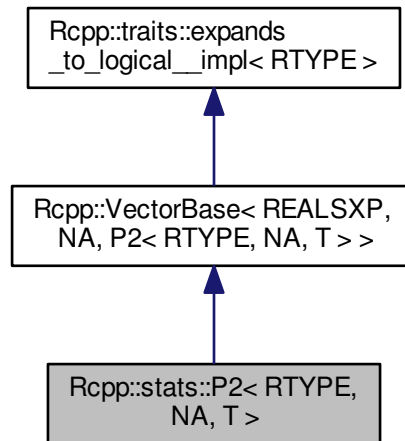
- [inst/include/Rcpp/stats/dpq/dpq.h](#)



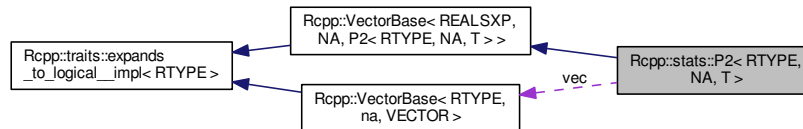
## 6.468 Rcpp::stats::P2< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::P2< RTYPE, NA, T >:



Collaboration diagram for Rcpp::stats::P2< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `double(* FunPtr) (double, double, double, int, int)`

### Public Member Functions

- `P2 (FunPtr ptr_, const VEC_TYPE &vec_, double p0_, double p1_, bool lower_tail=true, bool log_=false)`
- `double operator[] (int i) const`
- `int size () const`

## Private Attributes

- [FunPtr ptr](#)
- const [VEC\\_TYPE](#) & *vec*
- double *p0*
- double *p1*
- int *lower*
- int *log*

### 6.468.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::stats::P2< RTYPE, NA, T >
```

Definition at line 172 of file dpq.h.

### 6.468.2 Member Typedef Documentation

6.468.2.1 `template<int RTYPE, bool NA, typename T > typedef double(* Rcpp::stats::P2< RTYPE, NA, T >::FunPtr) (double, double, double, int, int)`

Definition at line 175 of file dpq.h.

6.468.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::P2< RTYPE, NA, T >::VEC_TYPE`

Definition at line 174 of file dpq.h.

### 6.468.3 Constructor & Destructor Documentation

6.468.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::stats::P2< RTYPE, NA, T >::P2 ( FunPtr ptr_, const VEC_TYPE & vec_, double p0_, double p1_, bool lower_tail = true, bool log_ = false ) [inline]`

Definition at line 177 of file dpq.h.

### 6.468.4 Member Function Documentation

6.468.4.1 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::P2< RTYPE, NA, T >::operator[] ( int i ) const [inline]`

Definition at line 181 of file dpq.h.

References `Rcpp::stats::D0< RTYPE, NA, T >::log`, `Rcpp::stats::D0< RTYPE, NA, T >::ptr`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

6.468.4.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::P2< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 185 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



## 6.468.5 Member Data Documentation

6.468.5.1 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::P2< RTYPE, NA, T >::log [private]`

Definition at line 191 of file dpq.h.

6.468.5.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::P2< RTYPE, NA, T >::lower [private]`

Definition at line 191 of file dpq.h.

6.468.5.3 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::P2< RTYPE, NA, T >::p0 [private]`

Definition at line 190 of file dpq.h.

6.468.5.4 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::P2< RTYPE, NA, T >::p1 [private]`

Definition at line 190 of file dpq.h.

6.468.5.5 `template<int RTYPE, bool NA, typename T > FunPtr Rcpp::stats::P2< RTYPE, NA, T >::ptr [private]`

Definition at line 188 of file dpq.h.

6.468.5.6 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::stats::P2< RTYPE, NA, T >::vec`  
`[private]`

Definition at line 189 of file dpq.h.

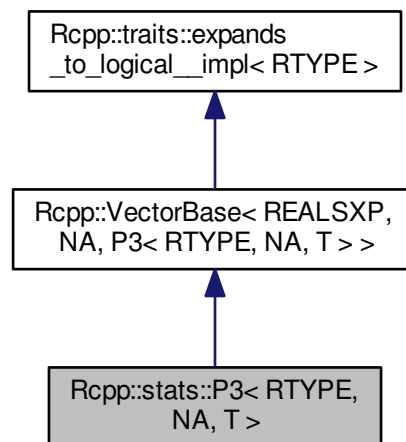
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/dpq/dpq.h`

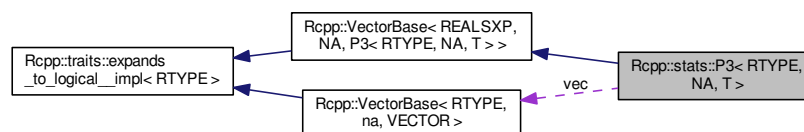
## 6.469 Rcpp::stats::P3< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::P3< RTYPE, NA, T >:



Collaboration diagram for Rcpp::stats::P3< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, NA, T > [VEC\\_TYPE](#)
- typedef double(\* [FunPtr](#)) (double, double, double, double, int, int)

## Public Member Functions

- [P3](#) ([FunPtr](#) ptr\_, const [VEC\\_TYPE](#) &vec\_, double p0\_, double p1\_, double p2\_, bool lower\_tail=true, bool log\_↵=false)
- double [operator\[\]](#) (int i) const
- int [size](#) () const

## Private Attributes

- [FunPtr](#) ptr
- const [VEC\\_TYPE](#) & vec
- double p0
- double p1
- double p2
- int lower
- int log

### 6.469.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::stats::P3< RTYPE, NA, T >
```

Definition at line 195 of file dpq.h.

### 6.469.2 Member Typedef Documentation

6.469.2.1 `template<int RTYPE, bool NA, typename T > typedef double(* Rcpp::stats::P3< RTYPE, NA, T >::FunPtr) (double, double, double, double, int, int)`

Definition at line 198 of file dpq.h.

6.469.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::P3< RTYPE, NA, T >::VEC_TYPE`

Definition at line 197 of file dpq.h.

### 6.469.3 Constructor & Destructor Documentation

6.469.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::stats::P3< RTYPE, NA, T >::P3 ( FunPtr ptr_, const VEC_TYPE & vec_, double p0_, double p1_, double p2_, bool lower_tail = true, bool log_ = false )`  
`[inline]`

Definition at line 200 of file dpq.h.

### 6.469.4 Member Function Documentation

6.469.4.1 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::P3< RTYPE, NA, T >::operator[] ( int i ) const`  
`[inline]`

Definition at line 204 of file dpq.h.

References `Rcpp::stats::D0< RTYPE, NA, T >::log`, `Rcpp::stats::D0< RTYPE, NA, T >::ptr`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

6.469.4.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::P3< RTYPE, NA, T >::size ( ) const` `[inline]`

Definition at line 208 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



### 6.469.5 Member Data Documentation

6.469.5.1 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::P3< RTYPE, NA, T >::log` `[private]`

Definition at line 214 of file dpq.h.

6.469.5.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::P3< RTYPE, NA, T >::lower` `[private]`

Definition at line 214 of file dpq.h.

6.469.5.3 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::P3< RTYPE, NA, T >::p0` [private]

Definition at line 213 of file dpq.h.

6.469.5.4 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::P3< RTYPE, NA, T >::p1` [private]

Definition at line 213 of file dpq.h.

6.469.5.5 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::P3< RTYPE, NA, T >::p2` [private]

Definition at line 213 of file dpq.h.

6.469.5.6 `template<int RTYPE, bool NA, typename T > FunPtr Rcpp::stats::P3< RTYPE, NA, T >::ptr` [private]

Definition at line 211 of file dpq.h.

6.469.5.7 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::stats::P3< RTYPE, NA, T >::vec`  
[private]

Definition at line 212 of file dpq.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/dpq/dpq.h](#)

## 6.470 Rcpp::attributes::Param Class Reference

### Public Member Functions

- [Param](#) ()
- [Param](#) (const std::string &paramText)
- bool [empty](#) () const
- bool [operator==](#) (const [Param](#) &other) const
- bool [operator!=](#) (const [Param](#) &other) const
- const std::string & [name](#) () const
- const std::string & [value](#) () const

### Private Attributes

- std::string [name\\_](#)
- std::string [value\\_](#)

### 6.470.1 Detailed Description

Definition at line 281 of file attributes.cpp.

### 6.470.2 Constructor & Destructor Documentation

#### 6.470.2.1 `Rcpp::attributes::Param::Param ( ) [inline]`

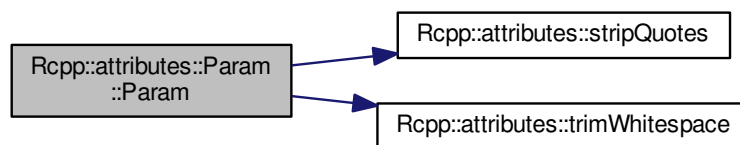
Definition at line 283 of file attributes.cpp.

#### 6.470.2.2 `Rcpp::attributes::Param::Param ( const std::string & paramText ) [explicit]`

Definition at line 993 of file attributes.cpp.

References `Rcpp::attributes::stripQuotes()`, and `Rcpp::attributes::trimWhitespace()`.

Here is the call graph for this function:



### 6.470.3 Member Function Documentation

#### 6.470.3.1 `bool Rcpp::attributes::Param::empty ( ) const [inline]`

Definition at line 285 of file attributes.cpp.

Referenced by `Rcpp::attributes::Attribute::hasParameter()`, `Rcpp::attributes::operator<<()`, and `Rcpp::attributes::Attribute::rng()`.

#### 6.470.3.2 `const std::string& Rcpp::attributes::Param::name ( ) const [inline]`

Definition at line 297 of file attributes.cpp.

Referenced by `Rcpp::attributes::operator<<()`.



6.470.3.3 `bool Rcpp::attributes::Param::operator!=( const Param & other ) const` `[inline]`

Definition at line 292 of file attributes.cpp.

6.470.3.4 `bool Rcpp::attributes::Param::operator==( const Param & other ) const` `[inline]`

Definition at line 287 of file attributes.cpp.

References `name_`, and `value_`.

6.470.3.5 `const std::string& Rcpp::attributes::Param::value ( ) const` `[inline]`

Definition at line 298 of file attributes.cpp.

Referenced by `Rcpp::attributes::Attribute::exportedName()`, `Rcpp::attributes::operator<<()`, and `Rcpp::attributes::Attribute::rng()`.

## 6.470.4 Member Data Documentation

6.470.4.1 `std::string Rcpp::attributes::Param::name_` `[private]`

Definition at line 301 of file attributes.cpp.

Referenced by `operator==( )`.

6.470.4.2 `std::string Rcpp::attributes::Param::value_` `[private]`

Definition at line 302 of file attributes.cpp.

Referenced by `operator==( )`.

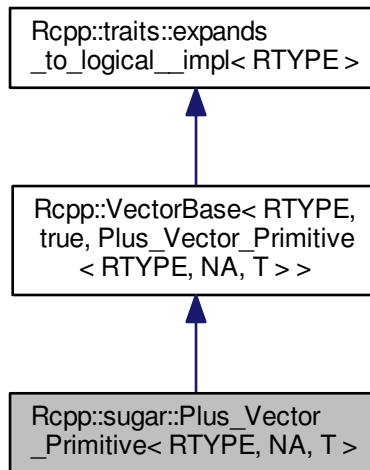
The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

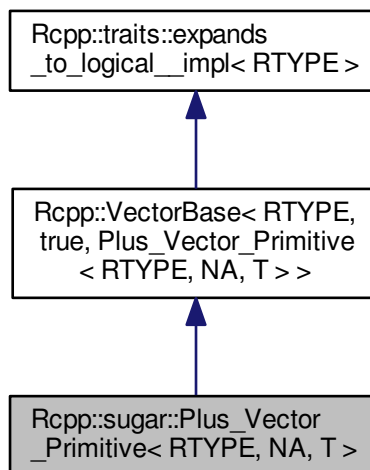
## 6.471 Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, NA, T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, NA, T > [VEC\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, NA, T >::type [EXT](#)

## Public Member Functions

- [Plus\\_Vector\\_Primitive](#) (const [VEC\\_TYPE](#) &lhs\_, [STORAGE](#) rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [EXT](#) & lhs
- [STORAGE](#) rhs
- bool [rhs\\_na](#)

### 6.471.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>  
class Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T >
```

Definition at line 248 of file plus.h.

### 6.471.2 Member Typedef Documentation

6.471.2.1 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::Extractor< RTYPE, NA, T >::type Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T >::EXT`

Definition at line 254 of file plus.h.

6.471.2.2 `template<int RTYPE, bool NA, typename T> typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T >::STORAGE`

Definition at line 252 of file plus.h.

6.471.2.3 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T >::VEC_TYPE`

Definition at line 251 of file plus.h.

### 6.471.3 Constructor & Destructor Documentation

6.471.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T >::Plus_Vector_Primitive ( const VEC_TYPE & lhs, STORAGE rhs_ ) [inline]`

Definition at line 256 of file plus.h.

### 6.471.4 Member Function Documentation

6.471.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 260 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.471.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 266 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.471.5 Member Data Documentation

6.471.5.1 `template<int RTYPE, bool NA, typename T> const EXT& Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T >::lhs [private]`

Definition at line 269 of file plus.h.

6.471.5.2 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T >::rhs [private]`

Definition at line 270 of file plus.h.

6.471.5.3 `template<int RTYPE, bool NA, typename T> bool Rcpp::sugar::Plus_Vector_Primitive< RTYPE, NA, T >::rhs_na [private]`

Definition at line 271 of file plus.h.

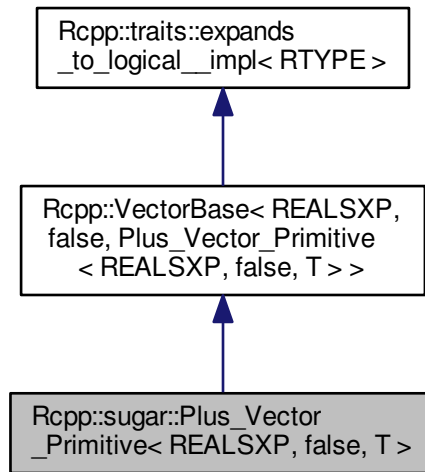
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

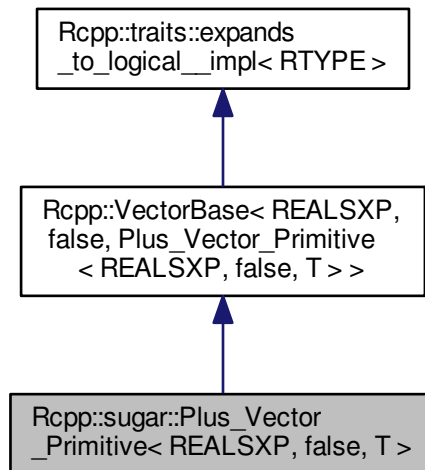
## 6.472 Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, false, T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, false, T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, false, T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, false, T > [VEC\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, T >::type [EXT](#)

## Public Member Functions

- [Plus\\_Vector\\_Primitive](#) (const [VEC\\_TYPE](#) &lhs\_, double rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [EXT](#) & lhs
- double rhs

### 6.472.1 Detailed Description

```
template<typename T>
class Rcpp::sugar::Plus_Vector_Primitive< REALSXP, false, T >
```

Definition at line 323 of file plus.h.

### 6.472.2 Member Typedef Documentation

6.472.2.1 `template<typename T > typedef Rcpp::traits::Extractor< REALSXP, false, T>::type Rcpp::sugar::Plus_Vector_Primitive< REALSXP, false, T >::EXT`

Definition at line 328 of file plus.h.

6.472.2.2 `template<typename T > typedef Rcpp::VectorBase<REALSXP,false,T> Rcpp::sugar::Plus_Vector_Primitive< REALSXP, false, T >::VEC_TYPE`

Definition at line 326 of file plus.h.

### 6.472.3 Constructor & Destructor Documentation

6.472.3.1 `template<typename T > Rcpp::sugar::Plus_Vector_Primitive< REALSXP, false, T >::Plus_Vector_Primitive ( const VEC\_TYPE & lhs_, double rhs_ ) [inline]`

Definition at line 330 of file plus.h.

## 6.472.4 Member Function Documentation

6.472.4.1 `template<typename T > double Rcpp::sugar::Plus_Vector_Primitive< REALSXP, false, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 333 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.472.4.2 `template<typename T > R_xlen_t Rcpp::sugar::Plus_Vector_Primitive< REALSXP, false, T >::size ( ) const [inline]`

Definition at line 337 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.472.5 Member Data Documentation

6.472.5.1 `template<typename T > const EXT& Rcpp::sugar::Plus_Vector_Primitive< REALSXP, false, T >::lhs [private]`

Definition at line 340 of file plus.h.

6.472.5.2 `template<typename T > double Rcpp::sugar::Plus_Vector_Primitive< REALSXP, false, T >::rhs [private]`

Definition at line 341 of file plus.h.

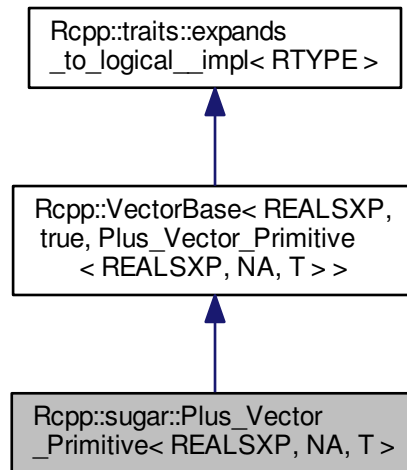
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

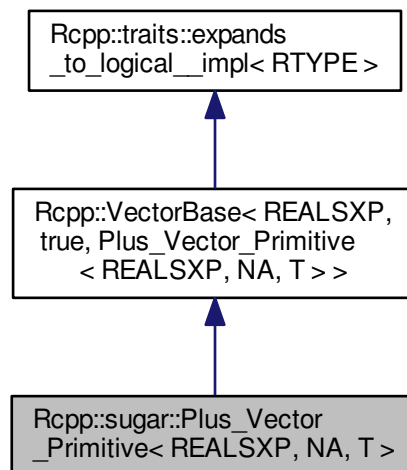
## 6.473 Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, NA, T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, NA, T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, NA, T >:





## Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, NA, T > [VEC\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, NA, T >::type [EXT](#)

## Public Member Functions

- [Plus\\_Vector\\_Primitive](#) (const [VEC\\_TYPE](#) &lhs\_, double rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [EXT](#) & lhs
- double rhs

### 6.473.1 Detailed Description

```
template<bool NA, typename T>
class Rcpp::sugar::Plus_Vector_Primitive< REALSXP, NA, T >
```

Definition at line 276 of file plus.h.

### 6.473.2 Member Typedef Documentation

6.473.2.1 `template<bool NA, typename T > typedef Rcpp::traits::Extractor< REALSXP, NA, T>::type Rcpp::sugar::Plus_Vector_Primitive< REALSXP, NA, T >::EXT`

Definition at line 280 of file plus.h.

6.473.2.2 `template<bool NA, typename T > typedef Rcpp::VectorBase<REALSXP,NA,T> Rcpp::sugar::Plus_Vector_Primitive< REALSXP, NA, T >::VEC_TYPE`

Definition at line 279 of file plus.h.

### 6.473.3 Constructor & Destructor Documentation

6.473.3.1 `template<bool NA, typename T > Rcpp::sugar::Plus_Vector_Primitive< REALSXP, NA, T >::Plus_Vector_Primitive ( const VEC_TYPE & lhs_, double rhs_ ) [inline]`

Definition at line 282 of file plus.h.

## 6.473.4 Member Function Documentation

6.473.4.1 `template<bool NA, typename T > double Rcpp::sugar::Plus_Vector_Primitive< REALSXP, NA, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 286 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.473.4.2 `template<bool NA, typename T > R_xlen_t Rcpp::sugar::Plus_Vector_Primitive< REALSXP, NA, T >::size ( ) const [inline]`

Definition at line 290 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.473.5 Member Data Documentation

6.473.5.1 `template<bool NA, typename T > const EXT& Rcpp::sugar::Plus_Vector_Primitive< REALSXP, NA, T >::lhs [private]`

Definition at line 293 of file plus.h.

6.473.5.2 `template<bool NA, typename T > double Rcpp::sugar::Plus_Vector_Primitive< REALSXP, NA, T >::rhs [private]`

Definition at line 294 of file plus.h.

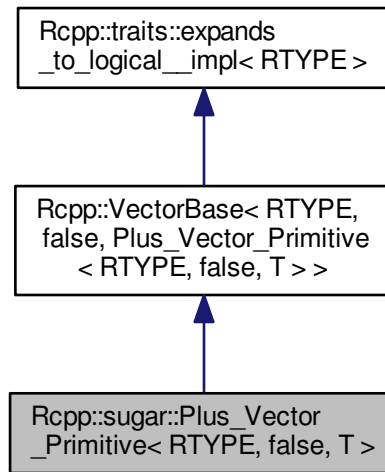
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

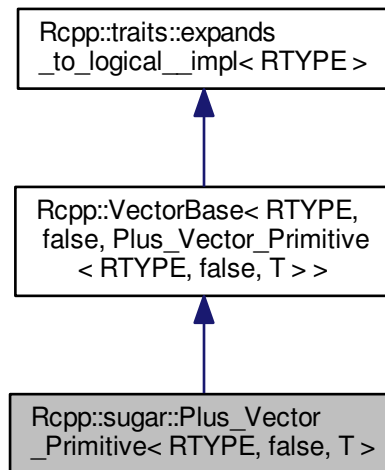
## 6.474 Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, false, T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, false, T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, false, T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, false, T > [VEC\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, T >::type [EXT](#)

## Public Member Functions

- [Plus\\_Vector\\_Primitive](#) (const [VEC\\_TYPE](#) &lhs\_, [STORAGE](#) rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [EXT](#) & lhs
- [STORAGE](#) rhs
- bool [rhs\\_na](#)

### 6.474.1 Detailed Description

```
template<int RTYPE, typename T>
class Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T >
```

Definition at line 300 of file plus.h.

### 6.474.2 Member Typedef Documentation

6.474.2.1 `template<int RTYPE, typename T > typedef Rcpp::traits::Extractor< RTYPE, false, T>::type Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T >::EXT`

Definition at line 305 of file plus.h.

6.474.2.2 `template<int RTYPE, typename T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T >::STORAGE`

Definition at line 303 of file plus.h.

6.474.2.3 `template<int RTYPE, typename T > typedef Rcpp::VectorBase<RTYPE,false,T> Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T >::VEC_TYPE`

Definition at line 302 of file plus.h.

### 6.474.3 Constructor & Destructor Documentation

6.474.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T >::Plus_Vector_Primitive ( const VEC_TYPE & lhs, STORAGE rhs_ ) [inline]`

Definition at line 307 of file plus.h.

### 6.474.4 Member Function Documentation

6.474.4.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 310 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.474.4.2 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T >::size ( ) const [inline]`

Definition at line 314 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.474.5 Member Data Documentation

6.474.5.1 `template<int RTYPE, typename T > const EXT& Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T >::lhs [private]`

Definition at line 317 of file plus.h.

6.474.5.2 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T >::rhs [private]`

Definition at line 318 of file plus.h.

6.474.5.3 `template<int RTYPE, typename T > bool Rcpp::sugar::Plus_Vector_Primitive< RTYPE, false, T >::rhs_na [private]`

Definition at line 319 of file plus.h.

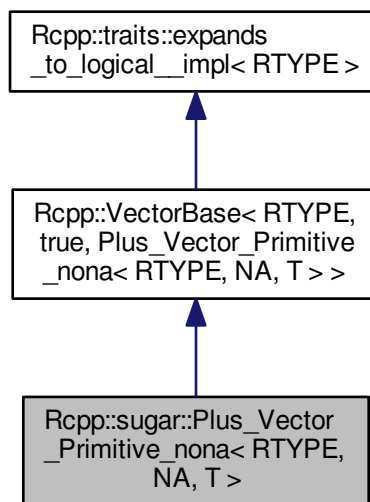
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

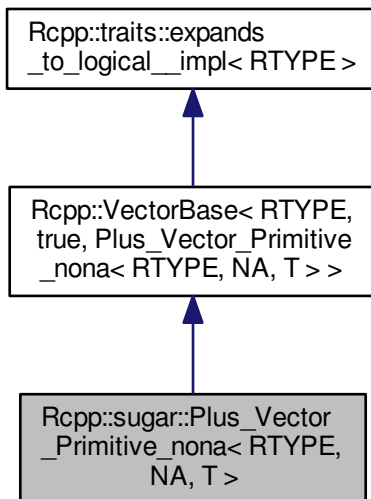
## 6.475 Rcpp::sugar::Plus\_Vector\_Primitive\_nona< RTYPE, NA, T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Primitive\_nona< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Primitive\_nona< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, NA, T > [VEC\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, NA, T >::type [EXT](#)

## Public Member Functions

- [Plus\\_Vector\\_Primitive\\_nona](#) (const [VEC\\_TYPE](#) &lhs\_, [STORAGE](#) rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [EXT](#) & lhs
- [STORAGE](#) rhs

### 6.475.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, NA, T >
  
```

Definition at line 351 of file plus.h.

## 6.475.2 Member Typedef Documentation

6.475.2.1 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::Extractor< RTYPE, NA, T>::type  
Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, NA, T >::EXT`

Definition at line 355 of file plus.h.

6.475.2.2 `template<int RTYPE, bool NA, typename T> typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, NA, T >::STORAGE`

Definition at line 354 of file plus.h.

6.475.2.3 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, NA, T >::VEC_TYPE`

Definition at line 353 of file plus.h.

## 6.475.3 Constructor & Destructor Documentation

6.475.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, NA, T  
>::Plus_Vector_Primitive_nona ( const VEC_TYPE & lhs, STORAGE rhs ) [inline]`

Definition at line 357 of file plus.h.

## 6.475.4 Member Function Documentation

6.475.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE,  
NA, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 361 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.475.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, NA,  
T >::size ( ) const [inline]`

Definition at line 366 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.



### 6.475.5 Member Data Documentation

6.475.5.1 `template<int RTYPE, bool NA, typename T> const EXT& Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, NA, T >::lhs [private]`

Definition at line 369 of file plus.h.

6.475.5.2 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, NA, T >::rhs [private]`

Definition at line 370 of file plus.h.

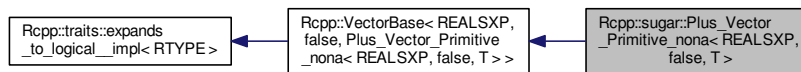
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

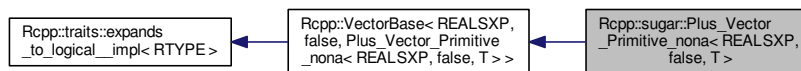
## 6.476 Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, false, T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, false, T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, false, T >:



### Public Types

- typedef [Rcpp::VectorBase< REALSXP, false, T >](#) `VEC_TYPE`
- typedef [Rcpp::traits::Extractor< REALSXP, false, T >::type](#) `EXT`

## Public Member Functions

- [Plus\\_Vector\\_Primitive\\_nona](#) (const [VEC\\_TYPE](#) &lhs\_, double rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [EXT](#) & lhs
- double [rhs](#)

### 6.476.1 Detailed Description

```
template<typename T>
class Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, false, T >
```

Definition at line 422 of file plus.h.

### 6.476.2 Member Typedef Documentation

6.476.2.1 `template<typename T > typedef Rcpp::traits::Extractor< REALSXP, false, T >::type Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, false, T >::EXT`

Definition at line 426 of file plus.h.

6.476.2.2 `template<typename T > typedef Rcpp::VectorBase<REALSXP,false,T> Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, false, T >::VEC_TYPE`

Definition at line 425 of file plus.h.

### 6.476.3 Constructor & Destructor Documentation

6.476.3.1 `template<typename T > Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, false, T >::Plus_Vector_Primitive_nona ( const VEC\_TYPE & lhs_, double rhs_ ) [inline]`

Definition at line 428 of file plus.h.

## 6.476.4 Member Function Documentation

6.476.4.1 `template<typename T > double Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, false, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 431 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.476.4.2 `template<typename T > R_xlen_t Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, false, T >::size ( ) const [inline]`

Definition at line 435 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.476.5 Member Data Documentation

6.476.5.1 `template<typename T > const EXT& Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, false, T >::lhs [private]`

Definition at line 438 of file plus.h.

6.476.5.2 `template<typename T > double Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, false, T >::rhs [private]`

Definition at line 439 of file plus.h.

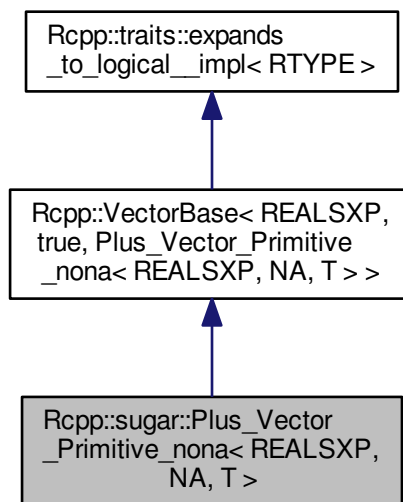
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

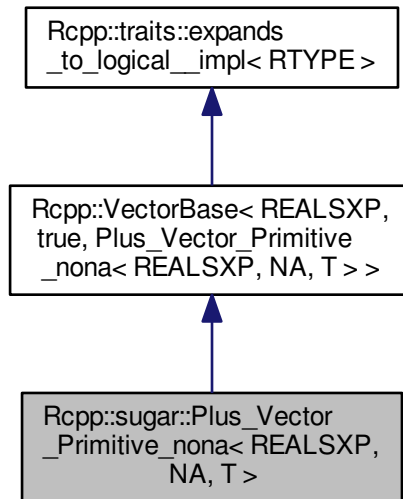
## 6.477 Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, NA, T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, NA, T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase< REALSXP, NA, T >](#) [VEC\\_TYPE](#)
- typedef [Rcpp::traits::Extractor< REALSXP, NA, T >::type](#) [EXT](#)

## Public Member Functions

- [Plus\\_Vector\\_Primitive\\_nona](#) (const [VEC\\_TYPE](#) &lhs\_, double rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [EXT](#) & [lhs](#)
- double [rhs](#)

### 6.477.1 Detailed Description

```

template<bool NA, typename T>
class Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, NA, T >

```

Definition at line 374 of file plus.h.

## 6.477.2 Member Typedef Documentation

6.477.2.1 `template<bool NA, typename T > typedef Rcpp::traits::Extractor<REALSXP, NA, T>::type  
Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, NA, T >::EXT`

Definition at line 378 of file plus.h.

6.477.2.2 `template<bool NA, typename T > typedef Rcpp::VectorBase<REALSXP,NA,T>  
Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, NA, T >::VEC_TYPE`

Definition at line 377 of file plus.h.

## 6.477.3 Constructor & Destructor Documentation

6.477.3.1 `template<bool NA, typename T > Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, NA, T  
>::Plus_Vector_Primitive_nona ( const VEC_TYPE & lhs_, double rhs_ ) [inline]`

Definition at line 380 of file plus.h.

## 6.477.4 Member Function Documentation

6.477.4.1 `template<bool NA, typename T > double Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, NA, T  
>::operator[]( R_xlen_t i ) const [inline]`

Definition at line 384 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.477.4.2 `template<bool NA, typename T > R_xlen_t Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, NA, T  
>::size ( ) const [inline]`

Definition at line 388 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.477.5 Member Data Documentation

6.477.5.1 `template<bool NA, typename T > const EXT& Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, NA, T  
>::lhs [private]`

Definition at line 391 of file plus.h.

```
6.477.5.2 template<bool NA, typename T > double Rcpp::sugar::Plus_Vector_Primitive_nona< REALSXP, NA, T >::rhs  
[private]
```

Definition at line 392 of file plus.h.

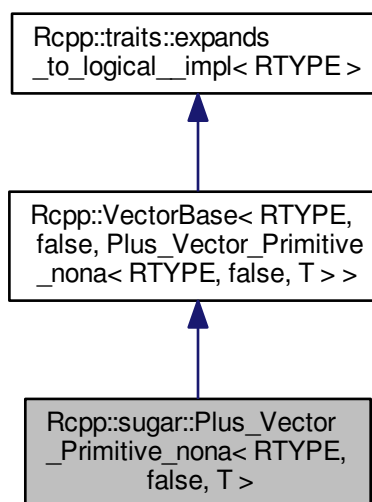
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

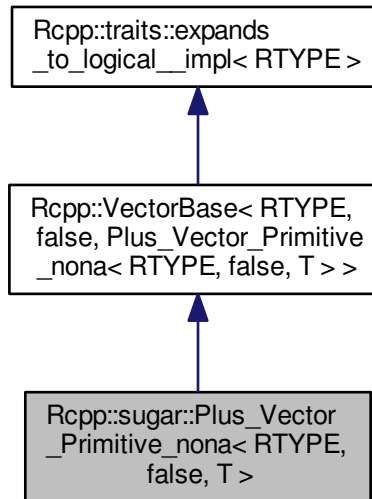
## 6.478 Rcpp::sugar::Plus\_Vector\_Primitive\_nona< RTYPE, false, T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Primitive\_nona< RTYPE, false, T >:



Collaboration diagram for `Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T >`:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, false, T >` `VEC_TYPE`
- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::traits::Extractor< RTYPE, false, T >::type` `EXT`

## Public Member Functions

- `Plus_Vector_Primitive_nona` (const `VEC_TYPE` &lhs\_, `STORAGE` rhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- const `EXT` &lhs
- `STORAGE` rhs

### 6.478.1 Detailed Description

```

template<int RTYPE, typename T>
class Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T >

```

Definition at line 399 of file plus.h.



## 6.478.2 Member Typedef Documentation

6.478.2.1 `template<int RTYPE, typename T > typedef Rcpp::traits::Extractor< RTYPE, false, T>::type  
Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T >::EXT`

Definition at line 404 of file plus.h.

6.478.2.2 `template<int RTYPE, typename T > typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T >::STORAGE`

Definition at line 402 of file plus.h.

6.478.2.3 `template<int RTYPE, typename T > typedef Rcpp::VectorBase<RTYPE,false,T>  
Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T >::VEC_TYPE`

Definition at line 401 of file plus.h.

## 6.478.3 Constructor & Destructor Documentation

6.478.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T  
>::Plus_Vector_Primitive_nona ( const VEC_TYPE & lhs_, STORAGE rhs_ ) [inline]`

Definition at line 406 of file plus.h.

## 6.478.4 Member Function Documentation

6.478.4.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 409 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.478.4.2 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T  
>::size ( ) const [inline]`

Definition at line 413 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.478.5 Member Data Documentation

6.478.5.1 `template<int RTYPE, typename T > const EXT& Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T >::lhs [private]`

Definition at line 416 of file plus.h.

6.478.5.2 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Plus_Vector_Primitive_nona< RTYPE, false, T >::rhs [private]`

Definition at line 417 of file plus.h.

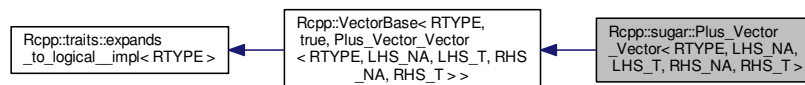
The documentation for this class was generated from the following file:

- <inst/include/Rcpp/sugar/operators/plus.h>

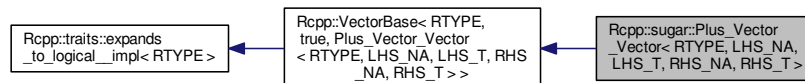
### 6.479 Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [traits::storage\\_type< RTYPE >::type](#) **STORAGE**
- typedef [Rcpp::VectorBase< RTYPE, LHS\\_NA, LHS\\_T >](#) **LHS\_TYPE**
- typedef [Rcpp::VectorBase< RTYPE, RHS\\_NA, RHS\\_T >](#) **RHS\_TYPE**
- typedef [Rcpp::traits::Extractor< RTYPE, LHS\\_NA, LHS\\_T >::type](#) **LHS\_EXT**
- typedef [Rcpp::traits::Extractor< RTYPE, RHS\\_NA, RHS\\_T >::type](#) **RHS\_EXT**

## Public Member Functions

- [Plus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.479.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 29 of file plus.h.

### 6.479.2 Member Typedef Documentation

6.479.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, LHS_NA, LHS_T>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 35 of file plus.h.

6.479.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,LHS_NA,LHS_T> Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 32 of file plus.h.

6.479.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, RHS_NA, RHS_T>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 36 of file plus.h.

6.479.2.4 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 33 of file plus.h.

```
6.479.2.5 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef
traits::storage_type<RTYPE>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA,
RHS_T >::STORAGE
```

Definition at line 31 of file plus.h.

### 6.479.3 Constructor & Destructor Documentation

```
6.479.3.1 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T >
Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Plus_Vector_Vector( const
LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]
```

Definition at line 38 of file plus.h.

### 6.479.4 Member Function Documentation

```
6.479.4.1 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > STORAGE
Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const
[inline]
```

Definition at line 41 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

```
6.479.4.2 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t
Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]
```

Definition at line 48 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.479.5 Member Data Documentation

```
6.479.5.1 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_EXT&
Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]
```

Definition at line 51 of file plus.h.

Referenced by `Rcpp::operator+`(`l`), `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]`(`i`), `Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]`(`i`), `Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::operator[]`(`i`), `Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::operator[]`(`i`), `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::operator[]`(`i`), `Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::operator[]`(`i`), `Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::operator[]`(`i`), and `Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::operator[]`(`i`).

Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, NA, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, NA, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, false, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, false, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive\_nona< RTYPE, NA, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, NA, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive\_nona< RTYPE, false, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, false, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >::size(), Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >::size(), Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >::size(), Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T >::size(), Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, NA, T >::size(), Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, NA, T >::size(), Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, false, T >::size(), Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, false, T >::size(), Rcpp::sugar::Plus\_Vector\_Primitive\_nona< RTYPE, NA, T >::size(), Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, NA, T >::size(), Rcpp::sugar::Plus\_Vector\_Primitive\_nona< RTYPE, false, T >::size(), and Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, false, T >::size().

```
6.479.5.2 template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT&
Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]
```

Definition at line 52 of file plus.h.

Referenced by Rcpp::operator+(), Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T >::operator[](), Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >::operator[](), Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >::operator[](), Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >::operator[](), Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, NA, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, NA, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive< RTYPE, false, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive< REALSXP, false, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive\_nona< RTYPE, NA, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, NA, T >::operator[](), Rcpp::sugar::Plus\_Vector\_Primitive\_nona< RTYPE, false, T >::operator[](), and Rcpp::sugar::Plus\_Vector\_Primitive\_nona< REALSXP, false, T >::operator[]().

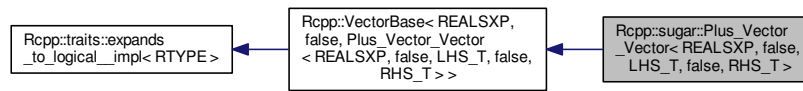
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

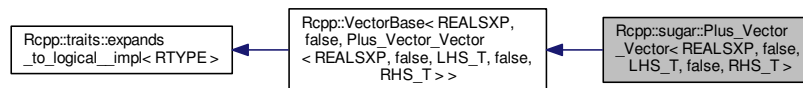
## 6.480 Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for `Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >`:



Collaboration diagram for `Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >`:



## Public Types

- typedef `Rcpp::VectorBase< REALSXP, false, LHS_T >` `LHS_TYPE`
- typedef `Rcpp::VectorBase< REALSXP, false, RHS_T >` `RHS_TYPE`
- typedef `Rcpp::traits::Extractor< REALSXP, false, LHS_T >::type` `LHS_EXT`
- typedef `Rcpp::traits::Extractor< REALSXP, false, RHS_T >::type` `RHS_EXT`

## Public Member Functions

- `Plus_Vector_Vector` (const `LHS_TYPE` &lhs\_, const `RHS_TYPE` &rhs\_)
- double `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- const `LHS_EXT` &lhs
- const `RHS_EXT` &rhs

### 6.480.1 Detailed Description

```

template<typename LHS_T, typename RHS_T>
class Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >
  
```

Definition at line 218 of file plus.h.

## 6.480.2 Member Typedef Documentation

6.480.2.1 `template<typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, LHS_T>::type Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 224 of file plus.h.

6.480.2.2 `template<typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,LHS_T> Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 221 of file plus.h.

6.480.2.3 `template<typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, RHS_T>::type Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 225 of file plus.h.

6.480.2.4 `template<typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,RHS_T> Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 222 of file plus.h.

## 6.480.3 Constructor & Destructor Documentation

6.480.3.1 `template<typename LHS_T, typename RHS_T > Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::Plus_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 227 of file plus.h.

## 6.480.4 Member Function Documentation

6.480.4.1 `template<typename LHS_T, typename RHS_T > double Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 230 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.480.4.2 `template<typename LHS_T, typename RHS_T> R_xlen_t Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::size ( ) const [inline]`

Definition at line 234 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.480.5 Member Data Documentation

6.480.5.1 `template<typename LHS_T, typename RHS_T> const LHS_EXT& Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 237 of file plus.h.

6.480.5.2 `template<typename LHS_T, typename RHS_T> const RHS_EXT& Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 238 of file plus.h.

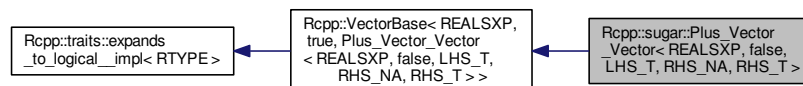
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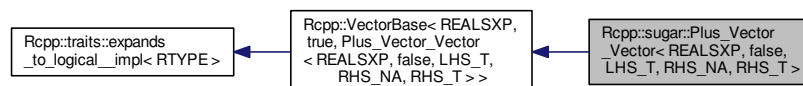
## 6.481 Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for `Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >`:



Collaboration diagram for `Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >`:





## Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

## Public Member Functions

- [Plus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [LHS\\_EXT](#) & lhs
- const [RHS\\_EXT](#) & rhs

### 6.481.1 Detailed Description

```
template<typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 113 of file plus.h.

### 6.481.2 Member Typedef Documentation

6.481.2.1 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, LHS_T>::type Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 119 of file plus.h.

6.481.2.2 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,LHS_T> Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 116 of file plus.h.

6.481.2.3 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, RHS_NA, RHS_T>::type Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 120 of file plus.h.

```
6.481.2.4 template<typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REAL↵
  SXP,RHS_NA,RHS_T> Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T
  >::RHS_TYPE
```

Definition at line 117 of file plus.h.

### 6.481.3 Constructor & Destructor Documentation

```
6.481.3.1 template<typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::Plus_Vector_Vector< REALSXP,
  false, LHS_T, RHS_NA, RHS_T >::Plus_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ )
  [inline]
```

Definition at line 122 of file plus.h.

### 6.481.4 Member Function Documentation

```
6.481.4.1 template<typename LHS_T , bool RHS_NA, typename RHS_T > double Rcpp::sugar::Plus_Vector_Vector<
  REALSXP, false, LHS_T, RHS_NA, RHS_T >::operator[]( R_xlen_t i ) const [inline]
```

Definition at line 125 of file plus.h.

References Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar↵  
::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

```
6.481.4.2 template<typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Plus_Vector_Vector<
  REALSXP, false, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]
```

Definition at line 129 of file plus.h.

References Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs.

### 6.481.5 Member Data Documentation

```
6.481.5.1 template<typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_EXT&
  Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::lhs [private]
```

Definition at line 132 of file plus.h.

```
6.481.5.2 template<typename LHS_T , bool RHS_NA, typename RHS_T > const RHS_EXT&
  Rcpp::sugar::Plus_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::rhs [private]
```

Definition at line 133 of file plus.h.

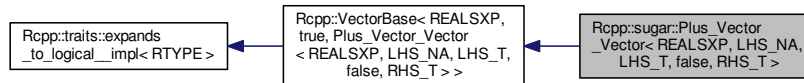
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

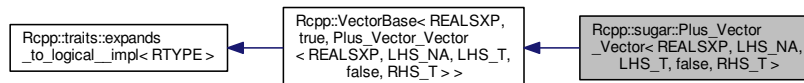
## 6.482 Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Plus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.482.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 166 of file plus.h.

### 6.482.2 Member Typedef Documentation

6.482.2.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, LHS_NA, LHS_T>::type Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 172 of file plus.h.

6.482.2.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, LHS_NA, LHS_T> Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 169 of file plus.h.

6.482.2.3 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, RHS_T>::type Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 173 of file plus.h.

6.482.2.4 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, false, RHS_T> Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 170 of file plus.h.

### 6.482.3 Constructor & Destructor Documentation

6.482.3.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::Plus_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ )`  
`[inline]`

Definition at line 175 of file plus.h.

#### 6.482.4 Member Function Documentation

6.482.4.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > double Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 178 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.482.4.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::size( ) const [inline]`

Definition at line 182 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

#### 6.482.5 Member Data Documentation

6.482.5.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > const LHS_EXT& Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 185 of file plus.h.

6.482.5.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > const RHS_EXT& Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 186 of file plus.h.

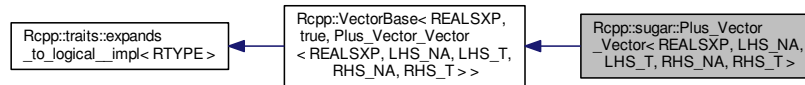
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

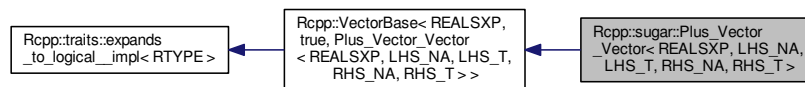
## 6.483 Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Plus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.483.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 59 of file plus.h.

### 6.483.2 Member Typedef Documentation

6.483.2.1 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, LHS_NA, LHS_T>::type Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 65 of file plus.h.

6.483.2.2 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,LHS_NA,LHS_T> Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 62 of file plus.h.

6.483.2.3 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, RHS_NA, RHS_T>::type Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 66 of file plus.h.

6.483.2.4 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,RHS_NA,RHS_T> Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 63 of file plus.h.

### 6.483.3 Constructor & Destructor Documentation

6.483.3.1 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::Plus_Vector_Vector ( const LHS_TYPE & lhs_ , const RHS_TYPE & rhs_ ) [inline]`

Definition at line 68 of file plus.h.

#### 6.483.4 Member Function Documentation

6.483.4.1 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > double Rcpp::sugar::↵  
Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 71 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::↵  
::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.483.4.2 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t  
Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 75 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

#### 6.483.5 Member Data Documentation

6.483.5.1 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_EXT&  
Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 78 of file plus.h.

6.483.5.2 `template<bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > const RHS_EXT&  
Rcpp::sugar::Plus_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 79 of file plus.h.

The documentation for this class was generated from the following file:

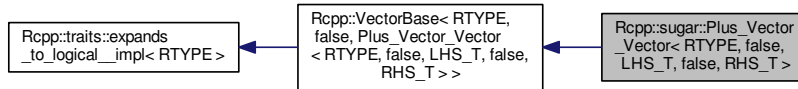
- [inst/include/Rcpp/sugar/operators/plus.h](#)



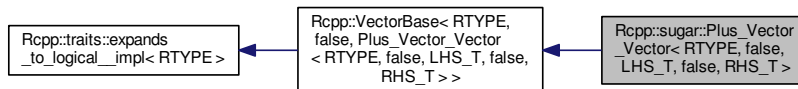
## 6.484 Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Plus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.484.1 Detailed Description

```
template<int RTYPE, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >
```

Definition at line 194 of file plus.h.

### 6.484.2 Member Typedef Documentation

6.484.2.1 `template<int RTYPE, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, false, LHS_T>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 200 of file plus.h.

6.484.2.2 `template<int RTYPE, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,false,LHS_T> Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 197 of file plus.h.

6.484.2.3 `template<int RTYPE, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, false, RHS_T>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 201 of file plus.h.

6.484.2.4 `template<int RTYPE, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,false,RHS_T> Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 198 of file plus.h.

6.484.2.5 `template<int RTYPE, typename LHS_T, typename RHS_T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::STORAGE`

Definition at line 196 of file plus.h.

### 6.484.3 Constructor & Destructor Documentation

6.484.3.1 `template<int RTYPE, typename LHS_T, typename RHS_T > Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::Plus_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 203 of file plus.h.

## 6.484.4 Member Function Documentation

6.484.4.1 `template<int RTYPE, typename LHS_T, typename RHS_T > STORAGE Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 206 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.484.4.2 `template<int RTYPE, typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::size ( ) const [inline]`

Definition at line 210 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.484.5 Member Data Documentation

6.484.5.1 `template<int RTYPE, typename LHS_T, typename RHS_T > const LHS_EXT& Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 213 of file plus.h.

6.484.5.2 `template<int RTYPE, typename LHS_T, typename RHS_T > const RHS_EXT& Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 214 of file plus.h.

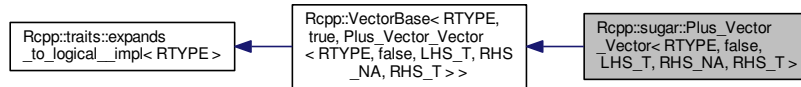
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

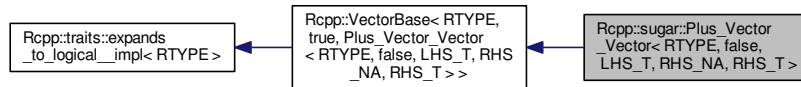
## 6.485 Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Plus\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.485.1 Detailed Description

```
template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 87 of file plus.h.

### 6.485.2 Member Typedef Documentation

6.485.2.1 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, false, LHS_T>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 93 of file plus.h.

6.485.2.2 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,false,LHS_T> Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 90 of file plus.h.

6.485.2.3 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, RHS_NA, RHS_T>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 94 of file plus.h.

6.485.2.4 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<R<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 91 of file plus.h.

6.485.2.5 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > typedef traits::storage_<type<RTYPE>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 89 of file plus.h.

### 6.485.3 Constructor & Destructor Documentation

6.485.3.1 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::Plus_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 96 of file plus.h.

## 6.485.4 Member Function Documentation

6.485.4.1 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > STORAGE Rcpp::sugar↔  
::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 99 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar↔  
::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.485.4.2 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t Rcpp↔  
::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::size ( ) const  
[inline]`

Definition at line 105 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.485.5 Member Data Documentation

6.485.5.1 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_EXT&  
Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 108 of file plus.h.

6.485.5.2 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > const RHS_EXT&  
Rcpp::sugar::Plus_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 109 of file plus.h.

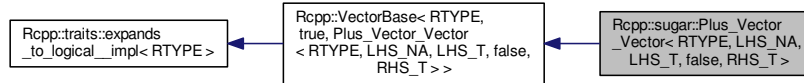
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

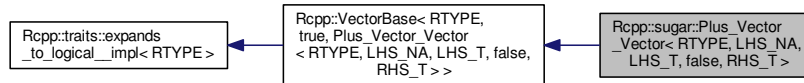
## 6.486 Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <plus.h>
```

Inheritance diagram for Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Plus\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T >` `LHS_TYPE`
- typedef `Rcpp::VectorBase< RTYPE, false, RHS_T >` `RHS_TYPE`
- typedef `Rcpp::traits::Extractor< RTYPE, LHS_NA, LHS_T >::type` `LHS_EXT`
- typedef `Rcpp::traits::Extractor< RTYPE, false, RHS_T >::type` `RHS_EXT`

### Public Member Functions

- `Plus_Vector_Vector` (const `LHS_TYPE` &lhs\_, const `RHS_TYPE` &rhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

### Private Attributes

- const `LHS_EXT` &lhs
- const `RHS_EXT` &rhs

### 6.486.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 140 of file plus.h.

### 6.486.2 Member Typedef Documentation

6.486.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, LHS_NA, LHS_T>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 146 of file plus.h.

6.486.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<R<TYPE,LHS_NA,LHS_T> Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 143 of file plus.h.

6.486.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, false, RHS_T>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 147 of file plus.h.

6.486.2.4 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::Vector<Base<RTYPE,false,RHS_T> Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 144 of file plus.h.

6.486.2.5 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > typedef traits::storage_<type<RTYPE>::type Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::STORAGE`

Definition at line 142 of file plus.h.

### 6.486.3 Constructor & Destructor Documentation

6.486.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::Plus_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 149 of file plus.h.



#### 6.486.4 Member Function Documentation

6.486.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > STORAGE Rcpp::sugar↔  
::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 152 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar↔  
::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.486.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > R_xlen_t Rcpp↔  
::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::size ( ) const  
[inline]`

Definition at line 158 of file plus.h.

References `Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

#### 6.486.5 Member Data Documentation

6.486.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > const LHS_EXT&  
Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 161 of file plus.h.

6.486.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > const RHS_EXT&  
Rcpp::sugar::Plus_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 162 of file plus.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/plus.h](#)

### 6.487 Rcpp::sugar::pmax\_op< RTYPE, LHS\_NA, RHS\_NA > Struct Template Reference

```
#include <pmax.h>
```

### 6.487.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, bool RHS_NA>
struct Rcpp::sugar::pmax_op< RTYPE, LHS_NA, RHS_NA >
```

Definition at line 28 of file pmax.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmax.h](#)

## 6.488 Rcpp::sugar::pmax\_op< INTSXP, LHS\_NA, RHS\_NA > Struct Template Reference

```
#include <pmax.h>
```

### Public Member Functions

- [int operator\(\)](#) (int left, int right) const

### 6.488.1 Detailed Description

```
template<bool LHS_NA, bool RHS_NA>
struct Rcpp::sugar::pmax_op< INTSXP, LHS_NA, RHS_NA >
```

Definition at line 57 of file pmax.h.

### 6.488.2 Member Function Documentation

6.488.2.1 [template<bool LHS\\_NA, bool RHS\\_NA> int Rcpp::sugar::pmax\\_op< INTSXP, LHS\\_NA, RHS\\_NA >::operator\(\)](#) ( int *left*, int *right* ) const `[inline]`

Definition at line 58 of file pmax.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmax.h](#)

## 6.489 Rcpp::sugar::pmax\_op< REALSXP, false, false > Struct Template Reference

```
#include <pmax.h>
```

## Public Member Functions

- double [operator\(\)](#) (double left, double right) const

### 6.489.1 Detailed Description

```
template<>
struct Rcpp::sugar::pmax_op< REALSXP, false, false >
```

Definition at line 48 of file pmax.h.

### 6.489.2 Member Function Documentation

6.489.2.1 double Rcpp::sugar::pmax\_op< REALSXP, false, false >::operator() ( double *left*, double *right* ) const  
[inline]

Definition at line 49 of file pmax.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmax.h](#)

## 6.490 Rcpp::sugar::pmax\_op< REALSXP, false, true > Struct Template Reference

```
#include <pmax.h>
```

## Public Member Functions

- double [operator\(\)](#) (double left, double right) const

### 6.490.1 Detailed Description

```
template<>
struct Rcpp::sugar::pmax_op< REALSXP, false, true >
```

Definition at line 43 of file pmax.h.

## 6.490.2 Member Function Documentation

6.490.2.1 `double Rcpp::sugar::pmax_op< REALSXP, false, true >::operator() ( double left, double right ) const`  
`[inline]`

Definition at line 44 of file `pmax.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmax.h](#)

## 6.491 Rcpp::sugar::pmax\_op< REALSXP, true, false > Struct Template Reference

```
#include <pmax.h>
```

### Public Member Functions

- `double operator() (double left, double right) const`

### 6.491.1 Detailed Description

```
template<>  
struct Rcpp::sugar::pmax_op< REALSXP, true, false >
```

Definition at line 38 of file `pmax.h`.

## 6.491.2 Member Function Documentation

6.491.2.1 `double Rcpp::sugar::pmax_op< REALSXP, true, false >::operator() ( double left, double right ) const`  
`[inline]`

Definition at line 39 of file `pmax.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmax.h](#)

## 6.492 Rcpp::sugar::pmax\_op< REALSXP, true, true > Struct Template Reference

```
#include <pmax.h>
```

## Public Member Functions

- double [operator\(\)](#) (double left, double right) const

### 6.492.1 Detailed Description

```
template<>
struct Rcpp::sugar::pmax_op< REALSXP, true, true >
```

Definition at line 33 of file pmax.h.

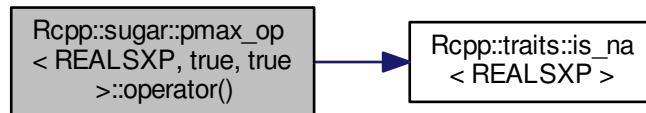
### 6.492.2 Member Function Documentation

6.492.2.1 double Rcpp::sugar::pmax\_op< REALSXP, true, true >::operator() ( double *left*, double *right* ) const [inline]

Definition at line 34 of file pmax.h.

References [Rcpp::traits::is\\_na< REALSXP >\(\)](#).

Here is the call graph for this function:



The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmax.h](#)

## 6.493 Rcpp::sugar::pmax\_op\_Vector\_Primitive< RTYPE, NA > Class Template Reference

```
#include <pmax.h>
```

### Public Types

- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) STORAGE

## Public Member Functions

- [pmax\\_op\\_Vector\\_Primitive](#) (STORAGE right\_)
- [STORAGE operator](#)() (STORAGE left) const

## Private Attributes

- [STORAGE right](#)

### 6.493.1 Detailed Description

```
template<int RTYPE, bool NA>  
class Rcpp::sugar::pmax_op_Vector_Primitive< RTYPE, NA >
```

Definition at line 65 of file pmax.h.

### 6.493.2 Member Typedef Documentation

```
6.493.2.1 template<int RTYPE, bool NA> typedef Rcpp::traits::storage_type<RTYPE>::type  
Rcpp::sugar::pmax_op_Vector_Primitive< RTYPE, NA >::STORAGE
```

Definition at line 67 of file pmax.h.

### 6.493.3 Constructor & Destructor Documentation

```
6.493.3.1 template<int RTYPE, bool NA> Rcpp::sugar::pmax_op_Vector_Primitive< RTYPE, NA  
>::pmax_op_Vector_Primitive ( STORAGE right_ ) [inline]
```

Definition at line 69 of file pmax.h.

### 6.493.4 Member Function Documentation

```
6.493.4.1 template<int RTYPE, bool NA> STORAGE Rcpp::sugar::pmax_op_Vector_Primitive< RTYPE, NA  
>::operator() ( STORAGE left ) const [inline]
```

Definition at line 71 of file pmax.h.

### 6.493.5 Member Data Documentation

6.493.5.1 `template<int RTYPE, bool NA> STORAGE Rcpp::sugar::pmax_op_Vector_Primitive< RTYPE, NA >::right`  
`[private]`

Definition at line 76 of file pmax.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmax.h](#)

## 6.494 Rcpp::sugar::pmax\_op\_Vector\_Primitive< REALSXP, true > Class Template Reference

```
#include <pmax.h>
```

### Public Member Functions

- [pmax\\_op\\_Vector\\_Primitive](#) (double right\_)
- double [operator\(\)](#) (double left) const

### Private Attributes

- double [right](#)

### 6.494.1 Detailed Description

```
template<>  
class Rcpp::sugar::pmax_op_Vector_Primitive< REALSXP, true >
```

Definition at line 79 of file pmax.h.

### 6.494.2 Constructor & Destructor Documentation

6.494.2.1 `Rcpp::sugar::pmax_op_Vector_Primitive< REALSXP, true >::pmax_op_Vector_Primitive ( double right_ )`  
`[inline]`

Definition at line 81 of file pmax.h.

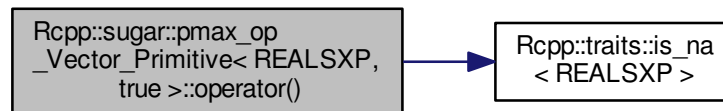
### 6.494.3 Member Function Documentation

6.494.3.1 `double Rcpp::sugar::pmax_op_Vector_Primitive< REALSXP, true >::operator() ( double left ) const`  
`[inline]`

Definition at line 83 of file pmax.h.

References `Rcpp::traits::is_na< REALSXP >()`.

Here is the call graph for this function:



### 6.494.4 Member Data Documentation

6.494.4.1 `double Rcpp::sugar::pmax_op_Vector_Primitive< REALSXP, true >::right` `[private]`

Definition at line 88 of file pmax.h.

The documentation for this class was generated from the following file:

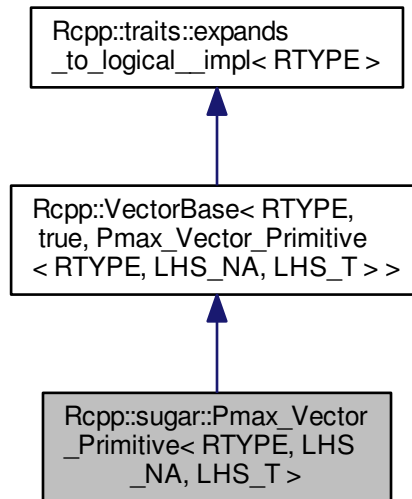
- [inst/include/Rcpp/sugar/functions/pmax.h](#)

## 6.495 `Rcpp::sugar::Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T >` Class Template Reference

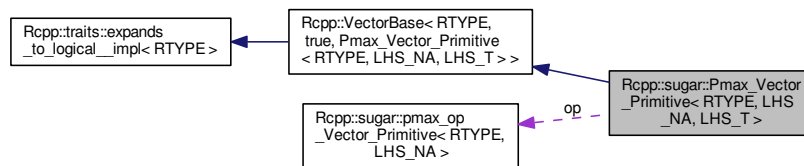
```
#include <pmax.h>
```



Inheritance diagram for Rcpp::sugar::Pmax\_Vector\_Primitive< RTYPE, LHS\_NA, LHS\_T >:



Collaboration diagram for Rcpp::sugar::Pmax\_Vector\_Primitive< RTYPE, LHS\_NA, LHS\_T >:



## Public Types

- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `pmax_op_Vector_Primitive< RTYPE, LHS_NA >` `OPERATOR`

## Public Member Functions

- `Pmax_Vector_Primitive` (const LHS\_T &lhs\_, `STORAGE` rhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- const LHS\_T & [lhs](#)
- OPERATOR [op](#)

### 6.495.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T>
class Rcpp::sugar::Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T >
```

Definition at line 127 of file pmax.h.

### 6.495.2 Member Typedef Documentation

6.495.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> typedef pmax_op_Vector_Primitive<RTYPE,LHS_NA> Rcpp::sugar::Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::OPERATOR`

Definition at line 134 of file pmax.h.

6.495.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::STORAGE`

Definition at line 133 of file pmax.h.

### 6.495.3 Constructor & Destructor Documentation

6.495.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> Rcpp::sugar::Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::Pmax_Vector_Primitive ( const LHS_T & lhs_, STORAGE rhs_ ) [inline]`

Definition at line 136 of file pmax.h.

### 6.495.4 Member Function Documentation

6.495.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> STORAGE Rcpp::sugar::Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 138 of file pmax.h.

6.495.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> R_xlen_t Rcpp::sugar::Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::size ( ) const [inline]`

Definition at line 141 of file pmax.h.

6.495.5 Member Data Documentation

6.495.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> const LHS_T& Rcpp::sugar::Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::lhs [private]`

Definition at line 144 of file pmax.h.

6.495.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> OPERATOR Rcpp::sugar::Pmax_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::op [private]`

Definition at line 145 of file pmax.h.

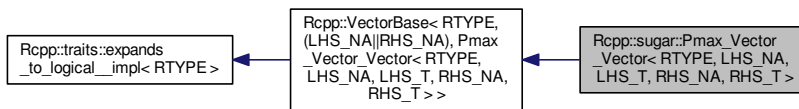
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmax.h](#)

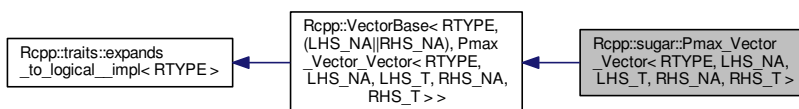
6.496 Rcpp::sugar::Pmax\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <pmax.h>
```

Inheritance diagram for Rcpp::sugar::Pmax\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Pmax\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



## Public Types

- typedef [Rcpp::traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [pmax\\_op](#)< RTYPE, LHS\_NA, RHS\_NA > [OPERATOR](#)

## Public Member Functions

- [Pmax\\_Vector\\_Vector](#) (const LHS\_T &lhs\_, const RHS\_T &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const LHS\_T & [lhs](#)
- const RHS\_T & [rhs](#)
- [OPERATOR op](#)

### 6.496.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 99 of file pmax.h.

### 6.496.2 Member Typedef Documentation

6.496.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef pmax_op<RTYPE,LHS_NA,RHS_NA> Rcpp::sugar::Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::OPERATOR`

Definition at line 106 of file pmax.h.

6.496.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 105 of file pmax.h.

### 6.496.3 Constructor & Destructor Documentation

6.496.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> Rcpp::sugar::Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Pmax_Vector_Vector ( const LHS_T & lhs_, const RHS_T & rhs_ ) [inline]`

Definition at line 108 of file pmax.h.

#### 6.496.4 Member Function Documentation

6.496.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> STORAGE  
Rcpp::sugar::Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 110 of file pmax.h.

6.496.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> R_xlen_t  
Rcpp::sugar::Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 113 of file pmax.h.

#### 6.496.5 Member Data Documentation

6.496.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const LHS_T&  
Rcpp::sugar::Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 116 of file pmax.h.

6.496.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> OPERATOR  
Rcpp::sugar::Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::op [private]`

Definition at line 118 of file pmax.h.

6.496.5.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const RHS_T&  
Rcpp::sugar::Pmax_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 117 of file pmax.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmax.h](#)

### 6.497 Rcpp::sugar::pmin\_op< RTYPE, LHS\_NA, RHS\_NA > Struct Template Reference

```
#include <pmin.h>
```

### 6.497.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, bool RHS_NA>
struct Rcpp::sugar::pmin_op< RTYPE, LHS_NA, RHS_NA >
```

Definition at line 28 of file pmin.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmin.h](#)

## 6.498 Rcpp::sugar::pmin\_op< INTSXP, LHS\_NA, RHS\_NA > Struct Template Reference

```
#include <pmin.h>
```

### Public Member Functions

- [int operator\(\)](#) (int left, int right) const

### 6.498.1 Detailed Description

```
template<bool LHS_NA, bool RHS_NA>
struct Rcpp::sugar::pmin_op< INTSXP, LHS_NA, RHS_NA >
```

Definition at line 57 of file pmin.h.

### 6.498.2 Member Function Documentation

6.498.2.1 [template<bool LHS\\_NA, bool RHS\\_NA> int Rcpp::sugar::pmin\\_op< INTSXP, LHS\\_NA, RHS\\_NA >::operator\(\)](#) ( int *left*, int *right* ) const `[inline]`

Definition at line 58 of file pmin.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmin.h](#)

## 6.499 Rcpp::sugar::pmin\_op< REALSXP, false, false > Struct Template Reference

```
#include <pmin.h>
```

## Public Member Functions

- double [operator\(\)](#) (double left, double right) const

### 6.499.1 Detailed Description

```
template<>
struct Rcpp::sugar::pmin_op< REALSXP, false, false >
```

Definition at line 48 of file pmin.h.

### 6.499.2 Member Function Documentation

6.499.2.1 double Rcpp::sugar::pmin\_op< REALSXP, false, false >::operator() ( double *left*, double *right* ) const  
[inline]

Definition at line 49 of file pmin.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[pmin.h](#)

## 6.500 Rcpp::sugar::pmin\_op< REALSXP, false, true > Struct Template Reference

```
#include <pmin.h>
```

## Public Member Functions

- double [operator\(\)](#) (double left, double right) const

### 6.500.1 Detailed Description

```
template<>
struct Rcpp::sugar::pmin_op< REALSXP, false, true >
```

Definition at line 43 of file pmin.h.

## 6.500.2 Member Function Documentation

6.500.2.1 `double Rcpp::sugar::pmin_op< REALSXP, false, true >::operator() ( double left, double right ) const` `[inline]`

Definition at line 44 of file `pmin.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/sugar/functions/pmin.h`

## 6.501 Rcpp::sugar::pmin\_op< REALSXP, true, false > Struct Template Reference

```
#include <pmin.h>
```

### Public Member Functions

- `double operator() (double left, double right) const`

### 6.501.1 Detailed Description

```
template<>  
struct Rcpp::sugar::pmin_op< REALSXP, true, false >
```

Definition at line 38 of file `pmin.h`.

## 6.501.2 Member Function Documentation

6.501.2.1 `double Rcpp::sugar::pmin_op< REALSXP, true, false >::operator() ( double left, double right ) const` `[inline]`

Definition at line 39 of file `pmin.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/sugar/functions/pmin.h`

## 6.502 Rcpp::sugar::pmin\_op< REALSXP, true, true > Struct Template Reference

```
#include <pmin.h>
```



## Public Member Functions

- double [operator\(\)](#) (double left, double right) const

### 6.502.1 Detailed Description

```
template<>
struct Rcpp::sugar::pmin_op< REALSXP, true, true >
```

Definition at line 33 of file pmin.h.

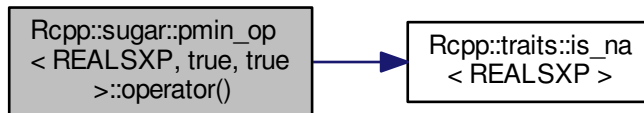
### 6.502.2 Member Function Documentation

6.502.2.1 double Rcpp::sugar::pmin\_op< REALSXP, true, true >::operator() ( double *left*, double *right* ) const [inline]

Definition at line 34 of file pmin.h.

References [Rcpp::traits::is\\_na< REALSXP >\(\)](#).

Here is the call graph for this function:



The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmin.h](#)

## 6.503 Rcpp::sugar::pmin\_op\_Vector\_Primitive< RTYPE, NA > Class Template Reference

```
#include <pmin.h>
```

### Public Types

- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) STORAGE

## Public Member Functions

- [pmin\\_op\\_Vector\\_Primitive](#) (STORAGE right\_)
- [STORAGE operator\(\)](#) (STORAGE left) const

## Private Attributes

- [STORAGE right](#)

### 6.503.1 Detailed Description

```
template<int RTYPE, bool NA>  
class Rcpp::sugar::pmin_op_Vector_Primitive< RTYPE, NA >
```

Definition at line 65 of file pmin.h.

### 6.503.2 Member Typedef Documentation

```
6.503.2.1 template<int RTYPE, bool NA> typedef Rcpp::traits::storage_type<RTYPE>::type  
Rcpp::sugar::pmin_op_Vector_Primitive< RTYPE, NA >::STORAGE
```

Definition at line 67 of file pmin.h.

### 6.503.3 Constructor & Destructor Documentation

```
6.503.3.1 template<int RTYPE, bool NA> Rcpp::sugar::pmin_op_Vector_Primitive< RTYPE, NA  
>::pmin_op_Vector_Primitive( STORAGE right_ ) [inline]
```

Definition at line 69 of file pmin.h.

### 6.503.4 Member Function Documentation

```
6.503.4.1 template<int RTYPE, bool NA> STORAGE Rcpp::sugar::pmin_op_Vector_Primitive< RTYPE, NA  
>::operator()( STORAGE left ) const [inline]
```

Definition at line 71 of file pmin.h.

### 6.503.5 Member Data Documentation

6.503.5.1 `template<int RTYPE, bool NA> STORAGE Rcpp::sugar::pmin_op_Vector_Primitive< RTYPE, NA >::right`  
[private]

Definition at line 76 of file pmin.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmin.h](#)

## 6.504 Rcpp::sugar::pmin\_op\_Vector\_Primitive< REALSXP, true > Class Template Reference

```
#include <pmin.h>
```

### Public Member Functions

- [pmin\\_op\\_Vector\\_Primitive](#) (double right\_)
- double [operator\(\)](#) (double left) const

### Private Attributes

- double [right](#)

### 6.504.1 Detailed Description

```
template<>  
class Rcpp::sugar::pmin_op_Vector_Primitive< REALSXP, true >
```

Definition at line 79 of file pmin.h.

### 6.504.2 Constructor & Destructor Documentation

6.504.2.1 `Rcpp::sugar::pmin_op_Vector_Primitive< REALSXP, true >::pmin_op_Vector_Primitive ( double right_ )`  
[inline]

Definition at line 81 of file pmin.h.

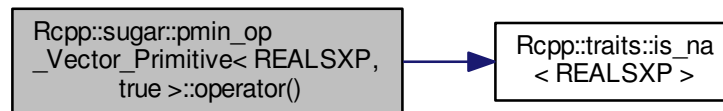
### 6.504.3 Member Function Documentation

6.504.3.1 `double Rcpp::sugar::pmin_op_Vector_Primitive< REALSXP, true >::operator() ( double left ) const`  
`[inline]`

Definition at line 83 of file `pmin.h`.

References `Rcpp::traits::is_na< REALSXP >()`.

Here is the call graph for this function:



### 6.504.4 Member Data Documentation

6.504.4.1 `double Rcpp::sugar::pmin_op_Vector_Primitive< REALSXP, true >::right` `[private]`

Definition at line 88 of file `pmin.h`.

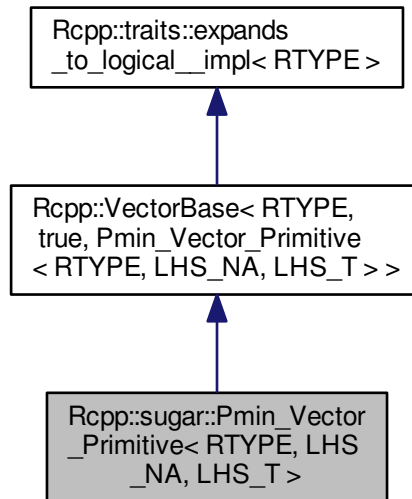
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmin.h](#)

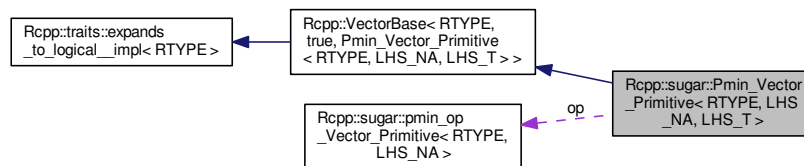
## 6.505 `Rcpp::sugar::Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T >` Class Template Reference

```
#include <pmin.h>
```

Inheritance diagram for Rcpp::sugar::Pmin\_Vector\_Primitive< RTYPE, LHS\_NA, LHS\_T >:



Collaboration diagram for Rcpp::sugar::Pmin\_Vector\_Primitive< RTYPE, LHS\_NA, LHS\_T >:



## Public Types

- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `pmin_op_Vector_Primitive< RTYPE, LHS_NA >` `OPERATOR`

## Public Member Functions

- `Pmin_Vector_Primitive` (const LHS\_T &lhs\_, `STORAGE` rhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- const LHS\_T & [lhs](#)
- [OPERATOR](#) *op*

### 6.505.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T>
class Rcpp::sugar::Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T >
```

Definition at line 127 of file pmin.h.

### 6.505.2 Member Typedef Documentation

6.505.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> typedef pmin_op_Vector_Primitive<RTYPE,LHS_NA> Rcpp::sugar::Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::OPERATOR`

Definition at line 134 of file pmin.h.

6.505.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::STORAGE`

Definition at line 133 of file pmin.h.

### 6.505.3 Constructor & Destructor Documentation

6.505.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> Rcpp::sugar::Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::Pmin_Vector_Primitive( const LHS_T & lhs, STORAGE rhs_ ) [inline]`

Definition at line 136 of file pmin.h.

### 6.505.4 Member Function Documentation

6.505.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> STORAGE Rcpp::sugar::Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 138 of file pmin.h.

6.505.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> R_xlen_t Rcpp::sugar::Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::size ( ) const [inline]`

Definition at line 139 of file pmin.h.

6.505.5 Member Data Documentation

6.505.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> const LHS_T& Rcpp::sugar::Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::lhs [private]`

Definition at line 142 of file pmin.h.

6.505.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> OPERATOR Rcpp::sugar::Pmin_Vector_Primitive< RTYPE, LHS_NA, LHS_T >::op [private]`

Definition at line 143 of file pmin.h.

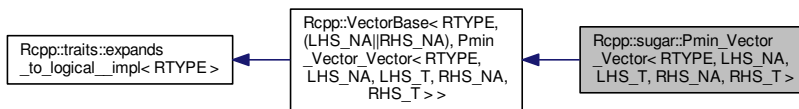
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmin.h](#)

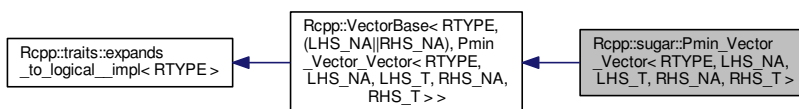
6.506 Rcpp::sugar::Pmin\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <pmin.h>
```

Inheritance diagram for Rcpp::sugar::Pmin\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Pmin\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



## Public Types

- typedef [Rcpp::traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [pmin\\_op](#)< RTYPE, LHS\_NA, RHS\_NA > [OPERATOR](#)

## Public Member Functions

- [Pmin\\_Vector\\_Vector](#) (const LHS\_T &lhs\_, const RHS\_T &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const LHS\_T & [lhs](#)
- const RHS\_T & [rhs](#)
- [OPERATOR op](#)

### 6.506.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 99 of file pmin.h.

### 6.506.2 Member Typedef Documentation

6.506.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef pmin_op<RTYPE,LHS_NA,RHS_NA> Rcpp::sugar::Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::OPERATOR`

Definition at line 106 of file pmin.h.

6.506.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 105 of file pmin.h.

### 6.506.3 Constructor & Destructor Documentation

6.506.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> Rcpp::sugar::Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Pmin_Vector_Vector ( const LHS_T & lhs_, const RHS_T & rhs_ ) [inline]`

Definition at line 108 of file pmin.h.



## 6.506.4 Member Function Documentation

6.506.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> STORAGE  
Rcpp::sugar::Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 110 of file pmin.h.

6.506.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> R_xlen_t  
Rcpp::sugar::Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 113 of file pmin.h.

## 6.506.5 Member Data Documentation

6.506.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const LHS_T&  
Rcpp::sugar::Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 116 of file pmin.h.

6.506.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> OPERATOR  
Rcpp::sugar::Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::op [private]`

Definition at line 118 of file pmin.h.

6.506.5.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T> const RHS_T&  
Rcpp::sugar::Pmin_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 117 of file pmin.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pmin.h](#)

## 6.507 Rcpp::traits::pointer\_wrap\_tag Struct Reference

```
#include <module_wrap_traits.h>
```

### 6.507.1 Detailed Description

Definition at line 31 of file `module_wrap_traits.h`.

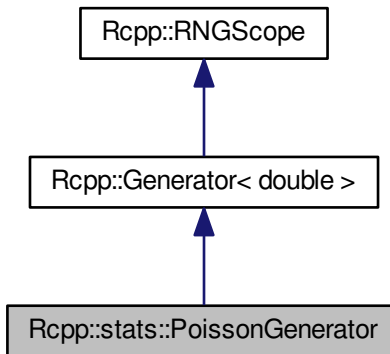
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/module\\_wrap\\_traits.h](#)

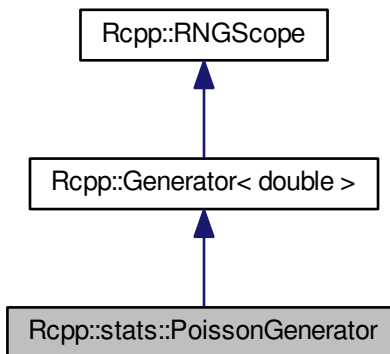
## 6.508 Rcpp::stats::PoissonGenerator Class Reference

```
#include <rpois.h>
```

Inheritance diagram for `Rcpp::stats::PoissonGenerator`:



Collaboration diagram for `Rcpp::stats::PoissonGenerator`:



## Public Member Functions

- [PoissonGenerator](#) (double mu\_)
- double [operator\(\)](#) () const

## Private Attributes

- double [mu](#)

## Additional Inherited Members

### 6.508.1 Detailed Description

Definition at line 28 of file rpois.h.

### 6.508.2 Constructor & Destructor Documentation

6.508.2.1 `Rcpp::stats::PoissonGenerator::PoissonGenerator ( double mu_ ) [inline]`

Definition at line 30 of file rpois.h.

### 6.508.3 Member Function Documentation

6.508.3.1 `double Rcpp::stats::PoissonGenerator::operator() ( ) const [inline]`

Definition at line 31 of file rpois.h.

References [mu](#).

### 6.508.4 Member Data Documentation

6.508.4.1 `double Rcpp::stats::PoissonGenerator::mu [private]`

Definition at line 33 of file rpois.h.

Referenced by [operator\(\)](#).

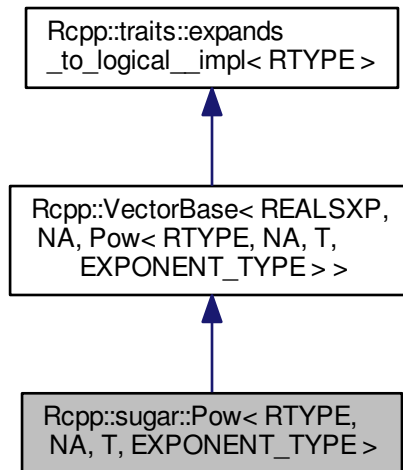
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rpois.h](#)

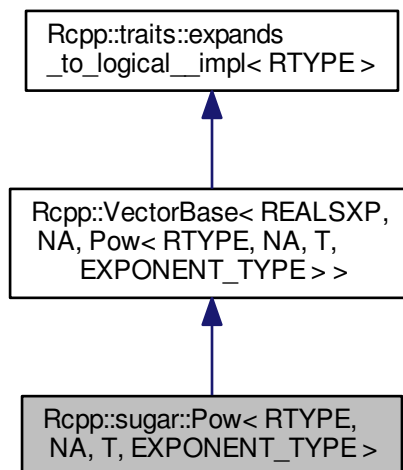
## 6.509 Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT\_TYPE > Class Template Reference

```
#include <pow.h>
```

Inheritance diagram for Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT\_TYPE > :



Collaboration diagram for Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT\_TYPE > :



## Public Types

- typedef [Rcpp::traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)

## Public Member Functions

- [Pow](#) (const T &object\_, EXPONENT\_TYPE exponent)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const T & [object](#)
- EXPONENT\_TYPE [op](#)

### 6.509.1 Detailed Description

```
template<int RTYPE, bool NA, typename T, typename EXPONENT_TYPE>
class Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >
```

Definition at line 29 of file pow.h.

### 6.509.2 Member Typedef Documentation

6.509.2.1 `template<int RTYPE, bool NA, typename T , typename EXPONENT_TYPE > typedef Rcpp↔  
::traits::storage_type<RTYPE>::type Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE  
>::STORAGE`

Definition at line 31 of file pow.h.

### 6.509.3 Constructor & Destructor Documentation

6.509.3.1 `template<int RTYPE, bool NA, typename T , typename EXPONENT_TYPE > Rcpp::sugar::Pow< RTYPE, NA, T,  
EXPONENT_TYPE >::Pow ( const T & object_, EXPONENT_TYPE exponent ) [inline]`

Definition at line 33 of file pow.h.

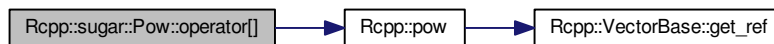
## 6.509.4 Member Function Documentation

6.509.4.1 `template<int RTYPE, bool NA, typename T, typename EXPONENT_TYPE > double Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 35 of file pow.h.

References `Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >::op`, and `Rcpp::pow()`.

Here is the call graph for this function:



6.509.4.2 `template<int RTYPE, bool NA, typename T, typename EXPONENT_TYPE > R_xlen_t Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >::size( ) const [inline]`

Definition at line 38 of file pow.h.

## 6.509.5 Member Data Documentation

6.509.5.1 `template<int RTYPE, bool NA, typename T, typename EXPONENT_TYPE > const T& Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >::object [private]`

Definition at line 41 of file pow.h.

6.509.5.2 `template<int RTYPE, bool NA, typename T, typename EXPONENT_TYPE > EXPONENT_TYPE Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >::op [private]`

Definition at line 42 of file pow.h.

Referenced by `Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >::operator[]()`, `Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT_TYPE >::operator[]()`, and `Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT_TYPE >::operator[]()`.

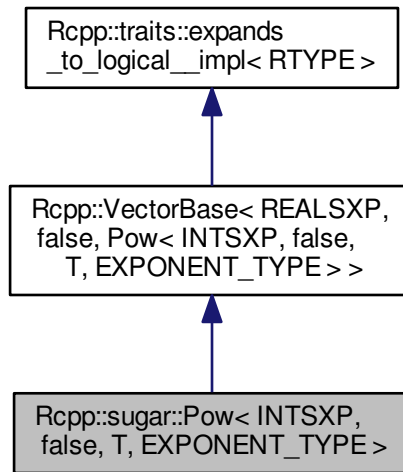
The documentation for this class was generated from the following file:

- <inst/include/Rcpp/sugar/functions/pow.h>

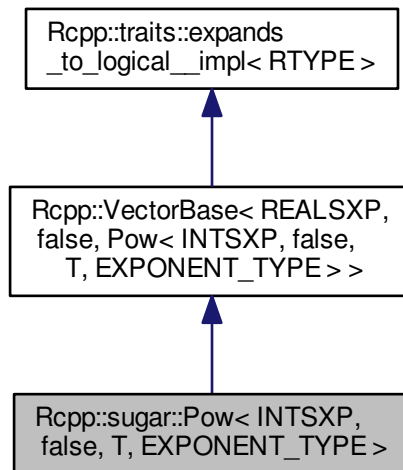
## 6.510 Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT\_TYPE > Class Template Reference

```
#include <pow.h>
```

Inheritance diagram for Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT\_TYPE >:



Collaboration diagram for Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT\_TYPE >:



## Public Member Functions

- [Pow](#) (const T &object\_, EXPONENT\_TYPE exponent)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const T & [object](#)
- EXPONENT\_TYPE [op](#)

## Additional Inherited Members

### 6.510.1 Detailed Description

```
template<typename T, typename EXPONENT_TYPE>
class Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT_TYPE >
```

Definition at line 61 of file pow.h.

### 6.510.2 Constructor & Destructor Documentation

6.510.2.1 `template<typename T, typename EXPONENT_TYPE > Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT_TYPE >::Pow ( const T & object_, EXPONENT_TYPE exponent ) [inline]`

Definition at line 63 of file pow.h.

### 6.510.3 Member Function Documentation

6.510.3.1 `template<typename T, typename EXPONENT_TYPE > double Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT_TYPE >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 65 of file pow.h.

References `Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >::op`, and `Rcpp::pow()`.

Here is the call graph for this function:





6.510.3.2 `template<typename T , typename EXPONENT_TYPE > R_xlen_t Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT_TYPE >::size ( ) const [inline]`

Definition at line 68 of file pow.h.

#### 6.510.4 Member Data Documentation

6.510.4.1 `template<typename T , typename EXPONENT_TYPE > const T& Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT_TYPE >::object [private]`

Definition at line 71 of file pow.h.

6.510.4.2 `template<typename T , typename EXPONENT_TYPE > EXPONENT_TYPE Rcpp::sugar::Pow< INTSXP, false, T, EXPONENT_TYPE >::op [private]`

Definition at line 72 of file pow.h.

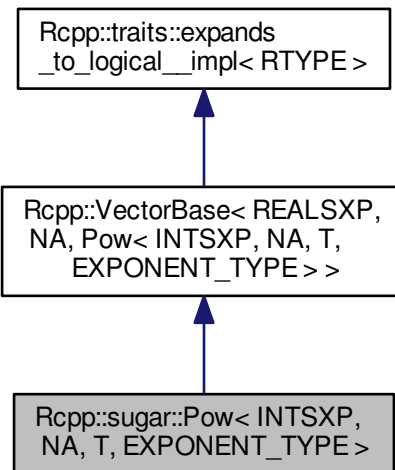
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/pow.h](#)

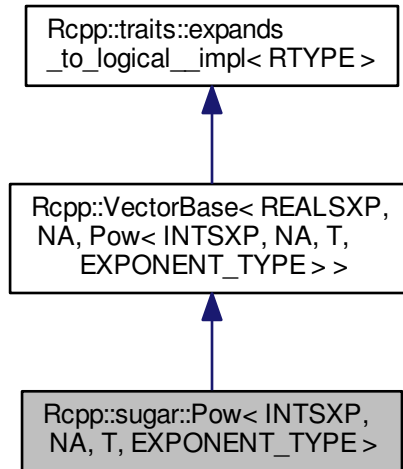
## 6.511 Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT\_TYPE > Class Template Reference

```
#include <pow.h>
```

Inheritance diagram for Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT\_TYPE >:



Collaboration diagram for `Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT_TYPE >`:



## Public Member Functions

- `Pow` (const T &object\_, EXPONENT\_TYPE exponent)
- double `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- const T & `object`
- EXPONENT\_TYPE `op`

## Additional Inherited Members

### 6.511.1 Detailed Description

```

template<bool NA, typename T, typename EXPONENT_TYPE>
class Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT_TYPE >
  
```

Definition at line 46 of file pow.h.

## 6.511.2 Constructor & Destructor Documentation

6.511.2.1 `template<bool NA, typename T, typename EXPONENT_TYPE > Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT_TYPE >::Pow ( const T & object, EXPONENT_TYPE exponent )` `[inline]`

Definition at line 48 of file pow.h.

## 6.511.3 Member Function Documentation

6.511.3.1 `template<bool NA, typename T, typename EXPONENT_TYPE > double Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT_TYPE >::operator[] ( R_xlen_t i ) const` `[inline]`

Definition at line 50 of file pow.h.

References `Rcpp::sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >::op`, and `Rcpp::pow()`.

Here is the call graph for this function:



6.511.3.2 `template<bool NA, typename T, typename EXPONENT_TYPE > R_xlen_t Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT_TYPE >::size ( ) const` `[inline]`

Definition at line 54 of file pow.h.

## 6.511.4 Member Data Documentation

6.511.4.1 `template<bool NA, typename T, typename EXPONENT_TYPE > const T& Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT_TYPE >::object` `[private]`

Definition at line 57 of file pow.h.

6.511.4.2 `template<bool NA, typename T, typename EXPONENT_TYPE > EXPONENT_TYPE Rcpp::sugar::Pow< INTSXP, NA, T, EXPONENT_TYPE >::op` `[private]`

Definition at line 58 of file pow.h.

The documentation for this class was generated from the following file:

- <inst/include/Rcpp/sugar/functions/pow.h>

## 6.512 Rcpp::PreserveStorage< CLASS > Class Template Reference

```
#include <PreserveStorage.h>
```

### Public Member Functions

- [PreserveStorage](#) ()
- [~PreserveStorage](#) ()
- void [set\\_\\_](#) (SEXP x)
- SEXP [get\\_\\_](#) () const
- SEXP [invalidate\\_\\_](#) ()
- template<typename T >  
T & [copy\\_\\_](#) (const T &other)
- bool [inherits](#) (const char \*clazz) const
- [operator SEXP](#) () const

### Private Attributes

- SEXP [data](#)

### 6.512.1 Detailed Description

```
template<typename CLASS>  
class Rcpp::PreserveStorage< CLASS >
```

Definition at line 7 of file PreserveStorage.h.

### 6.512.2 Constructor & Destructor Documentation

6.512.2.1 `template<typename CLASS> Rcpp::PreserveStorage< CLASS >::PreserveStorage ( ) [inline]`

Definition at line 10 of file PreserveStorage.h.

6.512.2.2 `template<typename CLASS> Rcpp::PreserveStorage< CLASS >::~~PreserveStorage ( ) [inline]`

Definition at line 12 of file PreserveStorage.h.

### 6.512.3 Member Function Documentation

6.512.3.1 `template<typename CLASS> template<typename T > T& Rcpp::PreserveStorage< CLASS >::copy__ ( const T & other ) [inline]`

Definition at line 36 of file PreserveStorage.h.

6.512.3.2 `template<typename CLASS> SEXP Rcpp::PreserveStorage< CLASS >::get__( ) const [inline]`

Definition at line 25 of file PreserveStorage.h.

6.512.3.3 `template<typename CLASS> bool Rcpp::PreserveStorage< CLASS >::inherits( const char * clazz ) const [inline]`

Definition at line 43 of file PreserveStorage.h.

6.512.3.4 `template<typename CLASS> SEXP Rcpp::PreserveStorage< CLASS >::invalidate__( ) [inline]`

Definition at line 29 of file PreserveStorage.h.

6.512.3.5 `template<typename CLASS> Rcpp::PreserveStorage< CLASS >::operator SEXP( ) const [inline]`

Definition at line 47 of file PreserveStorage.h.

6.512.3.6 `template<typename CLASS> void Rcpp::PreserveStorage< CLASS >::set__( SEXP x ) [inline]`

Definition at line 17 of file PreserveStorage.h.

Referenced by `Rcpp::PreserveStorage< Vector< RTYPE, PreserveStorage > >::copy__()`.

## 6.512.4 Member Data Documentation

6.512.4.1 `template<typename CLASS> SEXP Rcpp::PreserveStorage< CLASS >::data [private]`

Definition at line 50 of file PreserveStorage.h.

Referenced by `Rcpp::PreserveStorage< Vector< RTYPE, PreserveStorage > >::get__()`, `Rcpp::PreserveStorage< Vector< RTYPE, PreserveStorage > >::inherits()`, `Rcpp::PreserveStorage< Vector< RTYPE, PreserveStorage > >::invalidate__()`, `Rcpp::PreserveStorage< Vector< RTYPE, PreserveStorage > >::operator SEXP()`, `Rcpp::PreserveStorage< Vector< RTYPE, PreserveStorage > >::set__()`, and `Rcpp::PreserveStorage< Vector< RTYPE, PreserveStorage > >::~~PreserveStorage()`.

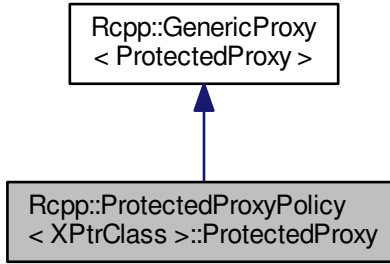
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/storage/PreserveStorage.h](#)

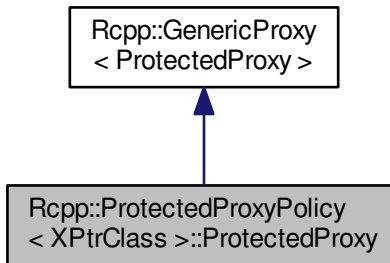
## 6.513 Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy Class Reference

```
#include <ProtectedProxy.h>
```

Inheritance diagram for Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy:



Collaboration diagram for Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy:



### Public Member Functions

- [ProtectedProxy](#) (XPtrClass &xp\_)
- `template<typename U >`  
[ProtectedProxy](#) & `operator=` (const U &u)
- `template<typename U >`  
`operator U` () const
- `operator SEXP` () const

## Private Member Functions

- SEXP [get](#) () const
- void [set](#) (SEXP x)

## Private Attributes

- XPtrClass & [xp](#)

### 6.513.1 Detailed Description

```
template<class XPtrClass>
class Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy
```

Definition at line 29 of file ProtectedProxy.h.

### 6.513.2 Constructor & Destructor Documentation

6.513.2.1 `template<class XPtrClass> Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy::ProtectedProxy ( XPtrClass & xp_ ) [inline]`

Definition at line 31 of file ProtectedProxy.h.

Referenced by `Rcpp::ProtectedProxyPolicy< XPtr< T, StoragePolicy, Finalizer > >::prot()`.

### 6.513.3 Member Function Documentation

6.513.3.1 `template<class XPtrClass> SEXP Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy::get ( ) const [inline], [private]`

Definition at line 51 of file ProtectedProxy.h.

6.513.3.2 `template<class XPtrClass> Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy::operator SEXP ( ) const [inline]`

Definition at line 44 of file ProtectedProxy.h.

6.513.3.3 `template<class XPtrClass> template<typename U > Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy::operator U ( ) const [inline]`

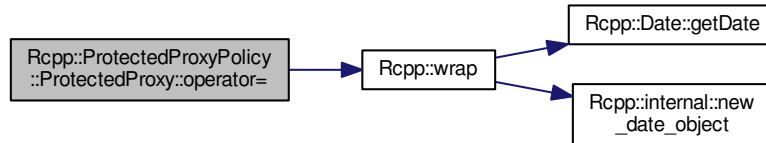
Definition at line 40 of file ProtectedProxy.h.

6.513.3.4 `template<class XPtrClass> template<typename U > ProtectedProxy& Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy::operator= ( const U & u ) [inline]`

Definition at line 34 of file ProtectedProxy.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:



6.513.3.5 `template<class XPtrClass> void Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy::set ( SEXP x ) [inline], [private]`

Definition at line 55 of file ProtectedProxy.h.

## 6.513.4 Member Data Documentation

6.513.4.1 `template<class XPtrClass> XPtrClass& Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy::xp [private]`

Definition at line 49 of file ProtectedProxy.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/proxy/ProtectedProxy.h`

## 6.514 Rcpp::ProtectedProxyPolicy< XPtrClass > Class Template Reference

```
#include <ProtectedProxy.h>
```

### Classes

- class `const_ProtectedProxy`
- class `ProtectedProxy`



## Public Member Functions

- [ProtectedProxy prot \(\)](#)
- [const\\_ProtectedProxy prot \(\) const](#)

### 6.514.1 Detailed Description

```
template<class XPtrClass>
class Rcpp::ProtectedProxyPolicy< XPtrClass >
```

Definition at line 26 of file ProtectedProxy.h.

### 6.514.2 Member Function Documentation

6.514.2.1 `template<class XPtrClass> ProtectedProxy Rcpp::ProtectedProxyPolicy< XPtrClass >::prot ( )`  
`[inline]`

Definition at line 83 of file ProtectedProxy.h.

6.514.2.2 `template<class XPtrClass> const_ProtectedProxy Rcpp::ProtectedProxyPolicy< XPtrClass >::prot ( ) const`  
`[inline]`

Definition at line 87 of file ProtectedProxy.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/proxy/ProtectedProxy.h`

## 6.515 Rcpp::traits::proxy\_based\_const\_iterator< RTYPE > Struct Template Reference

```
#include <proxy.h>
```

## Public Types

- `typedef ::Rcpp::internal::Proxy_Iterator< typename r_vector_const_proxy< RTYPE >::type > type`

### 6.515.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::traits::proxy_based_const_iterator< RTYPE >
```

Definition at line 253 of file proxy.h.

## 6.515.2 Member Typedef Documentation

6.515.2.1 `template<int RTYPE> typedef ::Rcpp::internal::Proxy_iterator< typename r_vector_const_proxy<RTYPE>::type > Rcpp::traits::proxy_based_const_iterator< RTYPE >::type`

Definition at line 254 of file proxy.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

## 6.516 Rcpp::traits::proxy\_based\_iterator< RTYPE > Struct Template Reference

```
#include <proxy.h>
```

### Public Types

- `typedef ::Rcpp::internal::Proxy_iterator< typename r_vector_proxy< RTYPE >::type > type`

### 6.516.1 Detailed Description

```
template<int RTYPE>  
struct Rcpp::traits::proxy_based_iterator< RTYPE >
```

Definition at line 246 of file proxy.h.

### 6.516.2 Member Typedef Documentation

6.516.2.1 `template<int RTYPE> typedef ::Rcpp::internal::Proxy_iterator< typename r_vector_proxy<RTYPE>::type > Rcpp::traits::proxy_based_iterator< RTYPE >::type`

Definition at line 247 of file proxy.h.

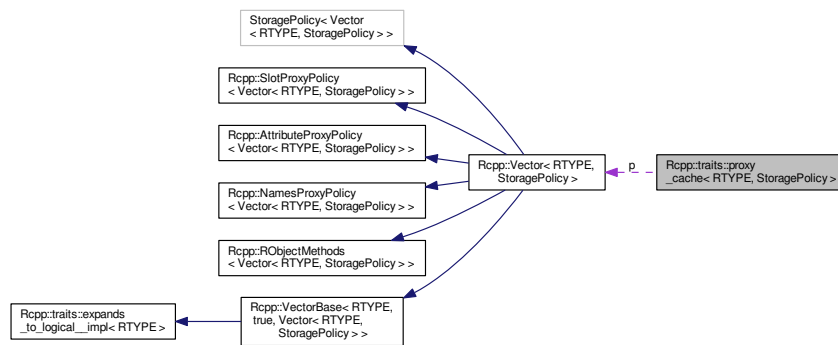
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

## 6.517 Rcpp::traits::proxy\_cache< RTYPE, StoragePolicy > Class Template Reference

```
#include <traits.h>
```

Collaboration diagram for Rcpp::traits::proxy\_cache< RTYPE, StoragePolicy >:



### Public Types

- typedef `::Rcpp::Vector< RTYPE, StoragePolicy >` `VECTOR`
- typedef `r_vector_iterator< RTYPE >::type` `iterator`
- typedef `r_vector_const_iterator< RTYPE >::type` `const_iterator`
- typedef `r_vector_proxy< RTYPE >::type` `proxy`
- typedef `r_vector_const_proxy< RTYPE >::type` `const_proxy`

### Public Member Functions

- `proxy_cache ()`
- `~proxy_cache ()`
- `void update (const VECTOR &v)`
- `iterator get () const`
- `const_iterator get_const () const`
- `proxy ref ()`
- `proxy ref (R_xlen_t i)`
- `const_proxy ref () const`
- `const_proxy ref (R_xlen_t i) const`

### Private Attributes

- `VECTOR * p`

### 6.517.1 Detailed Description

```
template<int RTYPE, template< class > class StoragePolicy = PreserveStorage>
class Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >
```

Definition at line 55 of file traits.h.

### 6.517.2 Member Typedef Documentation

6.517.2.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef r_vector_const_iterator<RTYPE>::type Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::const_iterator`

Definition at line 59 of file traits.h.

6.517.2.2 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef r_vector_const_proxy<RTYPE>::type Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::const_proxy`

Definition at line 61 of file traits.h.

6.517.2.3 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef r_vector_iterator<RTYPE>::type Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::iterator`

Definition at line 58 of file traits.h.

6.517.2.4 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef r_vector_proxy<RTYPE>::type Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::proxy`

Definition at line 60 of file traits.h.

6.517.2.5 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef ::Rcpp::Vector<RTYPE, StoragePolicy> Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::VECTOR`

Definition at line 57 of file traits.h.

### 6.517.3 Constructor & Destructor Documentation

6.517.3.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::proxy_cache( ) [inline]`

Definition at line 63 of file traits.h.

6.517.3.2 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::~~proxy_cache ( ) [inline]`

Definition at line 64 of file traits.h.

#### 6.517.4 Member Function Documentation

6.517.4.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::get ( ) const [inline]`

Definition at line 68 of file traits.h.

6.517.4.2 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_iterator Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::get_const ( ) const [inline]`

Definition at line 70 of file traits.h.

6.517.4.3 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> proxy Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::ref ( ) [inline]`

Definition at line 72 of file traits.h.

6.517.4.4 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> proxy Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::ref ( R_xlen_t i ) [inline]`

Definition at line 73 of file traits.h.

6.517.4.5 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_proxy Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::ref ( ) const [inline]`

Definition at line 75 of file traits.h.

6.517.4.6 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_proxy Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::ref ( R_xlen_t i ) const [inline]`

Definition at line 76 of file traits.h.

6.517.4.7 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::update ( const VECTOR & v ) [inline]`

Definition at line 65 of file traits.h.

### 6.517.5 Member Data Documentation

6.517.5.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> VECTOR* Rcpp::traits::proxy_cache< RTYPE, StoragePolicy >::p` [private]

Definition at line 79 of file traits.h.

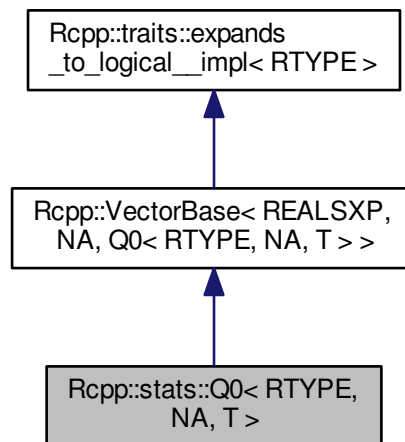
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/traits.h](#)

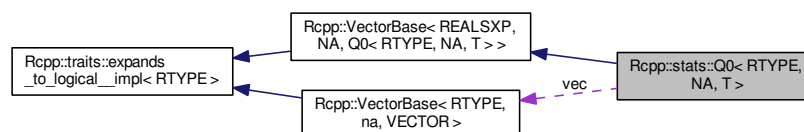
### 6.518 Rcpp::stats::Q0< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::Q0< RTYPE, NA, T >:



Collaboration diagram for Rcpp::stats::Q0< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, NA, T > [VEC\\_TYPE](#)
- typedef double(\* [FunPtr](#)) (double, int, int)

## Public Member Functions

- [Q0](#) ([FunPtr](#) ptr\_, const [VEC\\_TYPE](#) &vec\_, bool lower\_tail=true, bool log\_=false)
- double [operator\[\]](#) (int i) const
- int [size](#) () const

## Private Attributes

- [FunPtr](#) ptr
- const [VEC\\_TYPE](#) & vec
- int lower
- int log

### 6.518.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::stats::Q0< RTYPE, NA, T >
```

Definition at line 221 of file dpq.h.

### 6.518.2 Member Typedef Documentation

6.518.2.1 `template<int RTYPE, bool NA, typename T > typedef double(* Rcpp::stats::Q0< RTYPE, NA, T >::FunPtr) (double, int, int)`

Definition at line 224 of file dpq.h.

6.518.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::Q0< RTYPE, NA, T >::VEC_TYPE`

Definition at line 223 of file dpq.h.

### 6.518.3 Constructor & Destructor Documentation

6.518.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::stats::Q0< RTYPE, NA, T >::Q0 ( FunPtr ptr_, const VEC\_TYPE & vec_, bool lower_tail=true, bool log_ = false ) [inline]`

Definition at line 226 of file dpq.h.

## 6.518.4 Member Function Documentation

6.518.4.1 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::Q0< RTYPE, NA, T >::operator[] ( int i ) const [inline]`

Definition at line 230 of file dpq.h.

References `Rcpp::stats::D0< RTYPE, NA, T >::log`, `Rcpp::stats::D0< RTYPE, NA, T >::ptr`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

6.518.4.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::Q0< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 234 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



## 6.518.5 Member Data Documentation

6.518.5.1 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::Q0< RTYPE, NA, T >::log [private]`

Definition at line 239 of file dpq.h.

6.518.5.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::Q0< RTYPE, NA, T >::lower [private]`

Definition at line 239 of file dpq.h.

6.518.5.3 `template<int RTYPE, bool NA, typename T > FunPtr Rcpp::stats::Q0< RTYPE, NA, T >::ptr [private]`

Definition at line 237 of file dpq.h.



```
6.518.5.4 template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::stats::Q0< RTYPE, NA, T >::vec
    [private]
```

Definition at line 238 of file dpq.h.

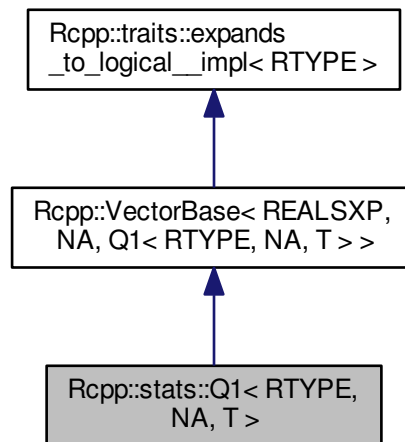
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/dpq/dpq.h](#)

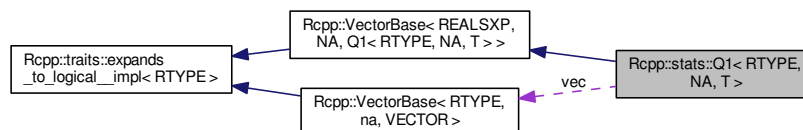
## 6.519 Rcpp::stats::Q1< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::Q1< RTYPE, NA, T >:



Collaboration diagram for Rcpp::stats::Q1< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, NA, T > [VEC\\_TYPE](#)
- typedef double(\* [FunPtr](#)) (double, double, int, int)

## Public Member Functions

- [Q1](#) ([FunPtr](#) ptr\_, const [VEC\\_TYPE](#) &vec\_, double p0\_, bool lower\_tail=true, bool log\_=false)
- double [operator\[\]](#) (int i) const
- int [size](#) () const

## Private Attributes

- [FunPtr](#) ptr
- const [VEC\\_TYPE](#) & vec
- double p0
- int lower
- int log

### 6.519.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::stats::Q1< RTYPE, NA, T >
```

Definition at line 244 of file dpq.h.

### 6.519.2 Member Typedef Documentation

6.519.2.1 `template<int RTYPE, bool NA, typename T> typedef double(* Rcpp::stats::Q1< RTYPE, NA, T >::FunPtr) (double, double, int, int)`

Definition at line 247 of file dpq.h.

6.519.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::Q1< RTYPE, NA, T >::VEC_TYPE`

Definition at line 246 of file dpq.h.

### 6.519.3 Constructor & Destructor Documentation

6.519.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::stats::Q1< RTYPE, NA, T >::Q1 ( FunPtr ptr_, const VEC\_TYPE & vec_, double p0_, bool lower_tail = true, bool log_ = false ) [inline]`

Definition at line 249 of file dpq.h.

## 6.519.4 Member Function Documentation

6.519.4.1 `template<int RTYPE, bool NA, typename T> double Rcpp::stats::Q1< RTYPE, NA, T >::operator[] ( int i ) const [inline]`

Definition at line 253 of file dpq.h.

References `Rcpp::stats::D0< RTYPE, NA, T >::log`, `Rcpp::stats::D0< RTYPE, NA, T >::ptr`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

6.519.4.2 `template<int RTYPE, bool NA, typename T> int Rcpp::stats::Q1< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 257 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



## 6.519.5 Member Data Documentation

6.519.5.1 `template<int RTYPE, bool NA, typename T> int Rcpp::stats::Q1< RTYPE, NA, T >::log [private]`

Definition at line 263 of file dpq.h.

6.519.5.2 `template<int RTYPE, bool NA, typename T> int Rcpp::stats::Q1< RTYPE, NA, T >::lower [private]`

Definition at line 263 of file dpq.h.

6.519.5.3 `template<int RTYPE, bool NA, typename T> double Rcpp::stats::Q1< RTYPE, NA, T >::p0 [private]`

Definition at line 262 of file dpq.h.

6.519.5.4 `template<int RTYPE, bool NA, typename T> FunPtr Rcpp::stats::Q1< RTYPE, NA, T >::ptr` [private]

Definition at line 260 of file dpq.h.

6.519.5.5 `template<int RTYPE, bool NA, typename T> const VEC_TYPE& Rcpp::stats::Q1< RTYPE, NA, T >::vec` [private]

Definition at line 261 of file dpq.h.

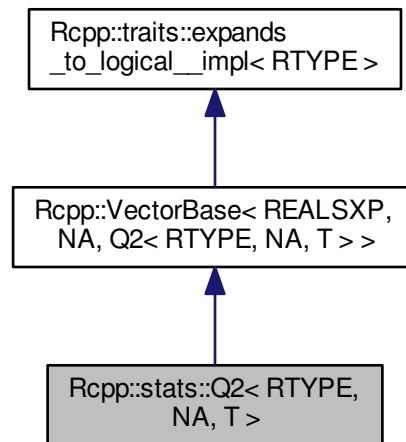
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/dpq/dpq.h](#)

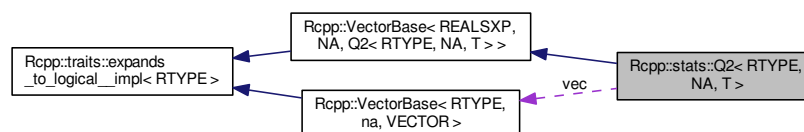
## 6.520 Rcpp::stats::Q2< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::Q2< RTYPE, NA, T >:



Collaboration diagram for Rcpp::stats::Q2< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, NA, T > [VEC\\_TYPE](#)
- typedef double(\* [FunPtr](#)) (double, double, double, int, int)

## Public Member Functions

- [Q2](#) ([FunPtr](#) ptr\_, const [VEC\\_TYPE](#) &vec\_, double p0\_, double p1\_, bool lower\_tail=true, bool log\_=false)
- double [operator\[\]](#) (int i) const
- int [size](#) () const

## Private Attributes

- [FunPtr](#) ptr
- const [VEC\\_TYPE](#) & vec
- double p0
- double p1
- int lower
- int log

### 6.520.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::stats::Q2< RTYPE, NA, T >
```

Definition at line 268 of file dpq.h.

### 6.520.2 Member Typedef Documentation

6.520.2.1 `template<int RTYPE, bool NA, typename T > typedef double(* Rcpp::stats::Q2< RTYPE, NA, T >::FunPtr) (double, double, double, int, int)`

Definition at line 271 of file dpq.h.

6.520.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::Q2< RTYPE, NA, T >::VEC_TYPE`

Definition at line 270 of file dpq.h.

### 6.520.3 Constructor & Destructor Documentation

6.520.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::stats::Q2< RTYPE, NA, T >::Q2 ( FunPtr ptr_, const VEC_TYPE & vec_, double p0_, double p1_, bool lower_tail = true, bool log_ = false ) [inline]`

Definition at line 273 of file dpq.h.

### 6.520.4 Member Function Documentation

6.520.4.1 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::Q2< RTYPE, NA, T >::operator[] ( int i ) const [inline]`

Definition at line 277 of file dpq.h.

References `Rcpp::stats::D0< RTYPE, NA, T >::log`, `Rcpp::stats::D0< RTYPE, NA, T >::ptr`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

6.520.4.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::Q2< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 281 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



### 6.520.5 Member Data Documentation

6.520.5.1 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::Q2< RTYPE, NA, T >::log [private]`

Definition at line 287 of file dpq.h.

6.520.5.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::Q2< RTYPE, NA, T >::lower [private]`

Definition at line 287 of file dpq.h.

6.520.5.3 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::Q2< RTYPE, NA, T >::p0` `[private]`

Definition at line 286 of file dpq.h.

6.520.5.4 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::Q2< RTYPE, NA, T >::p1` `[private]`

Definition at line 286 of file dpq.h.

6.520.5.5 `template<int RTYPE, bool NA, typename T > FunPtr Rcpp::stats::Q2< RTYPE, NA, T >::ptr` `[private]`

Definition at line 284 of file dpq.h.

6.520.5.6 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::stats::Q2< RTYPE, NA, T >::vec`  
`[private]`

Definition at line 285 of file dpq.h.

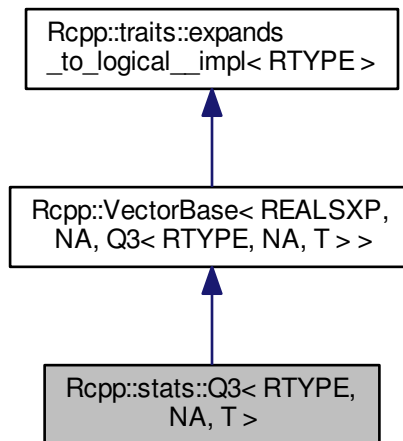
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/dpq/dpq.h](#)

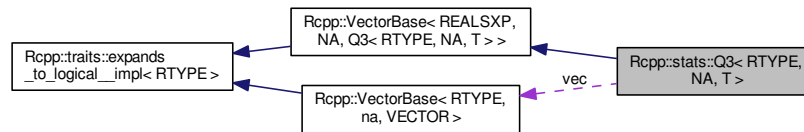
## 6.521 Rcpp::stats::Q3< RTYPE, NA, T > Class Template Reference

```
#include <dpq.h>
```

Inheritance diagram for Rcpp::stats::Q3< RTYPE, NA, T >:



Collaboration diagram for `Rcpp::stats::Q3< RTYPE, NA, T >`:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `double(* FunPtr) (double, double, double, double, int, int)`

## Public Member Functions

- `Q3 (FunPtr ptr_, const VEC_TYPE &vec_, double p0_, double p1_, double p2_, bool lower_tail=true, bool log_↔=false)`
- `double operator[] (int i) const`
- `int size () const`

## Private Attributes

- `FunPtr ptr`
- `const VEC_TYPE & vec`
- `double p0`
- `double p1`
- `double p2`
- `int lower`
- `int log`

### 6.521.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::stats::Q3< RTYPE, NA, T >
```

Definition at line 292 of file `dpq.h`.

### 6.521.2 Member Typedef Documentation

6.521.2.1 `template<int RTYPE, bool NA, typename T > typedef double(* Rcpp::stats::Q3< RTYPE, NA, T >::FunPtr) (double, double, double, double, int, int)`

Definition at line 295 of file `dpq.h`.



6.521.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::stats::Q3<RTYPE, NA, T >::VEC_TYPE`

Definition at line 294 of file dpq.h.

### 6.521.3 Constructor & Destructor Documentation

6.521.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::stats::Q3< RTYPE, NA, T >::Q3 ( FunPtr ptr_, const VEC_TYPE & vec_, double p0_, double p1_, double p2_, bool lower_tail = true, bool log_ = false ) [inline]`

Definition at line 297 of file dpq.h.

### 6.521.4 Member Function Documentation

6.521.4.1 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::Q3< RTYPE, NA, T >::operator[] ( int i ) const [inline]`

Definition at line 301 of file dpq.h.

References `Rcpp::stats::D0< RTYPE, NA, T >::log`, `Rcpp::stats::D0< RTYPE, NA, T >::ptr`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

6.521.4.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::Q3< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 305 of file dpq.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::stats::D0< RTYPE, NA, T >::vec`.

Here is the call graph for this function:



### 6.521.5 Member Data Documentation

6.521.5.1 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::Q3< RTYPE, NA, T >::log [private]`

Definition at line 311 of file dpq.h.

6.521.5.2 `template<int RTYPE, bool NA, typename T > int Rcpp::stats::Q3< RTYPE, NA, T >::lower` [private]

Definition at line 311 of file dpq.h.

6.521.5.3 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::Q3< RTYPE, NA, T >::p0` [private]

Definition at line 310 of file dpq.h.

6.521.5.4 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::Q3< RTYPE, NA, T >::p1` [private]

Definition at line 310 of file dpq.h.

6.521.5.5 `template<int RTYPE, bool NA, typename T > double Rcpp::stats::Q3< RTYPE, NA, T >::p2` [private]

Definition at line 310 of file dpq.h.

6.521.5.6 `template<int RTYPE, bool NA, typename T > FunPtr Rcpp::stats::Q3< RTYPE, NA, T >::ptr` [private]

Definition at line 308 of file dpq.h.

6.521.5.7 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::stats::Q3< RTYPE, NA, T >::vec`  
[private]

Definition at line 309 of file dpq.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/dpq/dpq.h`

## 6.522 `Rcpp::traits::expands_to_logical__impl< LGLSXP >::r_expands_to_logical` Struct Reference

```
#include <expands_to_logical.h>
```

### 6.522.1 Detailed Description

```
template<>
struct Rcpp::traits::expands_to_logical_impl< LGLSXP >::r_expands_to_logical
```

Definition at line 37 of file expands\_to\_logical.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/expands\\_to\\_logical.h](#)

## 6.523 Rcpp::MatrixBase< RTYPE, na, MATRIX >::r\_matrix\_interface Struct Reference

```
#include <MatrixBase.h>
```

### 6.523.1 Detailed Description

```
template<int RTYPE, bool na, typename MATRIX>
struct Rcpp::MatrixBase< RTYPE, na, MATRIX >::r_matrix_interface
```

Definition at line 34 of file MatrixBase.h.

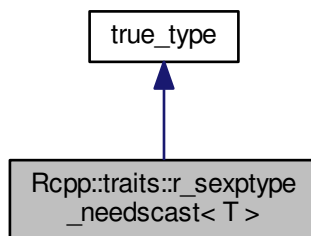
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/MatrixBase.h](#)

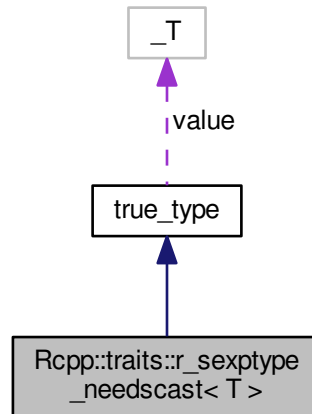
## 6.524 Rcpp::traits::r\_sexptype\_needs cast< T > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

Inheritance diagram for Rcpp::traits::r\_sexptype\_needs cast< T >:



Collaboration diagram for `Rcpp::traits::r_sexptype_needscast< T >`:



## Additional Inherited Members

### 6.524.1 Detailed Description

```

template<typename T>
struct Rcpp::traits::r_sexptype_needscast< T >

```

Indicates if a primitive type needs a `static_cast`

Definition at line 69 of file `r_sexptype_traits.h`.

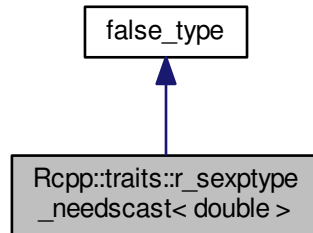
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

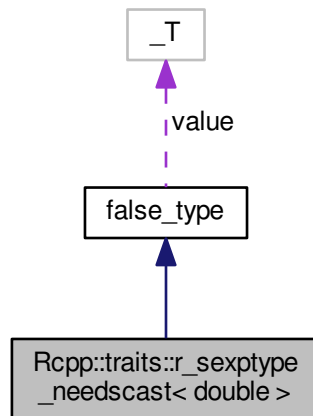
## 6.525 `Rcpp::traits::r_sexptype_needscast< double >` Struct Template Reference

```
#include <r_sexptype_traits.h>
```

Inheritance diagram for Rcpp::traits::r\_sexptype\_needs cast< double >:



Collaboration diagram for Rcpp::traits::r\_sexptype\_needs cast< double >:



## Additional Inherited Members

### 6.525.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_needs cast< double >
```

Definition at line 71 of file `r_sexptype_traits.h`.

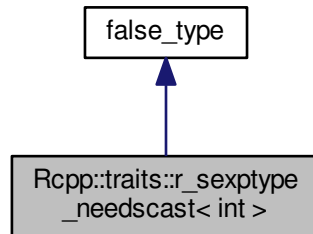
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

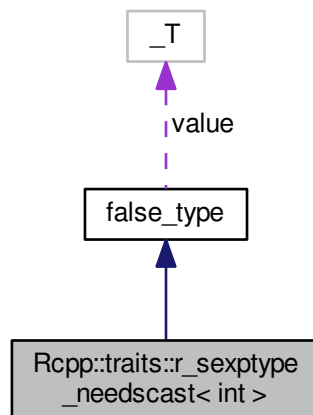
## 6.526 Rcpp::traits::r\_sexptype\_needscast< int > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

Inheritance diagram for Rcpp::traits::r\_sexptype\_needscast< int >:



Collaboration diagram for Rcpp::traits::r\_sexptype\_needscast< int >:



### Additional Inherited Members

#### 6.526.1 Detailed Description

```
template<>
struct Rcpp::traits::r_sexptype_needscast< int >
```

Definition at line 70 of file r\_sexptype\_traits.h.

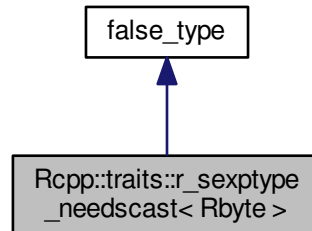
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

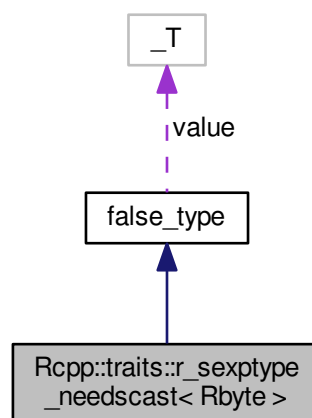
## 6.527 Rcpp::traits::r\_sexptype\_needscast< Rbyte > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

Inheritance diagram for Rcpp::traits::r\_sexptype\_needscast< Rbyte >:



Collaboration diagram for Rcpp::traits::r\_sexptype\_needscast< Rbyte >:



## Additional Inherited Members

### 6.527.1 Detailed Description

```
template<>
struct Rcpp::traits::r_sexptype_needs cast< Rbyte >
```

Definition at line 73 of file `r_sexptype_traits.h`.

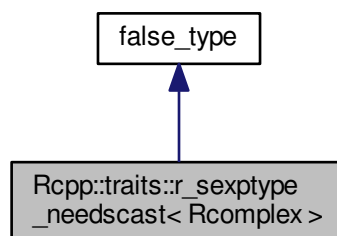
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

### 6.528 Rcpp::traits::r\_sexptype\_needs cast< Rcomplex > Struct Template Reference

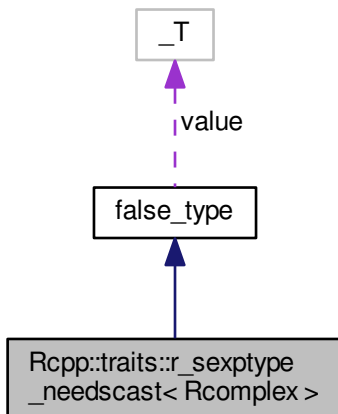
```
#include <r_sexptype_traits.h>
```

Inheritance diagram for `Rcpp::traits::r_sexptype_needs cast< Rcomplex >`:





Collaboration diagram for Rcpp::traits::r\_sexptype\_needscast< Rcomplex >:



### Additional Inherited Members

#### 6.528.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_needscast< Rcomplex >
```

Definition at line 72 of file `r_sexptype_traits.h`.

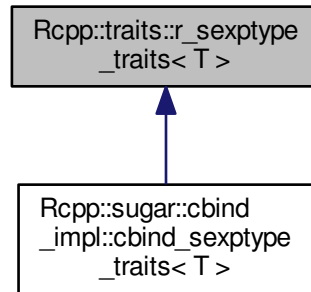
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

## 6.529 Rcpp::traits::r\_sexptype\_traits< T > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

Inheritance diagram for `Rcpp::traits::r_sexptype_traits< T >`:



## Public Types

- enum { `rtype` = VECSXP }

### 6.529.1 Detailed Description

```

template<typename T>
struct Rcpp::traits::r_sexptype_traits< T >
  
```

template that returns the SEXP type that is appropriate for the type T, this is always VECSXP (lists) unless it is specialized

Definition at line 33 of file `r_sexptype_traits.h`.

### 6.529.2 Member Enumeration Documentation

#### 6.529.2.1 `template<typename T >` anonymous enum

Enumerator

***rtype***

Definition at line 33 of file `r_sexptype_traits.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/r_sexptype_traits.h`

## 6.530 Rcpp::traits::r\_sexptype\_traits< bool > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { [rtype](#) = LGLSXP }

#### 6.530.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< bool >
```

Definition at line 38 of file `r_sexptype_traits.h`.

#### 6.530.2 Member Enumeration Documentation

##### 6.530.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 38 of file `r_sexptype_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

## 6.531 Rcpp::traits::r\_sexptype\_traits< const double > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { [rtype](#) = REALSXP }

#### 6.531.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< const double >
```

Definition at line 37 of file `r_sexptype_traits.h`.

## 6.531.2 Member Enumeration Documentation

### 6.531.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 37 of file `r_sexptype_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

## 6.532 Rcpp::traits::r\_sexptype\_traits< const int > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { [rtype](#) = INTSXP }

### 6.532.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< const int >
```

Definition at line 35 of file `r_sexptype_traits.h`.

## 6.532.2 Member Enumeration Documentation

### 6.532.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 35 of file `r_sexptype_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

## 6.533 Rcpp::traits::r\_sexptype\_traits< double > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { `rtype` = REALSXP }

#### 6.533.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< double >
```

Definition at line 36 of file `r_sexptype_traits.h`.

#### 6.533.2 Member Enumeration Documentation

##### 6.533.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 36 of file `r_sexptype_traits.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/r_sexptype_traits.h`

## 6.534 Rcpp::traits::r\_sexptype\_traits< float > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { `rtype` = REALSXP }

#### 6.534.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< float >
```

Definition at line 45 of file `r_sexptype_traits.h`.

## 6.534.2 Member Enumeration Documentation

### 6.534.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 45 of file r\_sexptype\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

## 6.535 Rcpp::traits::r\_sexptype\_traits< int > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { [rtype](#) = INTSXP }

### 6.535.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< int >
```

Definition at line 34 of file r\_sexptype\_traits.h.

## 6.535.2 Member Enumeration Documentation

### 6.535.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 34 of file r\_sexptype\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

## 6.536 Rcpp::traits::r\_sexptype\_traits< long > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { [rtype](#) = REALSXP }

#### 6.536.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< long >
```

Definition at line 49 of file r\_sexptype\_traits.h.

#### 6.536.2 Member Enumeration Documentation

##### 6.536.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 49 of file r\_sexptype\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[r\\_sexptype\\_traits.h](#)

## 6.537 Rcpp::traits::r\_sexptype\_traits< long double > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { [rtype](#) = REALSXP }

#### 6.537.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< long double >
```

Definition at line 55 of file r\_sexptype\_traits.h.

## 6.537.2 Member Enumeration Documentation

### 6.537.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 55 of file r\_sexptype\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

## 6.538 Rcpp::traits::r\_sexptype\_traits< Rbyte > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { [rtype](#) = RAWSXP }

### 6.538.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< Rbyte >
```

Definition at line 41 of file r\_sexptype\_traits.h.

## 6.538.2 Member Enumeration Documentation

### 6.538.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 41 of file r\_sexptype\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)



## 6.539 Rcpp::traits::r\_sexptype\_traits< Rcomplex > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { `rtype` = CPLXSXP }

#### 6.539.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< Rcomplex >
```

Definition at line 40 of file `r_sexptype_traits.h`.

#### 6.539.2 Member Enumeration Documentation

##### 6.539.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 40 of file `r_sexptype_traits.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/r_sexptype_traits.h`

## 6.540 Rcpp::traits::r\_sexptype\_traits< Rcpp::Date > Struct Template Reference

```
#include <Date.h>
```

### Public Types

- enum { `rtype` = REALSXP }

#### 6.540.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< Rcpp::Date >
```

Definition at line 37 of file `Date.h`.

## 6.540.2 Member Enumeration Documentation

### 6.540.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 38 of file Date.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/api/bones/Date.h](#)

## 6.541 Rcpp::traits::r\_sexptype\_traits< Rcpp::Datetime > Struct Template Reference

```
#include <Datetime.h>
```

### Public Types

- enum { [rtype](#) = REALSXP }

### 6.541.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< Rcpp::Datetime >
```

Definition at line 37 of file Datetime.h.

## 6.541.2 Member Enumeration Documentation

### 6.541.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 38 of file Datetime.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/api/bones/Datetime.h](#)

## 6.542 Rcpp::traits::r\_sexptype\_traits< Rcpp::String > Struct Template Reference

```
#include <String.h>
```

### Public Types

- enum { [rtype](#) = STRSXP }

#### 6.542.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< Rcpp::String >
```

Definition at line 477 of file String.h.

#### 6.542.2 Member Enumeration Documentation

##### 6.542.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 477 of file String.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/String.h](#)

## 6.543 Rcpp::traits::r\_sexptype\_traits< short > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { [rtype](#) = INTSXP }

#### 6.543.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< short >
```

Definition at line 59 of file r\_sexptype\_traits.h.

## 6.543.2 Member Enumeration Documentation

### 6.543.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 59 of file `r_sexptype_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

## 6.544 Rcpp::traits::r\_sexptype\_traits< std::complex< double > > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { `rtype` = CPLXSPX }

### 6.544.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< std::complex< double > >
```

Definition at line 63 of file `r_sexptype_traits.h`.

## 6.544.2 Member Enumeration Documentation

### 6.544.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 63 of file `r_sexptype_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

## 6.545 Rcpp::traits::r\_sexptype\_traits< std::complex< float > > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { `rtype` = CPLXSPX }

#### 6.545.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< std::complex< float > >
```

Definition at line 64 of file `r_sexptype_traits.h`.

#### 6.545.2 Member Enumeration Documentation

##### 6.545.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 64 of file `r_sexptype_traits.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/r_sexptype_traits.h`

## 6.546 Rcpp::traits::r\_sexptype\_traits< std::string > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { `rtype` = STRSPX }

#### 6.546.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< std::string >
```

Definition at line 39 of file `r_sexptype_traits.h`.

## 6.546.2 Member Enumeration Documentation

### 6.546.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 39 of file r\_sexptype\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

## 6.547 Rcpp::traits::r\_sexptype\_traits< unsigned int > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { [rtype](#) = REALSXP }

### 6.547.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< unsigned int >
```

Definition at line 44 of file r\_sexptype\_traits.h.

## 6.547.2 Member Enumeration Documentation

### 6.547.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 44 of file r\_sexptype\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

## 6.548 Rcpp::traits::r\_sexptype\_traits< unsigned long > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { `rtype` = REALSXP }

#### 6.548.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< unsigned long >
```

Definition at line 50 of file `r_sexptype_traits.h`.

#### 6.548.2 Member Enumeration Documentation

##### 6.548.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 50 of file `r_sexptype_traits.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/r_sexptype_traits.h`

## 6.549 Rcpp::traits::r\_sexptype\_traits< unsigned short > Struct Template Reference

```
#include <r_sexptype_traits.h>
```

### Public Types

- enum { `rtype` = INTSXP }

#### 6.549.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_sexptype_traits< unsigned short >
```

Definition at line 60 of file `r_sexptype_traits.h`.

## 6.549.2 Member Enumeration Documentation

### 6.549.2.1 anonymous enum

Enumerator

***rtype***

Definition at line 60 of file r\_sexptype\_traits.h.

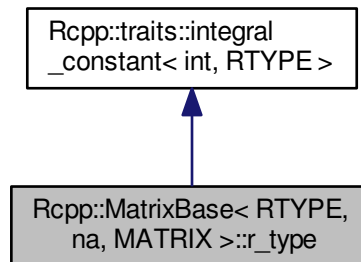
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_sexptype\\_traits.h](#)

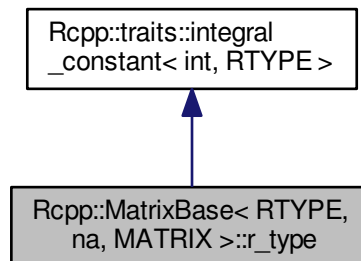
## 6.550 Rcpp::MatrixBase< RTYPE, na, MATRIX >::r\_type Struct Reference

```
#include <MatrixBase.h>
```

Inheritance diagram for Rcpp::MatrixBase< RTYPE, na, MATRIX >::r\_type:



Collaboration diagram for Rcpp::MatrixBase< RTYPE, na, MATRIX >::r\_type:





## Additional Inherited Members

### 6.550.1 Detailed Description

```
template<int RTYPE, bool na, typename MATRIX>  
struct Rcpp::MatrixBase< RTYPE, na, MATRIX >::r_type
```

Definition at line 33 of file MatrixBase.h.

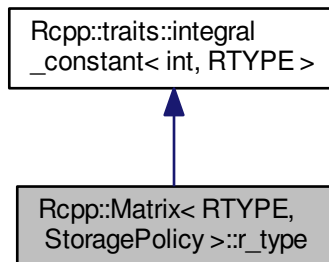
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/vector/[MatrixBase.h](#)

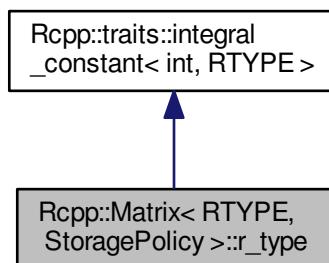
## 6.551 Rcpp::Matrix< RTYPE, StoragePolicy >::r\_type Struct Reference

```
#include <Matrix.h>
```

Inheritance diagram for Rcpp::Matrix< RTYPE, StoragePolicy >::r\_type:



Collaboration diagram for Rcpp::Matrix< RTYPE, StoragePolicy >::r\_type:



## Additional Inherited Members

### 6.551.1 Detailed Description

```
template<int RTYPE, template< class > class StoragePolicy = PreserveStorage>
struct Rcpp::Matrix< RTYPE, StoragePolicy >::r_type
```

Definition at line 32 of file Matrix.h.

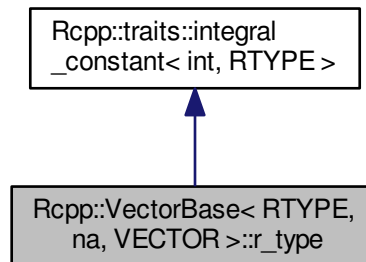
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/vector/[Matrix.h](#)

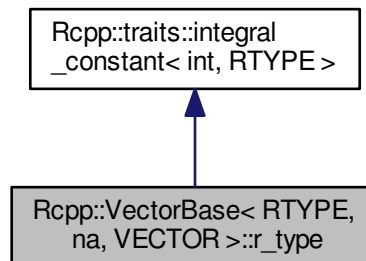
## 6.552 Rcpp::VectorBase< RTYPE, na, VECTOR >::r\_type Struct Reference

```
#include <VectorBase.h>
```

Inheritance diagram for Rcpp::VectorBase< RTYPE, na, VECTOR >::r\_type:



Collaboration diagram for Rcpp::VectorBase< RTYPE, na, VECTOR >::r\_type:



## Additional Inherited Members

### 6.552.1 Detailed Description

```
template<int RTYPE, bool na, typename VECTOR>
struct Rcpp::VectorBase< RTYPE, na, VECTOR >::r_type
```

Definition at line 32 of file VectorBase.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/VectorBase.h](#)

## 6.553 Rcpp::traits::r\_type\_enum\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.553.1 Detailed Description

identifies an enum. conversions from/to int is used

Definition at line 97 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.554 Rcpp::traits::r\_type\_generic\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.554.1 Detailed Description

Default

Definition at line 44 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.555 Rcpp::traits::r\_type\_module\_object\_const\_pointer\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.555.1 Detailed Description

identifies a module object const pointer

Definition at line 76 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.556 Rcpp::traits::r\_type\_module\_object\_const\_reference\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.556.1 Detailed Description

identifies a const reference to a module object.

Definition at line 92 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.557 Rcpp::traits::r\_type\_module\_object\_pointer\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.557.1 Detailed Description

identifies a module object pointer

Definition at line 71 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.558 Rcpp::traits::r\_type\_module\_object\_reference\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.558.1 Detailed Description

identifies a reference to a module object.

Definition at line 87 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.559 Rcpp::traits::r\_type\_module\_object\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.559.1 Detailed Description

identifies a module object. Implementers of modules can define the `r_type_traits` to show that their object is handled

Definition at line 82 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.560 Rcpp::traits::r\_type\_pair\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.560.1 Detailed Description

Identifies a pair<const KEY, VALUE>, used to wrap `map<KEY, VALUE>` VALUE can be anything that wraps, KEY can be anything we can build a [String](#) from

Definition at line 66 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.561 Rcpp::traits::r\_type\_pairstring\_generic\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.561.1 Detailed Description

Identifies pair<const std::string,T>

Definition at line 60 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.562 Rcpp::traits::r\_type\_pairstring\_primitive\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.562.1 Detailed Description

Identifies that the type if pair<const std::string,T> where T is a primitive type

Definition at line 50 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.563 Rcpp::traits::r\_type\_pairstring\_string\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.563.1 Detailed Description

Identifies that the associated type is pair<const std::(w)?string,std::(w)?string>

Definition at line 55 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.564 Rcpp::traits::r\_type\_primitive\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.564.1 Detailed Description

Identifies a primitive type that needs no special handling int, double, Rbyte, Rcomplex

Definition at line 33 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.565 Rcpp::traits::r\_type\_RcppString\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.565.1 Detailed Description

Definition at line 99 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.566 Rcpp::traits::r\_type\_string\_tag Struct Reference

```
#include <r_type_traits.h>
```

### 6.566.1 Detailed Description

Identifies that the associated type can be implicitly converted to std::string

Definition at line 39 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.567 Rcpp::traits::r\_type\_traits< T > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- [typedef r\\_type\\_generic\\_tag r\\_category](#)

### 6.567.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::r_type_traits< T >
```

[R](#) type trait. Helps wrap.

Definition at line 104 of file [r\\_type\\_traits.h](#).

### 6.567.2 Member Typedef Documentation

6.567.2.1 `template<typename T > typedef r_type_generic_tag Rcpp::traits::r_type_traits< T >::r_category`

Definition at line 104 of file [r\\_type\\_traits.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.568 Rcpp::traits::r\_type\_traits< bool > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- [typedef r\\_type\\_primitive\\_tag r\\_category](#)

### 6.568.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< bool >
```

Definition at line 141 of file [r\\_type\\_traits.h](#).



## 6.568.2 Member Typedef Documentation

### 6.568.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< bool >::r\_category

Definition at line 141 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.569 Rcpp::traits::r\_type\_traits< char > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_string\\_tag](#) r\_category

## 6.569.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< char >
```

Definition at line 144 of file r\_type\_traits.h.

## 6.569.2 Member Typedef Documentation

### 6.569.2.1 typedef r\_type\_string\_tag Rcpp::traits::r\_type\_traits< char >::r\_category

Definition at line 144 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.570 Rcpp::traits::r\_type\_traits< const char \* > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_string\\_tag](#) r\_category

### 6.570.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< const char * >
```

Definition at line 149 of file `r_type_traits.h`.

### 6.570.2 Member Typedef Documentation

6.570.2.1 typedef `r_type_string_tag Rcpp::traits::r_type_traits< const char * >::r_category`

Definition at line 149 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/r_type_traits.h`

## 6.571 Rcpp::traits::r\_type\_traits< const double > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) r\_category

### 6.571.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< const double >
```

Definition at line 138 of file `r_type_traits.h`.

## 6.571.2 Member Typedef Documentation

### 6.571.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< const double >::r\_category

Definition at line 138 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.572 Rcpp::traits::r\_type\_traits< const int > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_primitive\\_tag](#) r\_category

## 6.572.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< const int >
```

Definition at line 136 of file r\_type\_traits.h.

## 6.572.2 Member Typedef Documentation

### 6.572.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< const int >::r\_category

Definition at line 136 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.573 Rcpp::traits::r\_type\_traits< const wchar\_t \* > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_string\\_tag](#) [r\\_category](#)

### 6.573.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< const wchar_t * >
```

Definition at line 150 of file [r\\_type\\_traits.h](#).

### 6.573.2 Member Typedef Documentation

6.573.2.1 typedef [r\\_type\\_string\\_tag](#) [Rcpp::traits::r\\_type\\_traits< const wchar\\_t \\* >::r\\_category](#)

Definition at line 150 of file [r\\_type\\_traits.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.574 Rcpp::traits::r\_type\_traits< double > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

### 6.574.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< double >
```

Definition at line 137 of file [r\\_type\\_traits.h](#).

## 6.574.2 Member Typedef Documentation

### 6.574.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< double >::r\_category

Definition at line 137 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.575 Rcpp::traits::r\_type\_traits< float > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- [typedef r\\_type\\_primitive\\_tag r\\_category](#)

## 6.575.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< float >
```

Definition at line 148 of file r\_type\_traits.h.

## 6.575.2 Member Typedef Documentation

### 6.575.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< float >::r\_category

Definition at line 148 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.576 Rcpp::traits::r\_type\_traits< int > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

### 6.576.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< int >
```

Definition at line 135 of file [r\\_type\\_traits.h](#).

### 6.576.2 Member Typedef Documentation

6.576.2.1 typedef [r\\_type\\_primitive\\_tag](#) [Rcpp::traits::r\\_type\\_traits< int >::r\\_category](#)

Definition at line 135 of file [r\\_type\\_traits.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.577 Rcpp::traits::r\_type\_traits< long > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

### 6.577.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< long >
```

Definition at line 153 of file [r\\_type\\_traits.h](#).

## 6.577.2 Member Typedef Documentation

### 6.577.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< long >::r\_category

Definition at line 153 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.578 Rcpp::traits::r\_type\_traits< long double > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_primitive\\_tag](#) r\_category

## 6.578.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< long double >
```

Definition at line 161 of file r\_type\_traits.h.

## 6.578.2 Member Typedef Documentation

### 6.578.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< long double >::r\_category

Definition at line 161 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.579 Rcpp::traits::r\_type\_traits< Rbyte > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

### 6.579.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< Rbyte >
```

Definition at line 139 of file [r\\_type\\_traits.h](#).

### 6.579.2 Member Typedef Documentation

6.579.2.1 typedef [r\\_type\\_primitive\\_tag](#) [Rcpp::traits::r\\_type\\_traits< Rbyte >::r\\_category](#)

Definition at line 139 of file [r\\_type\\_traits.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.580 Rcpp::traits::r\_type\_traits< Rcomplex > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

### 6.580.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< Rcomplex >
```

Definition at line 140 of file [r\\_type\\_traits.h](#).



## 6.580.2 Member Typedef Documentation

### 6.580.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< Rcomplex >::r\_category

Definition at line 140 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.581 Rcpp::traits::r\_type\_traits< Rcpp::Date > Struct Template Reference

```
#include <Date.h>
```

### Public Types

- typedef [r\\_type\\_primitive\\_tag](#) r\_category

### 6.581.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< Rcpp::Date >
```

Definition at line 31 of file Date.h.

### 6.581.2 Member Typedef Documentation

#### 6.581.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< Rcpp::Date >::r\_category

Definition at line 32 of file Date.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/api/bones/Date.h](#)

## 6.582 Rcpp::traits::r\_type\_traits< Rcpp::Datetime > Struct Template Reference

```
#include <Datetime.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

### 6.582.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< Rcpp::Datetime >
```

Definition at line 31 of file [Datetime.h](#).

### 6.582.2 Member Typedef Documentation

6.582.2.1 typedef [r\\_type\\_primitive\\_tag](#) [Rcpp::traits::r\\_type\\_traits< Rcpp::Datetime >::r\\_category](#)

Definition at line 32 of file [Datetime.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/api/bones/Datetime.h](#)

## 6.583 Rcpp::traits::r\_type\_traits< Rcpp::object< T > > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_module\\_object\\_pointer\\_tag](#) [r\\_category](#)

### 6.583.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::r_type_traits< Rcpp::object< T > >
```

module object type

Definition at line 109 of file [r\\_type\\_traits.h](#).

## 6.583.2 Member Typedef Documentation

6.583.2.1 `template<typename T > typedef r_type_module_object_pointer_tag Rcpp::traits::r_type_traits< Rcpp::object< T > >::r_category`

Definition at line 109 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.584 Rcpp::traits::r\_type\_traits< Rcpp::String > Struct Template Reference

```
#include <String.h>
```

### Public Types

- typedef `r_type_RcppString_tag r_category`

### 6.584.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< Rcpp::String >
```

Definition at line 476 of file `String.h`.

### 6.584.2 Member Typedef Documentation

6.584.2.1 `typedef r_type_RcppString_tag Rcpp::traits::r_type_traits< Rcpp::String >::r_category`

Definition at line 476 of file `String.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/String.h](#)

## 6.585 Rcpp::traits::r\_type\_traits< short > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

### 6.585.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< short >
```

Definition at line 165 of file [r\\_type\\_traits.h](#).

### 6.585.2 Member Typedef Documentation

6.585.2.1 typedef [r\\_type\\_primitive\\_tag](#) [Rcpp::traits::r\\_type\\_traits< short >::r\\_category](#)

Definition at line 165 of file [r\\_type\\_traits.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.586 Rcpp::traits::r\_type\_traits< std::complex< double > > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

### 6.586.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< std::complex< double > >
```

Definition at line 173 of file [r\\_type\\_traits.h](#).

## 6.586.2 Member Typedef Documentation

### 6.586.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< std::complex< double > >::r\_category

Definition at line 173 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.587 Rcpp::traits::r\_type\_traits< std::complex< float > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_primitive\\_tag](#) r\_category

### 6.587.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::complex< float > >
```

Definition at line 177 of file r\_type\_traits.h.

## 6.587.2 Member Typedef Documentation

### 6.587.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< std::complex< float > >::r\_category

Definition at line 177 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.588 Rcpp::traits::r\_type\_traits< std::pair< const KEY, VALUE > > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- [typedef `r\_type\_pair\_tag` `r\_category`](#)

### 6.588.1 Detailed Description

```
template<typename KEY, typename VALUE>  
struct Rcpp::traits::r_type_traits< std::pair< const KEY, VALUE > >
```

Definition at line 113 of file `r_type_traits.h`.

### 6.588.2 Member Typedef Documentation

6.588.2.1 `template<typename KEY , typename VALUE > typedef r\_type\_pair\_tag Rcpp::traits::r_type_traits< std::pair< const KEY, VALUE > >::r_category`

Definition at line 114 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/`r\_type\_traits.h`](#)

## 6.589 `Rcpp::traits::r_type_traits< std::pair< const std::string, bool > >` Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- [typedef `r\_type\_pairstring\_primitive\_tag` `r\_category`](#)

### 6.589.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, bool > >
```

Definition at line 126 of file `r_type_traits.h`.

## 6.589.2 Member Typedef Documentation

6.589.2.1 `typedef r_type_pairstring_primitive_tag Rcpp::traits::r_type_traits< std::pair< const std::string, bool > >::r_category`

Definition at line 126 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.590 Rcpp::traits::r\_type\_traits< std::pair< const std::string, char > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- `typedef r_type_pairstring_string_tag r_category`

## 6.590.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, char > >
```

Definition at line 129 of file `r_type_traits.h`.

## 6.590.2 Member Typedef Documentation

6.590.2.1 `typedef r_type_pairstring_string_tag Rcpp::traits::r_type_traits< std::pair< const std::string, char > >::r_category`

Definition at line 129 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.591 Rcpp::traits::r\_type\_traits< std::pair< const std::string, const int > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_pairstring\\_primitive\\_tag](#) [r\\_category](#)

#### 6.591.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, const int > >
```

Definition at line 122 of file [r\\_type\\_traits.h](#).

#### 6.591.2 Member Typedef Documentation

6.591.2.1 typedef [r\\_type\\_pairstring\\_primitive\\_tag](#) [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, const int > >::r\\_category](#)

Definition at line 122 of file [r\\_type\\_traits.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.592 Rcpp::traits::r\_type\_traits< std::pair< const std::string, double > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_pairstring\\_primitive\\_tag](#) [r\\_category](#)

#### 6.592.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, double > >
```

Definition at line 123 of file [r\\_type\\_traits.h](#).



## 6.592.2 Member Typedef Documentation

6.592.2.1 `typedef r_type_pairstring_primitive_tag Rcpp::traits::r_type_traits< std::pair< const std::string, double > >::r_category`

Definition at line 123 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.593 Rcpp::traits::r\_type\_traits< std::pair< const std::string, float > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- `typedef r_type_pairstring_primitive_tag r_category`

## 6.593.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, float > >
```

Definition at line 133 of file `r_type_traits.h`.

## 6.593.2 Member Typedef Documentation

6.593.2.1 `typedef r_type_pairstring_primitive_tag Rcpp::traits::r_type_traits< std::pair< const std::string, float > >::r_category`

Definition at line 133 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.594 Rcpp::traits::r\_type\_traits< std::pair< const std::string, int > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_pairstring\\_primitive\\_tag](#) [r\\_category](#)

#### 6.594.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, int > >
```

Definition at line 121 of file [r\\_type\\_traits.h](#).

#### 6.594.2 Member Typedef Documentation

6.594.2.1 typedef [r\\_type\\_pairstring\\_primitive\\_tag](#) [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, int > >::r\\_category](#)

Definition at line 121 of file [r\\_type\\_traits.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.595 Rcpp::traits::r\_type\_traits< std::pair< const std::string, long > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

#### 6.595.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, long > >
```

Definition at line 154 of file [r\\_type\\_traits.h](#).

## 6.595.2 Member Typedef Documentation

### 6.595.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< std::pair< const std::string, long > >::r\_category

Definition at line 154 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.596 Rcpp::traits::r\_type\_traits< std::pair< const std::string, long double > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_primitive\\_tag](#) r\_category

## 6.596.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, long double > >
```

Definition at line 162 of file r\_type\_traits.h.

## 6.596.2 Member Typedef Documentation

### 6.596.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< std::pair< const std::string, long double > >::r\_category

Definition at line 162 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.597 Rcpp::traits::r\_type\_traits< std::pair< const std::string, Rbyte > > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_pairstring\\_primitive\\_tag](#) [r\\_category](#)

### 6.597.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< std::pair< const std::string, Rbyte > >
```

Definition at line 124 of file [r\\_type\\_traits.h](#).

### 6.597.2 Member Typedef Documentation

6.597.2.1 typedef [r\\_type\\_pairstring\\_primitive\\_tag](#) [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, Rbyte > >::r\\_category](#)

Definition at line 124 of file [r\\_type\\_traits.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.598 Rcpp::traits::r\_type\_traits< std::pair< const std::string, Rcomplex > > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_pairstring\\_primitive\\_tag](#) [r\\_category](#)

### 6.598.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< std::pair< const std::string, Rcomplex > >
```

Definition at line 125 of file [r\\_type\\_traits.h](#).

## 6.598.2 Member Typedef Documentation

6.598.2.1 `typedef r_type_pairstring_primitive_tag Rcpp::traits::r_type_traits< std::pair< const std::string, Rcomplex > >::r_category`

Definition at line 125 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.599 Rcpp::traits::r\_type\_traits< std::pair< const std::string, Rcpp::Date > > Struct Template Reference

```
#include <Date.h>
```

### Public Types

- `typedef r_type_primitive_tag r_category`

## 6.599.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, Rcpp::Date > >
```

Definition at line 34 of file `Date.h`.

## 6.599.2 Member Typedef Documentation

6.599.2.1 `typedef r_type_primitive_tag Rcpp::traits::r_type_traits< std::pair< const std::string, Rcpp::Date > >::r_category`

Definition at line 35 of file `Date.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/api/bones/Date.h](#)

## 6.600 Rcpp::traits::r\_type\_traits< std::pair< const std::string, Rcpp::Datetime > > Struct Template Reference

```
#include <Datetime.h>
```

### Public Types

- typedef [r\\_type\\_primitive\\_tag r\\_category](#)

#### 6.600.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, Rcpp::Datetime > >
```

Definition at line 34 of file `Datetime.h`.

#### 6.600.2 Member Typedef Documentation

6.600.2.1 typedef [r\\_type\\_primitive\\_tag Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, Rcpp::Datetime > >::r\\_category](#)

Definition at line 35 of file `Datetime.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/api/bones/Datetime.h`

## 6.601 Rcpp::traits::r\_type\_traits< std::pair< const std::string, short > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_primitive\\_tag r\\_category](#)

#### 6.601.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, short > >
```

Definition at line 166 of file `r_type_traits.h`.

## 6.601.2 Member Typedef Documentation

### 6.601.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< std::pair< const std::string, short > >::r\_category

Definition at line 166 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.602 Rcpp::traits::r\_type\_traits< std::pair< const std::string, std::complex< double > > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_primitive\\_tag](#) r\_category

## 6.602.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< std::pair< const std::string, std::complex< double > > >
```

Definition at line 174 of file r\_type\_traits.h.

## 6.602.2 Member Typedef Documentation

### 6.602.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< std::pair< const std::string, std::complex< double > > >::r\_category

Definition at line 174 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.603 Rcpp::traits::r\_type\_traits< std::pair< const std::string, std::complex< float > > > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

### 6.603.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< std::pair< const std::string, std::complex< float > > >
```

Definition at line 178 of file [r\\_type\\_traits.h](#).

### 6.603.2 Member Typedef Documentation

6.603.2.1 typedef [r\\_type\\_primitive\\_tag](#) [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, std::complex< float > > >::r\\_category](#)

Definition at line 178 of file [r\\_type\\_traits.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.604 Rcpp::traits::r\_type\_traits< std::pair< const std::string, std::string > > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_pairstring\\_string\\_tag](#) [r\\_category](#)

### 6.604.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< std::pair< const std::string, std::string > >
```

Definition at line 127 of file [r\\_type\\_traits.h](#).



## 6.604.2 Member Typedef Documentation

6.604.2.1 `typedef r_type_pairstring_string_tag Rcpp::traits::r_type_traits< std::pair< const std::string, std::string > >::r_category`

Definition at line 127 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.605 Rcpp::traits::r\_type\_traits< std::pair< const std::string, std::wstring > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- `typedef r_type_pairstring_string_tag r_category`

### 6.605.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, std::wstring > >
```

Definition at line 128 of file `r_type_traits.h`.

## 6.605.2 Member Typedef Documentation

6.605.2.1 `typedef r_type_pairstring_string_tag Rcpp::traits::r_type_traits< std::pair< const std::string, std::wstring > >::r_category`

Definition at line 128 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.606 Rcpp::traits::r\_type\_traits< std::pair< const std::string, T > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_pairstring\\_generic\\_tag](#) r\_category

#### 6.606.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, T > >
```

special cases pair<string,T> to deal with map<string,T> etc ...

Definition at line 120 of file r\_type\_traits.h.

#### 6.606.2 Member Typedef Documentation

6.606.2.1 `template<typename T > typedef r_type_pairstring_generic_tag Rcpp::traits::r_type_traits< std::pair< const std::string, T > >::r_category`

Definition at line 120 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.607 Rcpp::traits::r\_type\_traits< std::pair< const std::string, unsigned int > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_pairstring\\_primitive\\_tag](#) r\_category

### 6.607.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned int > >
```

Definition at line 132 of file r\_type\_traits.h.

### 6.607.2 Member Typedef Documentation

6.607.2.1 `typedef r_type_pairstring_primitive_tag Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned int > >::r_category`

Definition at line 132 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.608 Rcpp::traits::r\_type\_traits< std::pair< const std::string, unsigned long > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- `typedef r_type_primitive_tag r_category`

### 6.608.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned long > >
```

Definition at line 158 of file r\_type\_traits.h.

### 6.608.2 Member Typedef Documentation

6.608.2.1 `typedef r_type_primitive_tag Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned long > >::r_category`

Definition at line 158 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.609 Rcpp::traits::r\_type\_traits< std::pair< const std::string, unsigned short > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef [r\\_type\\_primitive\\_tag r\\_category](#)

#### 6.609.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned short > >
```

Definition at line 170 of file `r_type_traits.h`.

#### 6.609.2 Member Typedef Documentation

6.609.2.1 typedef `r_type_primitive_tag Rcpp::traits::r_type_traits< std::pair< const std::string, unsigned short > >::r_category`

Definition at line 170 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/r_type_traits.h`

## 6.610 Rcpp::traits::r\_type\_traits< std::pair< const std::string, wchar\_t > > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- typedef `r_type_pairstring_string_tag r_category`

#### 6.610.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::pair< const std::string, wchar_t > >
```

Definition at line 130 of file `r_type_traits.h`.

## 6.610.2 Member Typedef Documentation

6.610.2.1 `typedef r_type_pairstring_string_tag Rcpp::traits::r_type_traits< std::pair< const std::string, wchar_t >>::r_category`

Definition at line 130 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.611 Rcpp::traits::r\_type\_traits< std::string > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- `typedef r_type_string_tag r_category`

### 6.611.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< std::string >
```

Definition at line 142 of file `r_type_traits.h`.

### 6.611.2 Member Typedef Documentation

6.611.2.1 `typedef r_type_string_tag Rcpp::traits::r_type_traits< std::string >::r_category`

Definition at line 142 of file `r_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.612 Rcpp::traits::r\_type\_traits< std::wstring > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_string\\_tag](#) [r\\_category](#)

### 6.612.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< std::wstring >
```

Definition at line 143 of file [r\\_type\\_traits.h](#).

### 6.612.2 Member Typedef Documentation

6.612.2.1 typedef [r\\_type\\_string\\_tag](#) [Rcpp::traits::r\\_type\\_traits< std::wstring >::r\\_category](#)

Definition at line 143 of file [r\\_type\\_traits.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.613 Rcpp::traits::r\_type\_traits< unsigned int > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

### 6.613.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< unsigned int >
```

Definition at line 147 of file [r\\_type\\_traits.h](#).

## 6.613.2 Member Typedef Documentation

### 6.613.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< unsigned int >::r\_category

Definition at line 147 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.614 Rcpp::traits::r\_type\_traits< unsigned long > Struct Template Reference

```
#include <r_type_traits.h>
```

### Public Types

- [typedef r\\_type\\_primitive\\_tag r\\_category](#)

### 6.614.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_type_traits< unsigned long >
```

Definition at line 157 of file r\_type\_traits.h.

## 6.614.2 Member Typedef Documentation

### 6.614.2.1 typedef r\_type\_primitive\_tag Rcpp::traits::r\_type\_traits< unsigned long >::r\_category

Definition at line 157 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.615 Rcpp::traits::r\_type\_traits< unsigned short > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_primitive\\_tag](#) [r\\_category](#)

### 6.615.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< unsigned short >
```

Definition at line 169 of file [r\\_type\\_traits.h](#).

### 6.615.2 Member Typedef Documentation

6.615.2.1 typedef [r\\_type\\_primitive\\_tag](#) [Rcpp::traits::r\\_type\\_traits< unsigned short >::r\\_category](#)

Definition at line 169 of file [r\\_type\\_traits.h](#).

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.616 Rcpp::traits::r\_type\_traits< wchar\_t > Struct Template Reference

```
#include <r_type_traits.h>
```

## Public Types

- typedef [r\\_type\\_string\\_tag](#) [r\\_category](#)

### 6.616.1 Detailed Description

```
template<>
struct Rcpp::traits::r_type_traits< wchar_t >
```

Definition at line 145 of file [r\\_type\\_traits.h](#).



## 6.616.2 Member Typedef Documentation

### 6.616.2.1 typedef r\_type\_string\_tag Rcpp::traits::r\_type\_traits< wchar\_t >::r\_category

Definition at line 145 of file r\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/r\\_type\\_traits.h](#)

## 6.617 Rcpp::traits::r\_vector\_cache< RTYPE, StoragePolicy > Class Template Reference

```
#include <00_forward_proxy.h>
```

### Public Types

- typedef [::Rcpp::Vector](#)< RTYPE, StoragePolicy > [VECTOR](#)
- typedef [r\\_vector\\_iterator](#)< RTYPE >::type [iterator](#)
- typedef [r\\_vector\\_const\\_iterator](#)< RTYPE >::type [const\\_iterator](#)
- typedef [r\\_vector\\_proxy](#)< RTYPE >::type [proxy](#)
- typedef [r\\_vector\\_const\\_proxy](#)< RTYPE >::type [const\\_proxy](#)
- typedef [storage\\_type](#)< RTYPE >::type [storage\\_type](#)

### Public Member Functions

- [r\\_vector\\_cache](#) ()
- void [update](#) (const [VECTOR](#) &v)
- [iterator get](#) () const
- [const\\_iterator get\\_const](#) () const
- [proxy ref](#) ()
- [proxy ref](#) (R\_xlen\_t i)
- [proxy ref](#) () const
- [proxy ref](#) (R\_xlen\_t i) const

### Private Attributes

- [iterator start](#)

### 6.617.1 Detailed Description

```
template<int RTYPE, template< class > class StoragePolicy = PreserveStorage>
class Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >
```

Definition at line 39 of file 00\_forward\_proxy.h.

## 6.617.2 Member Typedef Documentation

6.617.2.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef r_vector_const_iterator<RTYPE>::type Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::const_iterator`

Definition at line 33 of file traits.h.

6.617.2.2 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef r_vector_const_proxy<RTYPE>::type Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::const_proxy`

Definition at line 35 of file traits.h.

6.617.2.3 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef r_vector_iterator<RTYPE>::type Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::iterator`

Definition at line 32 of file traits.h.

6.617.2.4 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef r_vector_proxy<RTYPE>::type Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::proxy`

Definition at line 34 of file traits.h.

6.617.2.5 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef storage_type<RTYPE>::type Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::storage_type`

Definition at line 36 of file traits.h.

6.617.2.6 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef ::Rcpp::Vector<RTYPE, StoragePolicy> Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::VECTOR`

Definition at line 31 of file traits.h.

## 6.617.3 Constructor & Destructor Documentation

6.617.3.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::r_vector_cache ( ) [inline]`

Definition at line 38 of file traits.h.

## 6.617.4 Member Function Documentation

6.617.4.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator  
Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::get ( ) const [inline]`

Definition at line 42 of file traits.h.

References Rcpp::traits::r\_vector\_cache< RTYPE, StoragePolicy >::start.

Referenced by Rcpp::Vector< INTSXP >::begin(), Rcpp::Vector< INTSXP >::end(), Rcpp::Vector< INTSXP >::erase(), and Rcpp::Vector< INTSXP >::insert().

6.617.4.2 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_iterator  
Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::get_const ( ) const [inline]`

Definition at line 43 of file traits.h.

References Rcpp::traits::r\_vector\_cache< RTYPE, StoragePolicy >::start.

Referenced by Rcpp::Vector< INTSXP >::begin(), and Rcpp::Vector< INTSXP >::end().

6.617.4.3 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> proxy  
Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::ref ( ) [inline]`

Definition at line 45 of file traits.h.

References Rcpp::traits::r\_vector\_cache< RTYPE, StoragePolicy >::start.

Referenced by Rcpp::Vector< INTSXP >::at(), Rcpp::Vector< INTSXP >::operator()(), and Rcpp::Vector< INTSXP >::operator[]().

6.617.4.4 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> proxy  
Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::ref ( R_xlen_t i ) [inline]`

Definition at line 46 of file traits.h.

References Rcpp::traits::r\_vector\_cache< RTYPE, StoragePolicy >::start.

6.617.4.5 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> proxy  
Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::ref ( ) const [inline]`

Definition at line 48 of file traits.h.

References Rcpp::traits::r\_vector\_cache< RTYPE, StoragePolicy >::start.

6.617.4.6 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> proxy  
Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::ref ( R_xlen_t i ) const [inline]`

Definition at line 49 of file traits.h.

References `Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::start`.

6.617.4.7 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void  
Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::update ( const VECTOR & v ) [inline]`

Definition at line 39 of file traits.h.

References `Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::start`.

Referenced by `Rcpp::Vector< INTSXP >::update()`.

## 6.617.5 Member Data Documentation

6.617.5.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator  
Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::start [private]`

Definition at line 52 of file traits.h.

Referenced by `Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::get()`, `Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::get_const()`, `Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::ref()`, and `Rcpp::traits::r_vector_cache< RTYPE, StoragePolicy >::update()`.

The documentation for this class was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/traits.h](#)

## 6.618 Rcpp::traits::r\_vector\_cache\_type< RTYPE, StoragePolicy > Struct Template Reference

```
#include <00_forward_proxy.h>
```

### Public Types

- typedef [r\\_vector\\_cache< RTYPE, StoragePolicy >](#) [type](#)

### 6.618.1 Detailed Description

```
template<int RTYPE, template< class > class StoragePolicy = PreserveStorage>
struct Rcpp::traits::r_vector_cache_type< RTYPE, StoragePolicy >
```

Definition at line 38 of file 00\_forward\_proxy.h.

### 6.618.2 Member Typedef Documentation

6.618.2.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef r_vector_cache<RTYPE, StoragePolicy> Rcpp::traits::r_vector_cache_type< RTYPE, StoragePolicy >::type`

Definition at line 85 of file traits.h.

The documentation for this struct was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/traits.h](#)

## 6.619 Rcpp::traits::r\_vector\_cache\_type< EXPRXP, StoragePolicy > Struct Template Reference

```
#include <traits.h>
```

### Public Types

- typedef [proxy\\_cache< EXPRXP, StoragePolicy >](#) [type](#)

### 6.619.1 Detailed Description

```
template<template< class > class StoragePolicy>
struct Rcpp::traits::r_vector_cache_type< EXPRXP, StoragePolicy >
```

Definition at line 94 of file traits.h.

### 6.619.2 Member Typedef Documentation

6.619.2.1 `template<template< class > class StoragePolicy> typedef proxy_cache<EXPRXP, StoragePolicy> Rcpp::traits::r_vector_cache_type< EXPRXP, StoragePolicy >::type`

Definition at line 95 of file traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/traits.h](#)

## 6.620 Rcpp::traits::r\_vector\_cache\_type< STRSXP, StoragePolicy > Struct Template Reference

```
#include <traits.h>
```

### Public Types

- typedef [proxy\\_cache](#)< STRSXP, StoragePolicy > [type](#)

#### 6.620.1 Detailed Description

```
template<template< class > class StoragePolicy>  
struct Rcpp::traits::r_vector_cache_type< STRSXP, StoragePolicy >
```

Definition at line 98 of file traits.h.

#### 6.620.2 Member Typedef Documentation

6.620.2.1 `template<template< class > class StoragePolicy> typedef proxy_cache<STRSXP, StoragePolicy> Rcpp::traits::r_vector_cache_type< STRSXP, StoragePolicy >::type`

Definition at line 99 of file traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/traits.h](#)

## 6.621 Rcpp::traits::r\_vector\_cache\_type< VECSXP, StoragePolicy > Struct Template Reference

```
#include <traits.h>
```

### Public Types

- typedef [proxy\\_cache](#)< VECSXP, StoragePolicy > [type](#)

#### 6.621.1 Detailed Description

```
template<template< class > class StoragePolicy>  
struct Rcpp::traits::r_vector_cache_type< VECSXP, StoragePolicy >
```

Definition at line 90 of file traits.h.

## 6.621.2 Member Typedef Documentation

6.621.2.1 `template<template< class > class StoragePolicy> typedef proxy_cache<VECSXP, StoragePolicy>  
Rcpp::traits::r_vector_cache_type< VECSXP, StoragePolicy >::type`

Definition at line 91 of file traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/traits.h](#)

## 6.622 Rcpp::traits::r\_vector\_const\_iterator< RTYPE > Struct Template Reference

```
#include <00_forward_proxy.h>
```

### Public Types

- typedef const [storage\\_type](#)< RTYPE >::type \* type

## 6.622.1 Detailed Description

```
template<int RTYPE>  
struct Rcpp::traits::r_vector_const_iterator< RTYPE >
```

Definition at line 46 of file 00\_forward\_proxy.h.

## 6.622.2 Member Typedef Documentation

6.622.2.1 `template<int RTYPE> typedef const storage_type<RTYPE>::type* Rcpp::traits::r_vector_const_iterator<  
RTYPE >::type`

Definition at line 243 of file proxy.h.

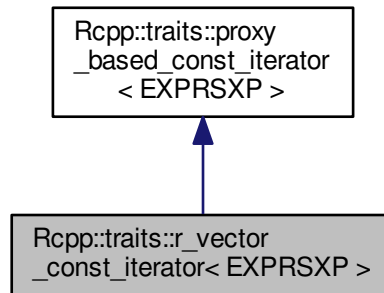
The documentation for this struct was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/proxy.h](#)

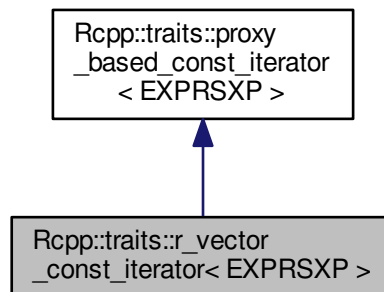
## 6.623 Rcpp::traits::r\_vector\_const\_iterator< EXPRXP > Struct Template Reference

```
#include <proxy.h>
```

Inheritance diagram for Rcpp::traits::r\_vector\_const\_iterator< EXPRXP >:



Collaboration diagram for Rcpp::traits::r\_vector\_const\_iterator< EXPRXP >:



### Additional Inherited Members

#### 6.623.1 Detailed Description

```
template<>
struct Rcpp::traits::r_vector_const_iterator< EXPRXP >
```

Definition at line 257 of file proxy.h.

The documentation for this struct was generated from the following file:

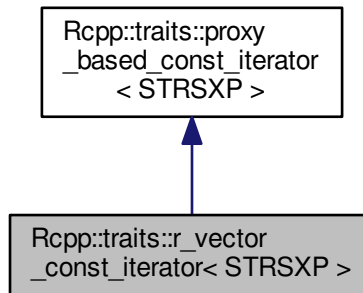


- [inst/include/Rcpp/vector/proxy.h](#)

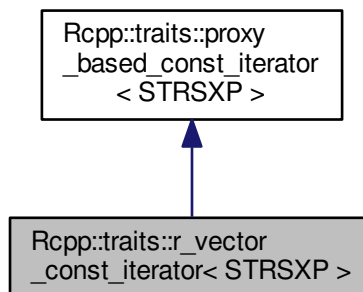
## 6.624 Rcpp::traits::r\_vector\_const\_iterator< STRSXP > Struct Template Reference

```
#include <proxy.h>
```

Inheritance diagram for Rcpp::traits::r\_vector\_const\_iterator< STRSXP >:



Collaboration diagram for Rcpp::traits::r\_vector\_const\_iterator< STRSXP >:



### Additional Inherited Members

#### 6.624.1 Detailed Description

```
template<>
struct Rcpp::traits::r_vector_const_iterator< STRSXP >
```

Definition at line 258 of file proxy.h.

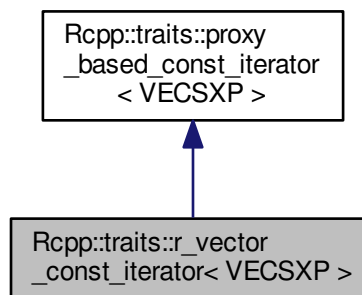
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

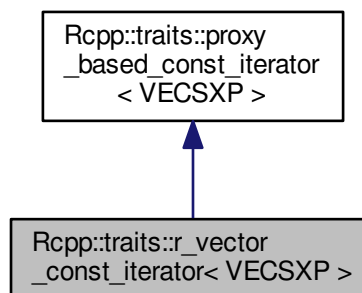
## 6.625 Rcpp::traits::r\_vector\_const\_iterator< VECSXP > Struct Template Reference

```
#include <proxy.h>
```

Inheritance diagram for Rcpp::traits::r\_vector\_const\_iterator< VECSXP >:



Collaboration diagram for Rcpp::traits::r\_vector\_const\_iterator< VECSXP >:



## Additional Inherited Members

### 6.625.1 Detailed Description

```
template<>
struct Rcpp::traits::r_vector_const_iterator< VECSXP >
```

Definition at line 256 of file proxy.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

## 6.626 Rcpp::traits::r\_vector\_const\_proxy< RTYPE > Struct Template Reference

```
#include <00_forward_proxy.h>
```

### Public Types

- typedef const [storage\\_type](#)< RTYPE >::type & type

### 6.626.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::traits::r_vector_const_proxy< RTYPE >
```

Definition at line 43 of file 00\_forward\_proxy.h.

### 6.626.2 Member Typedef Documentation

6.626.2.1 `template<int RTYPE> typedef const storage\_type<RTYPE>::type& Rcpp::traits::r_vector_const_proxy< RTYPE >::type`

Definition at line 225 of file proxy.h.

The documentation for this struct was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/proxy.h](#)

## 6.627 Rcpp::traits::r\_vector\_const\_proxy< EXPRXP > Struct Template Reference

```
#include <proxy.h>
```

### Public Types

- typedef [::Rcpp::internal::const\\_generic\\_proxy< EXPRXP >](#) type

### 6.627.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_vector_const_proxy< EXPRXP >
```

Definition at line 233 of file proxy.h.

### 6.627.2 Member Typedef Documentation

6.627.2.1 typedef [::Rcpp::internal::const\\_generic\\_proxy<EXPRXP>](#) [Rcpp::traits::r\\_vector\\_const\\_proxy< EXPRXP >::type](#)

Definition at line 234 of file proxy.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

## 6.628 Rcpp::traits::r\_vector\_const\_proxy< STRXP > Struct Template Reference

```
#include <proxy.h>
```

### Public Types

- typedef [::Rcpp::internal::const\\_string\\_proxy< STRXP >](#) type

### 6.628.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_vector_const_proxy< STRXP >
```

Definition at line 227 of file proxy.h.

## 6.628.2 Member Typedef Documentation

### 6.628.2.1 typedef ::Rcpp::internal::const\_string\_proxy<STRSXP> Rcpp::traits::r\_vector\_const\_proxy< STRSXP >::type

Definition at line 228 of file proxy.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

## 6.629 Rcpp::traits::r\_vector\_const\_proxy< VECSXP > Struct Template Reference

```
#include <proxy.h>
```

### Public Types

- typedef ::Rcpp::internal::const\_generic\_proxy< VECSXP > type

## 6.629.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_vector_const_proxy< VECSXP >
```

Definition at line 230 of file proxy.h.

## 6.629.2 Member Typedef Documentation

### 6.629.2.1 typedef ::Rcpp::internal::const\_generic\_proxy<VECSXP> Rcpp::traits::r\_vector\_const\_proxy< VECSXP >::type

Definition at line 231 of file proxy.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

## 6.630 Rcpp::traits::r\_vector\_element\_converter< RTYPE > Struct Template Reference

```
#include <converter.h>
```

## Public Types

- `typedef ::Rcpp::internal::element_converter< RTYPE > type`

### 6.630.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::traits::r_vector_element_converter< RTYPE >
```

Definition at line 94 of file converter.h.

### 6.630.2 Member Typedef Documentation

```
6.630.2.1 template<int RTYPE> typedef ::Rcpp::internal::element_converter<RTYPE>
Rcpp::traits::r_vector_element_converter< RTYPE >::type
```

Definition at line 95 of file converter.h.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/vector/converter.h`

## 6.631 Rcpp::traits::r\_vector\_element\_converter< EXPRSXP > Struct Template Reference

```
#include <converter.h>
```

## Public Types

- `typedef ::Rcpp::internal::generic_element_converter< EXPRSXP > type`

### 6.631.1 Detailed Description

```
template<>
struct Rcpp::traits::r_vector_element_converter< EXPRSXP >
```

Definition at line 103 of file converter.h.

## 6.631.2 Member Typedef Documentation

### 6.631.2.1 typedef ::Rcpp::internal::generic\_element\_converter<EXPRXP> Rcpp::traits::r\_vector\_element\_converter< EXPRXP >::type

Definition at line 104 of file converter.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/vector/[converter.h](#)

## 6.632 Rcpp::traits::r\_vector\_element\_converter< STRSXP > Struct Template Reference

```
#include <converter.h>
```

### Public Types

- typedef ::Rcpp::internal::string\_element\_converter< STRSXP > type

### 6.632.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_vector_element_converter< STRSXP >
```

Definition at line 97 of file converter.h.

### 6.632.2 Member Typedef Documentation

#### 6.632.2.1 typedef ::Rcpp::internal::string\_element\_converter<STRSXP> Rcpp::traits::r\_vector\_element\_converter< STRSXP >::type

Definition at line 98 of file converter.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/vector/[converter.h](#)

## 6.633 Rcpp::traits::r\_vector\_element\_converter< VECSXP > Struct Template Reference

```
#include <converter.h>
```

## Public Types

- `typedef ::Rcpp::internal::generic_element_converter< VECSXP > type`

### 6.633.1 Detailed Description

```
template<>
struct Rcpp::traits::r_vector_element_converter< VECSXP >
```

Definition at line 100 of file converter.h.

### 6.633.2 Member Typedef Documentation

6.633.2.1 `typedef ::Rcpp::internal::generic_element_converter<VECSXP> Rcpp::traits::r_vector_element_converter< VECSXP >::type`

Definition at line 101 of file converter.h.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/vector/converter.h`

## 6.634 Rcpp::traits::r\_vector\_iterator< RTYPE > Struct Template Reference

```
#include <00_forward_proxy.h>
```

## Public Types

- `typedef storage_type< RTYPE >::type * type`

### 6.634.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::traits::r_vector_iterator< RTYPE >
```

Definition at line 45 of file 00\_forward\_proxy.h.



## 6.634.2 Member Typedef Documentation

6.634.2.1 `template<int RTYPE> typedef storage_type<RTYPE>::type* Rcpp::traits::r_vector_iterator< RTYPE >::type`

Definition at line 239 of file proxy.h.

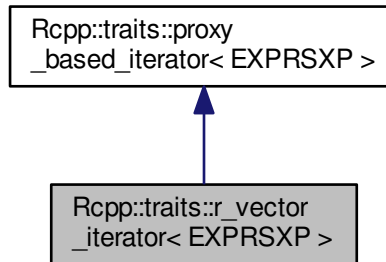
The documentation for this struct was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/proxy.h](#)

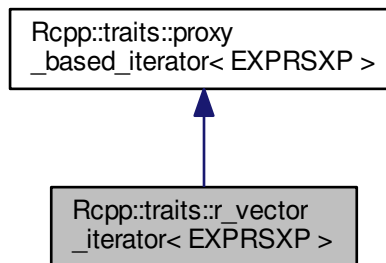
## 6.635 Rcpp::traits::r\_vector\_iterator< EXPRXP > Struct Template Reference

```
#include <proxy.h>
```

Inheritance diagram for Rcpp::traits::r\_vector\_iterator< EXPRXP >:



Collaboration diagram for Rcpp::traits::r\_vector\_iterator< EXPRXP >:



## Additional Inherited Members

### 6.635.1 Detailed Description

```
template<>
struct Rcpp::traits::r_vector_iterator< EXPRSXP >
```

Definition at line 250 of file proxy.h.

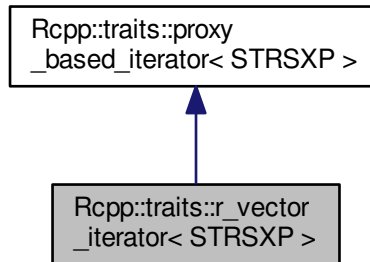
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

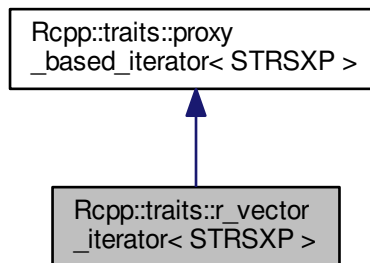
### 6.636 Rcpp::traits::r\_vector\_iterator< STRSXP > Struct Template Reference

```
#include <proxy.h>
```

Inheritance diagram for Rcpp::traits::r\_vector\_iterator< STRSXP >:



Collaboration diagram for Rcpp::traits::r\_vector\_iterator< STRSXP >:



## Additional Inherited Members

### 6.636.1 Detailed Description

```
template<>
struct Rcpp::traits::r_vector_iterator< STRSXP >
```

Definition at line 251 of file proxy.h.

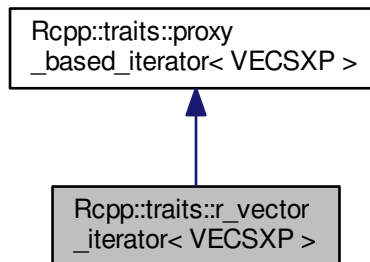
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

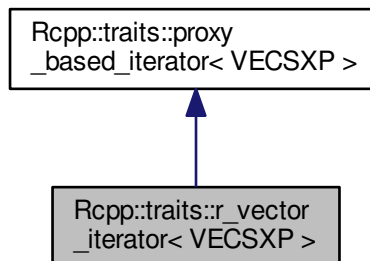
## 6.637 Rcpp::traits::r\_vector\_iterator< VECSXP > Struct Template Reference

```
#include <proxy.h>
```

Inheritance diagram for Rcpp::traits::r\_vector\_iterator< VECSXP >:



Collaboration diagram for Rcpp::traits::r\_vector\_iterator< VECSXP >:



## Additional Inherited Members

### 6.637.1 Detailed Description

```
template<>
struct Rcpp::traits::r_vector_iterator< VECSXP >
```

Definition at line 249 of file proxy.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

### 6.638 Rcpp::traits::r\_vector\_name\_proxy< RTYPE > Struct Template Reference

```
#include <00_forward_proxy.h>
```

#### Public Types

- typedef [::Rcpp::internal::simple\\_name\\_proxy< RTYPE >](#) type

#### 6.638.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::traits::r_vector_name_proxy< RTYPE >
```

Definition at line 41 of file 00\_forward\_proxy.h.

#### 6.638.2 Member Typedef Documentation

```
6.638.2.1 template<int RTYPE> typedef ::Rcpp::internal::simple\_name\_proxy<RTYPE>
Rcpp::traits::r\_vector\_name\_proxy< RTYPE >::type
```

Definition at line 197 of file proxy.h.

The documentation for this struct was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/proxy.h](#)

## 6.639 Rcpp::traits::r\_vector\_name\_proxy< EXPRXP > Struct Template Reference

```
#include <proxy.h>
```

### Public Types

- typedef [::Rcpp::internal::generic\\_name\\_proxy< EXPRXP > type](#)

#### 6.639.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_vector_name_proxy< EXPRXP >
```

Definition at line 205 of file proxy.h.

#### 6.639.2 Member Typedef Documentation

6.639.2.1 typedef [::Rcpp::internal::generic\\_name\\_proxy<EXPRXP> Rcpp::traits::r\\_vector\\_name\\_proxy< EXPRXP >::type](#)

Definition at line 206 of file proxy.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

## 6.640 Rcpp::traits::r\_vector\_name\_proxy< STRXP > Struct Template Reference

```
#include <proxy.h>
```

### Public Types

- typedef [::Rcpp::internal::string\\_name\\_proxy< STRXP > type](#)

#### 6.640.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_vector_name_proxy< STRXP >
```

Definition at line 199 of file proxy.h.

## 6.640.2 Member Typedef Documentation

### 6.640.2.1 `typedef ::Rcpp::internal::string_name_proxy<STRSXP> Rcpp::traits::r_vector_name_proxy< STRSXP >::type`

Definition at line 200 of file proxy.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

## 6.641 Rcpp::traits::r\_vector\_name\_proxy< VECSXP > Struct Template Reference

```
#include <proxy.h>
```

### Public Types

- `typedef ::Rcpp::internal::generic_name_proxy< VECSXP > type`

### 6.641.1 Detailed Description

```
template<>
struct Rcpp::traits::r_vector_name_proxy< VECSXP >
```

Definition at line 202 of file proxy.h.

## 6.641.2 Member Typedef Documentation

### 6.641.2.1 `typedef ::Rcpp::internal::generic_name_proxy<VECSXP> Rcpp::traits::r_vector_name_proxy< VECSXP >::type`

Definition at line 203 of file proxy.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

## 6.642 Rcpp::traits::r\_vector\_proxy< RTYPE > Struct Template Reference

```
#include <00_forward_proxy.h>
```

## Public Types

- typedef [storage\\_type](#)< RTYPE >::type & [type](#)

### 6.642.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::traits::r_vector_proxy< RTYPE >
```

Definition at line 42 of file 00\_forward\_proxy.h.

### 6.642.2 Member Typedef Documentation

6.642.2.1 `template<int RTYPE> typedef storage_type<RTYPE>::type& Rcpp::traits::r_vector_proxy< RTYPE >::type`

Definition at line 211 of file proxy.h.

The documentation for this struct was generated from the following files:

- inst/include/Rcpp/vector/00\_forward\_proxy.h
- inst/include/Rcpp/vector/proxy.h

## 6.643 Rcpp::traits::r\_vector\_proxy< EXPRXP > Struct Template Reference

```
#include <proxy.h>
```

## Public Types

- typedef `::Rcpp::internal::generic_proxy`< EXPRXP > [type](#)

### 6.643.1 Detailed Description

```
template<>
struct Rcpp::traits::r_vector_proxy< EXPRXP >
```

Definition at line 216 of file proxy.h.

## 6.643.2 Member Typedef Documentation

### 6.643.2.1 `typedef ::Rcpp::internal::generic_proxy<EXPRXP> Rcpp::traits::r_vector_proxy< EXPRXP >::type`

Definition at line 217 of file proxy.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

## 6.644 `Rcpp::traits::r_vector_proxy< STRSXP >` Struct Template Reference

```
#include <proxy.h>
```

### Public Types

- `typedef ::Rcpp::internal::string_proxy< STRSXP > type`

### 6.644.1 Detailed Description

```
template<>  
struct Rcpp::traits::r_vector_proxy< STRSXP >
```

Definition at line 213 of file proxy.h.

## 6.644.2 Member Typedef Documentation

### 6.644.2.1 `typedef ::Rcpp::internal::string_proxy<STRSXP> Rcpp::traits::r_vector_proxy< STRSXP >::type`

Definition at line 214 of file proxy.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/vector/proxy.h](#)

## 6.645 `Rcpp::traits::r_vector_proxy< VECSXP >` Struct Template Reference

```
#include <proxy.h>
```



## Public Types

- `typedef ::Rcpp::internal::generic_proxy< VECSXP > type`

### 6.645.1 Detailed Description

```
template<>
struct Rcpp::traits::r_vector_proxy< VECSXP >
```

Definition at line 219 of file proxy.h.

### 6.645.2 Member Typedef Documentation

6.645.2.1 `typedef ::Rcpp::internal::generic_proxy<VECSXP> Rcpp::traits::r_vector_proxy< VECSXP >::type`

Definition at line 220 of file proxy.h.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/vector/proxy.h`

## 6.646 Rcpp::sugar::Range< RTYPE, NA, T > Class Template Reference

```
#include <range.h>
```

## Public Types

- `typedef Rcpp::traits::storage_type< RTYPE >::type STORAGE`

## Public Member Functions

- `Range` (const T &obj\_)
- `operator Vector< RTYPE > ()`

## Private Attributes

- const T & `obj`
- `STORAGE` `min_`
- `STORAGE` `max_`
- `STORAGE` `current`

### 6.646.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Range< RTYPE, NA, T >
```

Definition at line 29 of file range.h.

### 6.646.2 Member Typedef Documentation

6.646.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Range< RTYPE, NA, T >::STORAGE`

Definition at line 31 of file range.h.

### 6.646.3 Constructor & Destructor Documentation

6.646.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Range< RTYPE, NA, T >::Range ( const T & obj_ ) [inline]`

Definition at line 33 of file range.h.

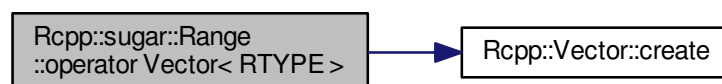
### 6.646.4 Member Function Documentation

6.646.4.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Range< RTYPE, NA, T >::operator Vector< RTYPE > ( ) [inline]`

Definition at line 35 of file range.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::create()`, `Rcpp::sugar::Range< RTYPE, NA, T >::current`, `Rcpp::sugar::Range< RTYPE, NA, T >::max_`, `Rcpp::sugar::Range< RTYPE, NA, T >::min_`, and `Rcpp::sugar::Range< RTYPE, NA, T >::obj`.

Here is the call graph for this function:



### 6.646.5 Member Data Documentation

6.646.5.1 `template<int RTYPE, bool NA, typename T > STORAGE Rcpp::sugar::Range< RTYPE, NA, T >::current`  
`[private]`

Definition at line 53 of file range.h.

Referenced by `Rcpp::sugar::Range< RTYPE, NA, T >::operator Vector< RTYPE >()`, and `Rcpp::sugar::Range< RTYPE, false, T >::operator Vector< RTYPE >()`.

6.646.5.2 `template<int RTYPE, bool NA, typename T > STORAGE Rcpp::sugar::Range< RTYPE, NA, T >::max_`  
`[private]`

Definition at line 53 of file range.h.

Referenced by `Rcpp::sugar::Range< RTYPE, NA, T >::operator Vector< RTYPE >()`, and `Rcpp::sugar::Range< RTYPE, false, T >::operator Vector< RTYPE >()`.

6.646.5.3 `template<int RTYPE, bool NA, typename T > STORAGE Rcpp::sugar::Range< RTYPE, NA, T >::min_`  
`[private]`

Definition at line 53 of file range.h.

Referenced by `Rcpp::sugar::Range< RTYPE, NA, T >::operator Vector< RTYPE >()`, and `Rcpp::sugar::Range< RTYPE, false, T >::operator Vector< RTYPE >()`.

6.646.5.4 `template<int RTYPE, bool NA, typename T > const T& Rcpp::sugar::Range< RTYPE, NA, T >::obj` `[private]`

Definition at line 52 of file range.h.

Referenced by `Rcpp::sugar::Range< RTYPE, NA, T >::operator Vector< RTYPE >()`, and `Rcpp::sugar::Range< RTYPE, false, T >::operator Vector< RTYPE >()`.

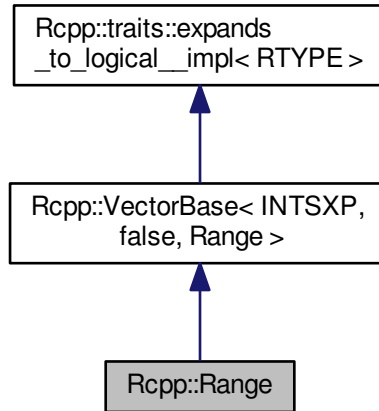
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/range.h`

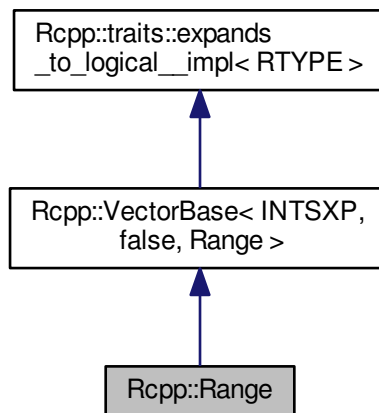
## 6.647 Rcpp::Range Class Reference

```
#include <Range.h>
```

Inheritance diagram for Rcpp::Range:



Collaboration diagram for Rcpp::Range:



## Public Member Functions

- [Range](#) (int start\_, int end\_\_)
- int [size](#) () const
- int [operator\[\]](#) (int i) const
- [Range](#) & [operator++](#) ()
- [Range](#) [operator++](#) (int)
- [Range](#) & [operator--](#) ()
- [Range](#) [operator--](#) (int)
- [Range](#) & [operator+=](#) (int n)
- [Range](#) & [operator-=](#) (int n)
- [Range](#) [operator+](#) (int n)
- [Range](#) [operator-](#) (int n)
- int [get\\_start](#) () const
- int [get\\_end](#) () const

## Private Attributes

- int [start](#)
- int [end\\_](#)

## Additional Inherited Members

### 6.647.1 Detailed Description

Definition at line 27 of file Range.h.

### 6.647.2 Constructor & Destructor Documentation

#### 6.647.2.1 Rcpp::Range::Range ( int start\_, int end\_\_ ) [inline]

Definition at line 29 of file Range.h.

Referenced by [operator+\(\)](#), and [operator-\(\)](#).

### 6.647.3 Member Function Documentation

#### 6.647.3.1 int Rcpp::Range::get\_end ( ) const [inline]

Definition at line 81 of file Range.h.

References [end\\_](#).

### 6.647.3.2 `int Rcpp::Range::get_start( ) const` [inline]

Definition at line 80 of file Range.h.

References start.

### 6.647.3.3 `Range Rcpp::Range::operator+( int n )` [inline]

Definition at line 73 of file Range.h.

References end\_, Range(), and start.

Here is the call graph for this function:



### 6.647.3.4 `Range& Rcpp::Range::operator++( )` [inline]

Definition at line 43 of file Range.h.

References end\_, and start.

### 6.647.3.5 `Range Rcpp::Range::operator++( int )` [inline]

Definition at line 47 of file Range.h.

### 6.647.3.6 `Range& Rcpp::Range::operator+=( int n )` [inline]

Definition at line 63 of file Range.h.

References end\_, and start.

### 6.647.3.7 Range Rcpp::Range::operator-( int *n* ) [inline]

Definition at line 76 of file Range.h.

References `end_`, `Range()`, and `start`.

Here is the call graph for this function:



### 6.647.3.8 Range& Rcpp::Range::operator--( ) [inline]

Definition at line 53 of file Range.h.

References `end_`, and `start`.

### 6.647.3.9 Range Rcpp::Range::operator--( int ) [inline]

Definition at line 57 of file Range.h.

### 6.647.3.10 Range& Rcpp::Range::operator=( int *n* ) [inline]

Definition at line 68 of file Range.h.

References `end_`, and `start`.

### 6.647.3.11 int Rcpp::Range::operator[]( int *i* ) const [inline]

Definition at line 39 of file Range.h.

References `start`.

### 6.647.3.12 int Rcpp::Range::size( ) const [inline]

Definition at line 35 of file Range.h.

References `end_`, and `start`.

## 6.647.4 Member Data Documentation

### 6.647.4.1 `int Rcpp::Range::end_ [private]`

Definition at line 85 of file `Range.h`.

Referenced by `get_end()`, `operator+()`, `operator++()`, `operator+=()`, `operator-()`, `operator--()`, `operator-=()`, and `size()`.

### 6.647.4.2 `int Rcpp::Range::start [private]`

Definition at line 84 of file `Range.h`.

Referenced by `get_start()`, `operator+()`, `operator++()`, `operator+=()`, `operator-()`, `operator--()`, `operator-=()`, `operator[]()`, and `size()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/Range.h](#)

## 6.648 `Rcpp::sugar::Range< RTYPE, false, T >` Class Template Reference

```
#include <range.h>
```

### Public Types

- typedef `Rcpp::traits::storage_type< RTYPE >::type STORAGE`

### Public Member Functions

- `Range` (`const T &obj_`)
- `operator Vector< RTYPE > ()`

### Private Attributes

- `const T & obj`
- `STORAGE min_`
- `STORAGE max_`
- `STORAGE current`



### 6.648.1 Detailed Description

```
template<int RTYPE, typename T>
class Rcpp::sugar::Range< RTYPE, false, T >
```

Definition at line 58 of file range.h.

### 6.648.2 Member Typedef Documentation

6.648.2.1 `template<int RTYPE, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Range< RTYPE, false, T >::STORAGE`

Definition at line 60 of file range.h.

### 6.648.3 Constructor & Destructor Documentation

6.648.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Range< RTYPE, false, T >::Range ( const T & obj_ )`  
`[inline]`

Definition at line 62 of file range.h.

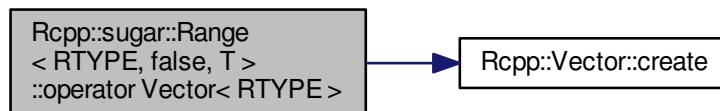
### 6.648.4 Member Function Documentation

6.648.4.1 `template<int RTYPE, typename T > Rcpp::sugar::Range< RTYPE, false, T >::operator Vector< RTYPE > ( )`  
`[inline]`

Definition at line 64 of file range.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::create()`, `Rcpp::sugar::Range< RTYPE, NA, T >::current`, `Rcpp::sugar::Range< RTYPE, NA, T >::max_`, `Rcpp::sugar::Range< RTYPE, NA, T >::min_`, and `Rcpp::sugar::Range< RTYPE, NA, T >::obj`.

Here is the call graph for this function:



### 6.648.5 Member Data Documentation

6.648.5.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Range< RTYPE, false, T >::current` [private]

Definition at line 79 of file range.h.

6.648.5.2 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Range< RTYPE, false, T >::max_` [private]

Definition at line 79 of file range.h.

6.648.5.3 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Range< RTYPE, false, T >::min_` [private]

Definition at line 79 of file range.h.

6.648.5.4 `template<int RTYPE, typename T > const T& Rcpp::sugar::Range< RTYPE, false, T >::obj` [private]

Definition at line 78 of file range.h.

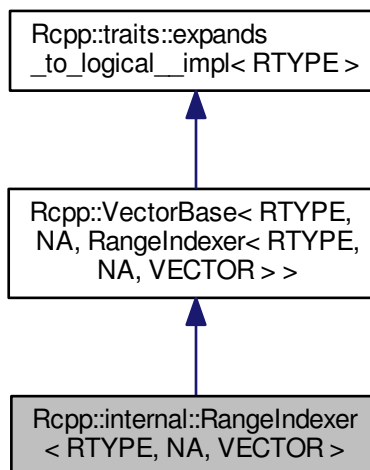
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/range.h](#)

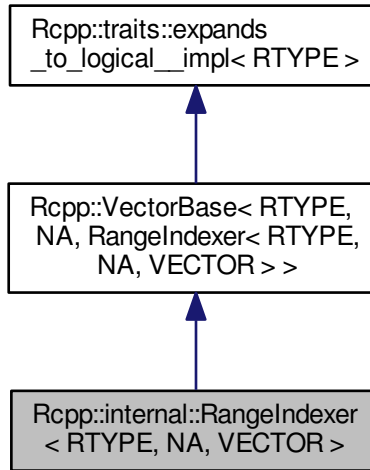
### 6.649 Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR > Class Template Reference

```
#include <RangeIndexer.h>
```

Inheritance diagram for Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >:



Collaboration diagram for Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >:



## Public Types

- typedef VECTOR::Proxy [Proxy](#)
- typedef VECTOR::iterator [iterator](#)

## Public Member Functions

- [RangeIndexer](#) (VECTOR &vec\_, const [Rcpp::Range](#) &range\_)
- template<bool NA\_, typename T >  
[RangeIndexer](#) & [operator=](#) (const [Rcpp::VectorBase](#)< RTYPE, NA\_, T > &x)
- template<bool NA\_, typename T >  
[RangeIndexer](#) & [operator+=](#) (const [Rcpp::VectorBase](#)< RTYPE, NA\_, T > &x)
- template<bool NA\_, typename T >  
[RangeIndexer](#) & [operator\\*=](#) (const [Rcpp::VectorBase](#)< RTYPE, NA\_, T > &x)
- template<bool NA\_, typename T >  
[RangeIndexer](#) & [operator-=](#) (const [Rcpp::VectorBase](#)< RTYPE, NA\_, T > &x)
- template<bool NA\_, typename T >  
[RangeIndexer](#) & [operator/=](#) (const [Rcpp::VectorBase](#)< RTYPE, NA\_, T > &x)
- [Proxy operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- [iterator start](#)
- R\_xlen\_t [size\\_](#)

### 6.649.1 Detailed Description

```
template<int RTYPE, bool NA, typename VECTOR>
class Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >
```

Definition at line 53 of file RangeIndexer.h.

### 6.649.2 Member Typedef Documentation

6.649.2.1 `template<int RTYPE, bool NA, typename VECTOR > typedef VECTOR::iterator Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >::iterator`

Definition at line 56 of file RangeIndexer.h.

6.649.2.2 `template<int RTYPE, bool NA, typename VECTOR > typedef VECTOR::Proxy Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >::Proxy`

Definition at line 55 of file RangeIndexer.h.

### 6.649.3 Constructor & Destructor Documentation

6.649.3.1 `template<int RTYPE, bool NA, typename VECTOR > Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >::RangeIndexer ( VECTOR & vec_, const Rcpp::Range & range_ ) [inline]`

Definition at line 58 of file RangeIndexer.h.

### 6.649.4 Member Function Documentation

6.649.4.1 `template<int RTYPE, bool NA, typename VECTOR > template<bool NA_, typename T > RangeIndexer& Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >::operator*=( const Rcpp::VectorBase< RTYPE, NA_, T > & x ) [inline]`

Definition at line 72 of file RangeIndexer.h.

References UNROLL\_LOOP.

6.649.4.2 `template<int RTYPE, bool NA, typename VECTOR > template<bool NA_, typename T > RangeIndexer& Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >::operator+=( const Rcpp::VectorBase< RTYPE, NA_, T > & x ) [inline]`

Definition at line 67 of file RangeIndexer.h.

References UNROLL\_LOOP.

6.649.4.3 `template<int RTYPE, bool NA, typename VECTOR > template<bool NA_, typename T > RangelIndexer& Rcpp::internal::RangelIndexer< RTYPE, NA, VECTOR >::operator=( const Rcpp::VectorBase< RTYPE, NA_, T > & x ) [inline]`

Definition at line 77 of file RangelIndexer.h.

References UNROLL\_LOOP.

6.649.4.4 `template<int RTYPE, bool NA, typename VECTOR > template<bool NA_, typename T > RangelIndexer& Rcpp::internal::RangelIndexer< RTYPE, NA, VECTOR >::operator=( const Rcpp::VectorBase< RTYPE, NA_, T > & x ) [inline]`

Definition at line 82 of file RangelIndexer.h.

References UNROLL\_LOOP.

6.649.4.5 `template<int RTYPE, bool NA, typename VECTOR > template<bool NA_, typename T > RangelIndexer& Rcpp::internal::RangelIndexer< RTYPE, NA, VECTOR >::operator=( const Rcpp::VectorBase< RTYPE, NA_, T > & x ) [inline]`

Definition at line 62 of file RangelIndexer.h.

References UNROLL\_LOOP.

6.649.4.6 `template<int RTYPE, bool NA, typename VECTOR > Proxy Rcpp::internal::RangelIndexer< RTYPE, NA, VECTOR >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 86 of file RangelIndexer.h.

References Rcpp::internal::RangelIndexer< RTYPE, NA, VECTOR >::start.

6.649.4.7 `template<int RTYPE, bool NA, typename VECTOR > R_xlen_t Rcpp::internal::RangelIndexer< RTYPE, NA, VECTOR >::size ( ) const [inline]`

Definition at line 90 of file RangelIndexer.h.

References Rcpp::internal::RangelIndexer< RTYPE, NA, VECTOR >::size\_.

## 6.649.5 Member Data Documentation

6.649.5.1 `template<int RTYPE, bool NA, typename VECTOR > R_xlen_t Rcpp::internal::RangelIndexer< RTYPE, NA, VECTOR >::size_ [private]`

Definition at line 96 of file RangelIndexer.h.

Referenced by Rcpp::internal::RangelIndexer< RTYPE, NA, VECTOR >::size().

```
6.649.5.2 template<int RTYPE, bool NA, typename VECTOR > iterator Rcpp::internal::RangeIndexer< RTYPE, NA,
VECTOR >::start [private]
```

Definition at line 95 of file RangeIndexer.h.

Referenced by Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >::operator[]().

The documentation for this class was generated from the following file:

- inst/include/Rcpp/vector/[RangeIndexer.h](#)

## 6.650 Rcpp::VectorBase< RTYPE, na, VECTOR >::rcpp\_sugar\_expression Struct Reference

```
#include <VectorBase.h>
```

### 6.650.1 Detailed Description

```
template<int RTYPE, bool na, typename VECTOR>
struct Rcpp::VectorBase< RTYPE, na, VECTOR >::rcpp_sugar_expression
```

Definition at line 31 of file VectorBase.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/vector/[VectorBase.h](#)

## 6.651 Rcpp::ReferenceInputParameter< T > Class Template Reference

```
#include <InputParameter.h>
```

### Public Types

- typedef T & [reference](#)

### Public Member Functions

- [ReferenceInputParameter](#) (SEXP x\_)
- [operator reference](#) ()

## Private Attributes

- T [obj](#)

### 6.651.1 Detailed Description

```
template<typename T>  
class Rcpp::ReferenceInputParameter< T >
```

Definition at line 43 of file InputParameter.h.

### 6.651.2 Member Typedef Documentation

6.651.2.1 `template<typename T > typedef T& Rcpp::ReferenceInputParameter< T >::reference`

Definition at line 45 of file InputParameter.h.

### 6.651.3 Constructor & Destructor Documentation

6.651.3.1 `template<typename T > Rcpp::ReferenceInputParameter< T >::ReferenceInputParameter ( SEXP x_ )  
[inline]`

Definition at line 46 of file InputParameter.h.

### 6.651.4 Member Function Documentation

6.651.4.1 `template<typename T > Rcpp::ReferenceInputParameter< T >::operator reference ( ) [inline]`

Definition at line 48 of file InputParameter.h.

### 6.651.5 Member Data Documentation

6.651.5.1 `template<typename T > T Rcpp::ReferenceInputParameter< T >::obj [private]`

Definition at line 51 of file InputParameter.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/InputParameter.h](#)

## 6.652 Rcpp::traits::remove\_const<\_Tp > Struct Template Reference

const-volatile modifications [4.7.1].

```
#include <remove_const.h>
```

### Public Types

- `typedef _Tp type`

### 6.652.1 Detailed Description

```
template<typename _Tp>  
struct Rcpp::traits::remove_const<_Tp >
```

const-volatile modifications [4.7.1].

Definition at line 30 of file `remove_const.h`.

### 6.652.2 Member Typedef Documentation

6.652.2.1 `template<typename _Tp> typedef _Tp Rcpp::traits::remove_const<_Tp >::type`

Definition at line 31 of file `remove_const.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/remove_const.h`

## 6.653 Rcpp::traits::remove\_const<\_Tp const > Struct Template Reference

```
#include <remove_const.h>
```

### Public Types

- `typedef _Tp type`



### 6.653.1 Detailed Description

```
template<typename _Tp>
struct Rcpp::traits::remove_const< _Tp const >
```

Definition at line 34 of file `remove_const.h`.

### 6.653.2 Member Typedef Documentation

6.653.2.1 `template<typename _Tp > typedef _Tp Rcpp::traits::remove_const< _Tp const >::type`

Definition at line 35 of file `remove_const.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/remove\\_const.h](#)

## 6.654 Rcpp::traits::remove\_const\_and\_reference< T > Struct Template Reference

```
#include <remove_const_and_reference.h>
```

### Public Types

- typedef [remove\\_const< typename remove\\_reference< T >::type >::type](#) type

### 6.654.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::remove_const_and_reference< T >
```

Definition at line 29 of file `remove_const_and_reference.h`.

### 6.654.2 Member Typedef Documentation

6.654.2.1 `template<typename T> typedef remove_const< typename remove_reference<T>::type >::type Rcpp::traits::remove_const_and_reference< T >::type`

Definition at line 30 of file `remove_const_and_reference.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/remove\\_const\\_and\\_reference.h](#)

## 6.655 Rcpp::traits::remove\_reference< \_Tp > Struct Template Reference

reference modifications [4.7.2].

```
#include <remove_reference.h>
```

### Public Types

- typedef [\\_Tp](#) [type](#)

### 6.655.1 Detailed Description

```
template<typename _Tp>  
struct Rcpp::traits::remove_reference< _Tp >
```

reference modifications [4.7.2].

Definition at line 30 of file `remove_reference.h`.

### 6.655.2 Member Typedef Documentation

6.655.2.1 `template<typename _Tp> typedef \_Tp Rcpp::traits::remove\_reference< \_Tp >::type`

Definition at line 31 of file `remove_reference.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/remove\_reference.h`

## 6.656 Rcpp::traits::remove\_reference< \_Tp & > Struct Template Reference

```
#include <remove_reference.h>
```

### Public Types

- typedef [\\_Tp](#) [type](#)

### 6.656.1 Detailed Description

```
template<typename _Tp>
struct Rcpp::traits::remove_reference<_Tp & >
```

Definition at line 34 of file `remove_reference.h`.

### 6.656.2 Member Typedef Documentation

6.656.2.1 `template<typename _Tp > typedef _Tp Rcpp::traits::remove_reference<_Tp & >::type`

Definition at line 35 of file `remove_reference.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/remove_reference.h`

## 6.657 Rcpp::sugar::RemoveFromSet< SET > Class Template Reference

```
#include <setdiff.h>
```

### Public Member Functions

- `RemoveFromSet` (SET &set\_)
- `template<typename T > void operator()` (T value)

### Private Attributes

- SET & `set`

### 6.657.1 Detailed Description

```
template<typename SET>
class Rcpp::sugar::RemoveFromSet< SET >
```

Definition at line 29 of file `setdiff.h`.

## 6.657.2 Constructor & Destructor Documentation

6.657.2.1 `template<typename SET > Rcpp::sugar::RemoveFromSet< SET >::RemoveFromSet ( SET & set_ )`  
`[inline]`

Definition at line 31 of file `setdiff.h`.

## 6.657.3 Member Function Documentation

6.657.3.1 `template<typename SET > template<typename T > void Rcpp::sugar::RemoveFromSet< SET >::operator() ( T value )` `[inline]`

Definition at line 34 of file `setdiff.h`.

## 6.657.4 Member Data Documentation

6.657.4.1 `template<typename SET > SET& Rcpp::sugar::RemoveFromSet< SET >::set` `[private]`

Definition at line 39 of file `setdiff.h`.

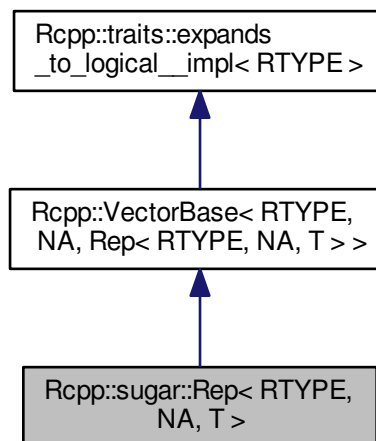
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/setdiff.h](#)

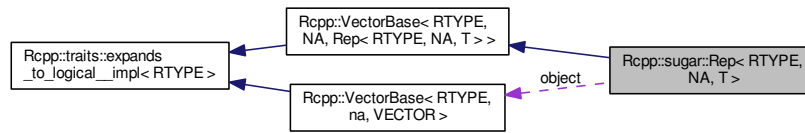
## 6.658 Rcpp::sugar::Rep< RTYPE, NA, T > Class Template Reference

```
#include <rep.h>
```

Inheritance diagram for `Rcpp::sugar::Rep< RTYPE, NA, T >`:



Collaboration diagram for Rcpp::sugar::Rep< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase< RTYPE, NA, T >](#) [VEC\\_TYPE](#)
- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)

## Public Member Functions

- [Rep](#) (const [VEC\\_TYPE](#) &object\_, R\_xlen\_t times\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [VEC\\_TYPE](#) & [object](#)
- R\_xlen\_t [times](#)
- R\_xlen\_t [n](#)

### 6.658.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Rep< RTYPE, NA, T >
```

Definition at line 29 of file rep.h.

### 6.658.2 Member Typedef Documentation

6.658.2.1 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Rep< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file rep.h.

6.658.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Rep<RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file rep.h.

### 6.658.3 Constructor & Destructor Documentation

6.658.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Rep< RTYPE, NA, T >::Rep ( const VEC_TYPE & object_, R_xlen_t times_ ) [inline]`

Definition at line 34 of file rep.h.

### 6.658.4 Member Function Documentation

6.658.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Rep< RTYPE, NA, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 37 of file rep.h.

References `Rcpp::sugar::Rep< RTYPE, NA, T >::n`.

6.658.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Rep< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 40 of file rep.h.

References `Rcpp::sugar::Rep< RTYPE, NA, T >::n`, and `Rcpp::sugar::Rep< RTYPE, NA, T >::times`.

### 6.658.5 Member Data Documentation

6.658.5.1 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Rep< RTYPE, NA, T >::n [private]`

Definition at line 44 of file rep.h.

Referenced by `Rcpp::sugar::Rep< RTYPE, NA, T >::operator[]()`, `Rcpp::rep()`, `Rcpp::sugar::Rep< RTYPE, NA, T >::size()`, and `Rcpp::sugar::Rep_Single< T >::size()`.

6.658.5.2 `template<int RTYPE, bool NA, typename T> const VEC_TYPE& Rcpp::sugar::Rep< RTYPE, NA, T >::object [private]`

Definition at line 43 of file rep.h.

6.658.5.3 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Rep< RTYPE, NA, T >::times` `[private]`

Definition at line 44 of file rep.h.

Referenced by `Rcpp::sugar::Rep< RTYPE, NA, T >::size()`.

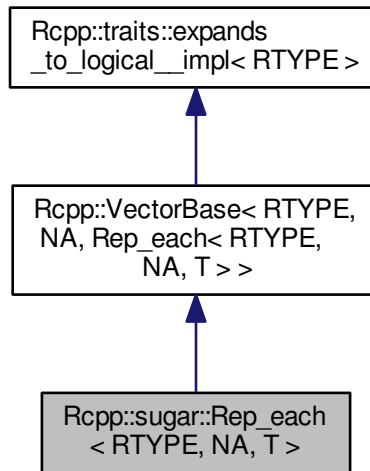
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/rep.h`

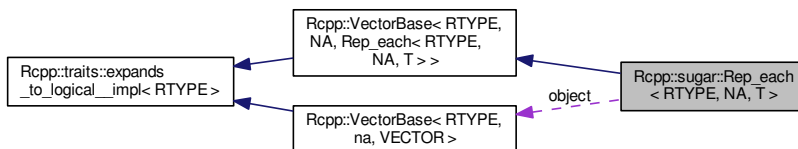
## 6.659 Rcpp::sugar::Rep\_each< RTYPE, NA, T > Class Template Reference

```
#include <rep_each.h>
```

Inheritance diagram for `Rcpp::sugar::Rep_each< RTYPE, NA, T >`:



Collaboration diagram for `Rcpp::sugar::Rep_each< RTYPE, NA, T >`:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, NA, T > [VEC\\_TYPE](#)
- typedef [Rcpp::traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)

## Public Member Functions

- [Rep\\_each](#) (const [VEC\\_TYPE](#) &object\_, R\_xlen\_t times\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [VEC\\_TYPE](#) & [object](#)
- R\_xlen\_t [times](#)
- R\_xlen\_t [n](#)

### 6.659.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Rep_each< RTYPE, NA, T >
```

Definition at line 29 of file rep\_each.h.

### 6.659.2 Member Typedef Documentation

6.659.2.1 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Rep_each< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file rep\_each.h.

6.659.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Rep_each< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file rep\_each.h.

### 6.659.3 Constructor & Destructor Documentation

6.659.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Rep_each< RTYPE, NA, T >::Rep_each ( const VEC_TYPE &object_, R_xlen_t times_ ) [inline]`

Definition at line 34 of file rep\_each.h.



## 6.659.4 Member Function Documentation

6.659.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Rep_each< RTYPE, NA, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 37 of file rep\_each.h.

References `Rcpp::sugar::Rep_each< RTYPE, NA, T >::times`.

6.659.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Rep_each< RTYPE, NA, T >::size ( ) const [inline]`

Definition at line 40 of file rep\_each.h.

References `Rcpp::sugar::Rep_each< RTYPE, NA, T >::n`, and `Rcpp::sugar::Rep_each< RTYPE, NA, T >::times`.

## 6.659.5 Member Data Documentation

6.659.5.1 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Rep_each< RTYPE, NA, T >::n [private]`

Definition at line 44 of file rep\_each.h.

Referenced by `Rcpp::sugar::Rep_each< RTYPE, NA, T >::size()`.

6.659.5.2 `template<int RTYPE, bool NA, typename T> const VEC_TYPE& Rcpp::sugar::Rep_each< RTYPE, NA, T >::object [private]`

Definition at line 43 of file rep\_each.h.

6.659.5.3 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Rep_each< RTYPE, NA, T >::times [private]`

Definition at line 44 of file rep\_each.h.

Referenced by `Rcpp::sugar::Rep_each< RTYPE, NA, T >::operator[]()`, `Rcpp::rep_each()`, and `Rcpp::sugar::Rep_each< RTYPE, NA, T >::size()`.

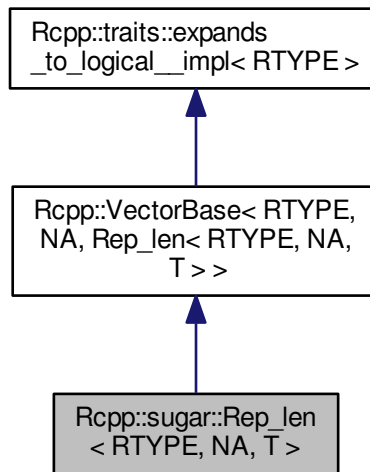
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rep\\_each.h](#)

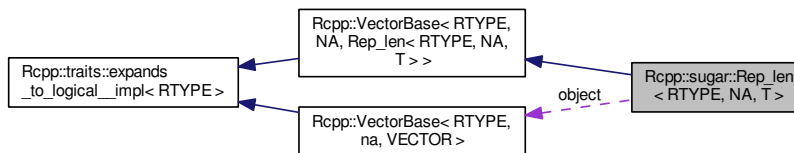
## 6.660 Rcpp::sugar::Rep\_len< RTYPE, NA, T > Class Template Reference

```
#include <rep_len.h>
```

Inheritance diagram for Rcpp::sugar::Rep\_len< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Rep\_len< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase < RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::storage_type < RTYPE >::type` `STORAGE`

### Public Member Functions

- `Rep_len` (const `VEC_TYPE` &object\_, `R_xlen_t` len\_)
- `STORAGE` `operator[]` (`R_xlen_t` i) const
- `R_xlen_t` `size` () const

## Private Attributes

- const [VEC\\_TYPE](#) & *object*
- [R\\_xlen\\_t](#) *len*
- [R\\_xlen\\_t](#) *n*

### 6.660.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>  
class Rcpp::sugar::Rep_len< RTYPE, NA, T >
```

Definition at line 29 of file `rep_len.h`.

### 6.660.2 Member Typedef Documentation

6.660.2.1 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Rep_len< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file `rep_len.h`.

6.660.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Rep_len< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file `rep_len.h`.

### 6.660.3 Constructor & Destructor Documentation

6.660.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Rep_len< RTYPE, NA, T >::Rep_len ( const VEC_TYPE & object_, R\_xlen\_t len_ ) [inline]`

Definition at line 34 of file `rep_len.h`.

### 6.660.4 Member Function Documentation

6.660.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Rep_len< RTYPE, NA, T >::operator[] ( R\_xlen\_t i ) const [inline]`

Definition at line 37 of file `rep_len.h`.

References `Rcpp::sugar::Rep_len< RTYPE, NA, T >::n`.

6.660.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Rep_len< RTYPE, NA, T >::size ( ) const`  
`[inline]`

Definition at line 40 of file `rep_len.h`.

References `Rcpp::sugar::Rep_len< RTYPE, NA, T >::len`.

### 6.660.5 Member Data Documentation

6.660.5.1 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Rep_len< RTYPE, NA, T >::len`  
`[private]`

Definition at line 44 of file `rep_len.h`.

Referenced by `Rcpp::rep_len()`, and `Rcpp::sugar::Rep_len< RTYPE, NA, T >::size()`.

6.660.5.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Rep_len< RTYPE, NA, T >::n` `[private]`

Definition at line 44 of file `rep_len.h`.

Referenced by `Rcpp::sugar::Rep_len< RTYPE, NA, T >::operator[]()`.

6.660.5.3 `template<int RTYPE, bool NA, typename T> const VEC_TYPE& Rcpp::sugar::Rep_len< RTYPE, NA, T >::object`  
`[private]`

Definition at line 43 of file `rep_len.h`.

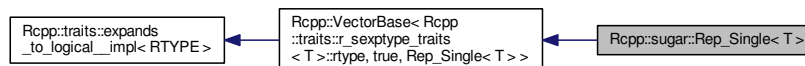
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rep\\_len.h](#)

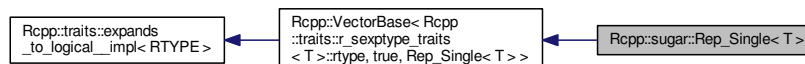
## 6.661 Rcpp::sugar::Rep\_Single< T > Class Template Reference

```
#include <rep.h>
```

Inheritance diagram for `Rcpp::sugar::Rep_Single< T >`:



Collaboration diagram for `Rcpp::sugar::Rep_Single< T >`:



## Public Member Functions

- [Rep\\_Single](#) (const T &x\_, R\_xlen\_t n\_)
- T [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const T & [x](#)
- R\_xlen\_t [n](#)

## Additional Inherited Members

### 6.661.1 Detailed Description

```
template<typename T>  
class Rcpp::sugar::Rep_Single< T >
```

Definition at line 48 of file rep.h.

### 6.661.2 Constructor & Destructor Documentation

6.661.2.1 `template<typename T> Rcpp::sugar::Rep_Single< T >::Rep_Single ( const T & x_, R_xlen_t n_ )` `[inline]`

Definition at line 54 of file rep.h.

### 6.661.3 Member Function Documentation

6.661.3.1 `template<typename T> T Rcpp::sugar::Rep_Single< T >::operator[] ( R_xlen_t i ) const` `[inline]`

Definition at line 56 of file rep.h.

6.661.3.2 `template<typename T> R_xlen_t Rcpp::sugar::Rep_Single< T >::size ( ) const` `[inline]`

Definition at line 59 of file rep.h.

References `Rcpp::sugar::Rep< RTYPE, NA, T >::n`.

### 6.661.4 Member Data Documentation

6.661.4.1 `template<typename T> R_xlen_t Rcpp::sugar::Rep_Single<T>::n` [private]

Definition at line 63 of file rep.h.

6.661.4.2 `template<typename T> const T& Rcpp::sugar::Rep_Single<T>::x` [private]

Definition at line 62 of file rep.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rep.h](#)

## 6.662 Rcpp::result< T > Class Template Reference

```
#include <Module.h>
```

### Public Member Functions

- [result](#) (T \*ptr\_)
- [operator T \\*](#) ()

### Private Attributes

- T \* [ptr](#)

### 6.662.1 Detailed Description

```
template<typename T>  
class Rcpp::result< T >
```

Definition at line 56 of file Module.h.

### 6.662.2 Constructor & Destructor Documentation

6.662.2.1 `template<typename T> Rcpp::result< T >::result ( T * ptr_ )` [inline]

Definition at line 58 of file Module.h.

### 6.662.3 Member Function Documentation

6.662.3.1 `template<typename T> Rcpp::result< T >::operator T *( ) [inline]`

Definition at line 59 of file Module.h.

### 6.662.4 Member Data Documentation

6.662.4.1 `template<typename T> T* Rcpp::result< T >::ptr [private]`

Definition at line 61 of file Module.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

## 6.663 Rcpp::sugar::median\_detail::result< RTYPE > Struct Template Reference

```
#include <median.h>
```

### Public Types

- `enum { rtype = RTYPE }`
- `typedef Rcpp::traits::storage_type< RTYPE >::type type`

### 6.663.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::sugar::median_detail::result< RTYPE >
```

Definition at line 35 of file median.h.

### 6.663.2 Member Typedef Documentation

6.663.2.1 `template<int RTYPE> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::median_detail::result< RTYPE >::type`

Definition at line 36 of file median.h.

### 6.663.3 Member Enumeration Documentation

#### 6.663.3.1 `template<int RTYPE> anonymous enum`

Enumerator

***rtype***

Definition at line 37 of file median.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/median.h](#)

## 6.664 Rcpp::sugar::median\_detail::result< INTSXP > Struct Template Reference

```
#include <median.h>
```

### Public Types

- enum { [rtype](#) = REALSXP }
- typedef double [type](#)

#### 6.664.1 Detailed Description

```
template<>  
struct Rcpp::sugar::median_detail::result< INTSXP >
```

Definition at line 41 of file median.h.

#### 6.664.2 Member Typedef Documentation

##### 6.664.2.1 `typedef double Rcpp::sugar::median_detail::result< INTSXP >::type`

Definition at line 42 of file median.h.



### 6.664.3 Member Enumeration Documentation

#### 6.664.3.1 anonymous enum

Enumerator

*rtype*

Definition at line 43 of file median.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[median.h](#)

## 6.665 Rcpp::sugar::median\_detail::result< STRSXP > Struct Template Reference

```
#include <median.h>
```

### Public Types

- enum { [rtype](#) = STRSXP }
- typedef [Rcpp::String](#) type

#### 6.665.1 Detailed Description

```
template<>  
struct Rcpp::sugar::median_detail::result< STRSXP >
```

Definition at line 47 of file median.h.

#### 6.665.2 Member Typedef Documentation

##### 6.665.2.1 typedef Rcpp::String Rcpp::sugar::median\_detail::result< STRSXP >::type

Definition at line 48 of file median.h.

### 6.665.3 Member Enumeration Documentation

#### 6.665.3.1 anonymous enum

Enumerator

***rtype***

Definition at line 49 of file median.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/median.h](#)

### 6.666 Rcpp::traits::result\_of< T > Struct Template Reference

```
#include <result_of.h>
```

#### Public Types

- typedef T::result\_type [type](#)

#### 6.666.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::result_of< T >
```

Definition at line 30 of file result\_of.h.

#### 6.666.2 Member Typedef Documentation

##### 6.666.2.1 template<typename T> typedef T::result\_type Rcpp::traits::result\_of< T >::type

Definition at line 31 of file result\_of.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/result\\_of.h](#)

## 6.667 Rcpp::traits::result\_of< RESULT\_TYPE(\*) (INPUT\_TYPE) > Struct Template Reference

```
#include <result_of.h>
```

### Public Types

- typedef RESULT\_TYPE [type](#)

#### 6.667.1 Detailed Description

```
template<typename RESULT_TYPE, typename INPUT_TYPE>  
struct Rcpp::traits::result_of< RESULT_TYPE(*) (INPUT_TYPE) >
```

Definition at line 35 of file result\_of.h.

#### 6.667.2 Member Typedef Documentation

6.667.2.1 `template<typename RESULT_TYPE, typename INPUT_TYPE > typedef RESULT_TYPE Rcpp::traits::result_of< RESULT_TYPE(*) (INPUT_TYPE) >::type`

Definition at line 36 of file result\_of.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[result\\_of.h](#)

## 6.668 Rcpp::traits::result\_of< RESULT\_TYPE(\*) (U1, U2) > Struct Template Reference

```
#include <result_of.h>
```

### Public Types

- typedef RESULT\_TYPE [type](#)

#### 6.668.1 Detailed Description

```
template<typename RESULT_TYPE, typename U1, typename U2>  
struct Rcpp::traits::result_of< RESULT_TYPE(*) (U1, U2) >
```

Definition at line 40 of file result\_of.h.

## 6.668.2 Member Typedef Documentation

6.668.2.1 `template<typename RESULT_TYPE , typename U1 , typename U2 > typedef RESULT_TYPE Rcpp::traits::result_of< RESULT_TYPE*(U1, U2) >::type`

Definition at line 41 of file `result_of.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/result_of.h`

## 6.669 Rcpp::traits::result\_of< RESULT\_TYPE\*(U1, U2, U3) > Struct Template Reference

```
#include <result_of.h>
```

### Public Types

- typedef RESULT\_TYPE `type`

## 6.669.1 Detailed Description

```
template<typename RESULT_TYPE, typename U1, typename U2, typename U3>  
struct Rcpp::traits::result_of< RESULT_TYPE*(U1, U2, U3) >
```

Definition at line 45 of file `result_of.h`.

## 6.669.2 Member Typedef Documentation

6.669.2.1 `template<typename RESULT_TYPE , typename U1 , typename U2 , typename U3 > typedef RESULT_TYPE Rcpp::traits::result_of< RESULT_TYPE*(U1, U2, U3) >::type`

Definition at line 46 of file `result_of.h`.

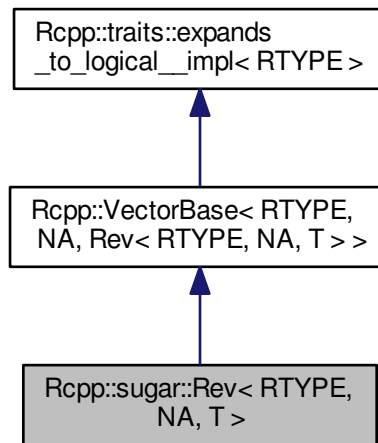
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/result_of.h`

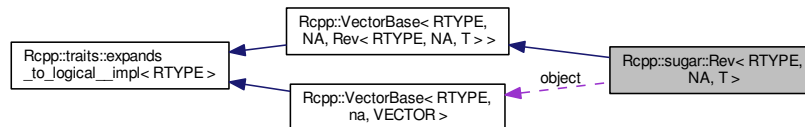
## 6.670 Rcpp::sugar::Rev< RTYPE, NA, T > Class Template Reference

```
#include <rev.h>
```

Inheritance diagram for Rcpp::sugar::Rev< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Rev< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`

### Public Member Functions

- `Rev` (const `VEC_TYPE` &object\_)
- `STORAGE` operator[] (R\_xlen\_t i) const
- `R_xlen_t` size () const

## Private Attributes

- const [VEC\\_TYPE](#) & *object*
- *R\_xlen\_t* *n*

### 6.670.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Rev< RTYPE, NA, T >
```

Definition at line 29 of file rev.h.

### 6.670.2 Member Typedef Documentation

6.670.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Rev< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file rev.h.

6.670.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Rev< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file rev.h.

### 6.670.3 Constructor & Destructor Documentation

6.670.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Rev< RTYPE, NA, T >::Rev ( const VEC_TYPE & object_ ) [inline]`

Definition at line 34 of file rev.h.

### 6.670.4 Member Function Documentation

6.670.4.1 `template<int RTYPE, bool NA, typename T > STORAGE Rcpp::sugar::Rev< RTYPE, NA, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 37 of file rev.h.

References `Rcpp::sugar::Rev< RTYPE, NA, T >::n`.

6.670.4.2 `template<int RTYPE, bool NA, typename T > R_xlen_t Rcpp::sugar::Rev< RTYPE, NA, T >::size ( ) const`  
`[inline]`

Definition at line 40 of file rev.h.

References `Rcpp::sugar::Rev< RTYPE, NA, T >::n`.

### 6.670.5 Member Data Documentation

6.670.5.1 `template<int RTYPE, bool NA, typename T > R_xlen_t Rcpp::sugar::Rev< RTYPE, NA, T >::n` `[private]`

Definition at line 44 of file rev.h.

Referenced by `Rcpp::sugar::Rev< RTYPE, NA, T >::operator[]()`, and `Rcpp::sugar::Rev< RTYPE, NA, T >::size()`.

6.670.5.2 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Rev< RTYPE, NA, T >::object`  
`[private]`

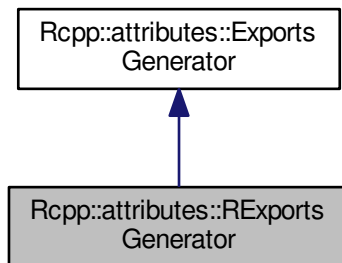
Definition at line 43 of file rev.h.

The documentation for this class was generated from the following file:

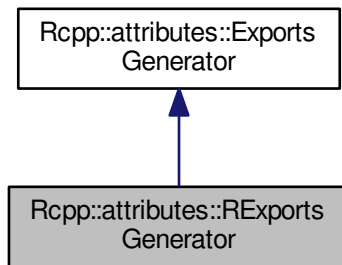
- `inst/include/Rcpp/sugar/functions/rev.h`

## 6.671 Rcpp::attributes::REExportsGenerator Class Reference

Inheritance diagram for `Rcpp::attributes::REExportsGenerator`:



Collaboration diagram for Rcpp::attributes::REExportsGenerator:



### Public Member Functions

- [REExportsGenerator](#) (const std::string &packageDir, const std::string &package, const std::string &fileSep)
- virtual void [writeBegin](#) ()
- virtual void [writeEnd](#) ()
- virtual bool [commit](#) (const std::vector< std::string > &includes)

### Private Member Functions

- virtual void [doWriteFunctions](#) (const [SourceFileAttributes](#) &attributes, bool verbose)

### Additional Inherited Members

#### 6.671.1 Detailed Description

Definition at line 709 of file attributes.cpp.

#### 6.671.2 Constructor & Destructor Documentation

- 6.671.2.1 [Rcpp::attributes::REExportsGenerator::REExportsGenerator](#) ( const std::string & packageDir, const std::string & package, const std::string & fileSep )

Definition at line 2203 of file attributes.cpp.



### 6.671.3 Member Function Documentation

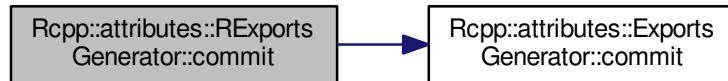
6.671.3.1 `bool Rcpp::attributes::REExportsGenerator::commit ( const std::vector< std::string > & includes ) [virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 2285 of file `attributes.cpp`.

References [Rcpp::attributes::ExportsGenerator::commit\(\)](#).

Here is the call graph for this function:



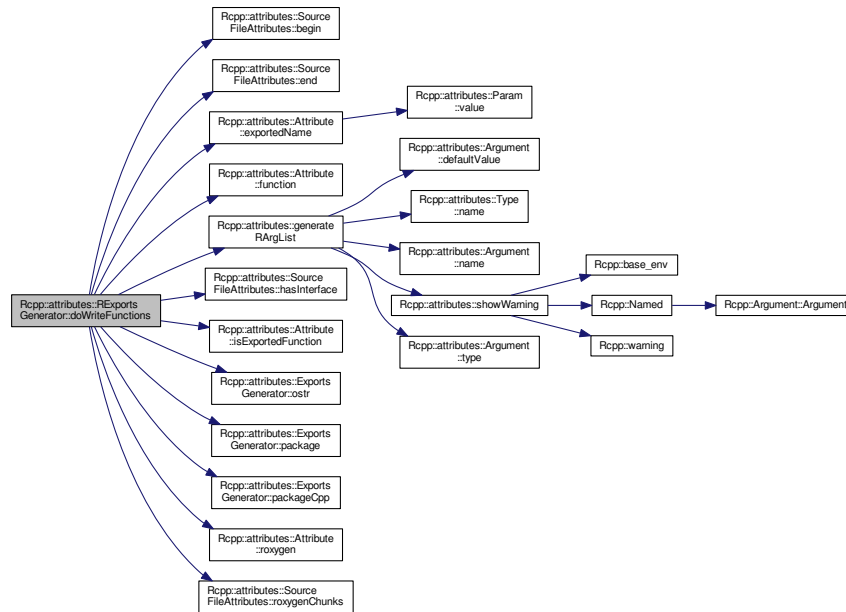
6.671.3.2 `void Rcpp::attributes::REExportsGenerator::doWriteFunctions ( const SourceFileAttributes & attributes, bool verbose ) [private],[virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 2213 of file `attributes.cpp`.

References [Rcpp::attributes::SourceFileAttributes::begin\(\)](#), [Rcpp::attributes::SourceFileAttributes::end\(\)](#), [Rcpp::attributes::Attribute::exportedName\(\)](#), [Rcpp::attributes::Attribute::function\(\)](#), [Rcpp::attributes::generateRArgList\(\)](#), [Rcpp::attributes::SourceFileAttributes::hasInterface\(\)](#), [Rcpp::attributes::Attribute::isExportedFunction\(\)](#), [Rcpp::attributes::kInterfaceR](#), [Rcpp::attributes::ExportsGenerator::ostr\(\)](#), [Rcpp::attributes::ExportsGenerator::package\(\)](#), [Rcpp::attributes::ExportsGenerator::packageCpp\(\)](#), [Rcpp::attributes::Attribute::roxygen\(\)](#), and [Rcpp::attributes::SourceFileAttributes::roxygenChunks\(\)](#).

Here is the call graph for this function:



6.671.3.3 `virtual void Rcpp::attributes::REExportsGenerator::writeBegin ( ) [inline],[virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 715 of file attributes.cpp.

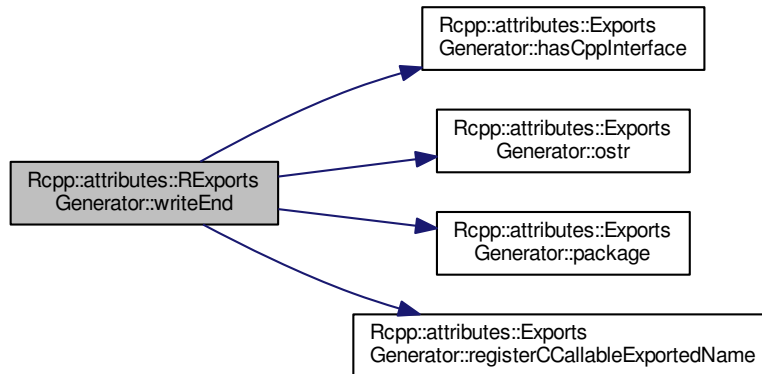
6.671.3.4 `void Rcpp::attributes::REExportsGenerator::writeEnd ( ) [virtual]`

Implements [Rcpp::attributes::ExportsGenerator](#).

Definition at line 2273 of file attributes.cpp.

References [Rcpp::attributes::ExportsGenerator::hasCppInterface\(\)](#), [Rcpp::attributes::ExportsGenerator::ostr\(\)](#), [Rcpp::attributes::ExportsGenerator::package\(\)](#), and [Rcpp::attributes::ExportsGenerator::registerCCallableExportedName\(\)](#).

Here is the call graph for this function:



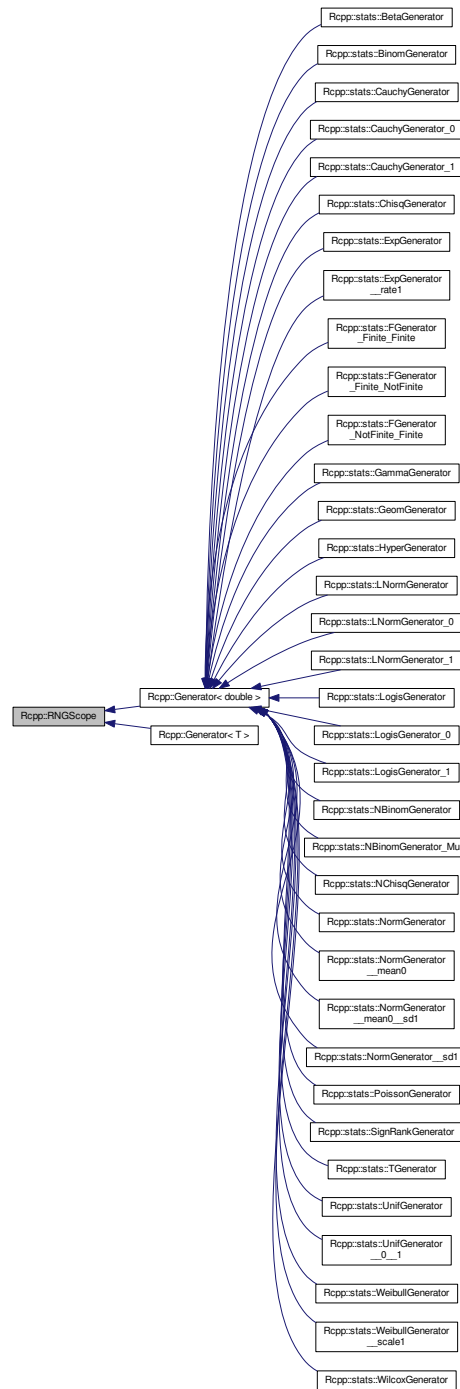
The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

## 6.672 Rcpp::RNGScope Class Reference

```
#include <random.h>
```

Inheritance diagram for Rcpp::RNGScope:



## Public Member Functions

- [RNGScope](#) ()
- [~RNGScope](#) ()

### 6.672.1 Detailed Description

Definition at line 27 of file random.h.

### 6.672.2 Constructor & Destructor Documentation

#### 6.672.2.1 Rcpp::RNGScope::RNGScope ( ) [inline]

Definition at line 29 of file random.h.

References `Rcpp::internal::enterRNGScope()`.

Here is the call graph for this function:



#### 6.672.2.2 Rcpp::RNGScope::~~RNGScope ( ) [inline]

Definition at line 30 of file random.h.

References `Rcpp::internal::exitRNGScope()`.

Here is the call graph for this function:



The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/random.h`

## 6.673 Rcpp::RObjectMethods< Class > Class Template Reference

```
#include <RObjectMethods.h>
```

### Public Member Functions

- bool [isNULL](#) () const
- int [sexp\\_type](#) () const
- bool [isObject](#) () const
- bool [isS4](#) () const

### 6.673.1 Detailed Description

```
template<typename Class>  
class Rcpp::RObjectMethods< Class >
```

Definition at line 24 of file RObjectMethods.h.

### 6.673.2 Member Function Documentation

6.673.2.1 `template<typename Class> bool Rcpp::RObjectMethods< Class >::isNULL ( ) const` [\[inline\]](#)

Definition at line 27 of file RObjectMethods.h.

Referenced by `Rcpp::DataFrame_Impl< StoragePolicy >::from_list()`.

6.673.2.2 `template<typename Class> bool Rcpp::RObjectMethods< Class >::isObject ( ) const` [\[inline\]](#)

Definition at line 35 of file RObjectMethods.h.

6.673.2.3 `template<typename Class> bool Rcpp::RObjectMethods< Class >::isS4 ( ) const` [\[inline\]](#)

Definition at line 39 of file RObjectMethods.h.

6.673.2.4 `template<typename Class> int Rcpp::RObjectMethods< Class >::sexp_type ( ) const` [\[inline\]](#)

Definition at line 31 of file RObjectMethods.h.

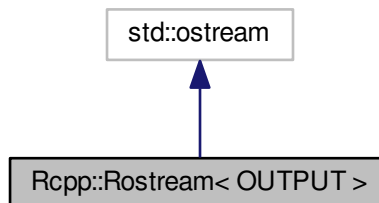
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/proxy/RObjectMethods.h`

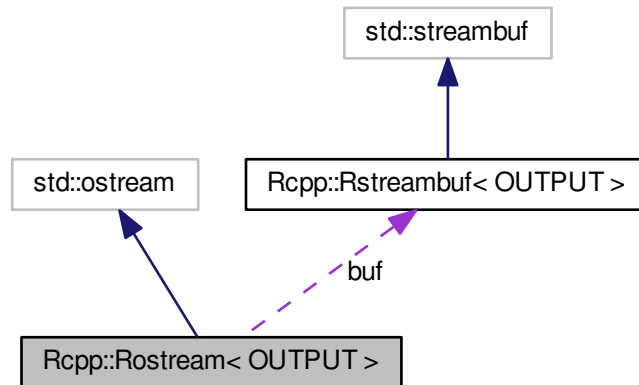
## 6.674 Rcpp::Rostream< OUTPUT > Class Template Reference

```
#include <Rstreambuf.h>
```

Inheritance diagram for Rcpp::Rostream< OUTPUT >:



Collaboration diagram for Rcpp::Rostream< OUTPUT >:



### Public Member Functions

- [Rostream \(\)](#)
- [~Rostream \(\)](#)

### Private Types

- typedef [Rstreambuf< OUTPUT >](#) [Buffer](#)

## Private Attributes

- [Buffer](#) \* buf

### 6.674.1 Detailed Description

```
template<bool OUTPUT>  
class Rcpp::Rostream< OUTPUT >
```

Definition at line 44 of file Rstreambuf.h.

### 6.674.2 Member Typedef Documentation

```
6.674.2.1 template<bool OUTPUT> typedef Rstreambuf<OUTPUT> Rcpp::Rostream< OUTPUT >::Buffer  
[private]
```

Definition at line 45 of file Rstreambuf.h.

### 6.674.3 Constructor & Destructor Documentation

```
6.674.3.1 template<bool OUTPUT> Rcpp::Rostream< OUTPUT >::Rostream ( ) [inline]
```

Definition at line 48 of file Rstreambuf.h.

```
6.674.3.2 template<bool OUTPUT> Rcpp::Rostream< OUTPUT >::~~Rostream ( ) [inline]
```

Definition at line 52 of file Rstreambuf.h.

### 6.674.4 Member Data Documentation

```
6.674.4.1 template<bool OUTPUT> Buffer* Rcpp::Rostream< OUTPUT >::buf [private]
```

Definition at line 46 of file Rstreambuf.h.

The documentation for this class was generated from the following file:

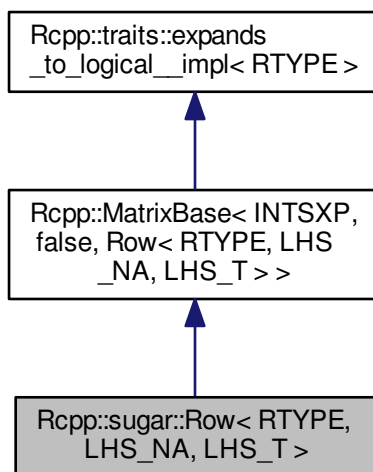
- inst/include/Rcpp/iostream/[Rstreambuf.h](#)



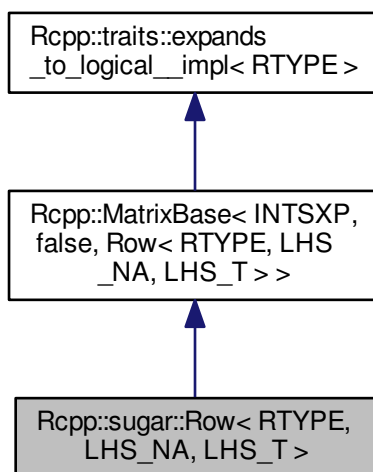
## 6.675 Rcpp::sugar::Row< RTYPE, LHS\_NA, LHS\_T > Class Template Reference

```
#include <row.h>
```

Inheritance diagram for Rcpp::sugar::Row< RTYPE, LHS\_NA, LHS\_T >:



Collaboration diagram for Rcpp::sugar::Row< RTYPE, LHS\_NA, LHS\_T >:



## Public Types

- typedef [Rcpp::MatrixBase](#)< RTYPE, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)

## Public Member Functions

- [Row](#) (const [LHS\\_TYPE](#) &lhs)
- int [operator\(\)](#) (int i, int j) const
- R\_xlen\_t [size](#) () const
- int [nrow](#) () const
- int [ncol](#) () const

## Private Attributes

- int [nr](#)
- int [nc](#)

### 6.675.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T>
class Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T >
```

Definition at line 29 of file row.h.

### 6.675.2 Member Typedef Documentation

6.675.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > typedef Rcpp::MatrixBase<RTYPE,LHS_NA,LHS_T>  
Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T >::LHS\_TYPE`

Definition at line 35 of file row.h.

### 6.675.3 Constructor & Destructor Documentation

6.675.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T >::Row (  
const LHS\_TYPE & lhs ) [inline]`

Definition at line 37 of file row.h.

## 6.675.4 Member Function Documentation

6.675.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > int Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T >::ncol ( )  
const [inline]`

Definition at line 45 of file row.h.

References Rcpp::sugar::Row< RTYPE, LHS\_NA, LHS\_T >::nc.

6.675.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T > int Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T >::nrow ( )  
const [inline]`

Definition at line 44 of file row.h.

References Rcpp::sugar::Row< RTYPE, LHS\_NA, LHS\_T >::nr.

6.675.4.3 `template<int RTYPE, bool LHS_NA, typename LHS_T > int Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T  
>::operator() ( int i, int j ) const [inline]`

Definition at line 39 of file row.h.

6.675.4.4 `template<int RTYPE, bool LHS_NA, typename LHS_T > R_xlen_t Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T  
>::size ( ) const [inline]`

Definition at line 43 of file row.h.

References Rcpp::sugar::Row< RTYPE, LHS\_NA, LHS\_T >::nc, and Rcpp::sugar::Row< RTYPE, LHS\_NA, LHS\_T >::nr.

## 6.675.5 Member Data Documentation

6.675.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T > int Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T >::nc  
[private]`

Definition at line 48 of file row.h.

Referenced by Rcpp::sugar::Row< RTYPE, LHS\_NA, LHS\_T >::ncol(), and Rcpp::sugar::Row< RTYPE, LHS\_NA, LHS\_T >::size().

6.675.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T > int Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T >::nr`  
`[private]`

Definition at line 48 of file row.h.

Referenced by `Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T >::nrow()`, and `Rcpp::sugar::Row< RTYPE, LHS_NA, LHS_T >::size()`.

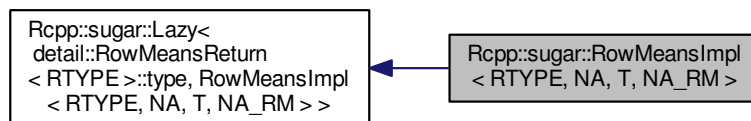
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/matrix/row.h](#)

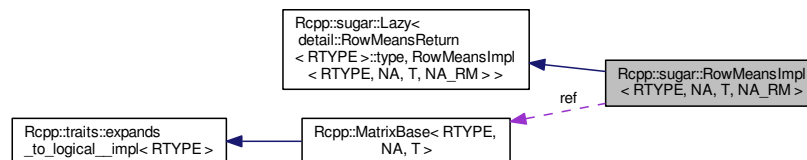
## 6.676 Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA\_RM > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for `Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA_RM >`:



Collaboration diagram for `Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA_RM >`:



### Public Member Functions

- [RowMeansImpl](#) (const [MatrixBase](#)< RTYPE, NA, T > &ref\_)
- [return\\_vector](#) get () const

## Private Types

- typedef [detail::RowMeansReturn< RTYPE > return\\_traits](#)
- typedef [return\\_traits::type return\\_vector](#)
- typedef [traits::storage\\_type< return\\_traits::rtype >::type stored\\_type](#)

## Private Attributes

- const [MatrixBase< RTYPE, NA, T > & ref](#)

### 6.676.1 Detailed Description

```
template<int RTYPE, bool NA, typename T, bool NA_RM = false>
class Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA_RM >
```

Definition at line 507 of file rowSums.h.

### 6.676.2 Member Typedef Documentation

6.676.2.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef detail::RowMeansReturn<RTYPE> Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA_RM >::return_traits [private]`

Definition at line 512 of file rowSums.h.

6.676.2.2 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef return_traits::type Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA_RM >::return_vector [private]`

Definition at line 513 of file rowSums.h.

6.676.2.3 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef traits::storage_type<return_traits::rtype>::type Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA_RM >::stored_type [private]`

Definition at line 514 of file rowSums.h.

### 6.676.3 Constructor & Destructor Documentation

6.676.3.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA_RM >::RowMeansImpl ( const MatrixBase< RTYPE, NA, T > & ref_ ) [inline]`

Definition at line 517 of file rowSums.h.

## 6.676.4 Member Function Documentation

6.676.4.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> return_vector Rcpp::sugar::RowMeansImpl<RTYPE, NA, T, NA_RM >::get ( ) const` `[inline]`

Definition at line 521 of file rowSums.h.

## 6.676.5 Member Data Documentation

6.676.5.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> const MatrixBase<RTYPE, NA, T>& Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA_RM >::ref` `[private]`

Definition at line 510 of file rowSums.h.

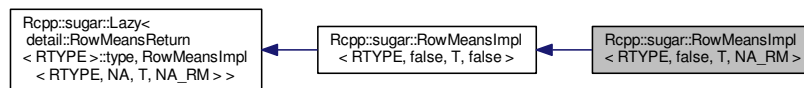
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/rowSums.h`

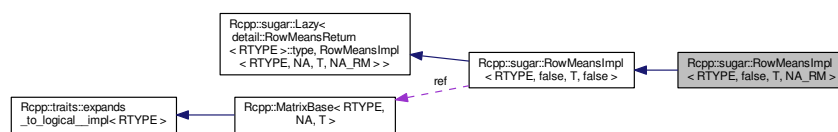
## 6.677 Rcpp::sugar::RowMeansImpl< RTYPE, false, T, NA\_RM > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::RowMeansImpl< RTYPE, false, T, NA\_RM >:



Collaboration diagram for Rcpp::sugar::RowMeansImpl< RTYPE, false, T, NA\_RM >:



## Additional Inherited Members

### 6.677.1 Detailed Description

```
template<int RTYPE, typename T, bool NA_RM>
class Rcpp::sugar::RowMeansImpl< RTYPE, false, T, NA_RM >
```

Definition at line 706 of file rowSums.h.

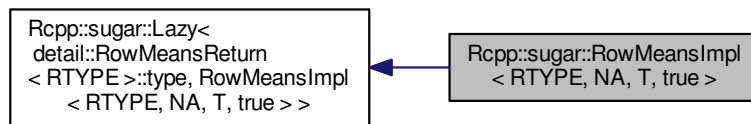
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/functions/[rowSums.h](#)

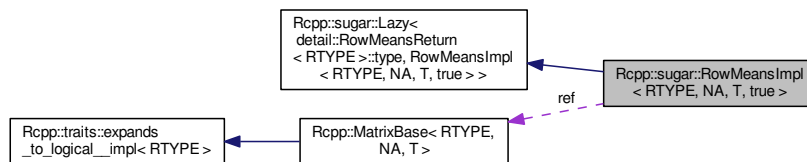
## 6.678 Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >:



Collaboration diagram for Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >:



## Public Member Functions

- [RowMeansImpl](#) (const [MatrixBase](#)< RTYPE, NA, T > &ref\_)
- [return\\_vector get](#) () const

## Private Types

- typedef [detail::RowMeansReturn](#)< RTYPE > [return\\_traits](#)
- typedef [return\\_traits::type](#) [return\\_vector](#)
- typedef [traits::storage\\_type](#)< [return\\_traits::rtype](#) >::type [stored\\_type](#)

## Private Attributes

- const [MatrixBase](#)< RTYPE, NA, T > & [ref](#)

### 6.678.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >
```

Definition at line 603 of file rowSums.h.

### 6.678.2 Member Typedef Documentation

6.678.2.1 `template<int RTYPE, bool NA, typename T > typedef detail::RowMeansReturn<RTYPE>  
Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >::return_traits [private]`

Definition at line 608 of file rowSums.h.

6.678.2.2 `template<int RTYPE, bool NA, typename T > typedef return_traits::type Rcpp::sugar::RowMeansImpl< RTYPE,  
NA, T, true >::return_vector [private]`

Definition at line 609 of file rowSums.h.

6.678.2.3 `template<int RTYPE, bool NA, typename T > typedef traits::storage_type<return_traits::rtype>::type  
Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >::stored_type [private]`

Definition at line 610 of file rowSums.h.

### 6.678.3 Constructor & Destructor Documentation

6.678.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true  
>::RowMeansImpl ( const MatrixBase< RTYPE, NA, T > & ref_ ) [inline]`

Definition at line 613 of file rowSums.h.



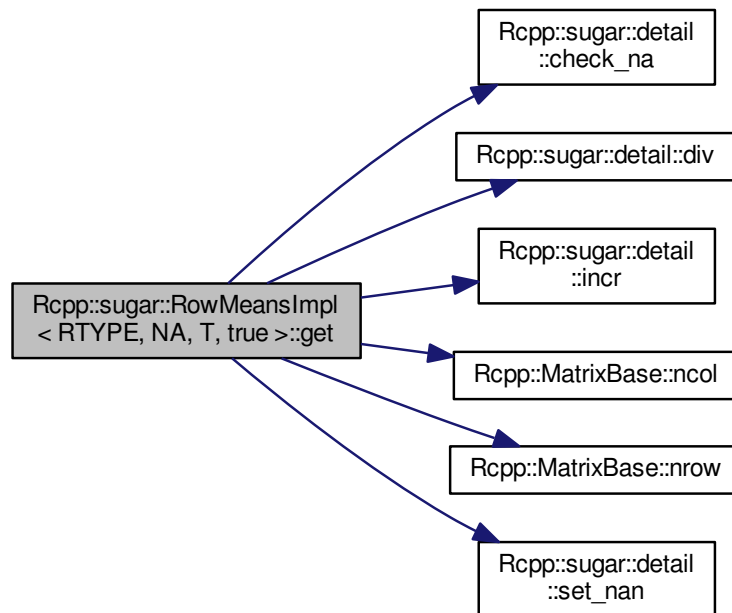
## 6.678.4 Member Function Documentation

6.678.4.1 `template<int RTYPE, bool NA, typename T > return_vector Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >::get ( ) const [inline]`

Definition at line 617 of file rowSums.h.

References `Rcpp::sugar::detail::check_na()`, `Rcpp::sugar::detail::div()`, `Rcpp::sugar::detail::incr()`, `Rcpp::MatrixBase< RTYPE, na, MATRIX >::ncol()`, `Rcpp::MatrixBase< RTYPE, na, MATRIX >::nrow()`, and `Rcpp::sugar::detail::set_nan()`.

Here is the call graph for this function:



## 6.678.5 Member Data Documentation

6.678.5.1 `template<int RTYPE, bool NA, typename T > const MatrixBase<RTYPE, NA, T>& Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >::ref [private]`

Definition at line 606 of file rowSums.h.

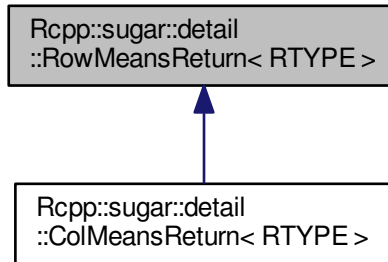
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rowSums.h](#)

## 6.679 Rcpp::sugar::detail::RowMeansReturn< RTYPE > Struct Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::detail::RowMeansReturn< RTYPE >:



### Public Types

- enum { `rtype` = REALSXP }
- typedef `Vector< REALSXP > type`

#### 6.679.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::sugar::detail::RowMeansReturn< RTYPE >
```

Definition at line 103 of file rowSums.h.

#### 6.679.2 Member Typedef Documentation

6.679.2.1 `template<int RTYPE> typedef Vector<REALSXP> Rcpp::sugar::detail::RowMeansReturn< RTYPE >::type`

Definition at line 104 of file rowSums.h.

### 6.679.3 Member Enumeration Documentation

#### 6.679.3.1 template<int RTYPE> anonymous enum

Enumerator

*rtype*

Definition at line 105 of file rowSums.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[rowSums.h](#)

## 6.680 Rcpp::sugar::detail::RowMeansReturn< CPLXSCP > Struct Template Reference

```
#include <rowSums.h>
```

### Public Types

- enum { *rtype* = CPLXSCP }
- typedef [Vector](#)< CPLXSCP > *type*

### 6.680.1 Detailed Description

```
template<>  
struct Rcpp::sugar::detail::RowMeansReturn< CPLXSCP >
```

Definition at line 109 of file rowSums.h.

### 6.680.2 Member Typedef Documentation

#### 6.680.2.1 typedef [Vector](#)<CPLXSCP> Rcpp::sugar::detail::RowMeansReturn< CPLXSCP >::*type*

Definition at line 110 of file rowSums.h.

### 6.680.3 Member Enumeration Documentation

#### 6.680.3.1 anonymous enum

Enumerator

*rtype*

Definition at line 111 of file rowSums.h.

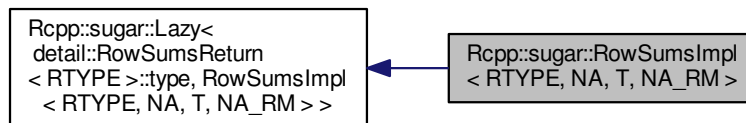
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rowSums.h](#)

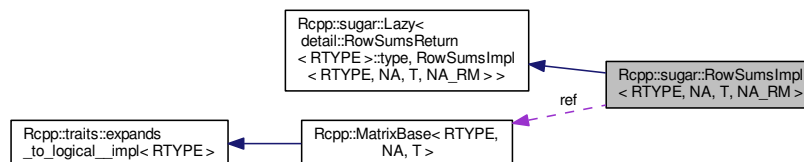
### 6.681 Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA\_RM > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA\_RM >:



Collaboration diagram for Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA\_RM >:



#### Public Member Functions

- [RowSumsImpl](#) (const [MatrixBase](#)< RTYPE, NA, T > &ref\_)
- [return\\_vector get](#) () const

## Private Types

- typedef [detail::RowSumsReturn< RTYPE >](#) [return\\_traits](#)
- typedef [return\\_traits::type](#) [return\\_vector](#)
- typedef [traits::storage\\_type< return\\_traits::rtype >::type](#) [stored\\_type](#)

## Private Attributes

- const [MatrixBase< RTYPE, NA, T >](#) & [ref](#)

### 6.681.1 Detailed Description

```
template<int RTYPE, bool NA, typename T, bool NA_RM = false>
class Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA_RM >
```

Definition at line 128 of file rowSums.h.

### 6.681.2 Member Typedef Documentation

6.681.2.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef detail::RowSumsReturn<RTYPE> Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA_RM >::return_traits` [private]

Definition at line 133 of file rowSums.h.

6.681.2.2 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef return_traits::type Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA_RM >::return_vector` [private]

Definition at line 134 of file rowSums.h.

6.681.2.3 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> typedef traits::storage_type<return_traits::rtype>::type Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA_RM >::stored_type` [private]

Definition at line 135 of file rowSums.h.

### 6.681.3 Constructor & Destructor Documentation

6.681.3.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA_RM >::RowSumsImpl ( const MatrixBase< RTYPE, NA, T > & ref_ )` [inline]

Definition at line 138 of file rowSums.h.

### 6.681.4 Member Function Documentation

6.681.4.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> return_vector Rcpp::sugar::RowSumsImpl<RTYPE, NA, T, NA_RM >::get ( ) const` `[inline]`

Definition at line 142 of file rowSums.h.

### 6.681.5 Member Data Documentation

6.681.5.1 `template<int RTYPE, bool NA, typename T, bool NA_RM = false> const MatrixBase<RTYPE, NA, T>& Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA_RM >::ref` `[private]`

Definition at line 131 of file rowSums.h.

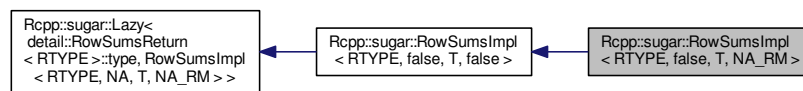
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rowSums.h](#)

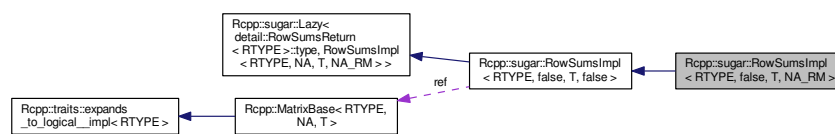
## 6.682 Rcpp::sugar::RowSumsImpl< RTYPE, false, T, NA\_RM > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::RowSumsImpl< RTYPE, false, T, NA\_RM >:



Collaboration diagram for Rcpp::sugar::RowSumsImpl< RTYPE, false, T, NA\_RM >:



## Additional Inherited Members

### 6.682.1 Detailed Description

```
template<int RTYPE, typename T, bool NA_RM>
class Rcpp::sugar::RowSumsImpl< RTYPE, false, T, NA_RM >
```

Definition at line 310 of file rowSums.h.

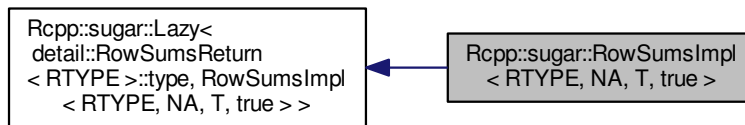
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rowSums.h](#)

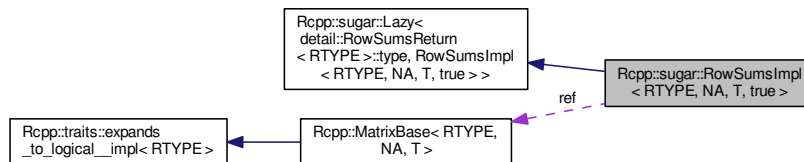
## 6.683 Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true > Class Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >:



Collaboration diagram for Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >:



## Public Member Functions

- [RowSumsImpl](#) (const [MatrixBase](#)< RTYPE, NA, T > &ref\_)
- [return\\_vector](#) get () const

## Private Types

- typedef [detail::RowSumsReturn](#)< RTYPE > [return\\_traits](#)
- typedef [return\\_traits::type](#) [return\\_vector](#)
- typedef [traits::storage\\_type](#)< [return\\_traits::rtype](#) >::type [stored\\_type](#)

## Private Attributes

- const [MatrixBase](#)< RTYPE, NA, T > & [ref](#)

### 6.683.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >
```

Definition at line 226 of file rowSums.h.

### 6.683.2 Member Typedef Documentation

6.683.2.1 `template<int RTYPE, bool NA, typename T > typedef detail::RowSumsReturn<RTYPE>  
Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >::return\_traits [private]`

Definition at line 231 of file rowSums.h.

6.683.2.2 `template<int RTYPE, bool NA, typename T > typedef return\_traits::type Rcpp::sugar::RowSumsImpl< RTYPE,  
NA, T, true >::return\_vector [private]`

Definition at line 232 of file rowSums.h.

6.683.2.3 `template<int RTYPE, bool NA, typename T > typedef traits::storage\_type<return\_traits::rtype>::type  
Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >::stored\_type [private]`

Definition at line 233 of file rowSums.h.

### 6.683.3 Constructor & Destructor Documentation

6.683.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true  
>::RowSumsImpl ( const MatrixBase< RTYPE, NA, T > & ref\_ ) [inline]`

Definition at line 236 of file rowSums.h.



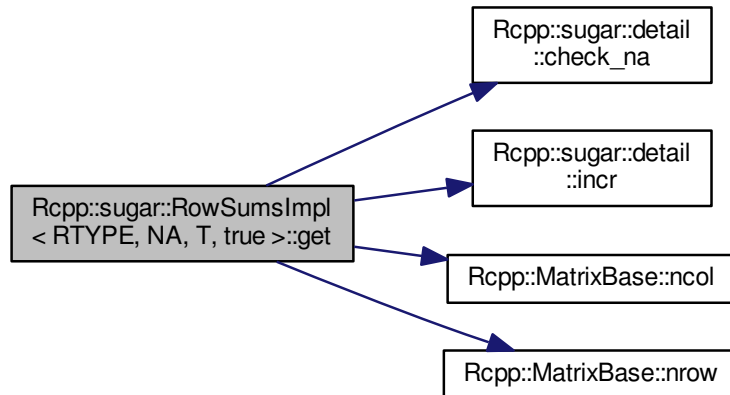
### 6.683.4 Member Function Documentation

6.683.4.1 `template<int RTYPE, bool NA, typename T > return_vector Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >::get( ) const [inline]`

Definition at line 240 of file rowSums.h.

References `Rcpp::sugar::detail::check_na()`, `Rcpp::sugar::detail::incr()`, `Rcpp::MatrixBase< RTYPE, na, MATRIX >::ncol()`, and `Rcpp::MatrixBase< RTYPE, na, MATRIX >::nrow()`.

Here is the call graph for this function:



### 6.683.5 Member Data Documentation

6.683.5.1 `template<int RTYPE, bool NA, typename T > const MatrixBase<RTYPE, NA, T>& Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >::ref [private]`

Definition at line 229 of file rowSums.h.

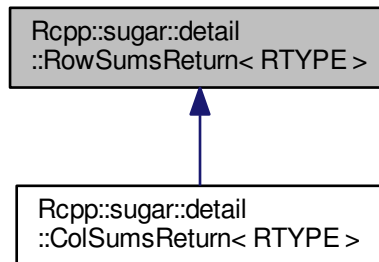
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/rowSums.h](#)

## 6.684 Rcpp::sugar::detail::RowSumsReturn< RTYPE > Struct Template Reference

```
#include <rowSums.h>
```

Inheritance diagram for Rcpp::sugar::detail::RowSumsReturn< RTYPE >:



### Public Types

- enum { `rtype` = RTYPE }
- typedef `Vector< RTYPE > type`

### 6.684.1 Detailed Description

```
template<int RTYPE>  
struct Rcpp::sugar::detail::RowSumsReturn< RTYPE >
```

Definition at line 86 of file rowSums.h.

### 6.684.2 Member Typedef Documentation

6.684.2.1 `template<int RTYPE> typedef Vector<RTYPE> Rcpp::sugar::detail::RowSumsReturn< RTYPE >::type`

Definition at line 87 of file rowSums.h.

### 6.684.3 Member Enumeration Documentation

#### 6.684.3.1 template<int RTYPE> anonymous enum

Enumerator

*rtype*

Definition at line 88 of file rowSums.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[rowSums.h](#)

## 6.685 Rcpp::sugar::detail::RowSumsReturn< LGLSXP > Struct Template Reference

```
#include <rowSums.h>
```

### Public Types

- enum { [rtype](#) = INTSXP }
- typedef [Vector](#)< INTSXP > [type](#)

### 6.685.1 Detailed Description

```
template<>  
struct Rcpp::sugar::detail::RowSumsReturn< LGLSXP >
```

Definition at line 92 of file rowSums.h.

### 6.685.2 Member Typedef Documentation

#### 6.685.2.1 typedef [Vector](#)<INTSXP> [Rcpp::sugar::detail::RowSumsReturn](#)< LGLSXP >::[type](#)

Definition at line 93 of file rowSums.h.

### 6.685.3 Member Enumeration Documentation

#### 6.685.3.1 anonymous enum

Enumerator

*rtype*

Definition at line 94 of file rowSums.h.

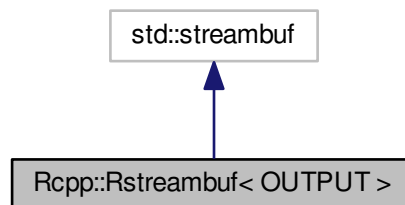
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/functions/[rowSums.h](#)

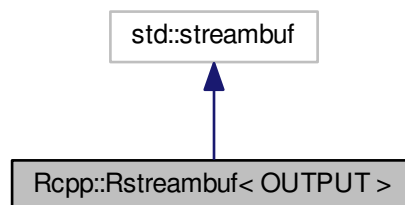
### 6.686 Rcpp::Rstreambuf< OUTPUT > Class Template Reference

```
#include <Rstreambuf.h>
```

Inheritance diagram for Rcpp::Rstreambuf< OUTPUT >:



Collaboration diagram for Rcpp::Rstreambuf< OUTPUT >:



## Public Member Functions

- [Rstreambuf](#) ()

## Protected Member Functions

- virtual `std::streamsize` [xspn](#) (const char \*s, `std::streamsize` n)
- virtual `int` [overflow](#) (int c=EOF)
- virtual `int` [sync](#) ()
- `template<>`  
`std::streamsize` [xspn](#) (const char \*s, `std::streamsize` num)
- `template<>`  
`std::streamsize` [xspn](#) (const char \*s, `std::streamsize` num)
- `template<>`  
`int` [overflow](#) (int c)
- `template<>`  
`int` [overflow](#) (int c)
- `template<>`  
`int` [sync](#) ()
- `template<>`  
`int` [sync](#) ()

### 6.686.1 Detailed Description

```
template<bool OUTPUT>
class Rcpp::Rstreambuf< OUTPUT >
```

Definition at line 31 of file Rstreambuf.h.

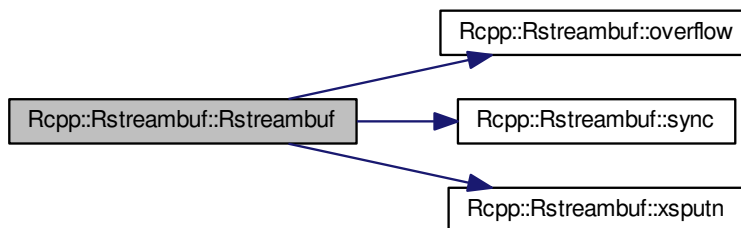
### 6.686.2 Constructor & Destructor Documentation

6.686.2.1 `template<bool OUTPUT> Rcpp::Rstreambuf< OUTPUT >::Rstreambuf ( )` [*inline*]

Definition at line 33 of file Rstreambuf.h.

References `Rcpp::Rstreambuf< OUTPUT >::overflow()`, `Rcpp::Rstreambuf< OUTPUT >::sync()`, and `Rcpp::Rstreambuf< OUTPUT >::xspn()`.

Here is the call graph for this function:



### 6.686.3 Member Function Documentation

6.686.3.1 `template<bool OUTPUT> virtual int Rcpp::Rstreambuf< OUTPUT >::overflow ( int c = EOF )` [protected], [virtual]

Referenced by `Rcpp::Rstreambuf< OUTPUT >::Rstreambuf()`.

6.686.3.2 `template<> int Rcpp::Rstreambuf< true >::overflow ( int c )` [inline], [protected]

Definition at line 69 of file `Rstreambuf.h`.

6.686.3.3 `template<> int Rcpp::Rstreambuf< false >::overflow ( int c )` [inline], [protected]

Definition at line 73 of file `Rstreambuf.h`.

6.686.3.4 `template<bool OUTPUT> virtual int Rcpp::Rstreambuf< OUTPUT >::sync ( )` [protected], [virtual]

Referenced by `Rcpp::Rstreambuf< OUTPUT >::Rstreambuf()`.

6.686.3.5 `template<> int Rcpp::Rstreambuf< true >::sync ( )` [inline], [protected]

Definition at line 78 of file `Rstreambuf.h`.

6.686.3.6 `template<> int Rcpp::Rstreambuf< false >::sync ( )` [inline], [protected]

Definition at line 82 of file `Rstreambuf.h`.

6.686.3.7 `template<bool OUTPUT> virtual std::streamsize Rcpp::Rstreambuf< OUTPUT >::xspn ( const char * s, std::streamsize n )` [protected], [virtual]

Referenced by `Rcpp::Rstreambuf< OUTPUT >::Rstreambuf()`.

6.686.3.8 `template<> std::streamsize Rcpp::Rstreambuf< true >::xspn ( const char * s, std::streamsize num )` [inline], [protected]

Definition at line 60 of file `Rstreambuf.h`.

```
6.686.3.9 template<> std::streamsize Rcpp::Rstreambuf< false >::xspn ( const char * s, std::streamsize num )
[inline], [protected]
```

Definition at line 64 of file Rstreambuf.h.

The documentation for this class was generated from the following file:

- inst/include/Rcpp/iostream/Rstreambuf.h

## 6.687 Rcpp::algorithm::helpers::rtype< T > Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef [rtype\\_helper](#)< typename [ctype](#)< T >::type >::type [type](#)
- typedef [rtype\\_helper](#)< typename [ctype](#)< T >::type > [helper\\_type](#)

### Static Public Member Functions

- static T [NA](#) ()
- static [RCPP\\_CONSTEXPR](#) T [ZERO](#) ()
- static [RCPP\\_CONSTEXPR](#) T [ONE](#) ()

### Static Public Attributes

- static [RCPP\\_CONSTEXPR](#) int [RTYPE](#) = [helper\\_type](#)::RTYPE

### 6.687.1 Detailed Description

```
template<typename T>
struct Rcpp::algorithm::helpers::rtype< T >
```

Definition at line 167 of file algorithm.h.

### 6.687.2 Member Typedef Documentation

```
6.687.2.1 template<typename T > typedef rtype\_helper< typename ctype< T >::type >
Rcpp::algorithm::helpers::rtype< T >::helper\_type
```

Definition at line 169 of file algorithm.h.

6.687.2.2 `template<typename T > typedef rtype_helper< typename ctype< T >::type >::type  
Rcpp::algorithm::helpers::rtype< T >::type`

Definition at line 168 of file `algorithm.h`.

### 6.687.3 Member Function Documentation

6.687.3.1 `template<typename T > static T Rcpp::algorithm::helpers::rtype< T >::NA ( ) [inline],[static]`

Definition at line 171 of file `algorithm.h`.

References `Rcpp::NA`.

Referenced by `Rcpp::algorithm::max()`, `Rcpp::algorithm::mean()`, `Rcpp::algorithm::min()`, `Rcpp::algorithm::helpers::log::operator()`, `Rcpp::algorithm::helpers::exp::operator()`, `Rcpp::algorithm::helpers::sqrt::operator()`, `Rcpp::algorithm::prod()`, and `Rcpp::algorithm::sum()`.

6.687.3.2 `template<typename T > static RCPP_CONSTEXPR T Rcpp::algorithm::helpers::rtype< T >::ONE ( )  
[inline],[static]`

Definition at line 173 of file `algorithm.h`.

Referenced by `Rcpp::algorithm::max()`, `Rcpp::algorithm::max_nona()`, `Rcpp::algorithm::prod()`, and `Rcpp::algorithm::prod_nona()`.

6.687.3.3 `template<typename T > static RCPP_CONSTEXPR T Rcpp::algorithm::helpers::rtype< T >::ZERO ( )  
[inline],[static]`

Definition at line 172 of file `algorithm.h`.

Referenced by `Rcpp::algorithm::sum()`, and `Rcpp::algorithm::sum_nona()`.

### 6.687.4 Member Data Documentation

6.687.4.1 `template<typename T > RCPP_CONSTEXPR int Rcpp::algorithm::helpers::rtype< T >::RTYPE =  
helper_type::RTYPE [static]`

Definition at line 170 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)



## 6.688 Rcpp::algorithm::helpers::rtype\_helper< T > Struct Template Reference

```
#include <algorithm.h>
```

### 6.688.1 Detailed Description

```
template<typename T>  
struct Rcpp::algorithm::helpers::rtype_helper< T >
```

Definition at line 138 of file algorithm.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.689 Rcpp::algorithm::helpers::rtype\_helper< double > Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef double [type](#)

### Static Public Member Functions

- static double [NA](#) ()
- static [RCPP\\_CONSTEXPR](#) double [ZERO](#) ()
- static [RCPP\\_CONSTEXPR](#) double [ONE](#) ()

### Static Public Attributes

- static [RCPP\\_CONSTEXPR](#) int [RTYPE](#) = REALSXP

### 6.689.1 Detailed Description

```
template<>  
struct Rcpp::algorithm::helpers::rtype_helper< double >
```

Definition at line 149 of file algorithm.h.

## 6.689.2 Member Typedef Documentation

### 6.689.2.1 `typedef double Rcpp::algorithm::helpers::rtype_helper< double >::type`

Definition at line 150 of file `algorithm.h`.

## 6.689.3 Member Function Documentation

### 6.689.3.1 `static double Rcpp::algorithm::helpers::rtype_helper< double >::NA( )` `[inline],[static]`

Definition at line 152 of file `algorithm.h`.

### 6.689.3.2 `static RCPP_CONSTEXPR double Rcpp::algorithm::helpers::rtype_helper< double >::ONE( )` `[inline],[static]`

Definition at line 154 of file `algorithm.h`.

### 6.689.3.3 `static RCPP_CONSTEXPR double Rcpp::algorithm::helpers::rtype_helper< double >::ZERO( )` `[inline],[static]`

Definition at line 153 of file `algorithm.h`.

## 6.689.4 Member Data Documentation

### 6.689.4.1 `RCPP_CONSTEXPR int Rcpp::algorithm::helpers::rtype_helper< double >::RTYPE = REALSXP` `[static]`

Definition at line 151 of file `algorithm.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.690 `Rcpp::algorithm::helpers::rtype_helper< int >` Struct Template Reference

```
#include <algorithm.h>
```

### Public Types

- typedef int [type](#)

## Static Public Member Functions

- static int [NA](#) ()
- static [RCPP\\_CONSTEXPR](#) int [ZERO](#) ()
- static [RCPP\\_CONSTEXPR](#) int [ONE](#) ()

## Static Public Attributes

- static [RCPP\\_CONSTEXPR](#) int [RTYPE](#) = INTSXP

### 6.690.1 Detailed Description

```
template<>
struct Rcpp::algorithm::helpers::rtype_helper< int >
```

Definition at line 158 of file algorithm.h.

### 6.690.2 Member Typedef Documentation

#### 6.690.2.1 typedef int Rcpp::algorithm::helpers::rtype\_helper< int >::type

Definition at line 159 of file algorithm.h.

### 6.690.3 Member Function Documentation

#### 6.690.3.1 static int Rcpp::algorithm::helpers::rtype\_helper< int >::NA ( ) [inline], [static]

Definition at line 161 of file algorithm.h.

#### 6.690.3.2 static [RCPP\\_CONSTEXPR](#) int Rcpp::algorithm::helpers::rtype\_helper< int >::ONE ( ) [inline], [static]

Definition at line 163 of file algorithm.h.

#### 6.690.3.3 static [RCPP\\_CONSTEXPR](#) int Rcpp::algorithm::helpers::rtype\_helper< int >::ZERO ( ) [inline], [static]

Definition at line 162 of file algorithm.h.

## 6.690.4 Member Data Documentation

### 6.690.4.1 RCPP\_CONSTEXPR int Rcpp::algorithm::helpers::rtype\_helper< int >::RTYPE = INTSXP [static]

Definition at line 160 of file algorithm.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.691 Rcpp::rule Struct Reference

### Public Attributes

- [int r\\_type](#)
- [int r\\_day](#)
- [int r\\_week](#)
- [int r\\_mon](#)
- [long r\\_time](#)

### 6.691.1 Detailed Description

Definition at line 349 of file Date.cpp.

### 6.691.2 Member Data Documentation

#### 6.691.2.1 int Rcpp::rule::r\_day

Definition at line 351 of file Date.cpp.

Referenced by [Rcpp::getrule\(\)](#), and [Rcpp::transtime\(\)](#).

#### 6.691.2.2 int Rcpp::rule::r\_mon

Definition at line 353 of file Date.cpp.

Referenced by [Rcpp::getrule\(\)](#), and [Rcpp::transtime\(\)](#).

#### 6.691.2.3 long Rcpp::rule::r\_time

Definition at line 354 of file Date.cpp.

Referenced by [Rcpp::getrule\(\)](#), and [Rcpp::transtime\(\)](#).

## 6.691.2.4 int Rcpp::rule::r\_type

Definition at line 350 of file Date.cpp.

Referenced by Rcpp::getrule(), and Rcpp::transtime().

## 6.691.2.5 int Rcpp::rule::r\_week

Definition at line 352 of file Date.cpp.

Referenced by Rcpp::getrule(), and Rcpp::transtime().

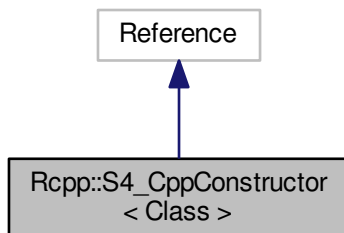
The documentation for this struct was generated from the following file:

- [src/Date.cpp](#)

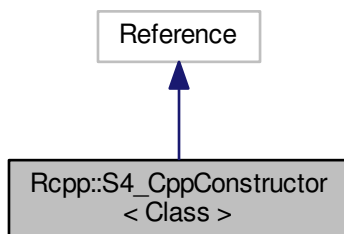
## 6.692 Rcpp::S4\_CppConstructor&lt; Class &gt; Class Template Reference

```
#include <Module.h>
```

Inheritance diagram for Rcpp::S4\_CppConstructor< Class >:



Collaboration diagram for Rcpp::S4\_CppConstructor< Class >:



## Public Types

- typedef [XPtr](#)< [class\\_Base](#) > [XP\\_Class](#)
- typedef Reference::Storage [Storage](#)

## Public Member Functions

- [S4\\_CppConstructor](#) ([SignedConstructor](#)< [Class](#) > \*m, const [XP\\_Class](#) &class\_xp, const std::string &class\_name, std::string &buffer)

## Private Types

- typedef [Reference Base](#)

### 6.692.1 Detailed Description

```
template<typename Class >  
class Rcpp::S4_CppConstructor< Class >
```

Definition at line 203 of file Module.h.

### 6.692.2 Member Typedef Documentation

6.692.2.1 `template<typename Class > typedef Reference Rcpp::S4_CppConstructor< Class >::Base` `[private]`

Definition at line 204 of file Module.h.

6.692.2.2 `template<typename Class > typedef Reference::Storage Rcpp::S4_CppConstructor< Class >::Storage`

Definition at line 207 of file Module.h.

6.692.2.3 `template<typename Class > typedef XPtr<class_Base> Rcpp::S4_CppConstructor< Class >::XP_Class`

Definition at line 206 of file Module.h.

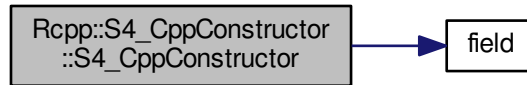
### 6.692.3 Constructor & Destructor Documentation

6.692.3.1 `template<typename Class > Rcpp::S4_CppConstructor< Class >::S4_CppConstructor ( SignedConstructor< Class > * m, const XP_Class & class_xp, const std::string & class_name, std::string & buffer ) [inline]`

Definition at line 209 of file Module.h.

References `field()`, `RCPPTOR_ASSIGN_WITH_BASE`, and `RCPPTOR_DEBUG`.

Here is the call graph for this function:



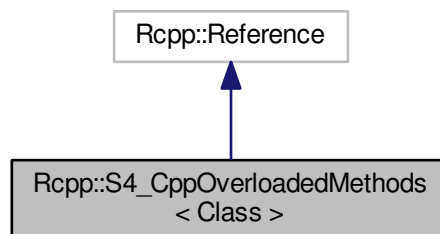
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/Module.h`

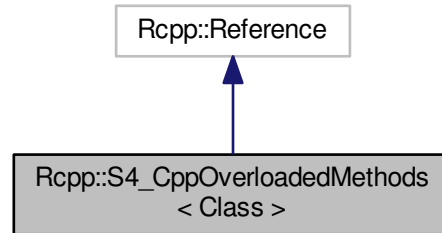
## 6.693 Rcpp::S4\_CppOverloadedMethods< Class > Class Template Reference

```
#include <Module.h>
```

Inheritance diagram for `Rcpp::S4_CppOverloadedMethods< Class >`:



Collaboration diagram for `Rcpp::S4_CppOverloadedMethods< Class >`:



## Public Types

- typedef `Rcpp::XPtr< class_Base > XP_Class`
- typedef `SignedMethod< Class > signed_method_class`
- typedef `std::vector< signed_method_class * > vec_signed_method`

## Public Member Functions

- `S4_CppOverloadedMethods` (`vec_signed_method *m`, `const XP_Class &class_xp`, `const char *name`, `std::string &buffer`)

## Private Types

- typedef `Rcpp::Reference Base`

### 6.693.1 Detailed Description

```

template<typename Class>
class Rcpp::S4_CppOverloadedMethods< Class >
  
```

Definition at line 224 of file `Module.h`.

### 6.693.2 Member Typedef Documentation

6.693.2.1 `template<typename Class > typedef Rcpp::Reference Rcpp::S4_CppOverloadedMethods< Class >::Base`  
`[private]`

Definition at line 225 of file `Module.h`.



6.693.2.2 `template<typename Class > typedef SignedMethod<Class> Rcpp::S4_CppOverloadedMethods< Class >::signed_method_class`

Definition at line 228 of file Module.h.

6.693.2.3 `template<typename Class > typedef std::vector<signed_method_class*> Rcpp::S4_CppOverloadedMethods< Class >::vec_signed_method`

Definition at line 229 of file Module.h.

6.693.2.4 `template<typename Class > typedef Rcpp::XPtr<class_Base> Rcpp::S4_CppOverloadedMethods< Class >::XP_Class`

Definition at line 227 of file Module.h.

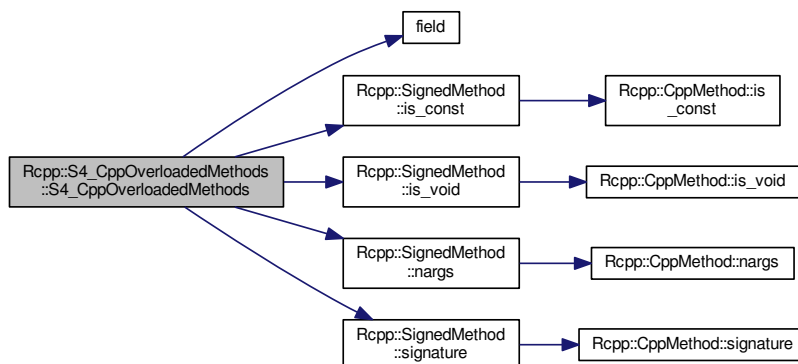
### 6.693.3 Constructor & Destructor Documentation

6.693.3.1 `template<typename Class > Rcpp::S4_CppOverloadedMethods< Class >::S4_CppOverloadedMethods ( vec_signed_method * m, const XP_Class & class_xp, const char * name, std::string & buffer ) [inline]`

Definition at line 231 of file Module.h.

References `Rcpp::SignedMethod< Class >::docstring`, `field()`, `Rcpp::SignedMethod< Class >::is_const()`, `Rcpp::SignedMethod< Class >::is_void()`, `Rcpp::SignedMethod< Class >::nargs()`, `Rcpp::SignedMethod< Class >::signature()`, `Rcpp::CppMethod::is_const`, `Rcpp::CppMethod::is_void`, `Rcpp::CppMethod::nargs`, and `Rcpp::CppMethod::signature`.

Here is the call graph for this function:



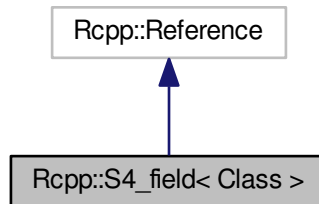
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

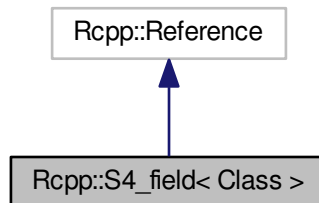
## 6.694 Rcpp::S4\_field< Class > Class Template Reference

```
#include <Module.h>
```

Inheritance diagram for Rcpp::S4\_field< Class >:



Collaboration diagram for Rcpp::S4\_field< Class >:



### Public Types

- typedef [XPtr< class\\_Base > XP\\_Class](#)

### Public Member Functions

- [S4\\_field](#) ([CppClassProperty](#)< Class > \*p, const [XP\\_Class](#) &class\_xp)

### Private Types

- typedef [Rcpp::Reference](#) Base

### 6.694.1 Detailed Description

```
template<typename Class>
class Rcpp::S4_field< Class >
```

Definition at line 321 of file Module.h.

### 6.694.2 Member Typedef Documentation

6.694.2.1 `template<typename Class > typedef Rcpp::Reference Rcpp::S4_field< Class >::Base` [private]

Definition at line 322 of file Module.h.

6.694.2.2 `template<typename Class > typedef XPtr<class_Base> Rcpp::S4_field< Class >::XP_Class`

Definition at line 324 of file Module.h.

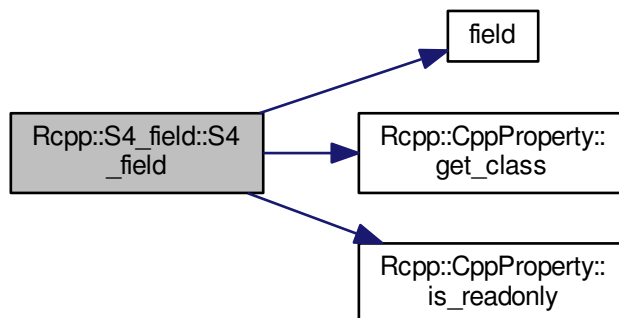
### 6.694.3 Constructor & Destructor Documentation

6.694.3.1 `template<typename Class > Rcpp::S4_field< Class >::S4_field ( CppProperty< Class > * p, const XP_Class & class_xp )` [inline]

Definition at line 325 of file Module.h.

References `field()`, `Rcpp::CppProperty< Class >::get_class()`, `Rcpp::CppProperty< Class >::is_readonly()`, `RCPP_CTOR_ASSIGN_WITH_BASE`, and `RCPP_DEBUG`.

Here is the call graph for this function:



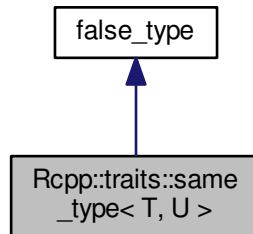
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

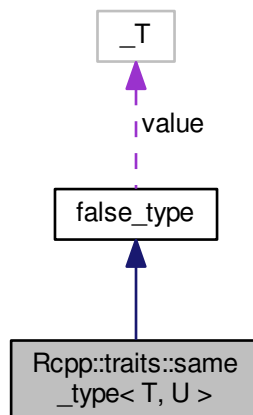
## 6.695 Rcpp::traits::same\_type< T, U > Struct Template Reference

```
#include <same_type.h>
```

Inheritance diagram for Rcpp::traits::same\_type< T, U >:



Collaboration diagram for Rcpp::traits::same\_type< T, U >:



### Additional Inherited Members

#### 6.695.1 Detailed Description

```
template<typename T, typename U>  
struct Rcpp::traits::same_type< T, U >
```

Definition at line 29 of file same\_type.h.

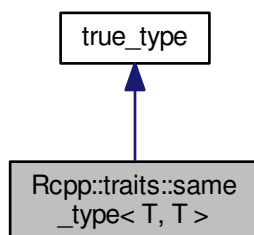
The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/same\_type.h

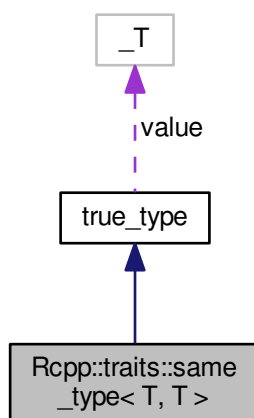
## 6.696 Rcpp::traits::same\_type< T, T > Struct Template Reference

```
#include <same_type.h>
```

Inheritance diagram for Rcpp::traits::same\_type< T, T >:



Collaboration diagram for Rcpp::traits::same\_type< T, T >:



## Additional Inherited Members

### 6.696.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::same_type< T, T >
```

Definition at line 30 of file `same_type.h`.

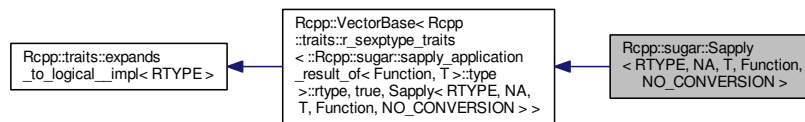
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/traits/same_type.h`

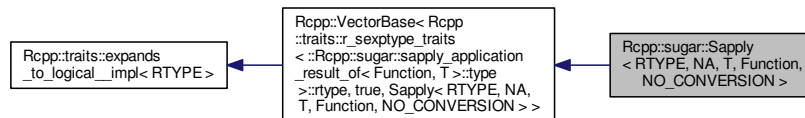
### 6.697 Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO\_CONVERSION > Class Template Reference

```
#include <sapply.h>
```

Inheritance diagram for `Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >`:



Collaboration diagram for `Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >`:



## Public Types

- typedef `::Rcpp::sugar::sapply_application_result_of< Function, T >::type` `result_type`
- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC`
- typedef `Rcpp::traits::r_vector_element_converter< RESULT_R_TYPE >::type` `converter_type`
- typedef `Rcpp::traits::storage_type< RESULT_R_TYPE >::type` `STORAGE`
- typedef `Rcpp::traits::Extractor< RTYPE, NA, T >::type` `EXT`

## Public Member Functions

- [Sapply](#) (const [VEC](#) &vec\_, [Function](#) fun\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Static Public Attributes

- static const int [RESULT\\_R\\_TYPE](#)

## Private Attributes

- const [EXT](#) & [vec](#)
- [Function](#) [fun](#)

### 6.697.1 Detailed Description

```
template<int RTYPE, bool NA, typename T, typename Function, bool NO_CONVERSION>
class Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >
```

Definition at line 46 of file `sapply.h`.

### 6.697.2 Member Typedef Documentation

6.697.2.1 `template<int RTYPE, bool NA, typename T , typename Function , bool NO_CONVERSION> typedef Rcpp::traits::r_vector_element_converter<RESULT_R_TYPE>::type Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::converter_type`

Definition at line 59 of file `sapply.h`.

6.697.2.2 `template<int RTYPE, bool NA, typename T , typename Function , bool NO_CONVERSION> typedef Rcpp::traits::Extractor< RTYPE, NA, T>::type Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::EXT`

Definition at line 62 of file `sapply.h`.

6.697.2.3 `template<int RTYPE, bool NA, typename T , typename Function , bool NO_CONVERSION> typedef Rcpp::sugar::sapply_application_result_of<Function, T>::type Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::result_type`

Definition at line 54 of file `sapply.h`.

6.697.2.4 `template<int RTYPE, bool NA, typename T , typename Function , bool NO_CONVERSION> typedef Rcpp::traits::storage_type<RESULT_R_TYPE>::type Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::STORAGE`

Definition at line 60 of file `sapply.h`.

6.697.2.5 `template<int RTYPE, bool NA, typename T , typename Function , bool NO_CONVERSION> typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::VEC`

Definition at line 58 of file `sapply.h`.

### 6.697.3 Constructor & Destructor Documentation

6.697.3.1 `template<int RTYPE, bool NA, typename T , typename Function , bool NO_CONVERSION> Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::Sapply( const VEC & vec_, Function fun_ ) [inline]`

Definition at line 64 of file `sapply.h`.

References `DEMANGLE`, and `RCPP_DEBUG_1`.

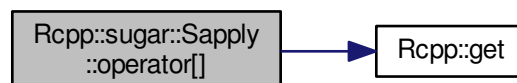
### 6.697.4 Member Function Documentation

6.697.4.1 `template<int RTYPE, bool NA, typename T , typename Function , bool NO_CONVERSION> STORAGE Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 69 of file `sapply.h`.

References `Rcpp::get()`.

Here is the call graph for this function:





6.697.4.2 `template<int RTYPE, bool NA, typename T , typename Function , bool NO_CONVERSION> R_xlen_t  
Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::size ( )const [inline]`

Definition at line 73 of file `sapply.h`.

## 6.697.5 Member Data Documentation

6.697.5.1 `template<int RTYPE, bool NA, typename T , typename Function , bool NO_CONVERSION> Function  
Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::fun [private]`

Definition at line 77 of file `sapply.h`.

6.697.5.2 `template<int RTYPE, bool NA, typename T , typename Function , bool NO_CONVERSION> const int  
Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::RESULT_R_TYPE [static]`

### Initial value:

```
=
    Rcpp::traits::r_sexptype_traits<result_type>::rtype
```

Definition at line 55 of file `sapply.h`.

6.697.5.3 `template<int RTYPE, bool NA, typename T , typename Function , bool NO_CONVERSION> const EXT&  
Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::vec [private]`

Definition at line 76 of file `sapply.h`.

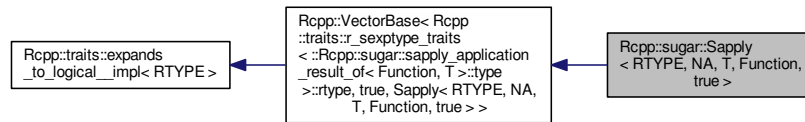
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/sapply.h`

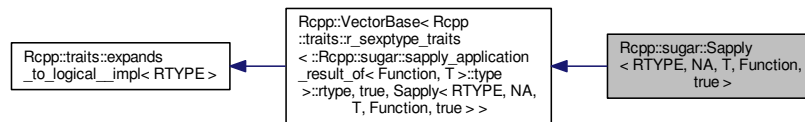
## 6.698 Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true > Class Template Reference

```
#include <sapply.h>
```

Inheritance diagram for Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >:



Collaboration diagram for Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >:



### Public Types

- typedef [::Rcpp::sugar::sapply\\_application\\_result\\_of< Function, T >::type](#) [result\\_type](#)
- typedef [Rcpp::VectorBase< RTYPE, NA, T >](#) [VEC](#)
- typedef [Rcpp::traits::storage\\_type< RESULT\\_R\\_TYPE >::type](#) [STORAGE](#)
- typedef [Rcpp::traits::Extractor< RTYPE, NA, T >::type](#) [EXT](#)

### Public Member Functions

- [Sapply](#) (const [VEC](#) &vec\_, [Function](#) fun\_)
- [STORAGE](#) [operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t](#) [size](#) () const

### Static Public Attributes

- static const int [RESULT\\_R\\_TYPE](#)

### Private Attributes

- const [EXT](#) & [vec](#)
- [Function](#) [fun](#)

### 6.698.1 Detailed Description

```
template<int RTYPE, bool NA, typename T, typename Function>  
class Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >
```

Definition at line 83 of file sapply.h.

### 6.698.2 Member Typedef Documentation

6.698.2.1 `template<int RTYPE, bool NA, typename T, typename Function > typedef Rcpp::traits::Extractor< RTYPE, NA, T>::type Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >::EXT`

Definition at line 98 of file sapply.h.

6.698.2.2 `template<int RTYPE, bool NA, typename T, typename Function > typedef ::Rcpp::sugar::sapply_↔  
application_result_of<Function, T>::type Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true  
>::result_type`

Definition at line 91 of file sapply.h.

6.698.2.3 `template<int RTYPE, bool NA, typename T, typename Function > typedef Rcpp::traits::storage↔  
_type<RESULT_R_TYPE>::type Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true  
>::STORAGE`

Definition at line 96 of file sapply.h.

6.698.2.4 `template<int RTYPE, bool NA, typename T, typename Function > typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >::VEC`

Definition at line 95 of file sapply.h.

### 6.698.3 Constructor & Destructor Documentation

6.698.3.1 `template<int RTYPE, bool NA, typename T, typename Function > Rcpp::sugar::Sapply< RTYPE, NA, T, Function,  
true >::Sapply ( const VEC & vec_, Function fun_ ) [inline]`

Definition at line 100 of file sapply.h.

References DEMANGLE, and RCPP\_DEBUG\_1.

## 6.698.4 Member Function Documentation

6.698.4.1 `template<int RTYPE, bool NA, typename T, typename Function > STORAGE Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 104 of file `sapply.h`.

6.698.4.2 `template<int RTYPE, bool NA, typename T, typename Function > R_xlen_t Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >::size ( ) const [inline]`

Definition at line 107 of file `sapply.h`.

## 6.698.5 Member Data Documentation

6.698.5.1 `template<int RTYPE, bool NA, typename T, typename Function > Function Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >::fun [private]`

Definition at line 111 of file `sapply.h`.

6.698.5.2 `template<int RTYPE, bool NA, typename T, typename Function > const int Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >::RESULT_R_TYPE [static]`

### Initial value:

```
=
    Rcpp::traits::r\_sexptype\_traits<result\_type>::rtype
```

Definition at line 92 of file `sapply.h`.

6.698.5.3 `template<int RTYPE, bool NA, typename T, typename Function > const EXT& Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >::vec [private]`

Definition at line 110 of file `sapply.h`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/sapply.h`

## 6.699 Rcpp::sugar::sapply\_application\_result\_of< Function, SugarExpression > Struct Template Reference

```
#include <sapply.h>
```

## Public Types

- `typedef ::Rcpp::traits::result_of< Function >::type type`

### 6.699.1 Detailed Description

```
template<typename Function, typename SugarExpression>
struct Rcpp::sugar::sapply_application_result_of< Function, SugarExpression >
```

Definition at line 33 of file `sapply.h`.

### 6.699.2 Member Typedef Documentation

6.699.2.1 `template<typename Function, typename SugarExpression> typedef ::Rcpp::traits::result_of<Function>::type Rcpp::sugar::sapply_application_result_of< Function, SugarExpression >::type`

Definition at line 38 of file `sapply.h`.

The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/sugar/functions/sapply.h`

## 6.700 Rcpp::sugar::cbind\_impl::scalar< RTYPE > Struct Template Reference

```
#include <cbind.h>
```

## Public Types

- `typedef cbind_storage_type< RTYPE >::type type`

### 6.700.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::sugar::cbind_impl::scalar< RTYPE >
```

Definition at line 129 of file `cbind.h`.

## 6.700.2 Member Typedef Documentation

6.700.2.1 `template<int RTYPE> typedef cbind_storage_type<RTYPE>::type Rcpp::sugar::cbind_impl::scalar<RTYPE >::type`

Definition at line 130 of file `cbind.h`.

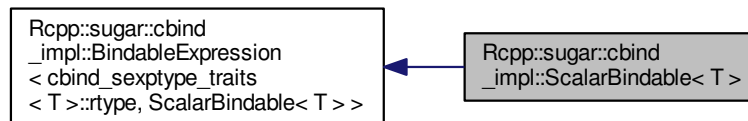
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/sugar/functions/cbind.h`

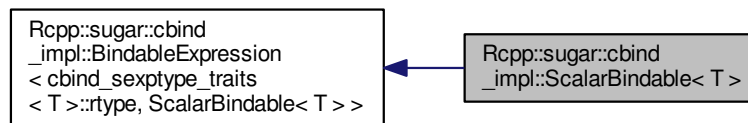
## 6.701 Rcpp::sugar::cbind\_impl::ScalarBindable< T > Class Template Reference

```
#include <cbind.h>
```

Inheritance diagram for `Rcpp::sugar::cbind_impl::ScalarBindable< T >`:



Collaboration diagram for `Rcpp::sugar::cbind_impl::ScalarBindable< T >`:



### Public Types

- enum { `RTYPE` = `cbind_sexptype_traits<T>::rtype` }
- typedef T `stored_type`

## Public Member Functions

- [ScalarBindable](#) (const T &t\_)
- [R\\_xlen\\_t size](#) () const
- [R\\_xlen\\_t nrow](#) () const
- [R\\_xlen\\_t ncol](#) () const
- [stored\\_type operator\[\]](#) (R\_xlen\_t i) const
- [stored\\_type operator\(\)](#) (R\_xlen\_t i, R\_xlen\_t j) const

## Private Attributes

- [T t](#)

### 6.701.1 Detailed Description

```
template<typename T>  
class Rcpp::sugar::cbind_impl::ScalarBindable< T >
```

Definition at line 135 of file cbind.h.

### 6.701.2 Member Typedef Documentation

6.701.2.1 `template<typename T > typedef T Rcpp::sugar::cbind_impl::ScalarBindable< T >::stored_type`

Definition at line 139 of file cbind.h.

### 6.701.3 Member Enumeration Documentation

6.701.3.1 `template<typename T > anonymous enum`

Enumerator

***RTYPE***

Definition at line 140 of file cbind.h.

### 6.701.4 Constructor & Destructor Documentation

6.701.4.1 `template<typename T > Rcpp::sugar::cbind_impl::ScalarBindable< T >::ScalarBindable ( const T & t_ )  
[inline]`

Definition at line 146 of file cbind.h.

### 6.701.5 Member Function Documentation

6.701.5.1 `template<typename T> R_xlen_t Rcpp::sugar::cbind_impl::ScalarBindable< T >::ncol ( ) const`  
`[inline]`

Definition at line 152 of file `cbind.h`.

Referenced by `Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::ncol()`.

6.701.5.2 `template<typename T> R_xlen_t Rcpp::sugar::cbind_impl::ScalarBindable< T >::nrow ( ) const`  
`[inline]`

Definition at line 150 of file `cbind.h`.

Referenced by `Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::nrow()`, `Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::operator[]()`, and `Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::size()`.

6.701.5.3 `template<typename T> stored_type Rcpp::sugar::cbind_impl::ScalarBindable< T >::operator() ( R_xlen_t i, R_xlen_t j ) const` `[inline]`

Definition at line 158 of file `cbind.h`.

6.701.5.4 `template<typename T> stored_type Rcpp::sugar::cbind_impl::ScalarBindable< T >::operator[] ( R_xlen_t i ) const` `[inline]`

Definition at line 154 of file `cbind.h`.

6.701.5.5 `template<typename T> R_xlen_t Rcpp::sugar::cbind_impl::ScalarBindable< T >::size ( ) const`  
`[inline]`

Definition at line 148 of file `cbind.h`.

Referenced by `Rcpp::sugar::cbind_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >::size()`.

### 6.701.6 Member Data Documentation

6.701.6.1 `template<typename T> T Rcpp::sugar::cbind_impl::ScalarBindable< T >::t` `[private]`

Definition at line 143 of file `cbind.h`.

The documentation for this class was generated from the following file:

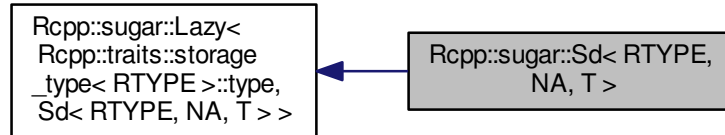
- `inst/include/Rcpp/sugar/functions/cbind.h`



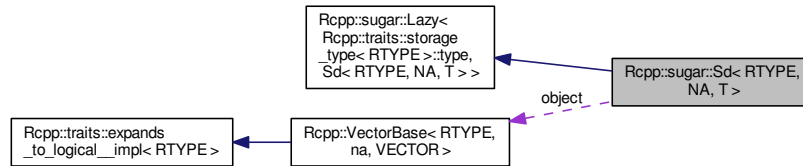
## 6.702 Rcpp::sugar::Sd< RTYPE, NA, T > Class Template Reference

```
#include <sd.h>
```

Inheritance diagram for Rcpp::sugar::Sd< RTYPE, NA, T > :



Collaboration diagram for Rcpp::sugar::Sd< RTYPE, NA, T > :



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`

### Public Member Functions

- `Sd` (const `VEC_TYPE` &object\_)
- `STORAGE` `get` () const

### Private Attributes

- const `VEC_TYPE` & `object`

### 6.702.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Sd< RTYPE, NA, T >
```

Definition at line 29 of file sd.h.

### 6.702.2 Member Typedef Documentation

6.702.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Sd< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file sd.h.

6.702.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Sd< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file sd.h.

### 6.702.3 Constructor & Destructor Documentation

6.702.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Sd< RTYPE, NA, T >::Sd ( const VEC_TYPE & object_ ) [inline]`

Definition at line 34 of file sd.h.

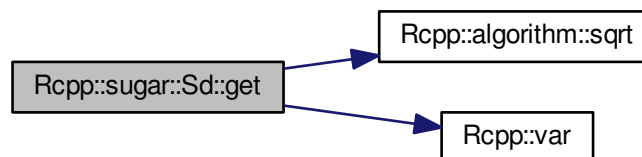
### 6.702.4 Member Function Documentation

6.702.4.1 `template<int RTYPE, bool NA, typename T > STORAGE Rcpp::sugar::Sd< RTYPE, NA, T >::get ( ) const [inline]`

Definition at line 36 of file sd.h.

References `Rcpp::algorithm::sqrt()`, and `Rcpp::var()`.

Here is the call graph for this function:



## 6.702.5 Member Data Documentation

6.702.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Sd< RTYPE, NA, T >::object`  
`[private]`

Definition at line 40 of file `sd.h`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/sd.h`

## 6.703 Rcpp::sugar::SelfHash< RTYPE > Class Template Reference

```
#include <SelfHash.h>
```

### Public Types

- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Vector< RTYPE >` `VECTOR`

### Public Member Functions

- `SelfHash` (`SEXP table`)
- `IntegerVector fill_and_self_match` ()
- `int size` () const
- `int add_value_get_index` (int i)
- `int get_index` (`STORAGE value`) const
- `int get_addr` (`STORAGE value`) const
- `template<>`  
`int get_addr` (int value) const
- `template<>`  
`int get_addr` (double val) const
- `template<>`  
`int get_addr` (`SEXP value`) const

### Public Attributes

- `int n`
- `int m`
- `int k`
- `STORAGE * src`
- `std::vector< int > data`
- `std::vector< int > indices`
- `int size_`

### 6.703.1 Detailed Description

```
template<int RTYPE>
class Rcpp::sugar::SelfHash< RTYPE >
```

Definition at line 32 of file SelfHash.h.

### 6.703.2 Member Typedef Documentation

6.703.2.1 `template<int RTYPE> typedef traits::storage_type<RTYPE>::type Rcpp::sugar::SelfHash< RTYPE >::STORAGE`

Definition at line 34 of file SelfHash.h.

6.703.2.2 `template<int RTYPE> typedef Vector<RTYPE> Rcpp::sugar::SelfHash< RTYPE >::VECTOR`

Definition at line 35 of file SelfHash.h.

### 6.703.3 Constructor & Destructor Documentation

6.703.3.1 `template<int RTYPE> Rcpp::sugar::SelfHash< RTYPE >::SelfHash ( SEXP table ) [inline]`

Definition at line 37 of file SelfHash.h.

References `Rcpp::sugar::SelfHash< RTYPE >::data`, `Rcpp::sugar::SelfHash< RTYPE >::indices`, `Rcpp::sugar::SelfHash< RTYPE >::k`, `Rcpp::sugar::SelfHash< RTYPE >::m`, and `Rcpp::sugar::SelfHash< RTYPE >::n`.

### 6.703.4 Member Function Documentation

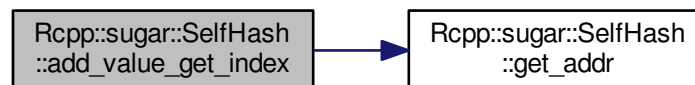
6.703.4.1 `template<int RTYPE> int Rcpp::sugar::SelfHash< RTYPE >::add_value_get_index ( int i ) [inline]`

Definition at line 63 of file SelfHash.h.

References `Rcpp::sugar::SelfHash< RTYPE >::get_addr()`, and `Rcpp::sugar::SelfHash< RTYPE >::size_`.

Referenced by `Rcpp::sugar::SelfHash< RTYPE >::fill_and_self_match()`.

Here is the call graph for this function:

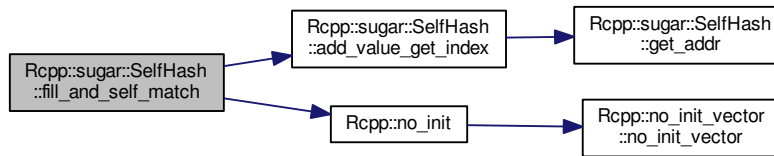


6.703.4.2 `template<int RTYPE> IntegerVector Rcpp::sugar::SelfHash< RTYPE >::fill_and_self_match ( ) [inline]`

Definition at line 46 of file SelfHash.h.

References `Rcpp::sugar::SelfHash< RTYPE >::add_value_get_index()`, `Rcpp::sugar::SelfHash< RTYPE >::n`, and `Rcpp::no_init()`.

Here is the call graph for this function:



6.703.4.3 `template<int RTYPE> int Rcpp::sugar::SelfHash< RTYPE >::get_addr ( STORAGE value ) const`

Referenced by `Rcpp::sugar::SelfHash< RTYPE >::add_value_get_index()`, and `Rcpp::sugar::SelfHash< RTYPE >::get_index()`.

6.703.4.4 `template<> int Rcpp::sugar::SelfHash< INTSXP >::get_addr ( int value ) const [inline]`

Definition at line 94 of file SelfHash.h.

References `RCPP_HASH`.

6.703.4.5 `template<> int Rcpp::sugar::SelfHash< REALSXP >::get_addr ( double val ) const [inline]`

Definition at line 98 of file SelfHash.h.

References `RCPP_HASH`.

6.703.4.6 `template<> int Rcpp::sugar::SelfHash< STRSXP >::get_addr ( SEXP value ) const [inline]`

Definition at line 115 of file SelfHash.h.

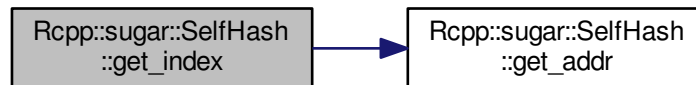
References `RCPP_HASH`.

6.703.4.7 `template<int RTYPE> int Rcpp::sugar::SelfHash< RTYPE >::get_index ( STORAGE value ) const [inline]`

Definition at line 78 of file SelfHash.h.

References `Rcpp::sugar::SelfHash< RTYPE >::get_addr()`.

Here is the call graph for this function:



6.703.4.8 `template<int RTYPE> int Rcpp::sugar::SelfHash< RTYPE >::size ( ) const [inline]`

Definition at line 53 of file SelfHash.h.

References `Rcpp::sugar::SelfHash< RTYPE >::size_`.

## 6.703.5 Member Data Documentation

6.703.5.1 `template<int RTYPE> std::vector<int> Rcpp::sugar::SelfHash< RTYPE >::data`

Definition at line 59 of file SelfHash.h.

Referenced by `Rcpp::sugar::SelfHash< RTYPE >::SelfHash()`.

6.703.5.2 `template<int RTYPE> std::vector<int> Rcpp::sugar::SelfHash< RTYPE >::indices`

Definition at line 60 of file SelfHash.h.

Referenced by `Rcpp::sugar::SelfHash< RTYPE >::SelfHash()`.

6.703.5.3 `template<int RTYPE> int Rcpp::sugar::SelfHash< RTYPE >::k`

Definition at line 57 of file SelfHash.h.

Referenced by `Rcpp::sugar::SelfHash< RTYPE >::SelfHash()`.

#### 6.703.5.4 `template<int RTYPE> int Rcpp::sugar::SelfHash< RTYPE >::m`

Definition at line 57 of file SelfHash.h.

Referenced by `Rcpp::sugar::SelfHash< RTYPE >::SelfHash()`.

#### 6.703.5.5 `template<int RTYPE> int Rcpp::sugar::SelfHash< RTYPE >::n`

Definition at line 57 of file SelfHash.h.

Referenced by `Rcpp::sugar::SelfHash< RTYPE >::fill_and_self_match()`, and `Rcpp::sugar::SelfHash< RTYPE >::SelfHash()`.

#### 6.703.5.6 `template<int RTYPE> int Rcpp::sugar::SelfHash< RTYPE >::size_`

Definition at line 61 of file SelfHash.h.

Referenced by `Rcpp::sugar::SelfHash< RTYPE >::add_value_get_index()`, and `Rcpp::sugar::SelfHash< RTYPE >::size()`.

#### 6.703.5.7 `template<int RTYPE> STORAGE* Rcpp::sugar::SelfHash< RTYPE >::src`

Definition at line 58 of file SelfHash.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/hash/SelfHash.h`

## 6.704 Rcpp::sugar::SelfInserter< HASH, STORAGE > Class Template Reference

```
#include <self_match.h>
```

### Public Member Functions

- [SelfInserter](#) (HASH &hash\_)
- [R\\_xlen\\_t operator\(\)](#) (STORAGE value)

### Private Attributes

- HASH & [hash](#)
- [R\\_xlen\\_t index](#)

### 6.704.1 Detailed Description

```
template<typename HASH, typename STORAGE>
class Rcpp::sugar::SelfInserter< HASH, STORAGE >
```

Definition at line 29 of file self\_match.h.

### 6.704.2 Constructor & Destructor Documentation

6.704.2.1 `template<typename HASH , typename STORAGE > Rcpp::sugar::SelfInserter< HASH, STORAGE >::SelfInserter ( HASH & hash_ ) [inline]`

Definition at line 31 of file self\_match.h.

### 6.704.3 Member Function Documentation

6.704.3.1 `template<typename HASH , typename STORAGE > R_xlen_t Rcpp::sugar::SelfInserter< HASH, STORAGE >::operator()( STORAGE value ) [inline]`

Definition at line 33 of file self\_match.h.

References `Rcpp::sugar::SelfInserter< HASH, STORAGE >::hash`, and `Rcpp::sugar::SelfInserter< HASH, STORAGE >::index`.

### 6.704.4 Member Data Documentation

6.704.4.1 `template<typename HASH , typename STORAGE > HASH& Rcpp::sugar::SelfInserter< HASH, STORAGE >::hash [private]`

Definition at line 44 of file self\_match.h.

Referenced by `Rcpp::sugar::SelfInserter< HASH, STORAGE >::operator()`, and `Rcpp::sugar::SelfMatch< RTYPE, TABLE_T >::SelfMatch()`.

6.704.4.2 `template<typename HASH , typename STORAGE > R_xlen_t Rcpp::sugar::SelfInserter< HASH, STORAGE >::index [private]`

Definition at line 45 of file self\_match.h.

Referenced by `Rcpp::sugar::SelfInserter< HASH, STORAGE >::operator()`.

The documentation for this class was generated from the following file:

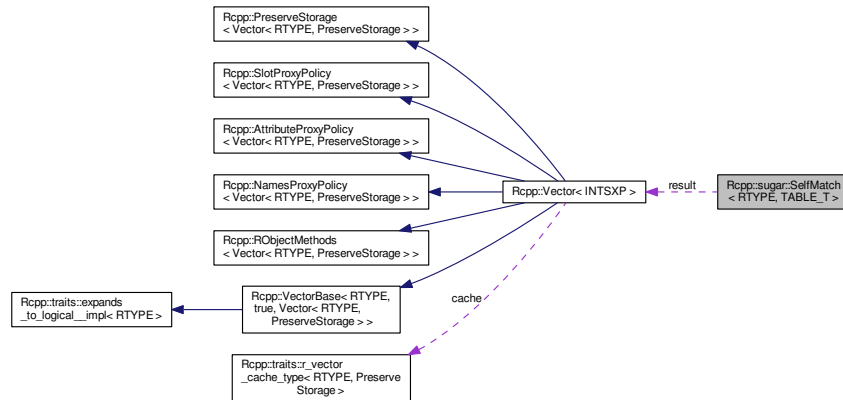
- `inst/include/Rcpp/sugar/functions/self_match.h`



## 6.705 Rcpp::sugar::SelfMatch< RTYPE, TABLE\_T > Class Template Reference

```
#include <self_match.h>
```

Collaboration diagram for Rcpp::sugar::SelfMatch< RTYPE, TABLE\_T >:



### Public Types

- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)

### Public Member Functions

- [SelfMatch](#) (const [TABLE\\_T](#) &table)
- [operator IntegerVector](#) () const

### Private Types

- typedef [RCPP\\_UNORDERED\\_MAP< STORAGE, int >](#) [HASH](#)
- typedef [SelfInserter< HASH, STORAGE >](#) [Inserter](#)

### Private Attributes

- [HASH](#) hash
- [IntegerVector](#) result

### 6.705.1 Detailed Description

```
template<int RTYPE, typename TABLE_T>
class Rcpp::sugar::SelfMatch< RTYPE, TABLE_T >
```

Definition at line 49 of file `self_match.h`.

## 6.705.2 Member Typedef Documentation

6.705.2.1 `template<int RTYPE, typename TABLE_T > typedef RCPP_UNORDERED_MAP<STORAGE, int>  
Rcpp::sugar::SelfMatch< RTYPE, TABLE_T >::HASH [private]`

Definition at line 60 of file `self_match.h`.

6.705.2.2 `template<int RTYPE, typename TABLE_T > typedef SelfInserter<HASH,STORAGE>  
Rcpp::sugar::SelfMatch< RTYPE, TABLE_T >::Inserter [private]`

Definition at line 61 of file `self_match.h`.

6.705.2.3 `template<int RTYPE, typename TABLE_T > typedef Rcpp::traits::storage_type<RTYPE>::type  
Rcpp::sugar::SelfMatch< RTYPE, TABLE_T >::STORAGE`

Definition at line 51 of file `self_match.h`.

## 6.705.3 Constructor & Destructor Documentation

6.705.3.1 `template<int RTYPE, typename TABLE_T > Rcpp::sugar::SelfMatch< RTYPE, TABLE_T >::SelfMatch ( const  
TABLE_T & table ) [inline]`

Definition at line 53 of file `self_match.h`.

References `Rcpp::sugar::SelfInserter< HASH, STORAGE >::hash`.

## 6.705.4 Member Function Documentation

6.705.4.1 `template<int RTYPE, typename TABLE_T > Rcpp::sugar::SelfMatch< RTYPE, TABLE_T >::operator  
IntegerVector ( )const [inline]`

Definition at line 57 of file `self_match.h`.

## 6.705.5 Member Data Documentation

6.705.5.1 `template<int RTYPE, typename TABLE_T > HASH Rcpp::sugar::SelfMatch< RTYPE, TABLE_T >::hash  
[private]`

Definition at line 62 of file `self_match.h`.

```
6.705.5.2 template<int RTYPE, typename TABLE_T > IntegerVector Rcpp::sugar::SelfMatch< RTYPE, TABLE_T >::result  
[private]
```

Definition at line 63 of file self\_match.h.

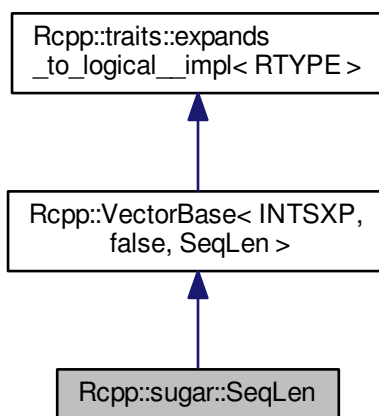
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/functions/self\_match.h

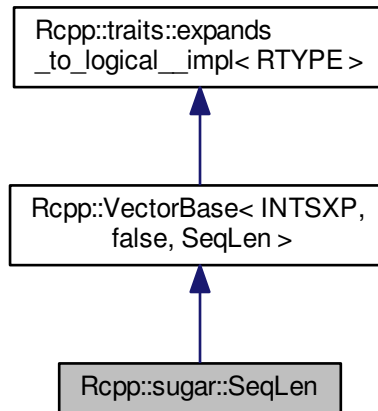
## 6.706 Rcpp::sugar::SeqLen Class Reference

```
#include <seq_along.h>
```

Inheritance diagram for Rcpp::sugar::SeqLen:



Collaboration diagram for Rcpp::sugar::SeqLen:



## Public Member Functions

- [SeqLen](#) (R\_xlen\_t len\_)
- R\_xlen\_t [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- R\_xlen\_t [len](#)

## Additional Inherited Members

### 6.706.1 Detailed Description

Definition at line 28 of file seq\_along.h.

### 6.706.2 Constructor & Destructor Documentation

6.706.2.1 `Rcpp::sugar::SeqLen::SeqLen ( R_xlen_t len_ ) [inline]`

Definition at line 30 of file seq\_along.h.

### 6.706.3 Member Function Documentation

6.706.3.1 `R_xlen_t Rcpp::sugar::SeqLen::operator[] ( R_xlen_t i ) const` `[inline]`

Definition at line 32 of file `seq_along.h`.

6.706.3.2 `R_xlen_t Rcpp::sugar::SeqLen::size ( ) const` `[inline]`

Definition at line 35 of file `seq_along.h`.

References `len`.

### 6.706.4 Member Data Documentation

6.706.4.1 `R_xlen_t Rcpp::sugar::SeqLen::len` `[private]`

Definition at line 38 of file `seq_along.h`.

Referenced by `size()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/seq_along.h`

## 6.707 Rcpp::sugar::SetDiff< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <setdiff.h>
```

### Public Types

- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`

### Public Member Functions

- `SetDiff` (`const LHS_T &lhs, const RHS_T &rhs`)
- `Vector< RTYPE > get () const`

### Private Types

- typedef `RCPP_UNORDERED_SET< STORAGE >` `SET`
- typedef `SET::const_iterator` `ITERATOR`

## Private Attributes

- [SET lhs\\_set](#)
- [SET rhs\\_set](#)

### 6.707.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::SetDiff< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 43 of file setdiff.h.

### 6.707.2 Member Typedef Documentation

6.707.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef SET::const_iterator Rcpp::sugar::SetDiff< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::ITERATOR [private]`

Definition at line 64 of file setdiff.h.

6.707.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef RCPP_UNORDERED_SET<STORAGE> Rcpp::sugar::SetDiff< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::SET [private]`

Definition at line 63 of file setdiff.h.

6.707.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::SetDiff< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 45 of file setdiff.h.

### 6.707.3 Constructor & Destructor Documentation

6.707.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::SetDiff< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::SetDiff ( const LHS_T & lhs, const RHS_T & rhs ) [inline]`

Definition at line 47 of file setdiff.h.

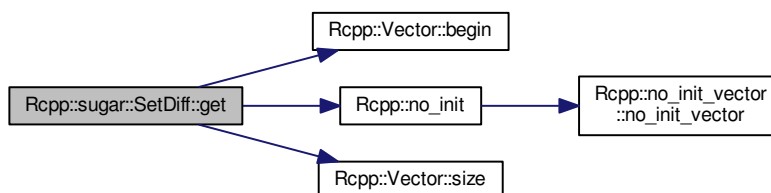
#### 6.707.4 Member Function Documentation

6.707.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Vector<RTYPE>  
Rcpp::sugar::SetDiff< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get ( ) const [inline]`

Definition at line 55 of file `setdiff.h`.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::no_init()`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



#### 6.707.5 Member Data Documentation

6.707.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > SET Rcpp::sugar::SetDiff<  
RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs_set [private]`

Definition at line 65 of file `setdiff.h`.

6.707.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > SET Rcpp::sugar::SetDiff<  
RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs_set [private]`

Definition at line 66 of file `setdiff.h`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/setdiff.h](#)

## 6.708 Rcpp::sugar::SetEqual< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <setdiff.h>
```

## Public Types

- typedef [Rcpp::traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)

## Public Member Functions

- [SetEqual](#) (const LHS\_T &lhs, const RHS\_T &rhs)
- bool [get](#) () const

## Private Types

- typedef [RCPP\\_UNORDERED\\_SET](#) < [STORAGE](#) > [SET](#)
- typedef [SET](#)::const\_iterator [ITERATOR](#)

## Private Attributes

- [SET lhs\\_set](#)
- [SET rhs\\_set](#)

### 6.708.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::SetEqual< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 71 of file setdiff.h.

### 6.708.2 Member Typedef Documentation

6.708.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef SET::const_iterator Rcpp::sugar::SetEqual< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::ITERATOR [private]`

Definition at line 93 of file setdiff.h.

6.708.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef RCPP_UNORDERED_SET<STORAGE> Rcpp::sugar::SetEqual< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::SET [private]`

Definition at line 92 of file setdiff.h.



```
6.708.2.3 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef
Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::SetEqual< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T
>::STORAGE
```

Definition at line 73 of file setdiff.h.

### 6.708.3 Constructor & Destructor Documentation

```
6.708.3.1 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::SetEqual<
RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::SetEqual ( const LHS_T & lhs, const RHS_T & rhs ) [inline]
```

Definition at line 75 of file setdiff.h.

### 6.708.4 Member Function Documentation

```
6.708.4.1 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > bool
Rcpp::sugar::SetEqual< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get ( ) const [inline]
```

Definition at line 81 of file setdiff.h.

### 6.708.5 Member Data Documentation

```
6.708.5.1 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > SET
Rcpp::sugar::SetEqual< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs_set [private]
```

Definition at line 94 of file setdiff.h.

```
6.708.5.2 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > SET
Rcpp::sugar::SetEqual< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs_set [private]
```

Definition at line 95 of file setdiff.h.

The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/functions/[setdiff.h](#)

## 6.709 Rcpp::Shelter< T > Class Template Reference

```
#include <Shelter.h>
```

## Public Member Functions

- [Shelter](#) ()
- [SEXP operator\(\)](#) (SEXP x)
- [~Shelter](#) ()

## Private Member Functions

- [Shelter](#) (const [Shelter](#) &)
- [Shelter](#) & [operator=](#) (const [Shelter](#) &)

## Private Attributes

- int [nprotected](#)

### 6.709.1 Detailed Description

```
template<class T>  
class Rcpp::Shelter< T >
```

Definition at line 24 of file Shelter.h.

### 6.709.2 Constructor & Destructor Documentation

6.709.2.1 `template<class T> Rcpp::Shelter< T >::Shelter ( )` [[inline](#)]

Definition at line 26 of file Shelter.h.

6.709.2.2 `template<class T> Rcpp::Shelter< T >::~Shelter ( )` [[inline](#)]

Definition at line 33 of file Shelter.h.

References [Rcpp::Shelter< T >::nprotected](#).

6.709.2.3 `template<class T> Rcpp::Shelter< T >::Shelter ( const Shelter< T > & )` [[private](#)]

### 6.709.3 Member Function Documentation

6.709.3.1 `template<class T> SEXP Rcpp::Shelter< T >::operator() ( SEXP x )` [[inline](#)]

Definition at line 28 of file Shelter.h.

References [Rcpp::Shelter< T >::nprotected](#).

6.709.3.2 `template<class T> Shelter& Rcpp::Shelter< T >::operator= ( const Shelter< T > & )` [private]

## 6.709.4 Member Data Documentation

6.709.4.1 `template<class T> int Rcpp::Shelter< T >::nprotected` [private]

Definition at line 39 of file Shelter.h.

Referenced by `Rcpp::Shelter< T >::operator()()`, and `Rcpp::Shelter< T >::~~Shelter()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/protection/Shelter.h](#)

## 6.710 Rcpp::Shield< T > Class Template Reference

```
#include <Shield.h>
```

### Public Member Functions

- [Shield](#) (SEXP t\_)
- [~Shield](#) ()
- [operator SEXP](#) () const

### Public Attributes

- [SEXP t](#)

### Private Member Functions

- [Shield](#) (const [Shield](#) &)
- [Shield](#) & [operator=](#) (const [Shield](#) &)

## 6.710.1 Detailed Description

```
template<typename T>  
class Rcpp::Shield< T >
```

Definition at line 29 of file Shield.h.

## 6.710.2 Constructor & Destructor Documentation

6.710.2.1 `template<typename T> Rcpp::Shield< T >::Shield ( SEXP t_ ) [inline]`

Definition at line 31 of file Shield.h.

6.710.2.2 `template<typename T> Rcpp::Shield< T >::~~Shield ( ) [inline]`

Definition at line 32 of file Shield.h.

References `Rcpp::Shield< T >::t`.

6.710.2.3 `template<typename T> Rcpp::Shield< T >::Shield ( const Shield< T > & ) [private]`

## 6.710.3 Member Function Documentation

6.710.3.1 `template<typename T> Rcpp::Shield< T >::operator SEXP ( ) const [inline]`

Definition at line 36 of file Shield.h.

References `Rcpp::Shield< T >::t`.

6.710.3.2 `template<typename T> Shield& Rcpp::Shield< T >::operator= ( const Shield< T > & ) [private]`

## 6.710.4 Member Data Documentation

6.710.4.1 `template<typename T> SEXP Rcpp::Shield< T >::t`

Definition at line 37 of file Shield.h.

Referenced by `Rcpp::Shield< T >::operator SEXP()`, and `Rcpp::Shield< T >::~~Shield()`.

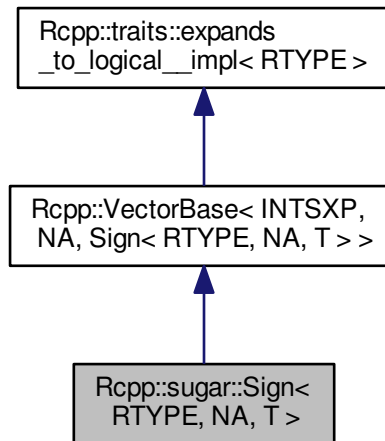
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/protection/Shield.h`

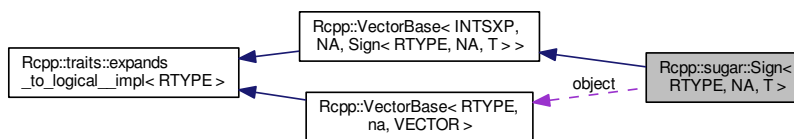
## 6.711 Rcpp::sugar::Sign< RTYPE, NA, T > Class Template Reference

```
#include <sign.h>
```

Inheritance diagram for Rcpp::sugar::Sign< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Sign< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`
- typedef int `r_import_type`

### Public Member Functions

- `Sign` (const `VEC_TYPE` &object\_)
- int `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const
- `operator SEXP` () const
- int `get` (R\_xlen\_t i) const

## Private Attributes

- const [VEC\\_TYPE](#) & *object*

### 6.711.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Sign< RTYPE, NA, T >
```

Definition at line 48 of file sign.h.

### 6.711.2 Member Typedef Documentation

6.711.2.1 `template<int RTYPE, bool NA, typename T > typedef int Rcpp::sugar::Sign< RTYPE, NA, T >::r_import_type`

Definition at line 52 of file sign.h.

6.711.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Sign< RTYPE, NA, T >::STORAGE`

Definition at line 51 of file sign.h.

6.711.2.3 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Sign< RTYPE, NA, T >::VEC_TYPE`

Definition at line 50 of file sign.h.

### 6.711.3 Constructor & Destructor Documentation

6.711.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Sign< RTYPE, NA, T >::Sign ( const VEC_TYPE & object_ ) [inline]`

Definition at line 54 of file sign.h.

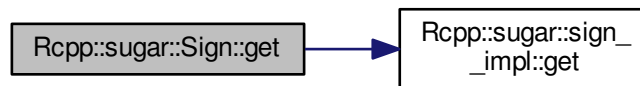
### 6.711.4 Member Function Documentation

6.711.4.1 `template<int RTYPE, bool NA, typename T > int Rcpp::sugar::Sign< RTYPE, NA, T >::get ( R_xlen_t i ) const`  
`[inline]`

Definition at line 62 of file sign.h.

References `Rcpp::sugar::sign__impl< NA, RTYPE >::get()`.

Here is the call graph for this function:

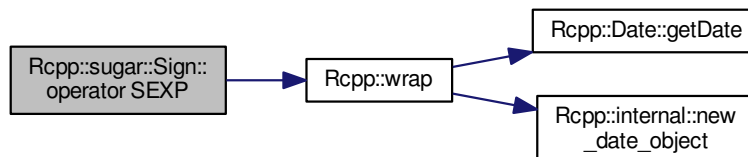


6.711.4.2 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Sign< RTYPE, NA, T >::operator SEXP ( ) const`  
`[inline]`

Definition at line 61 of file sign.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:



6.711.4.3 `template<int RTYPE, bool NA, typename T > int Rcpp::sugar::Sign< RTYPE, NA, T >::operator[] ( R_xlen_t i )`  
`const [inline]`

Definition at line 56 of file sign.h.

6.711.4.4 `template<int RTYPE, bool NA, typename T > R_xlen_t Rcpp::sugar::Sign< RTYPE, NA, T >::size ( ) const`  
`[inline]`

Definition at line 59 of file sign.h.

## 6.711.5 Member Data Documentation

6.711.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Sign< RTYPE, NA, T >::object`  
`[private]`

Definition at line 64 of file sign.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/sign.h](#)

## 6.712 Rcpp::sugar::sign\_\_impl< NA, RTYPE > Class Template Reference

```
#include <sign.h>
```

### Public Types

- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) STORAGE

### Static Public Member Functions

- static int [get](#) (STORAGE x)

### 6.712.1 Detailed Description

```
template<bool NA, int RTYPE>
class Rcpp::sugar::sign__impl< NA, RTYPE >
```

Definition at line 29 of file sign.h.

### 6.712.2 Member Typedef Documentation

6.712.2.1 `template<bool NA, int RTYPE> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::sign__impl<`  
`NA, RTYPE >::STORAGE`

Definition at line 31 of file sign.h.



### 6.712.3 Member Function Documentation

6.712.3.1 `template<bool NA, int RTYPE> static int Rcpp::sugar::sign__impl< NA, RTYPE >::get ( STORAGE x )`  
`[inline],[static]`

Definition at line 32 of file sign.h.

Referenced by `Rcpp::sugar::Sign< RTYPE, NA, T >::get()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/sign.h](#)

## 6.713 Rcpp::sugar::sign\_\_impl< false, RTYPE > Class Template Reference

```
#include <sign.h>
```

### Public Types

- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) STORAGE

### Static Public Member Functions

- static int [get](#) (STORAGE x)

### 6.713.1 Detailed Description

```
template<int RTYPE>
class Rcpp::sugar::sign__impl< false, RTYPE >
```

Definition at line 38 of file sign.h.

### 6.713.2 Member Typedef Documentation

6.713.2.1 `template<int RTYPE> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::sign__impl< false, RTYPE >::STORAGE`

Definition at line 40 of file sign.h.

### 6.713.3 Member Function Documentation

6.713.3.1 `template<int RTYPE> static int Rcpp::sugar::sign__impl< false, RTYPE >::get ( STORAGE x ) [inline], [static]`

Definition at line 41 of file sign.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/sign.h](#)

## 6.714 Rcpp::SignedConstructor< Class > Class Template Reference

```
#include <Module.h>
```

### Public Member Functions

- [SignedConstructor](#) (Constructor\_Base< Class > \*ctor\_, [ValidConstructor](#) valid\_, const char \*doc)
- int nargs ()
- void [signature](#) (std::string &buffer, const std::string &class\_name)

### Public Attributes

- Constructor\_Base< Class > \* [ctor](#)
- [ValidConstructor](#) [valid](#)
- std::string [docstring](#)

### 6.714.1 Detailed Description

```
template<typename Class>
class Rcpp::SignedConstructor< Class >
```

Definition at line 143 of file Module.h.

### 6.714.2 Constructor & Destructor Documentation

6.714.2.1 `template<typename Class> Rcpp::SignedConstructor< Class >::SignedConstructor ( Constructor_Base< Class > * ctor_, ValidConstructor valid_, const char * doc ) [inline]`

Definition at line 146 of file Module.h.

### 6.714.3 Member Function Documentation

6.714.3.1 `template<typename Class> int Rcpp::SignedConstructor< Class >::nargs ( ) [inline]`

Definition at line 156 of file Module.h.

6.714.3.2 `template<typename Class> void Rcpp::SignedConstructor< Class >::signature ( std::string & buffer, const std::string & class_name ) [inline]`

Definition at line 157 of file Module.h.

### 6.714.4 Member Data Documentation

6.714.4.1 `template<typename Class> Constructor_Base<Class>* Rcpp::SignedConstructor< Class >::ctor`

Definition at line 152 of file Module.h.

6.714.4.2 `template<typename Class> std::string Rcpp::SignedConstructor< Class >::docstring`

Definition at line 154 of file Module.h.

6.714.4.3 `template<typename Class> ValidConstructor Rcpp::SignedConstructor< Class >::valid`

Definition at line 153 of file Module.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

## 6.715 Rcpp::SignedFactory< Class > Class Template Reference

```
#include <Module.h>
```

### Public Member Functions

- [SignedFactory](#) (Factory\_Base< Class > \*fact\_, [ValidConstructor](#) valid\_, const char \*doc)
- int [nargs](#) ()
- void [signature](#) (std::string &buffer, const std::string &class\_name)

## Public Attributes

- [Factory\\_Base< Class > \\* fact](#)
- [ValidConstructor valid](#)
- [std::string docstring](#)

### 6.715.1 Detailed Description

```
template<typename Class>  
class Rcpp::SignedFactory< Class >
```

Definition at line 163 of file Module.h.

### 6.715.2 Constructor & Destructor Documentation

6.715.2.1 `template<typename Class > Rcpp::SignedFactory< Class >::SignedFactory ( Factory_Base< Class > * fact_, ValidConstructor valid_, const char * doc ) [inline]`

Definition at line 166 of file Module.h.

### 6.715.3 Member Function Documentation

6.715.3.1 `template<typename Class > int Rcpp::SignedFactory< Class >::nargs ( ) [inline]`

Definition at line 176 of file Module.h.

6.715.3.2 `template<typename Class > void Rcpp::SignedFactory< Class >::signature ( std::string & buffer, const std::string & class_name ) [inline]`

Definition at line 177 of file Module.h.

### 6.715.4 Member Data Documentation

6.715.4.1 `template<typename Class > std::string Rcpp::SignedFactory< Class >::docstring`

Definition at line 174 of file Module.h.

6.715.4.2 `template<typename Class > Factory_Base<Class>* Rcpp::SignedFactory< Class >::fact`

Definition at line 172 of file Module.h.

6.715.4.3 `template<typename Class > ValidConstructor Rcpp::SignedFactory< Class >::valid`

Definition at line 173 of file Module.h.

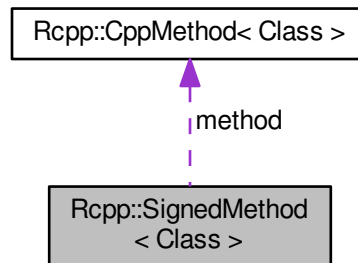
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Module.h](#)

## 6.716 Rcpp::SignedMethod&lt; Class &gt; Class Template Reference

```
#include <Module.h>
```

Collaboration diagram for Rcpp::SignedMethod< Class >:



## Public Types

- typedef [CppMethod< Class >](#) [METHOD](#)

## Public Member Functions

- [SignedMethod](#) ([METHOD](#) \*m, [ValidMethod](#) valid\_, const char \*doc)
- int [nargs](#) ()
- bool [is\\_void](#) ()
- bool [is\\_const](#) ()
- void [signature](#) (std::string &s, const char \*name)

## Public Attributes

- [METHOD](#) \* [method](#)
- [ValidMethod](#) [valid](#)
- std::string [docstring](#)

### 6.716.1 Detailed Description

```
template<typename Class>
class Rcpp::SignedMethod< Class >
```

Definition at line 184 of file Module.h.

### 6.716.2 Member Typedef Documentation

6.716.2.1 `template<typename Class > typedef CppMethod<Class> Rcpp::SignedMethod< Class >::METHOD`

Definition at line 186 of file Module.h.

### 6.716.3 Constructor & Destructor Documentation

6.716.3.1 `template<typename Class > Rcpp::SignedMethod< Class >::SignedMethod ( METHOD * m, ValidMethod valid_, const char * doc ) [inline]`

Definition at line 187 of file Module.h.

### 6.716.4 Member Function Documentation

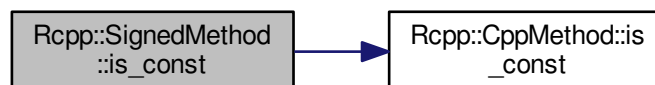
6.716.4.1 `template<typename Class > bool Rcpp::SignedMethod< Class >::is_const ( ) [inline]`

Definition at line 195 of file Module.h.

References `Rcpp::CppMethod< Class >::is_const()`.

Referenced by `Rcpp::S4_CppOverloadedMethods< Class >::S4_CppOverloadedMethods()`.

Here is the call graph for this function:



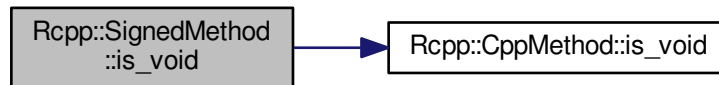
6.716.4.2 `template<typename Class > bool Rcpp::SignedMethod< Class >::is_void ( ) [inline]`

Definition at line 194 of file Module.h.

References Rcpp::CppMethod< Class >::is\_void().

Referenced by Rcpp::S4\_CppOverloadedMethods< Class >::S4\_CppOverloadedMethods().

Here is the call graph for this function:



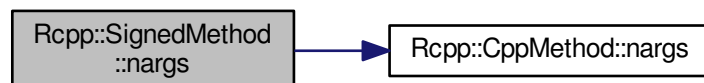
6.716.4.3 `template<typename Class > int Rcpp::SignedMethod< Class >::nargs ( ) [inline]`

Definition at line 193 of file Module.h.

References Rcpp::CppMethod< Class >::nargs().

Referenced by Rcpp::S4\_CppOverloadedMethods< Class >::S4\_CppOverloadedMethods().

Here is the call graph for this function:



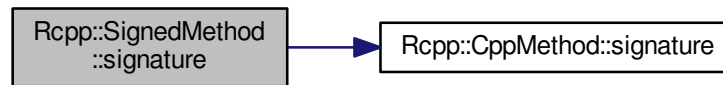
6.716.4.4 `template<typename Class > void Rcpp::SignedMethod< Class >::signature ( std::string & s, const char * name )`  
`[inline]`

Definition at line 196 of file Module.h.

References Rcpp::CppMethod< Class >::signature().

Referenced by Rcpp::S4\_CppOverloadedMethods< Class >::S4\_CppOverloadedMethods().

Here is the call graph for this function:



## 6.716.5 Member Data Documentation

6.716.5.1 `template<typename Class > std::string Rcpp::SignedMethod< Class >::docstring`

Definition at line 191 of file Module.h.

Referenced by Rcpp::S4\_CppOverloadedMethods< Class >::S4\_CppOverloadedMethods().

6.716.5.2 `template<typename Class > METHOD* Rcpp::SignedMethod< Class >::method`

Definition at line 189 of file Module.h.

6.716.5.3 `template<typename Class > ValidMethod Rcpp::SignedMethod< Class >::valid`

Definition at line 190 of file Module.h.

The documentation for this class was generated from the following file:

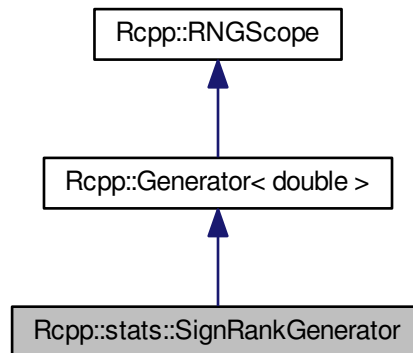
- [inst/include/Rcpp/Module.h](#)



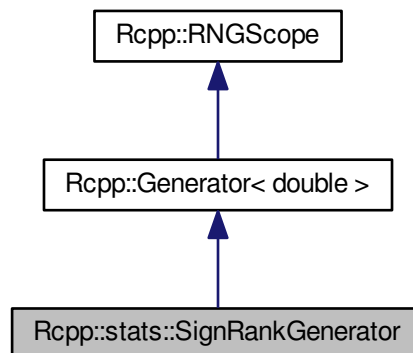
## 6.717 Rcpp::stats::SignRankGenerator Class Reference

```
#include <rsignrank.h>
```

Inheritance diagram for Rcpp::stats::SignRankGenerator:



Collaboration diagram for Rcpp::stats::SignRankGenerator:



### Public Member Functions

- [SignRankGenerator](#) (double nn\_)
- double [operator\(\)](#) () const

## Private Attributes

- double [nn](#)

## Additional Inherited Members

### 6.717.1 Detailed Description

Definition at line 29 of file [rsignrank.h](#).

### 6.717.2 Constructor & Destructor Documentation

6.717.2.1 `Rcpp::stats::SignRankGenerator::SignRankGenerator ( double nn_ ) [inline]`

Definition at line 31 of file [rsignrank.h](#).

### 6.717.3 Member Function Documentation

6.717.3.1 `double Rcpp::stats::SignRankGenerator::operator() ( ) const [inline]`

Definition at line 32 of file [rsignrank.h](#).

References [nn](#).

### 6.717.4 Member Data Documentation

6.717.4.1 `double Rcpp::stats::SignRankGenerator::nn [private]`

Definition at line 34 of file [rsignrank.h](#).

Referenced by [operator\(\)](#).

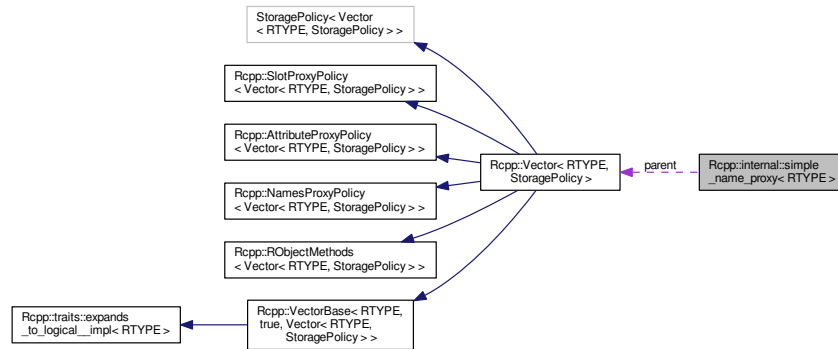
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rsignrank.h](#)

## 6.718 Rcpp::internal::simple\_name\_proxy< RTYPE > Class Template Reference

```
#include <00_forward_proxy.h>
```

Collaboration diagram for Rcpp::internal::simple\_name\_proxy< RTYPE >:



### Public Types

- typedef `::Rcpp::Vector< RTYPE >` `VECTOR`
- typedef `::Rcpp::traits::storage_type< RTYPE >::type` `CTYPE`

### Public Member Functions

- `simple_name_proxy` (`VECTOR &v`, `const std::string &name_`)
- `simple_name_proxy` (`const simple_name_proxy &other`)
- `~simple_name_proxy` ()
- `simple_name_proxy & operator=` (`CTYPE rhs`)
- `simple_name_proxy & operator=` (`const simple_name_proxy &other`)
- `template<typename T >`  
`simple_name_proxy & operator=` (`const T &rhs`)
- `operator CTYPE` () `const`
- `operator SEXP` () `const`

### Private Member Functions

- `void set` (`CTYPE rhs`)
- `CTYPE get` () `const`

### Private Attributes

- `VECTOR & parent`
- `std::string name`

### 6.718.1 Detailed Description

```
template<int RTYPE>
class Rcpp::internal::simple_name_proxy< RTYPE >
```

Definition at line 32 of file 00\_forward\_proxy.h.

### 6.718.2 Member Typedef Documentation

6.718.2.1 `template<int RTYPE> typedef ::Rcpp::traits::storage_type<RTYPE>::type Rcpp::internal::simple_name_proxy< RTYPE >::CTYPE`

Definition at line 31 of file proxy.h.

6.718.2.2 `template<int RTYPE> typedef ::Rcpp::Vector<RTYPE> Rcpp::internal::simple_name_proxy< RTYPE >::VECTOR`

Definition at line 30 of file proxy.h.

### 6.718.3 Constructor & Destructor Documentation

6.718.3.1 `template<int RTYPE> Rcpp::internal::simple_name_proxy< RTYPE >::simple_name_proxy ( VECTOR & v, const std::string & name_ ) [inline]`

Definition at line 32 of file proxy.h.

6.718.3.2 `template<int RTYPE> Rcpp::internal::simple_name_proxy< RTYPE >::simple_name_proxy ( const simple_name_proxy< RTYPE > & other ) [inline]`

Definition at line 34 of file proxy.h.

6.718.3.3 `template<int RTYPE> Rcpp::internal::simple_name_proxy< RTYPE >::~simple_name_proxy ( ) [inline]`

Definition at line 36 of file proxy.h.

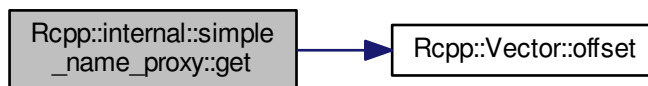
## 6.718.4 Member Function Documentation

6.718.4.1 `template<int RTYPE> CTYPE Rcpp::internal::simple_name_proxy< RTYPE >::get ( ) const` `[inline]`,  
`[private]`

Definition at line 76 of file proxy.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::offset()`.

Here is the call graph for this function:



6.718.4.2 `template<int RTYPE> Rcpp::internal::simple_name_proxy< RTYPE >::operator CTYPE ( ) const` `[inline]`

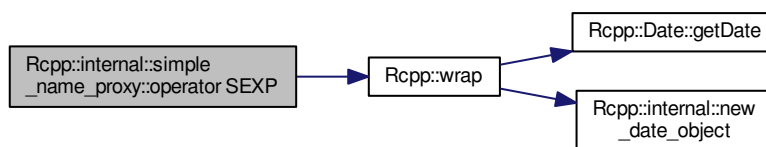
Definition at line 55 of file proxy.h.

6.718.4.3 `template<int RTYPE> Rcpp::internal::simple_name_proxy< RTYPE >::operator SEXP ( ) const` `[inline]`

Definition at line 60 of file proxy.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:



6.718.4.4 `template<int RTYPE> simple_name_proxy& Rcpp::internal::simple_name_proxy< RTYPE >::operator=( CTYPE rhs ) [inline]`

Definition at line 38 of file proxy.h.

6.718.4.5 `template<int RTYPE> simple_name_proxy& Rcpp::internal::simple_name_proxy< RTYPE >::operator=( const simple_name_proxy< RTYPE > & other ) [inline]`

Definition at line 42 of file proxy.h.

6.718.4.6 `template<int RTYPE> template<typename T > simple_name_proxy& Rcpp::internal::simple_name_proxy< RTYPE >::operator=( const T & rhs ) [inline]`

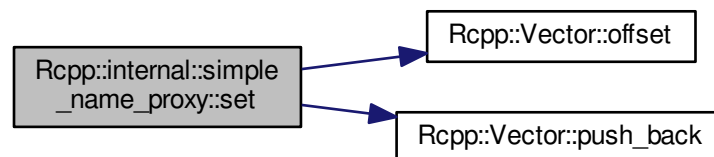
Definition at line 48 of file proxy.h.

6.718.4.7 `template<int RTYPE> void Rcpp::internal::simple_name_proxy< RTYPE >::set( CTYPE rhs ) [inline], [private]`

Definition at line 67 of file proxy.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::offset()`, and `Rcpp::Vector< RTYPE, StoragePolicy >::push_back()`.

Here is the call graph for this function:



## 6.718.5 Member Data Documentation

6.718.5.1 `template<int RTYPE> std::string Rcpp::internal::simple_name_proxy< RTYPE >::name [private]`

Definition at line 66 of file proxy.h.

6.718.5.2 `template<int RTYPE> VECTOR& Rcpp::internal::simple_name_proxy< RTYPE >::parent` `[private]`

Definition at line 65 of file proxy.h.

The documentation for this class was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/proxy.h](#)

## 6.719 Rcpp::sugar::SingleLogicalResult< NA, T > Class Template Reference

```
#include <SingleLogicalResult.h>
```

### Public Member Functions

- [SingleLogicalResult](#) ()
- void [apply](#) ()
- bool [is\\_true](#) ()
- bool [is\\_false](#) ()
- bool [is\\_na](#) ()
- [operator SEXP](#) ()
- [operator bool](#) ()
- int [size](#) ()
- int [get](#) ()
- SEXP [get\\_sexp](#) ()

### Static Public Attributes

- static const int [UNRESOLVED](#) = -5

### Protected Member Functions

- void [set](#) (int x)
- void [reset](#) ()
- void [set\\_true](#) ()
- void [set\\_false](#) ()
- void [set\\_na](#) ()
- bool [is\\_unresolved](#) ()

### Protected Attributes

- int [result](#)

### 6.719.1 Detailed Description

```
template<bool NA, typename T>
class Rcpp::sugar::SingleLogicalResult< NA, T >
```

Definition at line 42 of file SingleLogicalResult.h.

### 6.719.2 Constructor & Destructor Documentation

6.719.2.1 `template<bool NA, typename T> Rcpp::sugar::SingleLogicalResult< NA, T >::SingleLogicalResult ( )` `[inline]`

Definition at line 46 of file SingleLogicalResult.h.

### 6.719.3 Member Function Documentation

6.719.3.1 `template<bool NA, typename T> void Rcpp::sugar::SingleLogicalResult< NA, T >::apply ( )` `[inline]`

Definition at line 48 of file SingleLogicalResult.h.

6.719.3.2 `template<bool NA, typename T> int Rcpp::sugar::SingleLogicalResult< NA, T >::get ( )` `[inline]`

Definition at line 81 of file SingleLogicalResult.h.

Referenced by `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::apply()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >::apply()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >::apply()`, `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::apply()`, `Rcpp::sugar::And_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >::apply()`, `Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T >::apply()`, and `Rcpp::sugar::And_SingleLogicalResult_bool< LHS_NA, LHS_T >::apply()`.

6.719.3.3 `template<bool NA, typename T> SEXP Rcpp::sugar::SingleLogicalResult< NA, T >::get_sexp ( )` `[inline]`

Definition at line 86 of file SingleLogicalResult.h.

6.719.3.4 `template<bool NA, typename T> bool Rcpp::sugar::SingleLogicalResult< NA, T >::is_false ( )` `[inline]`

Definition at line 59 of file SingleLogicalResult.h.



6.719.3.5 `template<bool NA, typename T> bool Rcpp::sugar::SingleLogicalResult< NA, T >::is_na ( ) [inline]`

Definition at line 64 of file SingleLogicalResult.h.

6.719.3.6 `template<bool NA, typename T> bool Rcpp::sugar::SingleLogicalResult< NA, T >::is_true ( ) [inline]`

Definition at line 54 of file SingleLogicalResult.h.

6.719.3.7 `template<bool NA, typename T> bool Rcpp::sugar::SingleLogicalResult< NA, T >::is_unresolved ( ) [inline], [protected]`

Definition at line 98 of file SingleLogicalResult.h.

6.719.3.8 `template<bool NA, typename T> Rcpp::sugar::SingleLogicalResult< NA, T >::operator bool ( ) [inline]`

Definition at line 73 of file SingleLogicalResult.h.

6.719.3.9 `template<bool NA, typename T> Rcpp::sugar::SingleLogicalResult< NA, T >::operator SEXP ( ) [inline]`

Definition at line 69 of file SingleLogicalResult.h.

6.719.3.10 `template<bool NA, typename T> void Rcpp::sugar::SingleLogicalResult< NA, T >::reset ( ) [inline], [protected]`

Definition at line 94 of file SingleLogicalResult.h.

6.719.3.11 `template<bool NA, typename T> void Rcpp::sugar::SingleLogicalResult< NA, T >::set ( int x ) [inline], [protected]`

Definition at line 93 of file SingleLogicalResult.h.

6.719.3.12 `template<bool NA, typename T> void Rcpp::sugar::SingleLogicalResult< NA, T >::set_false ( ) [inline], [protected]`

Definition at line 96 of file SingleLogicalResult.h.

6.719.3.13 `template<bool NA, typename T> void Rcpp::sugar::SingleLogicalResult< NA, T >::set_na ( ) [inline], [protected]`

Definition at line 97 of file SingleLogicalResult.h.

**6.719.3.14** `template<bool NA, typename T> void Rcpp::sugar::SingleLogicalResult< NA, T >::set_true ( )`  
`[inline], [protected]`

Definition at line 95 of file SingleLogicalResult.h.

**6.719.3.15** `template<bool NA, typename T> int Rcpp::sugar::SingleLogicalResult< NA, T >::size ( )` `[inline]`

Definition at line 79 of file SingleLogicalResult.h.

Referenced by `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::size()`, `Rcpp::sugar::And_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >::size()`, `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::size()`, and `Rcpp::sugar::And_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >::size()`.

## 6.719.4 Member Data Documentation

**6.719.4.1** `template<bool NA, typename T> int Rcpp::sugar::SingleLogicalResult< NA, T >::result` `[protected]`

Definition at line 92 of file SingleLogicalResult.h.

**6.719.4.2** `template<bool NA, typename T> const int Rcpp::sugar::SingleLogicalResult< NA, T >::UNRESOLVED = -5`  
`[static]`

Definition at line 44 of file SingleLogicalResult.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/logical/SingleLogicalResult.h](#)

## 6.720 Rcpp::SingleLogicalResult< NA, T > Class Template Reference

```
#include <Vector.h>
```

### 6.720.1 Detailed Description

```
template<bool NA, typename T>
class Rcpp::SingleLogicalResult< NA, T >
```

Definition at line 40 of file Vector.h.

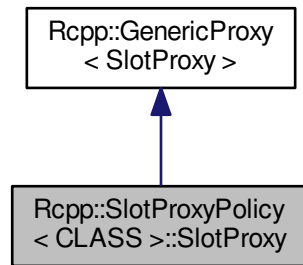
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Vector.h](#)

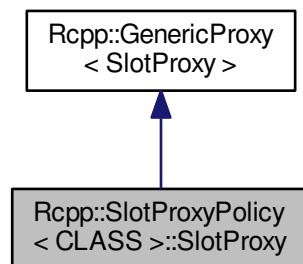
## 6.721 Rcpp::SlotProxyPolicy< CLASS >::SlotProxy Class Reference

```
#include <SlotProxy.h>
```

Inheritance diagram for Rcpp::SlotProxyPolicy< CLASS >::SlotProxy:



Collaboration diagram for Rcpp::SlotProxyPolicy< CLASS >::SlotProxy:



### Public Member Functions

- [SlotProxy](#) (CLASS &v, const std::string &name)
- [SlotProxy](#) & [operator=](#) (const [SlotProxy](#) &rhs)
- template<typename T >  
[SlotProxy](#) & [operator=](#) (const T &rhs)
- template<typename T >  
[operator T](#) () const
- [operator SEXP](#) () const
- template<typename T >  
[SlotProxyPolicy](#)< CLASS >::[SlotProxy](#) & [operator=](#) (const T &rhs)

## Private Member Functions

- SEXP [get](#) () const
- void [set](#) (SEXP x)

## Private Attributes

- CLASS & [parent](#)
- SEXP [slot\\_name](#)

### 6.721.1 Detailed Description

```
template<typename CLASS>
class Rcpp::SlotProxyPolicy< CLASS >::SlotProxy
```

Definition at line 27 of file SlotProxy.h.

### 6.721.2 Constructor & Destructor Documentation

6.721.2.1 `template<typename CLASS> Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::SlotProxy ( CLASS & v, const std::string & name ) [inline]`

Definition at line 29 of file SlotProxy.h.

References `Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::slot_name`.

Referenced by `Rcpp::SlotProxyPolicy< Vector< RTYPE, StoragePolicy > >::slot()`.

### 6.721.3 Member Function Documentation

6.721.3.1 `template<typename CLASS> SEXP Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::get ( ) const [inline], [private]`

Definition at line 51 of file SlotProxy.h.

Referenced by `Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::operator=()`.

6.721.3.2 `template<typename CLASS> Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::operator SEXP ( ) const [inline]`

Definition at line 43 of file SlotProxy.h.

6.721.3.3 `template<typename CLASS > template<typename T > Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::operator T ( ) const`

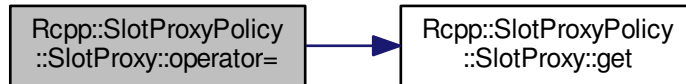
Definition at line 91 of file proxy.h.

6.721.3.4 `template<typename CLASS> SlotProxy& Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::operator= ( const SlotProxy & rhs ) [inline]`

Definition at line 35 of file SlotProxy.h.

References Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::get().

Here is the call graph for this function:



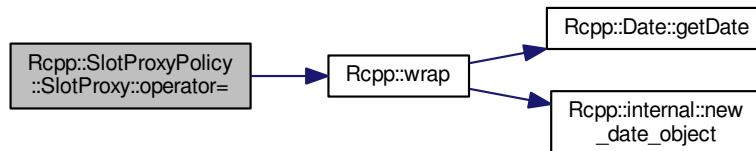
6.721.3.5 `template<typename CLASS> template<typename T > SlotProxy& Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::operator= ( const T & rhs )`

6.721.3.6 `template<typename CLASS> template<typename T > SlotProxyPolicy<CLASS>::SlotProxy& Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::operator= ( const T & rhs )`

Definition at line 84 of file proxy.h.

References Rcpp::wrap().

Here is the call graph for this function:



6.721.3.7 `template<typename CLASS> void Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::set ( SEXP x ) [inline], [private]`

Definition at line 54 of file SlotProxy.h.

## 6.721.4 Member Data Documentation

6.721.4.1 `template<typename CLASS> CLASS& Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::parent [private]`

Definition at line 48 of file SlotProxy.h.

6.721.4.2 `template<typename CLASS> SEXP Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::slot_name [private]`

Definition at line 49 of file SlotProxy.h.

Referenced by `Rcpp::SlotProxyPolicy< CLASS >::const_SlotProxy::const_SlotProxy()`, and `Rcpp::SlotProxyPolicy< CLASS >::SlotProxy::SlotProxy()`.

The documentation for this class was generated from the following files:

- [inst/include/Rcpp/proxy/SlotProxy.h](#)
- [inst/include/Rcpp/api/meat/proxy.h](#)

## 6.722 Rcpp::SlotProxyPolicy< CLASS > Class Template Reference

```
#include <SlotProxy.h>
```

### Classes

- class [const\\_SlotProxy](#)
- class [SlotProxy](#)

### Public Member Functions

- [SlotProxy slot](#) (const std::string &name)
- [const\\_SlotProxy slot](#) (const std::string &name) const
- bool [hasSlot](#) (const std::string &name) const

### 6.722.1 Detailed Description

```
template<typename CLASS>  
class Rcpp::SlotProxyPolicy< CLASS >
```

Definition at line 24 of file SlotProxy.h.

### 6.722.2 Member Function Documentation

6.722.2.1 `template<typename CLASS> bool Rcpp::SlotProxyPolicy< CLASS >::hasSlot ( const std::string & name ) const` `[inline]`

Definition at line 94 of file SlotProxy.h.

6.722.2.2 `template<typename CLASS> SlotProxy Rcpp::SlotProxyPolicy< CLASS >::slot ( const std::string & name )` `[inline]`

Definition at line 83 of file SlotProxy.h.

6.722.2.3 `template<typename CLASS> const SlotProxy Rcpp::SlotProxyPolicy< CLASS >::slot ( const std::string & name ) const` `[inline]`

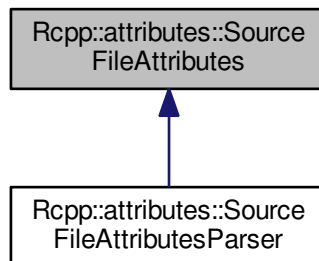
Definition at line 88 of file SlotProxy.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/proxy/SlotProxy.h](#)

## 6.723 Rcpp::attributes::SourceFileAttributes Class Reference

Inheritance diagram for Rcpp::attributes::SourceFileAttributes:



## Public Types

- typedef `std::vector< Attribute >::const_iterator` `const_iterator`

## Public Member Functions

- virtual `~SourceFileAttributes ()`
- virtual `const std::string & sourceFile () const =0`
- virtual `bool hasInterface (const std::string &name) const =0`
- virtual `const_iterator begin () const =0`
- virtual `const_iterator end () const =0`
- virtual `const std::vector< std::string > & modules () const =0`
- virtual `const std::vector< std::vector< std::string > > & roxygenChunks () const =0`
- virtual `bool hasGeneratorOutput () const =0`

### 6.723.1 Detailed Description

Definition at line 397 of file `attributes.cpp`.

### 6.723.2 Member Typedef Documentation

6.723.2.1 typedef `std::vector< Attribute >::const_iterator` `Rcpp::attributes::SourceFileAttributes::const_iterator`

Definition at line 404 of file `attributes.cpp`.

### 6.723.3 Constructor & Destructor Documentation

6.723.3.1 virtual `Rcpp::attributes::SourceFileAttributes::~SourceFileAttributes ( )` `[inline],[virtual]`

Definition at line 400 of file `attributes.cpp`.

### 6.723.4 Member Function Documentation

6.723.4.1 virtual `const_iterator Rcpp::attributes::SourceFileAttributes::begin ( ) const` `[pure virtual]`

Implemented in `Rcpp::attributes::SourceFileAttributesParser`.

Referenced by `Rcpp::attributes::CppExportsGenerator::doWriteFunctions()`, `Rcpp::attributes::CppExportsIncludeGenerator::doWriteFunctions()`, `Rcpp::attributes::REExportsGenerator::doWriteFunctions()`, `Rcpp::attributes::generateCpp()`, and `Rcpp::attributes::isRoxygenCpp()`.



6.723.4.2 `virtual const_iterator Rcpp::attributes::SourceFileAttributes::end ( ) const` [pure virtual]

Implemented in [Rcpp::attributes::SourceFileAttributesParser](#).

Referenced by [Rcpp::attributes::CppExportsGenerator::doWriteFunctions\(\)](#), [Rcpp::attributes::CppExportsIncludeGenerator::doWriteFunctions\(\)](#), [Rcpp::attributes::REExportsGenerator::doWriteFunctions\(\)](#), [Rcpp::attributes::generateCpp\(\)](#), and [Rcpp::attributes::isRoxygenCpp\(\)](#).

6.723.4.3 `virtual bool Rcpp::attributes::SourceFileAttributes::hasGeneratorOutput ( ) const` [pure virtual]

Implemented in [Rcpp::attributes::SourceFileAttributesParser](#).

6.723.4.4 `virtual bool Rcpp::attributes::SourceFileAttributes::hasInterface ( const std::string & name ) const` [pure virtual]

Implemented in [Rcpp::attributes::SourceFileAttributesParser](#).

Referenced by [Rcpp::attributes::CppExportsGenerator::doWriteFunctions\(\)](#), [Rcpp::attributes::CppExportsIncludeGenerator::doWriteFunctions\(\)](#), [Rcpp::attributes::REExportsGenerator::doWriteFunctions\(\)](#), and [Rcpp::attributes::ExportsGenerator::writeFunctions\(\)](#).

6.723.4.5 `virtual const std::vector<std::string>& Rcpp::attributes::SourceFileAttributes::modules ( ) const` [pure virtual]

Implemented in [Rcpp::attributes::SourceFileAttributesParser](#).

Referenced by [Rcpp::attributes::isRoxygenCpp\(\)](#).

6.723.4.6 `virtual const std::vector<std::vector<std::string> >& Rcpp::attributes::SourceFileAttributes::roxygenChunks ( ) const` [pure virtual]

Implemented in [Rcpp::attributes::SourceFileAttributesParser](#).

Referenced by [Rcpp::attributes::REExportsGenerator::doWriteFunctions\(\)](#).

6.723.4.7 `virtual const std::string& Rcpp::attributes::SourceFileAttributes::sourceFile ( ) const` [pure virtual]

Implemented in [Rcpp::attributes::SourceFileAttributesParser](#).

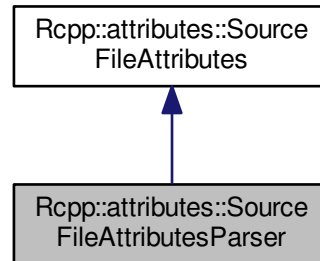
Referenced by [Rcpp::attributes::CppExportsGenerator::doWriteFunctions\(\)](#).

The documentation for this class was generated from the following file:

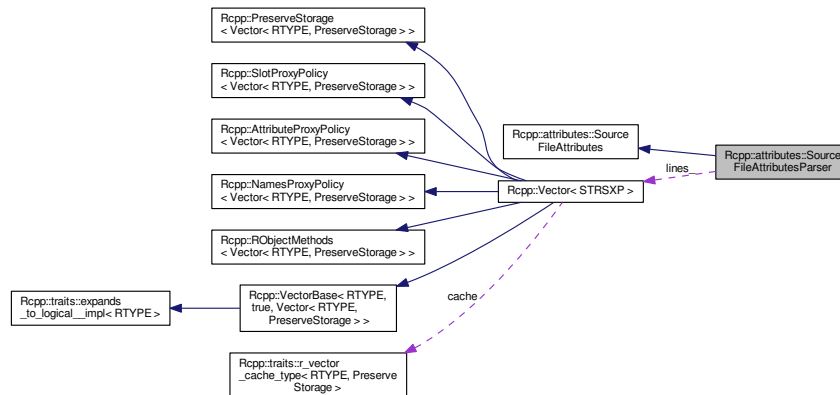
- [src/attributes.cpp](#)

## 6.724 Rcpp::attributes::SourceFileAttributesParser Class Reference

Inheritance diagram for Rcpp::attributes::SourceFileAttributesParser:



Collaboration diagram for Rcpp::attributes::SourceFileAttributesParser:



### Public Member Functions

- [SourceFileAttributesParser](#) (const std::string &sourceFile, bool parseDependencies)
- virtual const std::string & [sourceFile](#) () const
- virtual [const\\_iterator begin](#) () const
- virtual [const\\_iterator end](#) () const
- virtual const std::vector< std::string > & [modules](#) () const
- virtual const std::vector< std::vector< std::string > > & [roxygenChunks](#) () const
- virtual bool [hasGeneratorOutput](#) () const
- virtual bool [hasInterface](#) (const std::string &name) const
- const std::vector< std::string > & [embeddedR](#) () const
- const std::vector< [FileInfo](#) > & [sourceDependencies](#) () const

## Private Member Functions

- [SourceFileAttributesParser](#) (const [SourceFileAttributesParser](#) &)
- [SourceFileAttributesParser](#) & [operator=](#) (const [SourceFileAttributesParser](#) &)
- [Attribute](#) [parseAttribute](#) (const std::vector< std::string > &[match](#), int lineNumber)
- std::vector< [Param](#) > [parseParameters](#) (const std::string &input)
- [Function](#) [parseFunction](#) (size\_t lineNumber)
- std::string [parseSignature](#) (size\_t lineNumber)
- std::vector< std::string > [parseArguments](#) (const std::string &argText)
- [Type](#) [parseType](#) (const std::string &text)
- bool [isKnownAttribute](#) (const std::string &name) const
- void [attributeWarning](#) (const std::string &message, const std::string &attribute, size\_t lineNumber)
- void [attributeWarning](#) (const std::string &message, size\_t lineNumber)
- void [rcppExportWarning](#) (const std::string &message, size\_t lineNumber)
- void [rcppExportNoFunctionFoundWarning](#) (size\_t lineNumber)
- void [rcppExportInvalidParameterWarning](#) (const std::string &param, size\_t lineNumber)
- void [rcppInterfacesWarning](#) (const std::string &message, size\_t lineNumber)

## Private Attributes

- std::string [sourceFile\\_](#)
- [CharacterVector](#) [lines\\_](#)
- std::vector< [Attribute](#) > [attributes\\_](#)
- std::vector< std::string > [modules\\_](#)
- std::vector< std::string > [embeddedR\\_](#)
- std::vector< [FileInfo](#) > [sourceDependencies\\_](#)
- std::vector< std::vector< std::string > > [roxygenChunks\\_](#)
- std::vector< std::string > [roxygenBuffer\\_](#)

## Additional Inherited Members

### 6.724.1 Detailed Description

Definition at line 445 of file attributes.cpp.

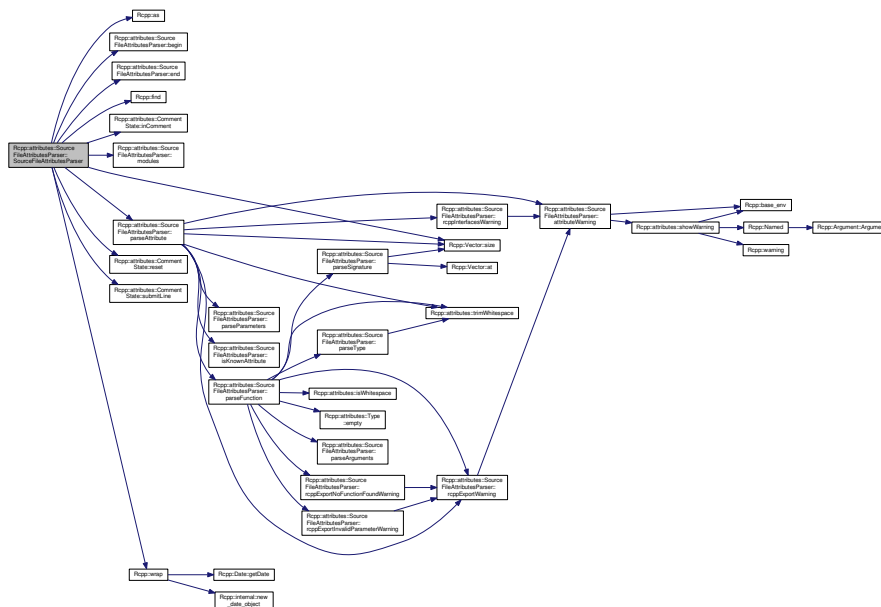
### 6.724.2 Constructor & Destructor Documentation

6.724.2.1 [Rcpp::attributes::SourceFileAttributesParser::SourceFileAttributesParser](#) ( const std::string & *sourceFile*, bool *parseDependencies* ) [[explicit](#)]

Definition at line 1117 of file attributes.cpp.

References [Rcpp::as\(\)](#), [attributes\\_](#), [begin\(\)](#), [embeddedR\\_](#), [end\(\)](#), [Rcpp::find\(\)](#), [Rcpp::attributes::CommentState::inComment\(\)](#), [lines\\_](#), [modules\(\)](#), [modules\\_](#), [parseAttribute\(\)](#), [Rcpp::attributes::CommentState::reset\(\)](#), [roxygenBuffer\\_](#), [roxygenChunks\\_](#), [Rcpp::Vector< RTYPE, StoragePolicy >::size\(\)](#), [sourceDependencies\\_](#), [sourceFile\\_](#), [Rcpp::attributes::CommentState::submitLine\(\)](#), and [Rcpp::wrap\(\)](#).

Here is the call graph for this function:



6.724.2.2 `Rcpp::attributes::SourceFileAttributesParser::SourceFileAttributesParser ( const SourceFileAttributesParser & )` [private]

## 6.724.3 Member Function Documentation

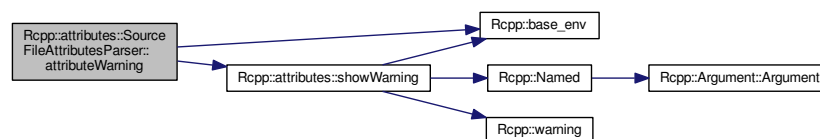
6.724.3.1 `void Rcpp::attributes::SourceFileAttributesParser::attributeWarning ( const std::string & message, const std::string & attribute, size_t lineNumber )` [private]

Definition at line 1632 of file attributes.cpp.

References `Rcpp::base_env()`, `Rcpp::attributes::showWarning()`, and `sourceFile_`.

Referenced by `attributeWarning()`, `parseAttribute()`, `rcppExportWarning()`, and `rcppInterfacesWarning()`.

Here is the call graph for this function:

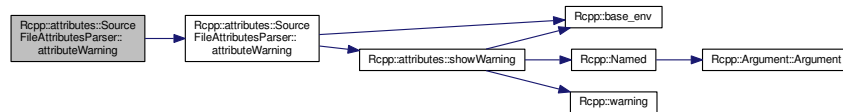


6.724.3.2 `void Rcpp::attributes::SourceFileAttributesParser::attributeWarning ( const std::string & message, size_t lineNumber )`  
`[private]`

Definition at line 1650 of file attributes.cpp.

References `attributeWarning()`.

Here is the call graph for this function:



6.724.3.3 `virtual const_iterator Rcpp::attributes::SourceFileAttributesParser::begin ( ) const` `[inline],[virtual]`

Implements [Rcpp::attributes::SourceFileAttributes](#).

Definition at line 460 of file attributes.cpp.

Referenced by `compileAttributes()`, `Rcpp::attributes::isRoxygenCpp()`, and `SourceFileAttributesParser()`.

6.724.3.4 `const std::vector<std::string>& Rcpp::attributes::SourceFileAttributesParser::embeddedR ( ) const` `[inline]`

Definition at line 495 of file attributes.cpp.

Referenced by `Rcpp::attributes::isRoxygenCpp()`.

6.724.3.5 `virtual const_iterator Rcpp::attributes::SourceFileAttributesParser::end ( ) const` `[inline],[virtual]`

Implements [Rcpp::attributes::SourceFileAttributes](#).

Definition at line 461 of file attributes.cpp.

Referenced by `compileAttributes()`, `Rcpp::attributes::isRoxygenCpp()`, and `SourceFileAttributesParser()`.

6.724.3.6 `virtual bool Rcpp::attributes::SourceFileAttributesParser::hasGeneratorOutput ( ) const` `[inline],[virtual]`

Implements [Rcpp::attributes::SourceFileAttributes](#).

Definition at line 472 of file attributes.cpp.

Referenced by `compileAttributes()`.

6.724.3.7 `virtual bool Rcpp::attributes::SourceFileAttributesParser::hasInterface ( const std::string & name ) const [inline], [virtual]`

Implements [Rcpp::attributes::SourceFileAttributes](#).

Definition at line 479 of file `attributes.cpp`.

References `Rcpp::attributes::kInterfaceR`, and `Rcpp::attributes::kInterfacesAttribute`.

6.724.3.8 `bool Rcpp::attributes::SourceFileAttributesParser::isKnownAttribute ( const std::string & name ) const [private]`

Definition at line 1623 of file `attributes.cpp`.

References `Rcpp::attributes::kDependsAttribute`, `Rcpp::attributes::kExportAttribute`, `Rcpp::attributes::kInterfacesAttribute`, and `Rcpp::attributes::kPluginsAttribute`.

Referenced by `parseAttribute()`.

6.724.3.9 `virtual const std::vector<std::string>& Rcpp::attributes::SourceFileAttributesParser::modules ( ) const [inline], [virtual]`

Implements [Rcpp::attributes::SourceFileAttributes](#).

Definition at line 463 of file `attributes.cpp`.

Referenced by `Rcpp::attributes::isRoxygenCpp()`, and `SourceFileAttributesParser()`.

6.724.3.10 `SourceFileAttributesParser& Rcpp::attributes::SourceFileAttributesParser::operator= ( const SourceFileAttributesParser & ) [private]`

6.724.3.11 `std::vector< std::string > Rcpp::attributes::SourceFileAttributesParser::parseArguments ( const std::string & argText ) [private]`

Definition at line 1534 of file `attributes.cpp`.

Referenced by `parseFunction()`.

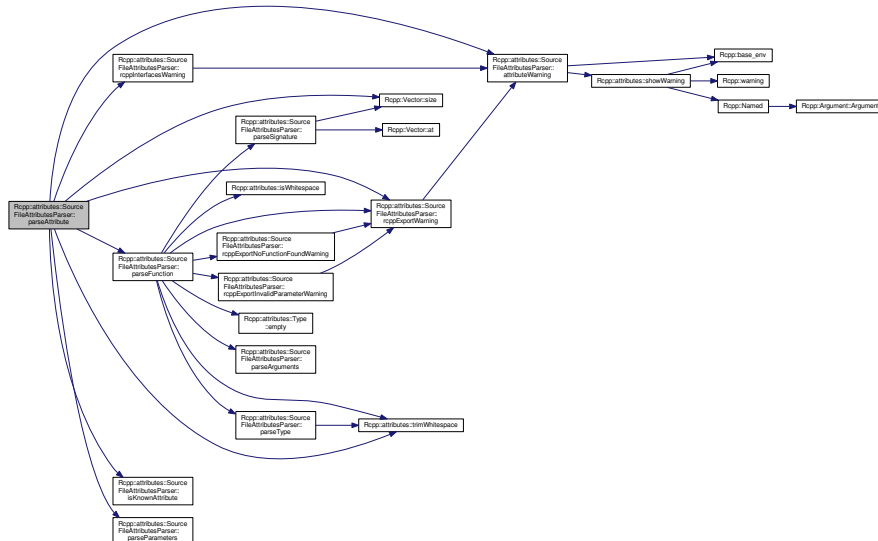
### 6.724.3.12 Attribute Rcpp::attributes::SourceFileAttributesParser::parseAttribute ( const std::vector< std::string > & match, int lineNumber ) [private]

Definition at line 1243 of file attributes.cpp.

References `attributeWarning()`, `isKnownAttribute()`, `Rcpp::attributes::kExportAttribute`, `Rcpp::attributes::kExportName`, `Rcpp::attributes::kExportRng`, `Rcpp::attributes::kInterfaceCpp`, `Rcpp::attributes::kInterfaceR`, `Rcpp::attributes::kInterfaceAttribute`, `Rcpp::attributes::kParamValueFalse`, `Rcpp::attributes::kParamValueFALSE`, `Rcpp::attributes::kParamValueTrue`, `Rcpp::attributes::kParamValueTRUE`, `lines_`, `parseFunction()`, `parseParameters()`, `rcppExportWarning()`, `rcppInterfacesWarning()`, `roxygenBuffer_`, `Rcpp::Vector< RTYPE, StoragePolicy >::size()`, and `Rcpp::attributes::trimWhitespace()`.

Referenced by `SourceFileAttributesParser()`.

Here is the call graph for this function:



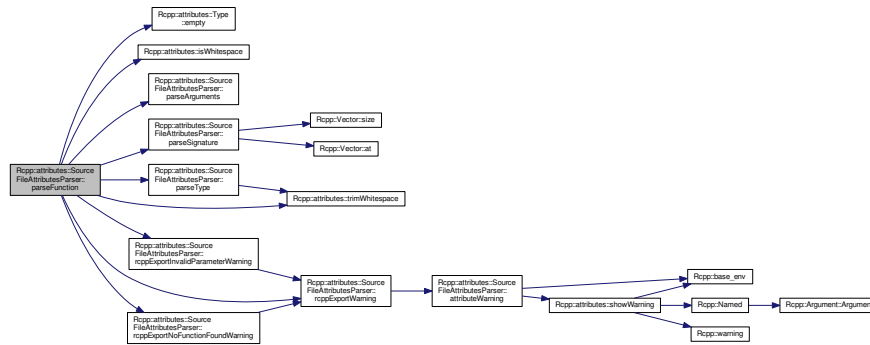
### 6.724.3.13 Function Rcpp::attributes::SourceFileAttributesParser::parseFunction ( size\_t lineNumber ) [private]

Definition at line 1365 of file attributes.cpp.

References `Rcpp::attributes::Type::empty()`, `Rcpp::attributes::isWhitespace()`, `Rcpp::attributes::kWhitespaceChars`, `parseArguments()`, `parseSignature()`, `parseType()`, `rcppExportInvalidParameterWarning()`, `rcppExportNoFunctionFoundWarning()`, `rcppExportWarning()`, and `Rcpp::attributes::trimWhitespace()`.

Referenced by `parseAttribute()`.

Here is the call graph for this function:



**6.724.3.14** `std::vector< Param > Rcpp::attributes::SourceFileAttributesParser::parseParameters ( const std::string & input )`  
`[private]`

Definition at line 1343 of file attributes.cpp.

Referenced by `parseAttribute()`.

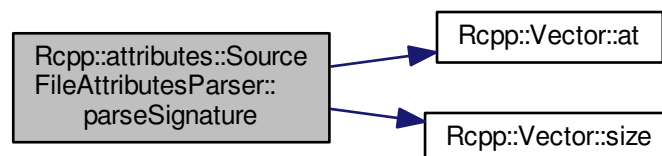
**6.724.3.15** `std::string Rcpp::attributes::SourceFileAttributesParser::parseSignature ( size_t lineNumber )` `[private]`

Definition at line 1494 of file attributes.cpp.

References `Rcpp::Vector< RTYPE, StoragePolicy >::at()`, `lines_`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Referenced by `parseFunction()`.

Here is the call graph for this function:





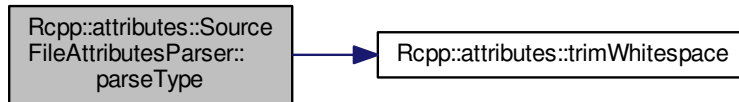
## 6.724.3.16 Type Rcpp::attributes::SourceFileAttributesParser::parseType ( const std::string &amp; text ) [private]

Definition at line 1585 of file attributes.cpp.

References Rcpp::attributes::trimWhitespace().

Referenced by parseFunction().

Here is the call graph for this function:



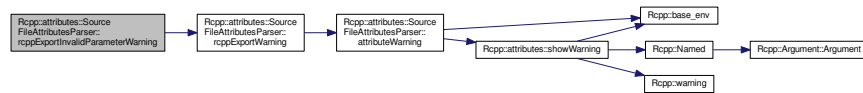
## 6.724.3.17 void Rcpp::attributes::SourceFileAttributesParser::rcppExportInvalidParameterWarning ( const std::string &amp; param, size\_t lineNumber ) [private]

Definition at line 1667 of file attributes.cpp.

References rcppExportWarning().

Referenced by parseFunction().

Here is the call graph for this function:



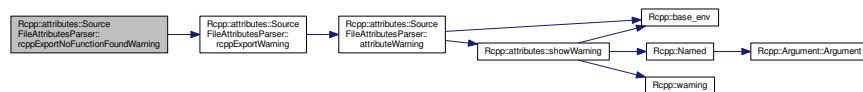
## 6.724.3.18 void Rcpp::attributes::SourceFileAttributesParser::rcppExportNoFunctionFoundWarning ( size\_t lineNumber ) [private]

Definition at line 1662 of file attributes.cpp.

References rcppExportWarning().

Referenced by parseFunction().

Here is the call graph for this function:



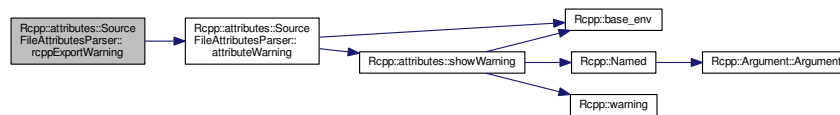
6.724.3.19 `void Rcpp::attributes::SourceFileAttributesParser::rcppExportWarning ( const std::string & message, size_t lineNumber ) [private]`

Definition at line 1656 of file attributes.cpp.

References `attributeWarning()`.

Referenced by `parseAttribute()`, `parseFunction()`, `rcppExportInvalidParameterWarning()`, and `rcppExportNoFunctionFoundWarning()`.

Here is the call graph for this function:



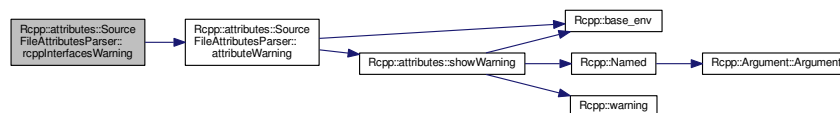
6.724.3.20 `void Rcpp::attributes::SourceFileAttributesParser::rcppInterfacesWarning ( const std::string & message, size_t lineNumber ) [private]`

Definition at line 1674 of file attributes.cpp.

References `attributeWarning()`.

Referenced by `parseAttribute()`.

Here is the call graph for this function:



6.724.3.21 `virtual const std::vector<std::vector<std::string>> & Rcpp::attributes::SourceFileAttributesParser::roxygenChunks ( ) const [inline],[virtual]`

Implements `Rcpp::attributes::SourceFileAttributes`.

Definition at line 468 of file attributes.cpp.

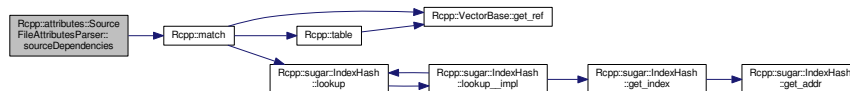
6.724.3.22 `const std::vector<FileInfo>& Rcpp::attributes::SourceFileAttributesParser::sourceDependencies ( ) const`  
`[inline]`

Definition at line 500 of file attributes.cpp.

References `Rcpp::match()`.

Referenced by `Rcpp::attributes::isRoxygenCpp()`.

Here is the call graph for this function:



6.724.3.23 `virtual const std::string& Rcpp::attributes::SourceFileAttributesParser::sourceFile ( ) const` `[inline]`,  
`[virtual]`

Implements [Rcpp::attributes::SourceFileAttributes](#).

Definition at line 457 of file attributes.cpp.

## 6.724.4 Member Data Documentation

6.724.4.1 `std::vector<Attribute> Rcpp::attributes::SourceFileAttributesParser::attributes_` `[private]`

Definition at line 531 of file attributes.cpp.

Referenced by `SourceFileAttributesParser()`.

6.724.4.2 `std::vector<std::string> Rcpp::attributes::SourceFileAttributesParser::embeddedR_` `[private]`

Definition at line 533 of file attributes.cpp.

Referenced by `SourceFileAttributesParser()`.

6.724.4.3 `CharacterVector Rcpp::attributes::SourceFileAttributesParser::lines_` `[private]`

Definition at line 530 of file attributes.cpp.

Referenced by `parseAttribute()`, `parseSignature()`, and `SourceFileAttributesParser()`.

6.724.4.4 `std::vector<std::string> Rcpp::attributes::SourceFileAttributesParser::modules_` [private]

Definition at line 532 of file `attributes.cpp`.

Referenced by `SourceFileAttributesParser()`.

6.724.4.5 `std::vector<std::string> Rcpp::attributes::SourceFileAttributesParser::roxygenBuffer_` [private]

Definition at line 536 of file `attributes.cpp`.

Referenced by `parseAttribute()`, and `SourceFileAttributesParser()`.

6.724.4.6 `std::vector<std::vector<std::string>> Rcpp::attributes::SourceFileAttributesParser::roxygenChunks_` [private]

Definition at line 535 of file `attributes.cpp`.

Referenced by `SourceFileAttributesParser()`.

6.724.4.7 `std::vector<FileInfo> Rcpp::attributes::SourceFileAttributesParser::sourceDependencies_` [private]

Definition at line 534 of file `attributes.cpp`.

Referenced by `SourceFileAttributesParser()`.

6.724.4.8 `std::string Rcpp::attributes::SourceFileAttributesParser::sourceFile_` [private]

Definition at line 529 of file `attributes.cpp`.

Referenced by `attributeWarning()`, and `SourceFileAttributesParser()`.

The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

## 6.725 Rcpp::algorithm::helpers::sqrt Struct Reference

```
#include <algorithm.h>
```

### Public Member Functions

- `template<typename T >`  
double `operator()` (T val)

### 6.725.1 Detailed Description

Definition at line 198 of file algorithm.h.

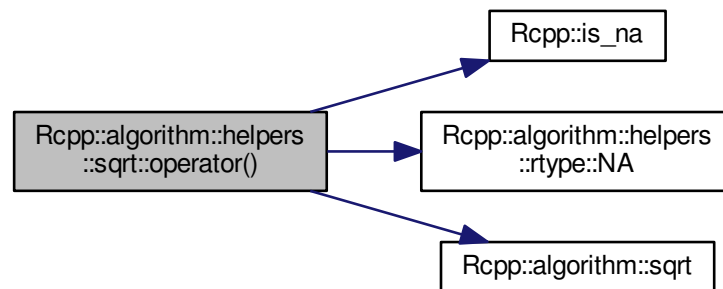
### 6.725.2 Member Function Documentation

6.725.2.1 `template<typename T > double Rcpp::algorithm::helpers::sqrt::operator() ( T val ) [inline]`

Definition at line 200 of file algorithm.h.

References `Rcpp::is_na()`, `Rcpp::algorithm::helpers::rtype< T >::NA()`, `Rcpp::algorithm::sqrt()`, and `Rcpp::algorithm::helpers::ctype_helper< I >::value`.

Here is the call graph for this function:

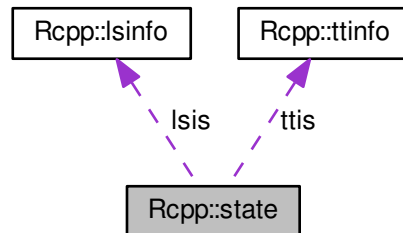


The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/algorithm.h](#)

## 6.726 Rcpp::state Struct Reference

Collaboration diagram for Rcpp::state:



### Public Attributes

- int [leapcnt](#)
- int [timecnt](#)
- int [typecnt](#)
- int [charcnt](#)
- int [goback](#)
- int [goahead](#)
- time\_t [ats](#) [TZ\_MAX\_TIMES]
- unsigned char [types](#) [TZ\_MAX\_TIMES]
- struct [ttinfo](#) [ttis](#) [TZ\_MAX\_TYPES]
- char [chars](#) [BIGGEST(BIGGEST(TZ\_MAX\_CHARS+1, sizeof [gmt](#)),(2 \*(MY\_TZNAME\_MAX+1)))]
- struct [lsinfo](#) [lsis](#) [TZ\_MAX\_LEAPS]

### 6.726.1 Detailed Description

Definition at line 334 of file Date.cpp.

### 6.726.2 Member Data Documentation

#### 6.726.2.1 time\_t Rcpp::state::ats[TZ\_MAX\_TIMES]

Definition at line 341 of file Date.cpp.

Referenced by [Rcpp::tzload\(\)](#), and [Rcpp::tzparse\(\)](#).

### 6.726.2.2 int Rcpp::state::charcnt

Definition at line 338 of file Date.cpp.

Referenced by Rcpp::tzload(), and Rcpp::tzparse().

### 6.726.2.3 char Rcpp::state::chars[BIGGEST(BIGGEST(TZ\_MAX\_CHARS+1, sizeof gmtime), (2 \* (MY\_TZNAME\_MAX+1)))]

Definition at line 345 of file Date.cpp.

Referenced by Rcpp::typesequiv(), Rcpp::tzload(), and Rcpp::tzparse().

### 6.726.2.4 int Rcpp::state::goahead

Definition at line 340 of file Date.cpp.

Referenced by Rcpp::tzload().

### 6.726.2.5 int Rcpp::state::goback

Definition at line 339 of file Date.cpp.

Referenced by Rcpp::tzload().

### 6.726.2.6 int Rcpp::state::leapcnt

Definition at line 335 of file Date.cpp.

Referenced by Rcpp::timesub(), Rcpp::tzload(), and Rcpp::tzparse().

### 6.726.2.7 struct lsisinfo Rcpp::state::lsis[TZ\_MAX\_LEAPS]

Definition at line 346 of file Date.cpp.

Referenced by Rcpp::timesub(), and Rcpp::tzload().

### 6.726.2.8 int Rcpp::state::timecnt

Definition at line 336 of file Date.cpp.

Referenced by Rcpp::tzload(), and Rcpp::tzparse().

### 6.726.2.9 struct ttinfo Rcpp::state::ttis[TZ\_MAX\_TYPES]

Definition at line 343 of file Date.cpp.

Referenced by Rcpp::typesequiv(), Rcpp::tzload(), and Rcpp::tzparse().

### 6.726.2.10 int Rcpp::state::typecnt

Definition at line 337 of file Date.cpp.

Referenced by Rcpp::typesequiv(), Rcpp::tzload(), and Rcpp::tzparse().

### 6.726.2.11 unsigned char Rcpp::state::types[TZ\_MAX\_TIMES]

Definition at line 342 of file Date.cpp.

Referenced by Rcpp::tzload(), and Rcpp::tzparse().

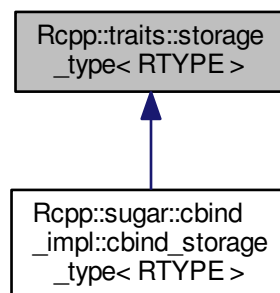
The documentation for this struct was generated from the following file:

- [src/Date.cpp](#)

## 6.727 Rcpp::traits::storage\_type< RTYPE > Struct Template Reference

```
#include <storage_type.h>
```

Inheritance diagram for Rcpp::traits::storage\_type< RTYPE >:





## Public Types

- typedef SEXP [type](#)

### 6.727.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::traits::storage_type< RTYPE >
```

Indicates the storage type associated with a SEXP type for example: [storage\\_type<INTSXP>::type](#) is a typedef to int

The default is SEXP, which works for VECSXP, EXPRSXP and STRSXP

Definition at line 35 of file storage\_type.h.

### 6.727.2 Member Typedef Documentation

6.727.2.1 `template<int RTYPE> typedef SEXP Rcpp::traits::storage_type< RTYPE >::type`

Definition at line 36 of file storage\_type.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[storage\\_type.h](#)

## 6.728 Rcpp::traits::storage\_type< CPLXSXP > Struct Template Reference

```
#include <storage_type.h>
```

## Public Types

- typedef Rcomplex [type](#)

### 6.728.1 Detailed Description

```
template<>
struct Rcpp::traits::storage_type< CPLXSXP >
```

Total specialization for numeric vectors (CPLXSXP) typedef to Rcomplex

Definition at line 59 of file storage\_type.h.

## 6.728.2 Member Typedef Documentation

### 6.728.2.1 typedef Rcomplex Rcpp::traits::storage\_type< CPLXXP >::type

Definition at line 60 of file storage\_type.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/storage\_type.h

## 6.729 Rcpp::traits::storage\_type< INTSXP > Struct Template Reference

```
#include <storage_type.h>
```

### Public Types

- typedef int [type](#)

### 6.729.1 Detailed Description

```
template<>  
struct Rcpp::traits::storage_type< INTSXP >
```

Total specialization for integer vector (INTSXP) typedef to int

Definition at line 43 of file storage\_type.h.

## 6.729.2 Member Typedef Documentation

### 6.729.2.1 typedef int Rcpp::traits::storage\_type< INTSXP >::type

Definition at line 44 of file storage\_type.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/storage\_type.h

## 6.730 Rcpp::traits::storage\_type< LGLSXP > Struct Template Reference

```
#include <storage_type.h>
```

## Public Types

- typedef int [type](#)

### 6.730.1 Detailed Description

```
template<>
struct Rcpp::traits::storage_type< LGLSXP >
```

Total specialization for logical vectors (LGLSXP) typedef to int

Definition at line 75 of file storage\_type.h.

### 6.730.2 Member Typedef Documentation

#### 6.730.2.1 typedef int Rcpp::traits::storage\_type< LGLSXP >::type

Definition at line 76 of file storage\_type.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[storage\\_type.h](#)

## 6.731 Rcpp::traits::storage\_type< RAWSXP > Struct Template Reference

```
#include <storage_type.h>
```

## Public Types

- typedef Rbyte [type](#)

### 6.731.1 Detailed Description

```
template<>
struct Rcpp::traits::storage_type< RAWSXP >
```

Total specialization for raw vectors (RAWSXP) typedef to Rbyte

Definition at line 67 of file storage\_type.h.

## 6.731.2 Member Typedef Documentation

### 6.731.2.1 typedef Rbyte Rcpp::traits::storage\_type< RAWXP >::type

Definition at line 68 of file storage\_type.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/storage\\_type.h](#)

## 6.732 Rcpp::traits::storage\_type< REALXP > Struct Template Reference

```
#include <storage_type.h>
```

### Public Types

- typedef double [type](#)

### 6.732.1 Detailed Description

```
template<>  
struct Rcpp::traits::storage_type< REALXP >
```

Total specialization for numeric vectors (REALXP) typedef to double

Definition at line 51 of file storage\_type.h.

## 6.732.2 Member Typedef Documentation

### 6.732.2.1 typedef double Rcpp::traits::storage\_type< REALXP >::type

Definition at line 52 of file storage\_type.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/storage\\_type.h](#)

## 6.733 Rcpp::String Class Reference

```
#include <String.h>
```

## Public Types

- typedef [internal::string\\_proxy](#)< STRSXP > [StringProxy](#)
- typedef [internal::const\\_string\\_proxy](#)< STRSXP > [const\\_StringProxy](#)

## Public Member Functions

- [String](#) ()
- [String](#) (const [String](#) &other)
- [String](#) (SEXP charsexp)
- [String](#) (const [StringProxy](#) &proxy)
- [String](#) (const [StringProxy](#) &proxy, cetype\_t enc)
- [String](#) (const [const\\_StringProxy](#) &proxy)
- [String](#) (const [const\\_StringProxy](#) &proxy, cetype\_t enc)
- [String](#) (const std::string &s, cetype\_t enc=CE\_UTF8)
- [String](#) (const std::wstring &s, cetype\_t enc=CE\_UTF8)
- [String](#) (const char \*s, cetype\_t enc=CE\_UTF8)
- [String](#) (const wchar\_t \*s, cetype\_t enc=CE\_UTF8)
- [String](#) (int x)
- [String](#) (double x)
- [String](#) (bool x)
- [String](#) (Rcomplex x)
- [String](#) (Rbyte x)
- [~String](#) ()
- [String](#) & operator= (int x)
- [String](#) & operator= (double x)
- [String](#) & operator= (Rbyte x)
- [String](#) & operator= (bool x)
- [String](#) & operator= (Rcomplex x)
- [String](#) & operator= (SEXP x)
- [String](#) & operator= (const [StringProxy](#) &proxy)
- [String](#) & operator= (const [String](#) &other)
- [String](#) & operator= (const std::string &s)
- [String](#) & operator= (const char \*s)
- [String](#) & operator= (const std::wstring &s)
- [String](#) & operator= (const wchar\_t \*s)
- [String](#) & operator+= (const std::string &s)
- [String](#) & operator+= (const char \*s)
- [String](#) & operator+= (const std::wstring &s)
- [String](#) & operator+= (const wchar\_t \*s)
- [String](#) & operator+= (const [String](#) &other)
- [String](#) & operator+= (const [StringProxy](#) &proxy)
- [String](#) & operator+= (const [const\\_StringProxy](#) &proxy)
- [String](#) & operator+= (SEXP x)
- [String](#) & replace\_first (const char \*s, const char \*news)
- [String](#) & replace\_first (const [Rcpp::String](#) &s, const char \*news)
- [String](#) & replace\_first (const char \*s, const [Rcpp::String](#) &news)
- [String](#) & replace\_first (const [Rcpp::String](#) &s, const [Rcpp::String](#) &news)
- [String](#) & replace\_last (const char \*s, const char \*news)
- [String](#) & replace\_last (const [Rcpp::String](#) &s, const char \*news)

- [String](#) & [replace\\_last](#) (const char \*s, const [Rcpp::String](#) &news)
- [String](#) & [replace\\_last](#) (const [Rcpp::String](#) &s, const [Rcpp::String](#) &news)
- [String](#) & [replace\\_all](#) (const char \*s, const char \*news)
- template<typename LHS , typename RHS >  
[String](#) & [replace\\_all](#) (const LHS &s, const RHS &news)
- [String](#) & [replace\\_all](#) (const [Rcpp::String](#) &s, const char \*news)
- [String](#) & [replace\\_all](#) (const char \*s, const [Rcpp::String](#) &news)
- [String](#) & [replace\\_all](#) (const [Rcpp::String](#) &s, const [Rcpp::String](#) &news)
- [String](#) & [push\\_back](#) (const char \*s)
- [String](#) & [push\\_back](#) (const std::string &s)
- [String](#) & [push\\_back](#) (const [Rcpp::String](#) &s)
- [String](#) & [push\\_front](#) (const char \*s)
- [String](#) & [push\\_front](#) (const std::string &s)
- [String](#) & [push\\_front](#) (const [Rcpp::String](#) &s)
- void [set\\_na](#) ()
- SEXP [get\\_sexp](#) () const
- SEXP [get\\_sexp](#) ()
- operator std::string () const
- operator std::wstring () const
- const char \* [get\\_cstring](#) () const
- cetype\_t [get\\_encoding](#) () const
- void [set\\_encoding](#) (cetype\_t encoding)
- bool operator< (const [Rcpp::String](#) &other) const
- bool operator== (const [Rcpp::String](#) &other) const
- bool operator!= (const [Rcpp::String](#) &other) const
- bool operator== (const [StringProxy](#) &other) const
- bool operator!= (const [StringProxy](#) &other) const
- bool operator== (const [const\\_StringProxy](#) &other) const
- bool operator!= (const [const\\_StringProxy](#) &other) const
- bool operator> (const [Rcpp::String](#) &other) const
- bool operator== (SEXP other) const
- bool operator!= (SEXP other) const

## Private Member Functions

- template<typename T >  
[String](#) & [assign\\_wide\\_string](#) (const T &s)
- template<typename T >  
[String](#) & [append\\_wide\\_string](#) (const T &s)
- bool [is\\_na](#) () const
- void [setBuffer](#) ()
- void [setData](#) ()
- template<typename T >  
void [append](#) (const T &s)

## Private Attributes

- SEXP [data](#)
- std::string [buffer](#)
- bool [valid](#)
- bool [buffer\\_ready](#)
- cetype\_t [enc](#)

### 6.733.1 Detailed Description

A single string, i.e. an element of a character vector. This represents CHARXP SEXP

Definition at line 49 of file String.h.

### 6.733.2 Member Typedef Documentation

#### 6.733.2.1 `typedef internal::const_string_proxy<STRXP> Rcpp::String::const_StringProxy`

Definition at line 52 of file String.h.

#### 6.733.2.2 `typedef internal::string_proxy<STRXP> Rcpp::String::StringProxy`

Definition at line 51 of file String.h.

### 6.733.3 Constructor & Destructor Documentation

#### 6.733.3.1 `Rcpp::String::String( ) [inline]`

default constructor

Definition at line 55 of file String.h.

References `data`, `Rcpp::Rcpp_PreserveObject()`, and `RCPP_STRING_DEBUG`.

Referenced by `replace_all()`.

Here is the call graph for this function:



### 6.733.3.2 Rcpp::String::String ( const String & other ) [inline]

copy constructor

Definition at line 61 of file String.h.

References data, Rcpp::Rcpp\_PreserveObject(), and RCPP\_STRING\_DEBUG.

Here is the call graph for this function:



### 6.733.3.3 Rcpp::String::String ( SEXP charsxp ) [inline]

construct a string from a single CHARSEX SEXP

Definition at line 67 of file String.h.

References `buffer_ready`, `data`, `enc`, `Rcpp::Rcpp_PreserveObject()`, `RCPP_STRING_DEBUG`, and `valid`.

Here is the call graph for this function:





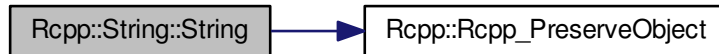
## 6.733.3.4 Rcpp::String::String ( const StringProxy &amp; proxy ) [inline]

from string proxy

Definition at line 85 of file String.h.

References data, Rcpp::Rcpp\_PreserveObject(), and RCPP\_STRING\_DEBUG.

Here is the call graph for this function:

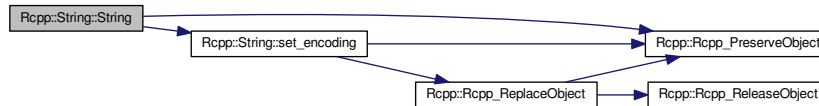


## 6.733.3.5 Rcpp::String::String ( const StringProxy &amp; proxy, cetype\_t enc ) [inline]

Definition at line 90 of file String.h.

References data, Rcpp::Rcpp\_PreserveObject(), RCPP\_STRING\_DEBUG, and set\_encoding().

Here is the call graph for this function:



## 6.733.3.6 Rcpp::String::String ( const const\_StringProxy &amp; proxy ) [inline]

from string proxy

Definition at line 97 of file String.h.

References data, Rcpp::Rcpp\_PreserveObject(), and RCPP\_STRING\_DEBUG.

Here is the call graph for this function:

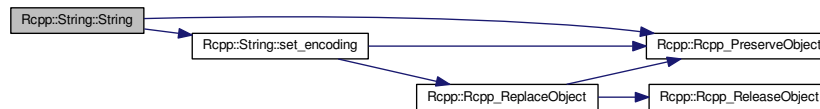


### 6.733.3.7 `Rcpp::String::String ( const const_StringProxy & proxy, cetype_t enc ) [inline]`

Definition at line 102 of file String.h.

References data, `Rcpp::Rcpp_PreserveObject()`, `Rcpp::Rcpp_ReleaseObject()`, `Rcpp::String::set_encoding()`, and `RCPP_STRING_DEBUG`.

Here is the call graph for this function:



### 6.733.3.8 `Rcpp::String::String ( const std::string & s, cetype_t enc = CE_UTF8 ) [inline]`

from a `std::string`

Definition at line 109 of file String.h.

References data, and `Rcpp::Rcpp_PreserveObject()`.

### 6.733.3.9 `Rcpp::String::String ( const std::wstring & s, cetype_t enc = CE_UTF8 ) [inline]`

Definition at line 114 of file String.h.

References data, `Rcpp::Rcpp_PreserveObject()`, and `Rcpp::Rcpp_ReleaseObject()`.

Here is the call graph for this function:



### 6.733.3.10 `Rcpp::String::String ( const char * s, cetype_t enc = CE_UTF8 ) [inline]`

from a `const char*`

Definition at line 120 of file String.h.

References data, and `Rcpp::Rcpp_PreserveObject()`.

6.733.3.11 `Rcpp::String::String ( const wchar_t * s, ctype_t enc = CE_UTF8 ) [inline]`

Definition at line 125 of file String.h.

References `data`, `Rcpp::Rcpp_PreserveObject()`, and `RCPP_STRING_DEBUG`.

Here is the call graph for this function:



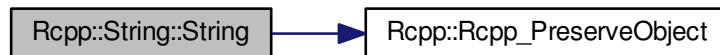
6.733.3.12 `Rcpp::String::String ( int x ) [inline]`

constructors from [R](#) primitives

Definition at line 131 of file String.h.

References `data`, and `Rcpp::Rcpp_PreserveObject()`.

Here is the call graph for this function:



6.733.3.13 `Rcpp::String::String ( double x ) [inline]`

Definition at line 132 of file String.h.

References `data`, and `Rcpp::Rcpp_PreserveObject()`.

Here is the call graph for this function:



**6.733.3.14** `Rcpp::String::String ( bool x ) [inline]`

Definition at line 133 of file String.h.

References data, and `Rcpp::Rcpp_PreserveObject()`.

Here is the call graph for this function:

**6.733.3.15** `Rcpp::String::String ( Rcomplex x ) [inline]`

Definition at line 134 of file String.h.

References data, and `Rcpp::Rcpp_PreserveObject()`.

Here is the call graph for this function:

**6.733.3.16** `Rcpp::String::String ( Rbyte x ) [inline]`

Definition at line 135 of file String.h.

References data, and `Rcpp::Rcpp_PreserveObject()`.

Here is the call graph for this function:



## 6.733.3.17 Rcpp::String::~~String( ) [inline]

Definition at line 137 of file String.h.

References data, and Rcpp::Rcpp\_ReleaseObject().

Here is the call graph for this function:



## 6.733.4 Member Function Documentation

## 6.733.4.1 template&lt;typename T &gt; void Rcpp::String::append ( const T &amp; s ) [inline],[private]

Definition at line 472 of file String.h.

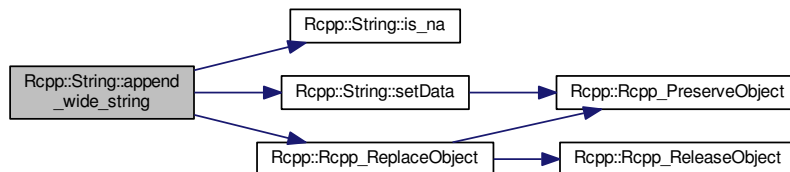
## 6.733.4.2 template&lt;typename T &gt; String&amp; Rcpp::String::append\_wide\_string ( const T &amp; s ) [inline],[private]

Definition at line 182 of file String.h.

References buffer\_ready, data, DEMANGLE, is\_na(), Rcpp::Rcpp\_ReplaceObject(), RCPP\_STRING\_DEBUG\_1, setData(), and valid.

Referenced by operator+=().

Here is the call graph for this function:



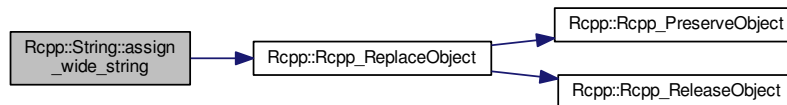
6.733.4.3 `template<typename T > String& Rcpp::String::assign_wide_string ( const T & s ) [inline], [private]`

Definition at line 156 of file String.h.

References `buffer_ready`, `data`, `Rcpp::Rcpp_ReplaceObject()`, and `valid`.

Referenced by `operator=()`.

Here is the call graph for this function:



6.733.4.4 `const char* Rcpp::String::get_cstring ( ) const [inline]`

Definition at line 381 of file String.h.

References `buffer`, `buffer_ready`, and `data`.

Referenced by `operator std::string()`, `operator std::wstring()`, `Rcpp::operator!=()`, `operator<()`, `operator>()`, `push_back()`, `push_front()`, `replace_all()`, `replace_first()`, and `replace_last()`.

6.733.4.5 `cetype_t Rcpp::String::get_encoding ( ) const [inline]`

Definition at line 385 of file String.h.

References `enc`.

6.733.4.6 `SEXP Rcpp::String::get_sexp ( ) const [inline]`

Definition at line 362 of file String.h.

References `buffer`, `data`, `enc`, `RCPP_STRING_DEBUG_1`, and `valid`.

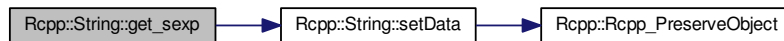
Referenced by `Rcpp::internal::string_element_converter< RTYPE >::get()`, `operator!=()`, `Rcpp::internal::string_proxy< RTYPE >::operator=()`, `operator=()`, `operator==(())`, and `Rcpp::internal::range_wrap_dispatch__impl__pair()`.

#### 6.733.4.7 SEXP Rcpp::String::get\_sexp ( ) [inline]

Definition at line 367 of file String.h.

References data, RCPP\_STRING\_DEBUG\_1, setData(), and valid.

Here is the call graph for this function:



#### 6.733.4.8 bool Rcpp::String::is\_na ( ) const [inline],[private]

Definition at line 457 of file String.h.

Referenced by append\_wide\_string(), operator+=(), push\_back(), push\_front(), replace\_all(), replace\_first(), and replace\_last().

#### 6.733.4.9 Rcpp::String::operator std::string ( ) const [inline]

Definition at line 372 of file String.h.

References get\_cstring().

Here is the call graph for this function:



#### 6.733.4.10 `Rcpp::String::operator std::wstring ( ) const` `[inline]`

Definition at line 376 of file `String.h`.

References `get_cstring()`.

Here is the call graph for this function:



#### 6.733.4.11 `bool Rcpp::String::operator!=( const Rcpp::String & other ) const` `[inline]`

Definition at line 408 of file `String.h`.

References `get_sexp()`.

Here is the call graph for this function:



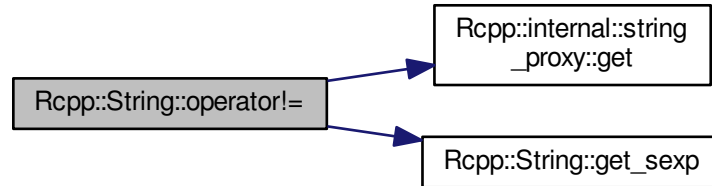
#### 6.733.4.12 `bool Rcpp::String::operator!=( const StringProxy & other ) const` `[inline]`

Definition at line 416 of file `String.h`.

References `Rcpp::internal::string_proxy< RTYPE >::get()`, and `get_sexp()`.



Here is the call graph for this function:

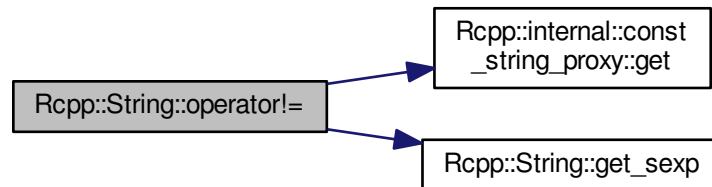


6.733.4.13 `bool Rcpp::String::operator!=( const const_StringProxy & other ) const` `[inline]`

Definition at line 424 of file `String.h`.

References `Rcpp::internal::const_string_proxy< RTYPE >::get()`, and `get_sexp()`.

Here is the call graph for this function:



6.733.4.14 `bool Rcpp::String::operator!=( SEXP other ) const` `[inline]`

Definition at line 436 of file `String.h`.

References `get_sexp()`.

Here is the call graph for this function:

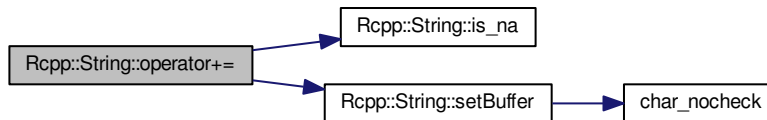


#### 6.733.4.15 `String& Rcpp::String::operator+=( const std::string & s ) [inline]`

Definition at line 167 of file `String.h`.

References `buffer`, `is_na()`, `RCPP_STRING_DEBUG`, `setBuffer()`, and `valid`.

Here is the call graph for this function:

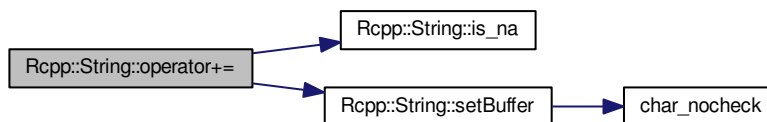


#### 6.733.4.16 `String& Rcpp::String::operator+=( const char * s ) [inline]`

Definition at line 174 of file `String.h`.

References `buffer`, `is_na()`, `RCPP_STRING_DEBUG`, `setBuffer()`, and `valid`.

Here is the call graph for this function:

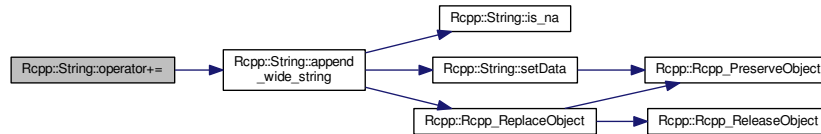


6.733.4.17 `String& Rcpp::String::operator+=( const std::wstring & s ) [inline]`

Definition at line 197 of file String.h.

References `append_wide_string()`.

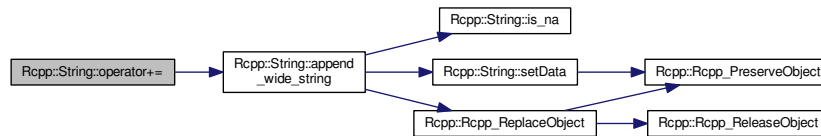
Here is the call graph for this function:

6.733.4.18 `String& Rcpp::String::operator+=( const wchar_t* s ) [inline]`

Definition at line 198 of file String.h.

References `append_wide_string()`.

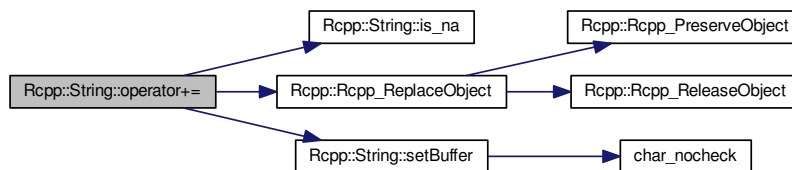
Here is the call graph for this function:

6.733.4.19 `String& Rcpp::String::operator+=( const String & other ) [inline]`

Definition at line 200 of file String.h.

References `buffer`, `buffer_ready`, `data`, `is_na()`, `Rcpp::Rcpp_ReplaceObject()`, `RCPP_STRING_DEBUG`, `setBuffer()`, and `valid`.

Here is the call graph for this function:

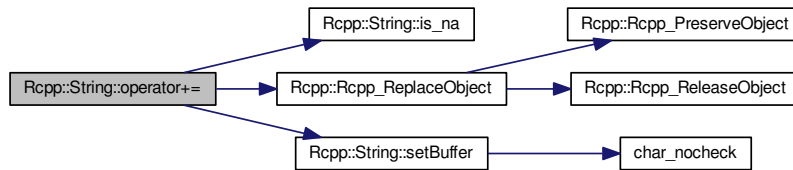


#### 6.733.4.20 `String& Rcpp::String::operator+=( const StringProxy & proxy ) [inline]`

Definition at line 207 of file String.h.

References `buffer`, `buffer_ready`, `data`, `is_na()`, `Rcpp::Rcpp_ReplaceObject()`, `RCPP_STRING_DEBUG`, `setBuffer()`, and `valid`.

Here is the call graph for this function:

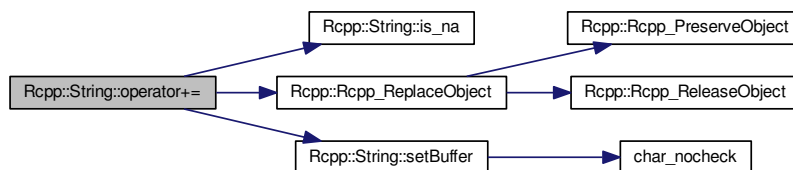


#### 6.733.4.21 `String& Rcpp::String::operator+=( const const_StringProxy & proxy ) [inline]`

Definition at line 215 of file String.h.

References `buffer`, `buffer_ready`, `data`, `is_na()`, `Rcpp::Rcpp_ReplaceObject()`, `RCPP_STRING_DEBUG`, `setBuffer()`, and `valid`.

Here is the call graph for this function:

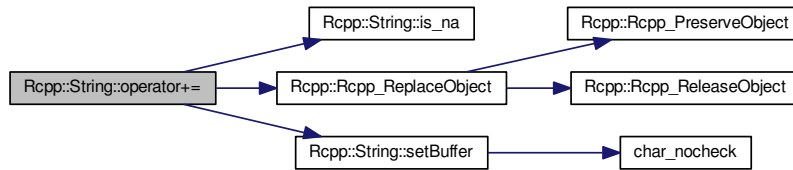


#### 6.733.4.22 `String& Rcpp::String::operator+=( SEXP x ) [inline]`

Definition at line 223 of file String.h.

References `buffer`, `buffer_ready`, `data`, `is_na()`, `Rcpp::Rcpp_ReplaceObject()`, `RCPP_STRING_DEBUG`, `setBuffer()`, and `valid`.

Here is the call graph for this function:



#### 6.733.4.23 `bool Rcpp::String::operator<( const Rcpp::String & other ) const` [inline]

Definition at line 401 of file `String.h`.

References `get_cstring()`.

Here is the call graph for this function:



#### 6.733.4.24 `String& Rcpp::String::operator=( int x )` [inline]

Definition at line 143 of file `String.h`.

References `buffer_ready`, `data`, `Rcpp::Rcpp_ReplaceObject()`, and `valid`.

Here is the call graph for this function:



#### 6.733.4.25 `String& Rcpp::String::operator= ( double x ) [inline]`

Definition at line 144 of file String.h.

References `buffer_ready`, `data`, `Rcpp::Rcpp_ReplaceObject()`, and `valid`.

Here is the call graph for this function:



#### 6.733.4.26 `String& Rcpp::String::operator= ( Rbyte x ) [inline]`

Definition at line 145 of file String.h.

References `buffer_ready`, `data`, `Rcpp::Rcpp_ReplaceObject()`, and `valid`.

Here is the call graph for this function:



#### 6.733.4.27 `String& Rcpp::String::operator= ( bool x ) [inline]`

Definition at line 146 of file String.h.

References `buffer_ready`, `data`, `Rcpp::Rcpp_ReplaceObject()`, and `valid`.

Here is the call graph for this function:

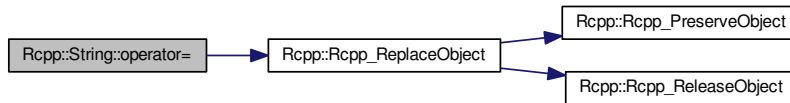


6.733.4.28 `String& Rcpp::String::operator= ( Rcomplex x ) [inline]`

Definition at line 147 of file String.h.

References `buffer_ready`, `data`, `Rcpp::Rcpp_ReplaceObject()`, and `valid`.

Here is the call graph for this function:

6.733.4.29 `String& Rcpp::String::operator= ( SEXP x ) [inline]`

Definition at line 148 of file String.h.

References `buffer_ready`, `data`, `Rcpp::Rcpp_ReplaceObject()`, and `valid`.

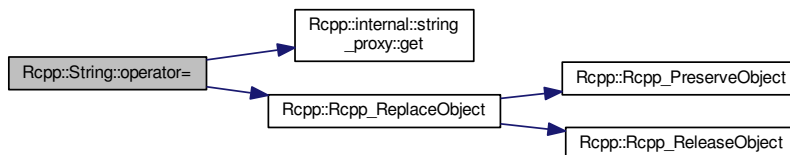
Here is the call graph for this function:

6.733.4.30 `String& Rcpp::String::operator= ( const StringProxy & proxy ) [inline]`

Definition at line 149 of file String.h.

References `buffer_ready`, `data`, `Rcpp::internal::string_proxy< RTYPE >::get()`, `Rcpp::Rcpp_ReplaceObject()`, and `valid`.

Here is the call graph for this function:

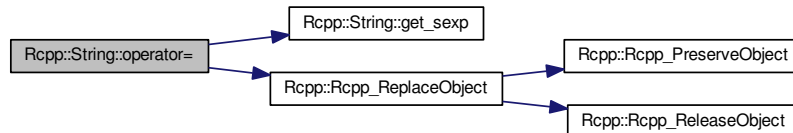


#### 6.733.4.31 `String& Rcpp::String::operator= ( const String & other ) [inline]`

Definition at line 150 of file String.h.

References `buffer_ready`, `data`, `get_sexp()`, `Rcpp::Rcpp_ReplaceObject()`, and `valid`.

Here is the call graph for this function:



#### 6.733.4.32 `String& Rcpp::String::operator= ( const std::string & s ) [inline]`

Definition at line 151 of file String.h.

References `buffer`, `buffer_ready`, and `valid`.

#### 6.733.4.33 `String& Rcpp::String::operator= ( const char * s ) [inline]`

Definition at line 152 of file String.h.

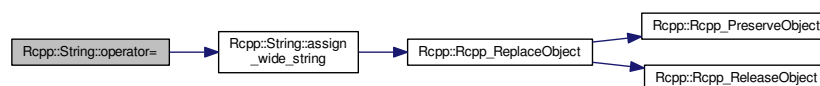
References `buffer`, `buffer_ready`, and `valid`.

#### 6.733.4.34 `String& Rcpp::String::operator= ( const std::wstring & s ) [inline]`

Definition at line 164 of file String.h.

References `assign_wide_string()`.

Here is the call graph for this function:



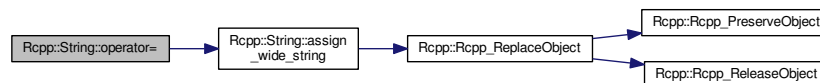


#### 6.733.4.35 String& Rcpp::String::operator= ( const wchar\_t\* s ) [inline]

Definition at line 165 of file String.h.

References `assign_wide_string()`.

Here is the call graph for this function:



#### 6.733.4.36 bool Rcpp::String::operator==( const Rcpp::String & other ) const [inline]

Definition at line 405 of file String.h.

References `get_sexp()`.

Here is the call graph for this function:

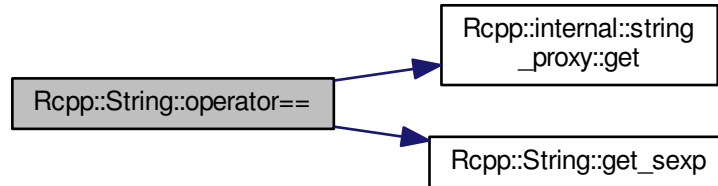


#### 6.733.4.37 bool Rcpp::String::operator==( const StringProxy & other ) const [inline]

Definition at line 412 of file String.h.

References `Rcpp::internal::string_proxy< RTYPE >::get()`, and `get_sexp()`.

Here is the call graph for this function:

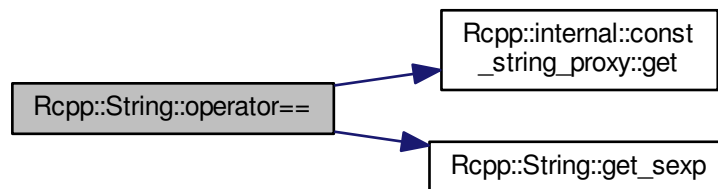


6.733.4.38 `bool Rcpp::String::operator== ( const const_StringProxy & other ) const [inline]`

Definition at line 420 of file `String.h`.

References `Rcpp::internal::const_string_proxy< RTYPE >::get()`, and `get_sexp()`.

Here is the call graph for this function:



6.733.4.39 `bool Rcpp::String::operator== ( SEXP other ) const [inline]`

Definition at line 432 of file `String.h`.

References `get_sexp()`.

Here is the call graph for this function:



6.733.4.40 `bool Rcpp::String::operator> ( const Rcpp::String & other ) const` [inline]

Definition at line 428 of file `String.h`.

References `get_cstring()`.

Here is the call graph for this function:



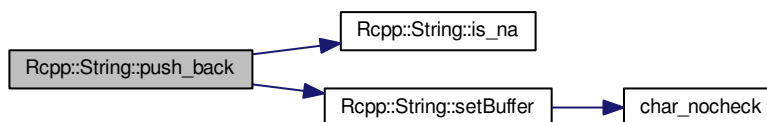
6.733.4.41 `String& Rcpp::String::push_back ( const char * s )` [inline]

Definition at line 327 of file `String.h`.

References `buffer`, `is_na()`, `setBuffer()`, and `valid`.

Referenced by `push_back()`.

Here is the call graph for this function:

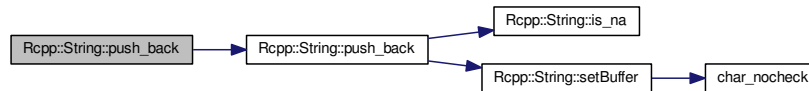


#### 6.733.4.42 `String& Rcpp::String::push_back ( const std::string & s ) [inline]`

Definition at line 332 of file String.h.

References `push_back()`.

Here is the call graph for this function:

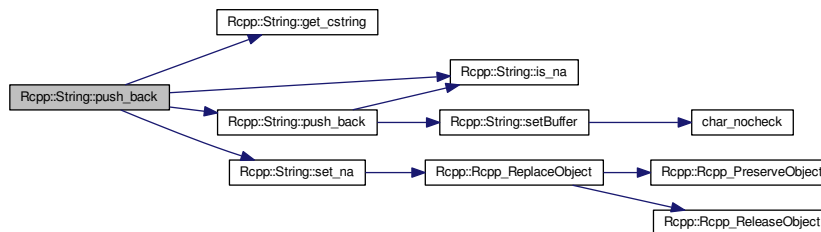


#### 6.733.4.43 `String& Rcpp::String::push_back ( const Rcpp::String & s ) [inline]`

Definition at line 335 of file String.h.

References `get_cstring()`, `is_na()`, `push_back()`, and `set_na()`.

Here is the call graph for this function:



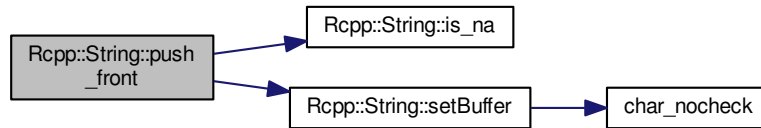
#### 6.733.4.44 `String& Rcpp::String::push_front ( const char * s ) [inline]`

Definition at line 341 of file String.h.

References `buffer`, `is_na()`, `setBuffer()`, and `valid`.

Referenced by `push_front()`.

Here is the call graph for this function:

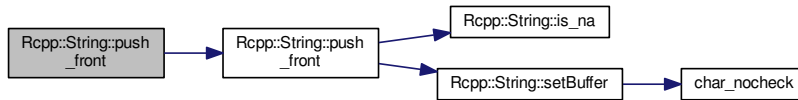


#### 6.733.4.45 String& Rcpp::String::push\_front ( const std::string & s ) [inline]

Definition at line 346 of file String.h.

References push\_front().

Here is the call graph for this function:

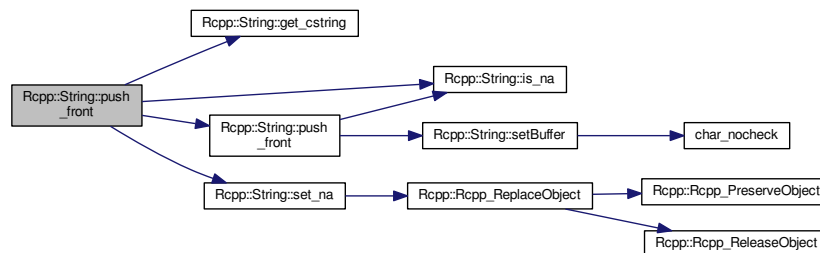


#### 6.733.4.46 String& Rcpp::String::push\_front ( const Rcpp::String & s ) [inline]

Definition at line 349 of file String.h.

References get\_cstring(), is\_na(), push\_front(), and set\_na().

Here is the call graph for this function:



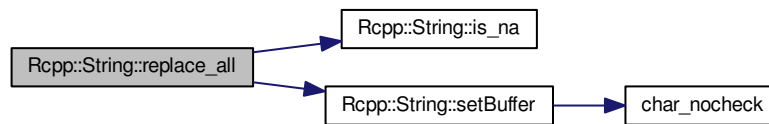
6.733.4.47 `String& Rcpp::String::replace_all ( const char * s, const char * news ) [inline]`

Definition at line 290 of file String.h.

References `buffer`, `is_na()`, `Rcpp::STRING_DEBUG_2`, `setBuffer()`, and `valid`.

Referenced by `replace_all()`.

Here is the call graph for this function:

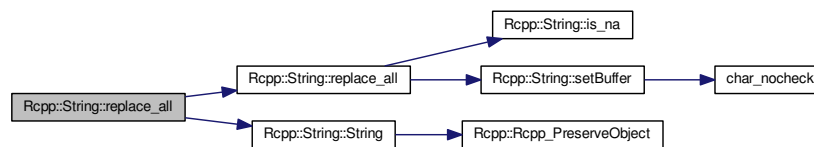


6.733.4.48 `template<typename LHS , typename RHS > String& Rcpp::String::replace_all ( const LHS & s, const RHS & news ) [inline]`

Definition at line 307 of file String.h.

References `replace_all()`, and `String()`.

Here is the call graph for this function:

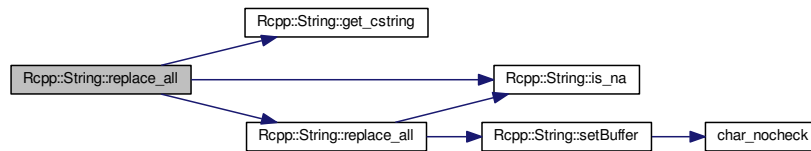


6.733.4.49 `String& Rcpp::String::replace_all ( const Rcpp::String & s, const char * news ) [inline]`

Definition at line 311 of file String.h.

References `get_cstring()`, `is_na()`, and `replace_all()`.

Here is the call graph for this function:

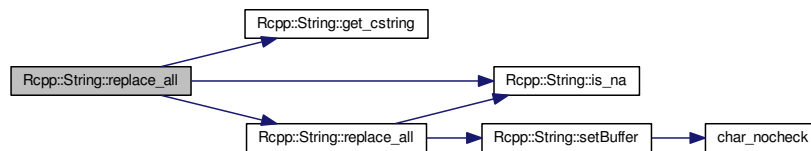


#### 6.733.4.50 `String& Rcpp::String::replace_all ( const char * s, const Rcpp::String & news )` [inline]

Definition at line 316 of file String.h.

References `get_cstring()`, `is_na()`, and `replace_all()`.

Here is the call graph for this function:

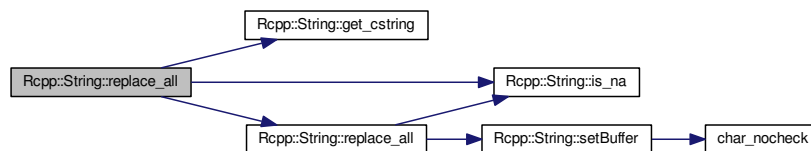


#### 6.733.4.51 `String& Rcpp::String::replace_all ( const Rcpp::String & s, const Rcpp::String & news )` [inline]

Definition at line 321 of file String.h.

References `get_cstring()`, `is_na()`, and `replace_all()`.

Here is the call graph for this function:



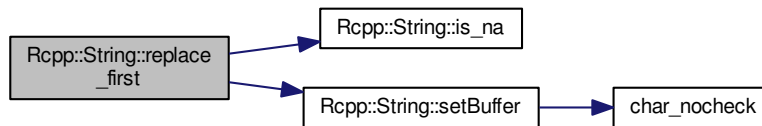
#### 6.733.4.52 `String& Rcpp::String::replace_first ( const char * s, const char * news ) [inline]`

Definition at line 237 of file String.h.

References `buffer`, `is_na()`, `RCPP_STRING_DEBUG_2`, `setBuffer()`, and `valid`.

Referenced by `replace_first()`.

Here is the call graph for this function:

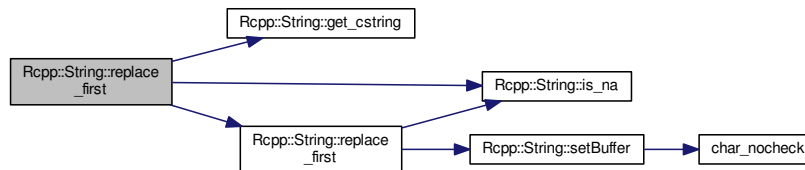


#### 6.733.4.53 `String& Rcpp::String::replace_first ( const Rcpp::String & s, const char * news ) [inline]`

Definition at line 247 of file String.h.

References `get_cstring()`, `is_na()`, and `replace_first()`.

Here is the call graph for this function:



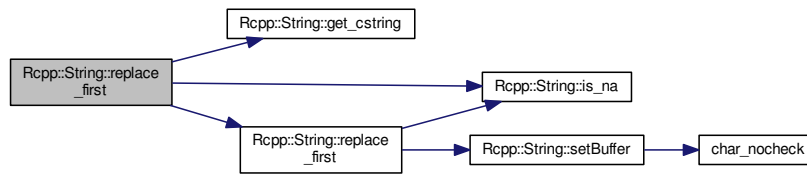
#### 6.733.4.54 `String& Rcpp::String::replace_first ( const char * s, const Rcpp::String & news ) [inline]`

Definition at line 252 of file String.h.

References `get_cstring()`, `is_na()`, and `replace_first()`.



Here is the call graph for this function:

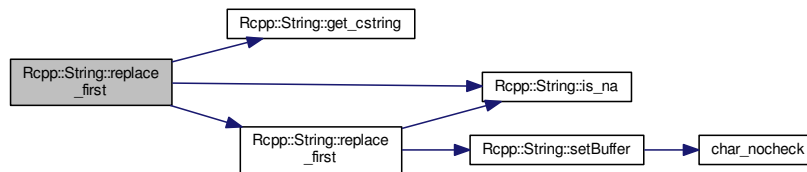


#### 6.733.4.55 String& Rcpp::String::replace\_first ( const Rcpp::String & s, const Rcpp::String & news ) [inline]

Definition at line 257 of file String.h.

References `get_cstring()`, `is_na()`, and `replace_first()`.

Here is the call graph for this function:



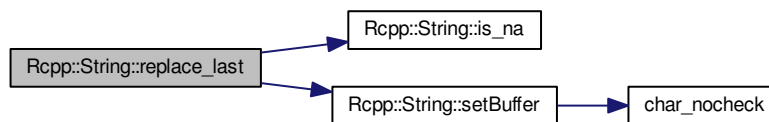
#### 6.733.4.56 String& Rcpp::String::replace\_last ( const char \* s, const char \* news ) [inline]

Definition at line 263 of file String.h.

References `buffer`, `is_na()`, `RCPP_STRING_DEBUG_2`, `setBuffer()`, and `valid`.

Referenced by `replace_last()`.

Here is the call graph for this function:

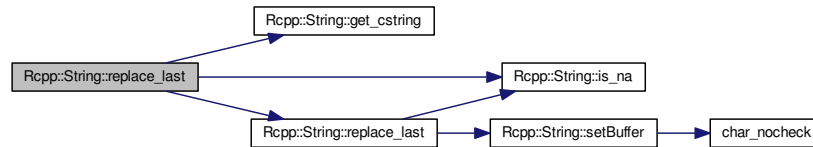


#### 6.733.4.57 `String& Rcpp::String::replace_last ( const Rcpp::String & s, const char * news )` `[inline]`

Definition at line 273 of file String.h.

References `get_cstring()`, `is_na()`, and `replace_last()`.

Here is the call graph for this function:

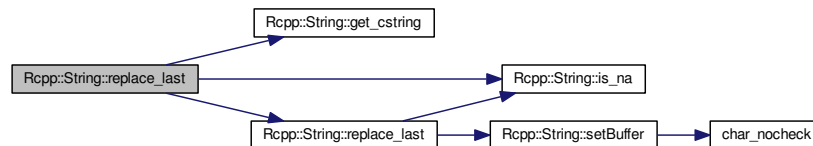


#### 6.733.4.58 `String& Rcpp::String::replace_last ( const char * s, const Rcpp::String & news )` `[inline]`

Definition at line 278 of file String.h.

References `get_cstring()`, `is_na()`, and `replace_last()`.

Here is the call graph for this function:

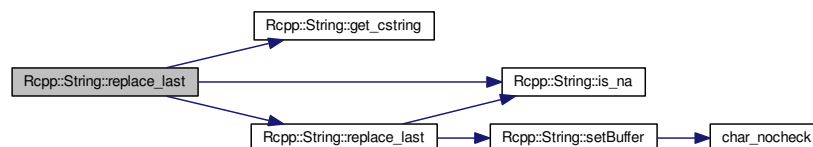


#### 6.733.4.59 `String& Rcpp::String::replace_last ( const Rcpp::String & s, const Rcpp::String & news )` `[inline]`

Definition at line 283 of file String.h.

References `get_cstring()`, `is_na()`, and `replace_last()`.

Here is the call graph for this function:



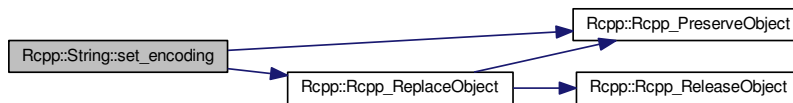
6.733.4.60 `void Rcpp::String::set_encoding ( cetype_t encoding ) [inline]`

Definition at line 389 of file String.h.

References `buffer`, `data`, `enc`, `Rcpp::Rcpp_PreserveObject()`, `Rcpp::Rcpp_ReplaceObject()`, and `valid`.

Referenced by `String()`.

Here is the call graph for this function:



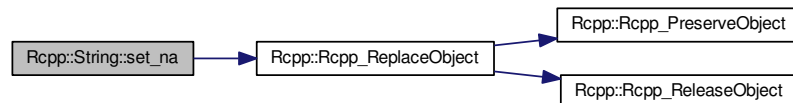
6.733.4.61 `void Rcpp::String::set_na ( ) [inline]`

Definition at line 356 of file String.h.

References `buffer_ready`, `data`, `Rcpp::Rcpp_ReplaceObject()`, and `valid`.

Referenced by `push_back()`, and `push_front()`.

Here is the call graph for this function:



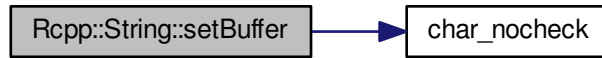
6.733.4.62 `void Rcpp::String::setBuffer ( ) [inline],[private]`

Definition at line 458 of file String.h.

References `char_nocheck()`.

Referenced by `operator+=()`, `push_back()`, `push_front()`, `replace_all()`, `replace_first()`, and `replace_last()`.

Here is the call graph for this function:



**6.733.4.63** `void Rcpp::String::setData ( ) [inline],[private]`

Definition at line 464 of file `String.h`.

References `enc`, `Rcpp::Rcpp_PreserveObject()`, and `RCPP_STRING_DEBUG`.

Referenced by `append_wide_string()`, and `get_sexp()`.

Here is the call graph for this function:



## 6.733.5 Member Data Documentation

**6.733.5.1** `std::string Rcpp::String::buffer [private]`

a buffer used to do string operations withough going back to the SEXP

Definition at line 446 of file `String.h`.

Referenced by `get_cstring()`, `get_sexp()`, `operator+=()`, `operator=()`, `push_back()`, `push_front()`, `replace_all()`, `replace←_first()`, `replace_last()`, and `set_encoding()`.

**6.733.5.2** `bool Rcpp::String::buffer_ready [private]`

is the buffer initialized

Definition at line 452 of file `String.h`.

Referenced by `append_wide_string()`, `assign_wide_string()`, `get_cstring()`, `operator+=()`, `operator=()`, `set_na()`, and `String()`.

**6.733.5.3** SEXP Rcpp::String::data [private]

the CHAR\_SXP this [String](#) encapsulates

Definition at line 443 of file String.h.

Referenced by [append\\_wide\\_string\(\)](#), [assign\\_wide\\_string\(\)](#), [get\\_cstring\(\)](#), [get\\_sexp\(\)](#), [operator+=\(\)](#), [operator=\(\)](#), [set\\_↔encoding\(\)](#), [set\\_na\(\)](#), [String\(\)](#), [Rcpp::wrap< Rcpp::String >\(\)](#), and [~String\(\)](#).

**6.733.5.4** cetype\_t Rcpp::String::enc [private]

the encoding of encapsulated CHAR\_SXP

Definition at line 455 of file String.h.

Referenced by [get\\_encoding\(\)](#), [get\\_sexp\(\)](#), [set\\_encoding\(\)](#), [setData\(\)](#), and [String\(\)](#).

**6.733.5.5** bool Rcpp::String::valid [private]

is data in sync with buffer

Definition at line 449 of file String.h.

Referenced by [append\\_wide\\_string\(\)](#), [assign\\_wide\\_string\(\)](#), [get\\_sexp\(\)](#), [operator+=\(\)](#), [operator=\(\)](#), [push\\_back\(\)](#), [push\\_↔\\_front\(\)](#), [replace\\_all\(\)](#), [replace\\_first\(\)](#), [replace\\_last\(\)](#), [set\\_encoding\(\)](#), [set\\_na\(\)](#), and [String\(\)](#).

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/String.h](#)

**6.734** Rcpp::internal::string\_element\_converter< RTYPE > Class Template Reference

```
#include <converter.h>
```

**Public Types**

- typedef SEXP [target](#)

**Static Public Member Functions**

- `template<typename T >`  
static SEXP [get](#) (const T &input)
- static SEXP [get](#) (const std::string &input)
- static SEXP [get](#) (const [Rcpp::String](#) &input)
- static SEXP [get](#) (const char &input)
- static SEXP [get](#) (SEXP x)

### 6.734.1 Detailed Description

```
template<int RTYPE>
class Rcpp::internal::string_element_converter< RTYPE >
```

Definition at line 43 of file converter.h.

### 6.734.2 Member Typedef Documentation

6.734.2.1 `template<int RTYPE> typedef SEXP Rcpp::internal::string_element_converter< RTYPE >::target`

Definition at line 45 of file converter.h.

### 6.734.3 Member Function Documentation

6.734.3.1 `template<int RTYPE> template<typename T > static SEXP Rcpp::internal::string_element_converter< RTYPE >::get ( const T & input ) [inline],[static]`

Definition at line 48 of file converter.h.

References DEMANGLE, and RCPP\_DEBUG\_1.

6.734.3.2 `template<int RTYPE> static SEXP Rcpp::internal::string_element_converter< RTYPE >::get ( const std::string & input ) [inline],[static]`

Definition at line 54 of file converter.h.

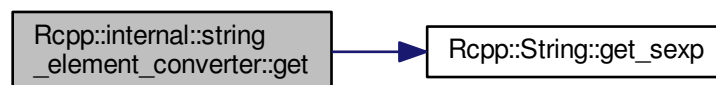
References RCPP\_DEBUG.

6.734.3.3 `template<int RTYPE> SEXP Rcpp::internal::string_element_converter< RTYPE >::get ( const Rcpp::String & input ) [static]`

Definition at line 488 of file String.h.

References Rcpp::String::get\_sexp(), and RCPP\_DEBUG.

Here is the call graph for this function:



6.734.3.4 `template<int RTYPE> static SEXP Rcpp::internal::string_element_converter< RTYPE >::get ( const char & input ) [inline],[static]`

Definition at line 61 of file converter.h.

References RCPP\_DEBUG.

6.734.3.5 `template<int RTYPE> static SEXP Rcpp::internal::string_element_converter< RTYPE >::get ( SEXP x ) [inline],[static]`

Definition at line 67 of file converter.h.

References RCPP\_DEBUG.

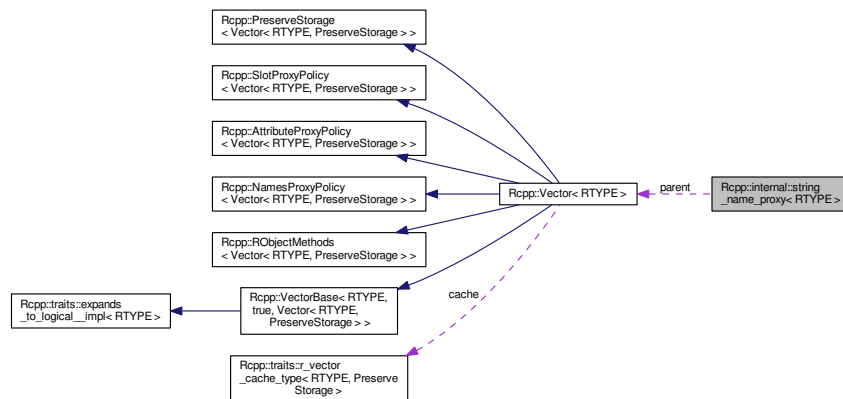
The documentation for this class was generated from the following files:

- [inst/include/Rcpp/vector/converter.h](#)
- [inst/include/Rcpp/String.h](#)

## 6.735 Rcpp::internal::string\_name\_proxy< RTYPE > Class Template Reference

```
#include <00_forward_proxy.h>
```

Collaboration diagram for Rcpp::internal::string\_name\_proxy< RTYPE >:



### Public Types

- typedef `::Rcpp::Vector< RTYPE >` `VECTOR`
- typedef `const char *` `iterator`
- typedef `const char &` `reference`

## Public Member Functions

- [string\\_name\\_proxy](#) ([VECTOR](#) &v, const std::string &name\_)
- [string\\_name\\_proxy](#) (const [string\\_name\\_proxy](#) &other)
- [~string\\_name\\_proxy](#) ()
- [string\\_name\\_proxy](#) & [operator=](#) (const std::string &rhs)
- [string\\_name\\_proxy](#) & [operator=](#) (const [string\\_name\\_proxy](#) &other)
- [operator char \\*](#) ()
- [operator SEXP](#) ()
- [iterator begin](#) ()
- [iterator end](#) ()
- [reference operator\[\]](#) (R\_xlen\_t i)
- [R\\_xlen\\_t size](#) ()

## Private Member Functions

- void [set](#) (const std::string &rhs)
- char \* [get](#) ()

## Private Attributes

- [VECTOR](#) & [parent](#)
- std::string [name](#)

### 6.735.1 Detailed Description

```
template<int RTYPE>
class Rcpp::internal::string_name_proxy< RTYPE >
```

Definition at line 33 of file 00\_forward\_proxy.h.

### 6.735.2 Member Typedef Documentation

6.735.2.1 `template<int RTYPE> typedef const char* Rcpp::internal::string_name_proxy< RTYPE >::iterator`

Definition at line 85 of file proxy.h.

6.735.2.2 `template<int RTYPE> typedef const char& Rcpp::internal::string_name_proxy< RTYPE >::reference`

Definition at line 86 of file proxy.h.



6.735.2.3 `template<int RTYPE> typedef ::Rcpp::Vector<RTYPE> Rcpp::internal::string_name_proxy< RTYPE >::VECTOR`

Definition at line 84 of file proxy.h.

### 6.735.3 Constructor & Destructor Documentation

6.735.3.1 `template<int RTYPE> Rcpp::internal::string_name_proxy< RTYPE >::string_name_proxy ( VECTOR & v, const std::string & name_ ) [inline]`

Definition at line 88 of file proxy.h.

6.735.3.2 `template<int RTYPE> Rcpp::internal::string_name_proxy< RTYPE >::string_name_proxy ( const string_name_proxy< RTYPE > & other ) [inline]`

Definition at line 90 of file proxy.h.

6.735.3.3 `template<int RTYPE> Rcpp::internal::string_name_proxy< RTYPE >::~~string_name_proxy ( ) [inline]`

Definition at line 92 of file proxy.h.

### 6.735.4 Member Function Documentation

6.735.4.1 `template<int RTYPE> iterator Rcpp::internal::string_name_proxy< RTYPE >::begin ( ) [inline]`

Definition at line 111 of file proxy.h.

6.735.4.2 `template<int RTYPE> iterator Rcpp::internal::string_name_proxy< RTYPE >::end ( ) [inline]`

Definition at line 112 of file proxy.h.

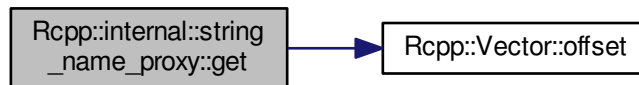
6.735.4.3 `template<int RTYPE> char* Rcpp::internal::string_name_proxy< RTYPE >::get ( ) [inline], [private]`

Definition at line 128 of file proxy.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::offset()`.

Referenced by `Rcpp::internal::string_name_proxy< RTYPE >::operator=()`.

Here is the call graph for this function:



6.735.4.4 `template<int RTYPE> Rcpp::internal::string_name_proxy< RTYPE >::operator char *( ) [inline]`

Definition at line 103 of file proxy.h.

6.735.4.5 `template<int RTYPE> Rcpp::internal::string_name_proxy< RTYPE >::operator SEXP ( ) [inline]`

Definition at line 107 of file proxy.h.

6.735.4.6 `template<int RTYPE> string_name_proxy& Rcpp::internal::string_name_proxy< RTYPE >::operator=( const std::string & rhs ) [inline]`

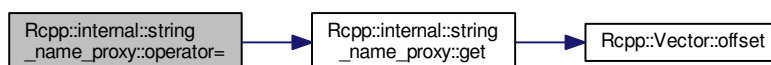
Definition at line 94 of file proxy.h.

6.735.4.7 `template<int RTYPE> string_name_proxy& Rcpp::internal::string_name_proxy< RTYPE >::operator=( const string_name_proxy< RTYPE > & other ) [inline]`

Definition at line 98 of file proxy.h.

References `Rcpp::internal::string_name_proxy< RTYPE >::get()`.

Here is the call graph for this function:



6.735.4.8 `template<int RTYPE> reference Rcpp::internal::string_name_proxy< RTYPE >::operator[]( R_xlen_t i )`  
`[inline]`

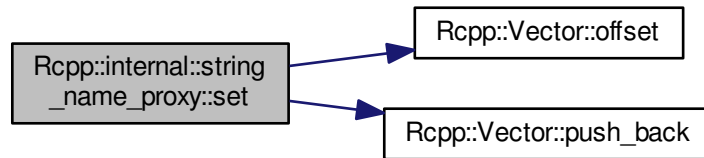
Definition at line 113 of file proxy.h.

6.735.4.9 `template<int RTYPE> void Rcpp::internal::string_name_proxy< RTYPE >::set ( const std::string & rhs )`  
`[inline], [private]`

Definition at line 119 of file proxy.h.

References `Rcpp::Vector< RTYPE, StoragePolicy >::offset()`, and `Rcpp::Vector< RTYPE, StoragePolicy >::push_back()`.

Here is the call graph for this function:



6.735.4.10 `template<int RTYPE> R_xlen_t Rcpp::internal::string_name_proxy< RTYPE >::size ( )` `[inline]`

Definition at line 114 of file proxy.h.

## 6.735.5 Member Data Documentation

6.735.5.1 `template<int RTYPE> std::string Rcpp::internal::string_name_proxy< RTYPE >::name` `[private]`

Definition at line 118 of file proxy.h.

6.735.5.2 `template<int RTYPE> VECTOR& Rcpp::internal::string_name_proxy< RTYPE >::parent` `[private]`

Definition at line 117 of file proxy.h.

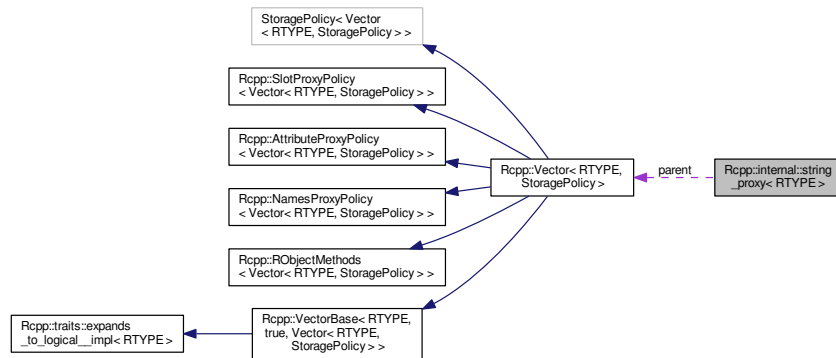
The documentation for this class was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/proxy.h](#)

## 6.736 Rcpp::internal::string\_proxy< RTYPE > Class Template Reference

```
#include <00_forward_proxy.h>
```

Collaboration diagram for Rcpp::internal::string\_proxy< RTYPE >:



### Public Types

- typedef `::Rcpp::Vector< RTYPE >` `VECTOR`
- typedef const char \* `iterator`
- typedef const char & `reference`

### Public Member Functions

- `string_proxy ()`
- `string_proxy (VECTOR &v, R_xlen_t index_)`
- `string_proxy (const string_proxy &other)`
- `string_proxy & operator= (const string_proxy &other)`
- `string_proxy & operator= (const const_string_proxy< RTYPE > &other)`
- `string_proxy & operator= (const String &s)`
- template<typename T >  
`string_proxy & operator= (const std::basic_string< T > &rhs)`
- `string_proxy & operator= (const char *rhs)`
- `string_proxy & operator= (const wchar_t *rhs)`
- `string_proxy & operator= (SEXP rhs)`
- `void import (const string_proxy &other)`
- template<typename T >  
`string_proxy & operator+= (const T &rhs)`
- `operator SEXP () const`
- `operator char * () const`
- `void swap (string_proxy &other)`
- `void move (R_xlen_t n)`
- `SEXP get () const`

- `template<typename T >`  
void `set` (const T &x)
- void `set` (SEXP x)
- `iterator begin` () const
- `iterator end` () const
- `R_xlen_t size` () const
- bool `empty` () const
- `reference operator[]` (R\_xlen\_t n)
- `template<typename UnaryOperator >`  
void `transform` (UnaryOperator op)
- `template<typename OutputIterator, typename UnaryOperator >`  
void `apply` (OutputIterator target, UnaryOperator op)
- `template<typename UnaryOperator >`  
void `apply` (UnaryOperator op)
- bool `operator==` (const char \*other)
- bool `operator!=` (const char \*other)
- bool `operator==` (const `string_proxy` &other)
- bool `operator!=` (const `string_proxy` &other)
- bool `operator==` (SEXP other) const
- bool `operator!=` (SEXP other) const
- `template<typename T >`  
`string_proxy< RTYPE >` & `operator+=` (const T &rhs)

## Public Attributes

- `VECTOR *` `parent`
- `R_xlen_t index`

## Static Private Attributes

- static `std::string buffer`

## Friends

- `template<int RT>`  
`std::ostream & operator<<` (`std::ostream &os`, const `string_proxy< RT >` &proxy)
- `template<int RT>`  
`std::string operator+` (const `std::string &x`, const `string_proxy< RT >` &proxy)

### 6.736.1 Detailed Description

```
template<int RTYPE>
class Rcpp::internal::string_proxy< RTYPE >
```

Definition at line 28 of file `00_forward_proxy.h`.

## 6.736.2 Member Typedef Documentation

6.736.2.1 `template<int RTYPE> typedef const char* Rcpp::internal::string_proxy< RTYPE >::iterator`

Definition at line 32 of file `string_proxy.h`.

6.736.2.2 `template<int RTYPE> typedef const char& Rcpp::internal::string_proxy< RTYPE >::reference`

Definition at line 33 of file `string_proxy.h`.

6.736.2.3 `template<int RTYPE> typedef ::Rcpp::Vector<RTYPE> Rcpp::internal::string_proxy< RTYPE >::VECTOR`

Definition at line 31 of file `string_proxy.h`.

## 6.736.3 Constructor & Destructor Documentation

6.736.3.1 `template<int RTYPE> Rcpp::internal::string_proxy< RTYPE >::string_proxy ( ) [inline]`

Definition at line 35 of file `string_proxy.h`.

6.736.3.2 `template<int RTYPE> Rcpp::internal::string_proxy< RTYPE >::string_proxy ( VECTOR & v, R_xlen_t index_ ) [inline]`

Creates a proxy

### Parameters

<i>v</i>	reference to the associated character vector
<i>index</i>	index

Definition at line 43 of file `string_proxy.h`.

6.736.3.3 `template<int RTYPE> Rcpp::internal::string_proxy< RTYPE >::string_proxy ( const string_proxy< RTYPE > & other ) [inline]`

Definition at line 45 of file `string_proxy.h`.

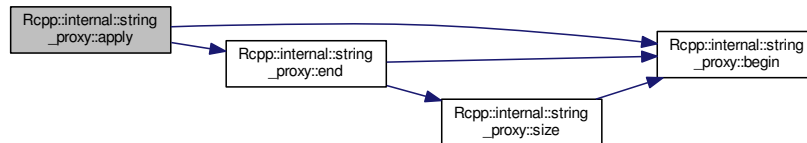
## 6.736.4 Member Function Documentation

6.736.4.1 `template<int RTYPE> template<typename OutputIterator , typename UnaryOperator > void Rcpp::internal::string_proxy< RTYPE >::apply ( OutputIterator target, UnaryOperator op ) [inline]`

Definition at line 172 of file string\_proxy.h.

References `Rcpp::internal::string_proxy< RTYPE >::begin()`, and `Rcpp::internal::string_proxy< RTYPE >::end()`.

Here is the call graph for this function:

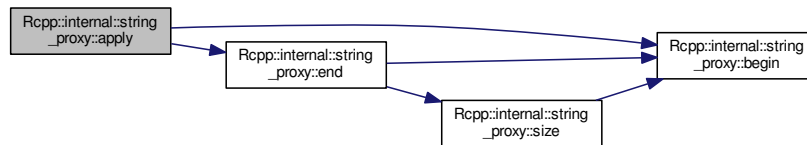


6.736.4.2 `template<int RTYPE> template<typename UnaryOperator > void Rcpp::internal::string_proxy< RTYPE >::apply ( UnaryOperator op ) [inline]`

Definition at line 177 of file string\_proxy.h.

References `Rcpp::internal::string_proxy< RTYPE >::begin()`, and `Rcpp::internal::string_proxy< RTYPE >::end()`.

Here is the call graph for this function:



6.736.4.3 `template<int RTYPE> iterator Rcpp::internal::string_proxy< RTYPE >::begin ( ) const [inline]`

Definition at line 158 of file string\_proxy.h.

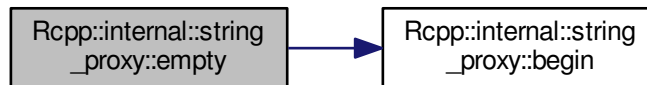
Referenced by `Rcpp::internal::string_proxy< RTYPE >::apply()`, `Rcpp::internal::string_proxy< RTYPE >::empty()`, `Rcpp::internal::string_proxy< RTYPE >::end()`, `Rcpp::internal::string_proxy< RTYPE >::operator!=()`, `Rcpp::internal::string_proxy< RTYPE >::operator==(())`, `Rcpp::internal::string_proxy< RTYPE >::operator[]()`, `Rcpp::internal::string_proxy< RTYPE >::size()`, and `Rcpp::internal::string_proxy< RTYPE >::transform()`.

6.736.4.4 `template<int RTYPE> bool Rcpp::internal::string_proxy< RTYPE >::empty ( ) const` `[inline]`

Definition at line 161 of file `string_proxy.h`.

References `Rcpp::internal::string_proxy< RTYPE >::begin()`.

Here is the call graph for this function:



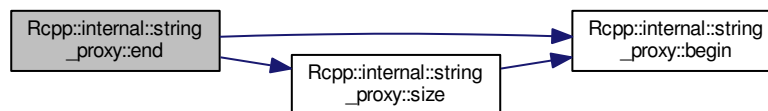
6.736.4.5 `template<int RTYPE> iterator Rcpp::internal::string_proxy< RTYPE >::end ( ) const` `[inline]`

Definition at line 159 of file `string_proxy.h`.

References `Rcpp::internal::string_proxy< RTYPE >::begin()`, and `Rcpp::internal::string_proxy< RTYPE >::size()`.

Referenced by `Rcpp::internal::string_proxy< RTYPE >::apply()`.

Here is the call graph for this function:



6.736.4.6 `template<int RTYPE> SEXP Rcpp::internal::string_proxy< RTYPE >::get ( ) const` `[inline]`

Definition at line 147 of file `string_proxy.h`.

Referenced by `Rcpp::String::operator!=()`, `Rcpp::String::operator=()`, and `Rcpp::String::operator==()`.

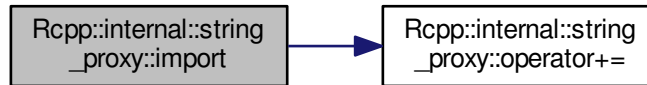


6.736.4.7 `template<int RTYPE> void Rcpp::internal::string_proxy< RTYPE >::import ( const string_proxy< RTYPE > & other ) [inline]`

Definition at line 93 of file string\_proxy.h.

References `Rcpp::internal::const_string_proxy< RTYPE >::index`, `Rcpp::internal::string_proxy< RTYPE >::index`, `Rcpp::internal::string_proxy< RTYPE >::operator+=()`, `Rcpp::internal::const_string_proxy< RTYPE >::parent`, and `Rcpp::internal::string_proxy< RTYPE >::parent`.

Here is the call graph for this function:



6.736.4.8 `template<int RTYPE> void Rcpp::internal::string_proxy< RTYPE >::move ( R_xlen_t n ) [inline]`

Definition at line 145 of file string\_proxy.h.

6.736.4.9 `template<int RTYPE> Rcpp::internal::string_proxy< RTYPE >::operator char * ( ) const [inline]`

rhs use. Retrieves the current value of the element this proxy refers to and convert it to a C string

Definition at line 118 of file string\_proxy.h.

References `Rcpp::internal::string_proxy< RTYPE >::operator+`.

6.736.4.10 `template<int RTYPE> Rcpp::internal::string_proxy< RTYPE >::operator SEXP ( ) const [inline]`

rhs use. Retrieves the current value of the element this proxy refers to.

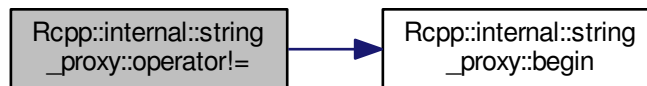
Definition at line 109 of file string\_proxy.h.

6.736.4.11 `template<int RTYPE> bool Rcpp::internal::string_proxy< RTYPE >::operator!=( const char * other )`  
`[inline]`

Definition at line 184 of file string\_proxy.h.

References Rcpp::internal::string\_proxy< RTYPE >::begin().

Here is the call graph for this function:

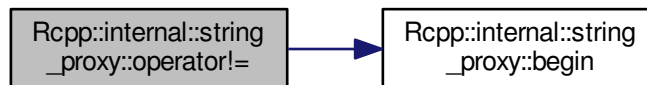


6.736.4.12 `template<int RTYPE> bool Rcpp::internal::string_proxy< RTYPE >::operator!=( const string_proxy< RTYPE > & other )` `[inline]`

Definition at line 191 of file string\_proxy.h.

References Rcpp::internal::string\_proxy< RTYPE >::begin().

Here is the call graph for this function:



6.736.4.13 `template<int RTYPE> bool Rcpp::internal::string_proxy< RTYPE >::operator!=( SEXP other ) const`  
`[inline]`

Definition at line 199 of file string\_proxy.h.

6.736.4.14 `template<int RTYPE> template<typename T > string_proxy& Rcpp::internal::string_proxy< RTYPE >::operator+=( const T & rhs )`

lhs use. Adds the content of the rhs proxy to the element this proxy refers to.

Referenced by `Rcpp::internal::string_proxy< RTYPE >::import()`.

6.736.4.15 `template<int RTYPE> template<typename T > string_proxy<RTYPE>& Rcpp::internal::string_proxy< RTYPE >::operator+=( const T & rhs )`

Definition at line 500 of file `String.h`.

6.736.4.16 `template<int RTYPE> string_proxy& Rcpp::internal::string_proxy< RTYPE >::operator=( const string_proxy< RTYPE > & other ) [inline]`

lhs use. Assign the value of the referred element to the current content of the element referred by the rhs proxy

#### Parameters

<i>rhs</i>	another proxy, possibly from another vector
------------	---

Definition at line 55 of file `string_proxy.h`.

6.736.4.17 `template<int RTYPE> string_proxy< RTYPE > & Rcpp::internal::string_proxy< RTYPE >::operator=( const const_string_proxy< RTYPE > & other )`

Definition at line 171 of file `const_string_proxy.h`.

6.736.4.18 `template<int RTYPE> string_proxy< RTYPE > & Rcpp::internal::string_proxy< RTYPE >::operator=( const String & s )`

Definition at line 482 of file `String.h`.

References `Rcpp::String::get_sexp()`.

Here is the call graph for this function:



6.736.4.19 `template<int RTYPE> template<typename T > string_proxy& Rcpp::internal::string_proxy< RTYPE >::operator= ( const std::basic_string< T > & rhs ) [inline]`

lhs use. Assigns the value of the referred element of the character vector

#### Parameters

<i>rhs</i>	new content for the element referred by this proxy
------------	--

Definition at line 71 of file string\_proxy.h.

6.736.4.20 `template<int RTYPE> string_proxy& Rcpp::internal::string_proxy< RTYPE >::operator= ( const char * rhs ) [inline]`

Definition at line 76 of file string\_proxy.h.

6.736.4.21 `template<int RTYPE> string_proxy& Rcpp::internal::string_proxy< RTYPE >::operator= ( const wchar_t * rhs ) [inline]`

Definition at line 81 of file string\_proxy.h.

6.736.4.22 `template<int RTYPE> string_proxy& Rcpp::internal::string_proxy< RTYPE >::operator= ( SEXP rhs ) [inline]`

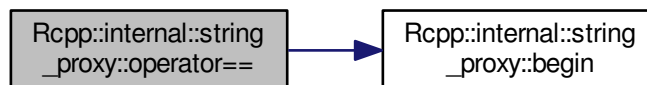
Definition at line 87 of file string\_proxy.h.

6.736.4.23 `template<int RTYPE> bool Rcpp::internal::string_proxy< RTYPE >::operator== ( const char * other ) [inline]`

Definition at line 181 of file string\_proxy.h.

References `Rcpp::internal::string_proxy< RTYPE >::begin()`.

Here is the call graph for this function:

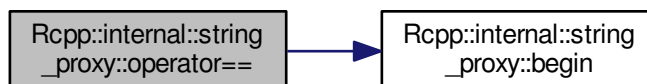


6.736.4.24 `template<int RTYPE> bool Rcpp::internal::string_proxy< RTYPE >::operator==( const string_proxy< RTYPE > & other ) [inline]`

Definition at line 188 of file string\_proxy.h.

References Rcpp::internal::string\_proxy< RTYPE >::begin().

Here is the call graph for this function:



6.736.4.25 `template<int RTYPE> bool Rcpp::internal::string_proxy< RTYPE >::operator==( SEXP other ) const [inline]`

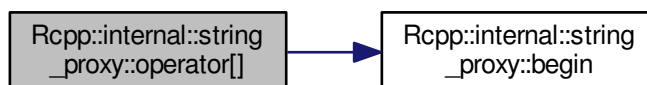
Definition at line 195 of file string\_proxy.h.

6.736.4.26 `template<int RTYPE> reference Rcpp::internal::string_proxy< RTYPE >::operator[]( R_xlen_t n ) [inline]`

Definition at line 162 of file string\_proxy.h.

References Rcpp::internal::string\_proxy< RTYPE >::begin().

Here is the call graph for this function:



6.736.4.27 `template<int RTYPE> template<typename T > void Rcpp::internal::string_proxy< RTYPE >::set ( const T & x )`  
`[inline]`

Definition at line 151 of file string\_proxy.h.

6.736.4.28 `template<int RTYPE> void Rcpp::internal::string_proxy< RTYPE >::set( SEXP x )` `[inline]`

Definition at line 154 of file string\_proxy.h.

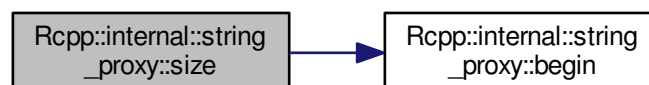
6.736.4.29 `template<int RTYPE> R_xlen_t Rcpp::internal::string_proxy< RTYPE >::size ( ) const` `[inline]`

Definition at line 160 of file string\_proxy.h.

References `Rcpp::internal::string_proxy< RTYPE >::begin()`.

Referenced by `Rcpp::internal::string_proxy< RTYPE >::end()`.

Here is the call graph for this function:



6.736.4.30 `template<int RTYPE> void Rcpp::internal::string_proxy< RTYPE >::swap ( string_proxy< RTYPE > & other )`  
`[inline]`

Definition at line 137 of file string\_proxy.h.

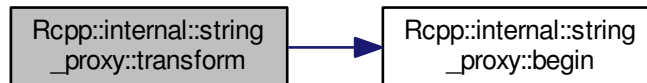
References `Rcpp::internal::string_proxy< RTYPE >::index`, and `Rcpp::internal::string_proxy< RTYPE >::parent`.

6.736.4.31 `template<int RTYPE> template<typename UnaryOperator > void Rcpp::internal::string_proxy< RTYPE >::transform ( UnaryOperator op ) [inline]`

Definition at line 165 of file string\_proxy.h.

References Rcpp::internal::string\_proxy< RTYPE >::begin(), and Rcpp::internal::string\_proxy< RTYPE >::buffer.

Here is the call graph for this function:



## 6.736.5 Friends And Related Function Documentation

6.736.5.1 `template<int RTYPE> template<int RT> std::string operator+ ( const std::string & x, const string_proxy< RT > & proxy ) [friend]`

Referenced by Rcpp::internal::string\_proxy< RTYPE >::operator char \*().

6.736.5.2 `template<int RTYPE> template<int RT> std::ostream& operator<< ( std::ostream & os, const string_proxy< RT > & proxy ) [friend]`

Prints the element this proxy refers to to an output stream

## 6.736.6 Member Data Documentation

6.736.6.1 `template<int RTYPE> std::string Rcpp::internal::string_proxy< RTYPE >::buffer [static],[private]`

Definition at line 205 of file string\_proxy.h.

Referenced by Rcpp::internal::string\_proxy< RTYPE >::transform().

6.736.6.2 `template<int RTYPE> R_xlen_t Rcpp::internal::string_proxy< RTYPE >::index`

Definition at line 144 of file string\_proxy.h.

Referenced by Rcpp::internal::string\_proxy< RTYPE >::import(), and Rcpp::internal::string\_proxy< RTYPE >::swap().

6.736.6.3 `template<int RTYPE> VECTOR* Rcpp::internal::string_proxy< RTYPE >::parent`

Definition at line 143 of file `string_proxy.h`.

Referenced by `Rcpp::internal::string_proxy< RTYPE >::import()`, and `Rcpp::internal::string_proxy< RTYPE >::swap()`.

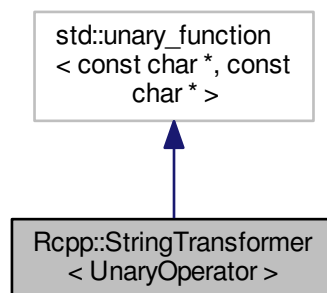
The documentation for this class was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_proxy.h](#)
- [inst/include/Rcpp/vector/string\\_proxy.h](#)
- [inst/include/Rcpp/String.h](#)
- [inst/include/Rcpp/vector/const\\_string\\_proxy.h](#)

## 6.737 Rcpp::StringTransformer< UnaryOperator > Class Template Reference

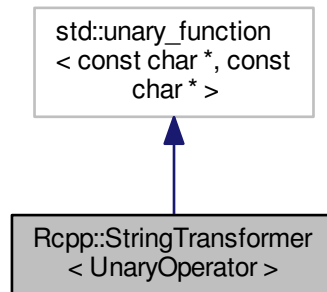
```
#include <StringTransformer.h>
```

Inheritance diagram for `Rcpp::StringTransformer< UnaryOperator >`:





Collaboration diagram for Rcpp::StringTransformer< UnaryOperator >:



## Public Member Functions

- [StringTransformer](#) (const UnaryOperator &op\_)
- [~StringTransformer](#) ()
- const char \* [operator\(\)](#) (const char \*input)

## Private Attributes

- const UnaryOperator & [op](#)
- std::string [buffer](#)

### 6.737.1 Detailed Description

```
template<typename UnaryOperator>
class Rcpp::StringTransformer< UnaryOperator >
```

Definition at line 30 of file StringTransformer.h.

### 6.737.2 Constructor & Destructor Documentation

6.737.2.1 `template<typename UnaryOperator > Rcpp::StringTransformer< UnaryOperator >::StringTransformer ( const UnaryOperator & op_ ) [inline]`

Definition at line 32 of file StringTransformer.h.

6.737.2.2 `template<typename UnaryOperator > Rcpp::StringTransformer< UnaryOperator >::~StringTransformer ( )`  
`[inline]`

Definition at line 33 of file StringTransformer.h.

### 6.737.3 Member Function Documentation

6.737.3.1 `template<typename UnaryOperator > const char* Rcpp::StringTransformer< UnaryOperator >::operator() ( const char * input )` `[inline]`

Definition at line 35 of file StringTransformer.h.

References `Rcpp::StringTransformer< UnaryOperator >::buffer`, and `Rcpp::StringTransformer< UnaryOperator >::op`.

### 6.737.4 Member Data Documentation

6.737.4.1 `template<typename UnaryOperator > std::string Rcpp::StringTransformer< UnaryOperator >::buffer`  
`[private]`

Definition at line 43 of file StringTransformer.h.

Referenced by `Rcpp::StringTransformer< UnaryOperator >::operator()()`.

6.737.4.2 `template<typename UnaryOperator > const UnaryOperator& Rcpp::StringTransformer< UnaryOperator >::op`  
`[private]`

Definition at line 42 of file StringTransformer.h.

Referenced by `Rcpp::StringTransformer< UnaryOperator >::operator()()`.

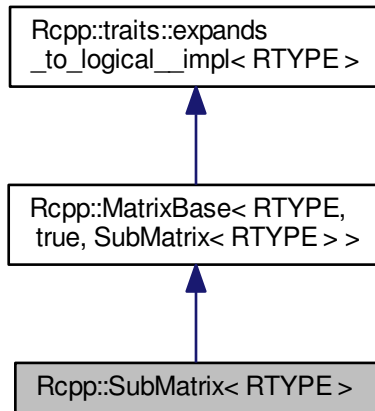
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/StringTransformer.h](#)

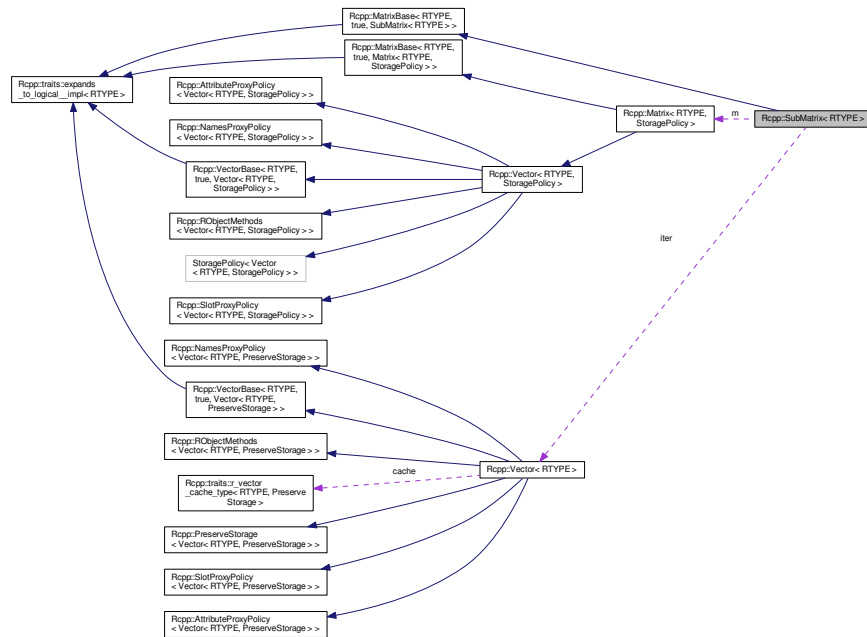
## 6.738 Rcpp::SubMatrix< RTYPE > Class Template Reference

```
#include <SubMatrix.h>
```

Inheritance diagram for Rcpp::SubMatrix< RTYPE >:



Collaboration diagram for Rcpp::SubMatrix< RTYPE >:



## Public Types

- typedef [Matrix](#)< RTYPE > [MATRIX](#)
- typedef [Vector](#)< RTYPE >::iterator [vec\\_iterator](#)
- typedef [MATRIX](#)::Proxy [Proxy](#)

## Public Member Functions

- [SubMatrix](#) ([MATRIX](#) &m\_, const [Range](#) &row\_range\_, const [Range](#) &col\_range\_)
- [R\\_xlen\\_t](#) [size](#) () const
- int [ncol](#) () const
- int [nrow](#) () const
- [Proxy operator](#)() (int i, int j) const
- [vec\\_iterator](#) [column\\_iterator](#) (int j) const

## Private Attributes

- [MATRIX](#) & m
- [vec\\_iterator](#) iter
- int [m\\_nr](#)
- int [nc](#)
- int [nr](#)

### 6.738.1 Detailed Description

```
template<int RTYPE>
class Rcpp::SubMatrix< RTYPE >
```

Definition at line 28 of file SubMatrix.h.

### 6.738.2 Member Typedef Documentation

6.738.2.1 `template<int RTYPE> typedef Matrix<RTYPE> Rcpp::SubMatrix< RTYPE >::MATRIX`

Definition at line 30 of file SubMatrix.h.

6.738.2.2 `template<int RTYPE> typedef MATRIX::Proxy Rcpp::SubMatrix< RTYPE >::Proxy`

Definition at line 32 of file SubMatrix.h.

6.738.2.3 `template<int RTYPE> typedef Vector<RTYPE>::iterator Rcpp::SubMatrix< RTYPE >::vec\_iterator`

Definition at line 31 of file SubMatrix.h.

### 6.738.3 Constructor & Destructor Documentation

6.738.3.1 `template<int RTYPE> Rcpp::SubMatrix< RTYPE >::SubMatrix ( MATRIX & m_, const Range & row_range_, const Range & col_range_ ) [inline]`

Definition at line 34 of file SubMatrix.h.

### 6.738.4 Member Function Documentation

6.738.4.1 `template<int RTYPE> vec_iterator Rcpp::SubMatrix< RTYPE >::column_iterator ( int j ) const [inline]`

Definition at line 50 of file SubMatrix.h.

References `Rcpp::SubMatrix< RTYPE >::iter`, and `Rcpp::SubMatrix< RTYPE >::m_nr`.

Referenced by `Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix()`, and `Rcpp::Matrix< RTYPE, StoragePolicy >::operator=()`.

6.738.4.2 `template<int RTYPE> int Rcpp::SubMatrix< RTYPE >::ncol ( ) const [inline]`

Definition at line 43 of file SubMatrix.h.

References `Rcpp::SubMatrix< RTYPE >::nc`.

Referenced by `Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::operator=()`, and `Rcpp::SubMatrix< RTYPE >::size()`.

6.738.4.3 `template<int RTYPE> int Rcpp::SubMatrix< RTYPE >::nrow ( ) const [inline]`

Definition at line 44 of file SubMatrix.h.

References `Rcpp::SubMatrix< RTYPE >::nr`.

Referenced by `Rcpp::Matrix< RTYPE, StoragePolicy >::operator=()`, and `Rcpp::SubMatrix< RTYPE >::size()`.

6.738.4.4 `template<int RTYPE> Proxy Rcpp::SubMatrix< RTYPE >::operator() ( int i, int j ) const [inline]`

Definition at line 46 of file SubMatrix.h.

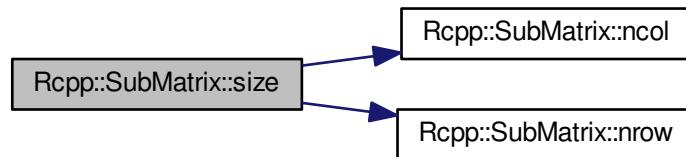
References `Rcpp::SubMatrix< RTYPE >::iter`, and `Rcpp::SubMatrix< RTYPE >::m_nr`.

6.738.4.5 `template<int RTYPE> R_xlen_t Rcpp::SubMatrix< RTYPE >::size ( ) const [inline]`

Definition at line 42 of file SubMatrix.h.

References `Rcpp::SubMatrix< RTYPE >::ncol()`, and `Rcpp::SubMatrix< RTYPE >::nrow()`.

Here is the call graph for this function:



## 6.738.5 Member Data Documentation

6.738.5.1 `template<int RTYPE> vec_iterator Rcpp::SubMatrix< RTYPE >::iter [private]`

Definition at line 54 of file SubMatrix.h.

Referenced by `Rcpp::SubMatrix< RTYPE >::column_iterator()`, and `Rcpp::SubMatrix< RTYPE >::operator()`.

6.738.5.2 `template<int RTYPE> MATRIX& Rcpp::SubMatrix< RTYPE >::m [private]`

Definition at line 53 of file SubMatrix.h.

6.738.5.3 `template<int RTYPE> int Rcpp::SubMatrix< RTYPE >::m_nr [private]`

Definition at line 55 of file SubMatrix.h.

Referenced by `Rcpp::SubMatrix< RTYPE >::column_iterator()`, and `Rcpp::SubMatrix< RTYPE >::operator()`.

6.738.5.4 `template<int RTYPE> int Rcpp::SubMatrix< RTYPE >::nc [private]`

Definition at line 55 of file SubMatrix.h.

Referenced by `Rcpp::SubMatrix< RTYPE >::ncol()`.

## 6.739 Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T > Class Template Reference

6.738.5.5 `template<int RTYPE> int Rcpp::SubMatrix< RTYPE >::nr` [private]

Definition at line 55 of file SubMatrix.h.

Referenced by `Rcpp::SubMatrix< RTYPE >::nrow()`.

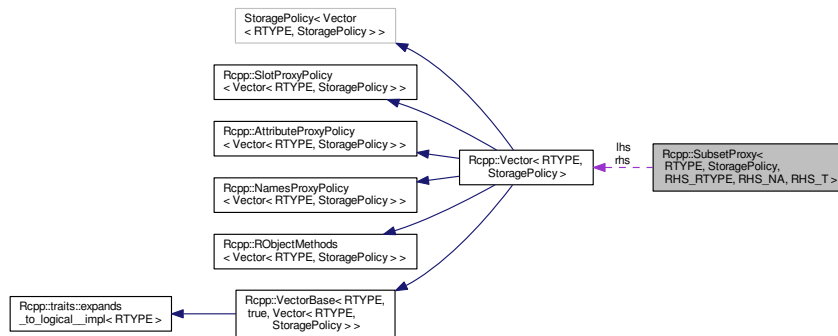
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/vector/SubMatrix.h`

## 6.739 Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T > Class Template Reference

```
#include <Subsetter.h>
```

Collaboration diagram for `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >`:



### Public Member Functions

- `SubsetProxy` (`LHS_t` &`lhs_`, `const RHS_t` &`rhs_`)
- `SubsetProxy` (`const SubsetProxy` &`other`)
- `template<int OtherRTYPE, template< class > class OtherStoragePolicy>`  
`SubsetProxy` & `operator=` (`const Vector`< `OtherRTYPE`, `OtherStoragePolicy` > &`other`)
- `SubsetProxy` & `operator=` (`double other`)
- `SubsetProxy` & `operator=` (`int other`)
- `SubsetProxy` & `operator=` (`const char *other`)
- `SubsetProxy` & `operator=` (`bool other`)
- `template<int RTYPE_OTHER, template< class > class StoragePolicyOther, int RHS_RTYPE_OTHER, bool RHS_NA_OTHER, typename RHS_T_OTHER >`  
`SubsetProxy` & `operator=` (`const SubsetProxy`< `RTYPE_OTHER`, `StoragePolicyOther`, `RHS_RTYPE_OTHER`, `RHS_NA_OTHER`, `RHS_T_OTHER` > &`other`)
- `SubsetProxy` & `operator=` (`const SubsetProxy` &`other`)
- `operator Vector`< `RTYPE`, `StoragePolicy` > () `const`
- `operator SEXP` () `const`

## Private Types

- typedef [Vector](#)< RTYPE, StoragePolicy > [LHS\\_t](#)
- typedef [Vector](#)< RHS\_RTYPE, StoragePolicy > [RHS\\_t](#)

## Private Member Functions

- void [check\\_indices](#) (int \*x, int n, int size)
- void [get\\_indices](#) (traits::identity< traits::int2type< INTSXP > > t)
- void [get\\_indices](#) (traits::identity< traits::int2type< REALSXP > > t)
- void [get\\_indices](#) (traits::identity< traits::int2type< STRSXP > > t)
- void [get\\_indices](#) (traits::identity< traits::int2type< LGLSXP > > t)
- [Vector](#)< RTYPE, StoragePolicy > [get\\_vec](#) () const

## Private Attributes

- [LHS\\_t](#) & [lhs](#)
- const [RHS\\_t](#) & [rhs](#)
- int [lhs\\_n](#)
- int [rhs\\_n](#)
- std::vector< int > [indices](#)
- int [indices\\_n](#)

### 6.739.1 Detailed Description

```
template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T>
class Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >
```

Definition at line 31 of file Subsetter.h.

### 6.739.2 Member Typedef Documentation

6.739.2.1 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> typedef Vector<RTYPE, StoragePolicy> Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::LHS\_t [private]`

Definition at line 33 of file Subsetter.h.

6.739.2.2 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> typedef Vector<RHS_RTYPE, StoragePolicy> Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::RHS\_t [private]`

Definition at line 34 of file Subsetter.h.



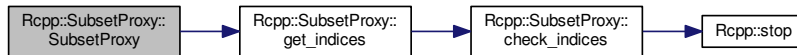
### 6.739.3 Constructor & Destructor Documentation

6.739.3.1 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::SubsetProxy ( LHS_t & lhs_, const RHS_t & rhs_ ) [inline]`

Definition at line 38 of file Subsetter.h.

References Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T >::get\_indices().

Here is the call graph for this function:



6.739.3.2 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::SubsetProxy ( const SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T > & other ) [inline]`

Definition at line 43 of file Subsetter.h.

### 6.739.4 Member Function Documentation

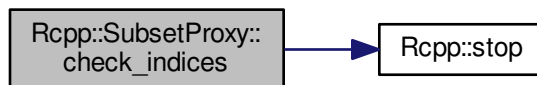
6.739.4.1 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> void Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::check_indices ( int * x, int n, int size ) [inline],[private]`

Definition at line 135 of file Subsetter.h.

References Rcpp::stop().

Referenced by Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T >::get\_indices().

Here is the call graph for this function:



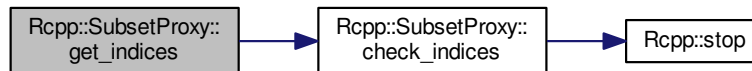
6.739.4.2 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> void Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices ( traits::identity< traits::int2type< INTSXP > > t ) [inline],[private]`

Definition at line 146 of file Subsetter.h.

References `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::check_indices()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices_n`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs_n`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::rhs`, and `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::rhs_n`.

Referenced by `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::SubsetProxy()`.

Here is the call graph for this function:

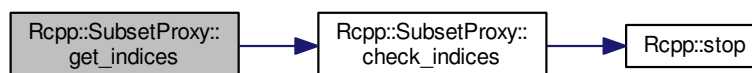


6.739.4.3 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> void Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices ( traits::identity< traits::int2type< REALSXP > > t ) [inline],[private]`

Definition at line 156 of file Subsetter.h.

References `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::check_indices()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices_n`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs_n`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::rhs`, and `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::rhs_n`.

Here is the call graph for this function:



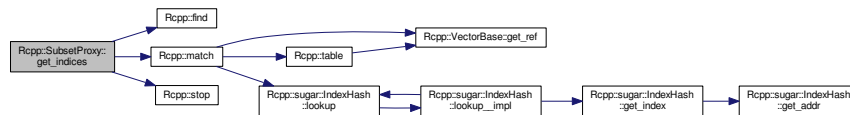
## 6.739 Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T > Class Template Reference

6.739.4.4 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> void Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices ( traits::identity< traits::int2type< STRSXP >> t ) [inline],[private]`

Definition at line 168 of file Subsetter.h.

References `Rcpp::find()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices_n`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs_n`, `Rcpp::match()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::rhs`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::rhs_n`, and `Rcpp::stop()`.

Here is the call graph for this function:

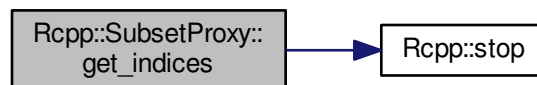


6.739.4.5 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> void Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices ( traits::identity< traits::int2type< LGLSXP >> t ) [inline],[private]`

Definition at line 183 of file Subsetter.h.

References `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices_n`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs_n`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::rhs`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::rhs_n`, and `Rcpp::stop()`.

Here is the call graph for this function:



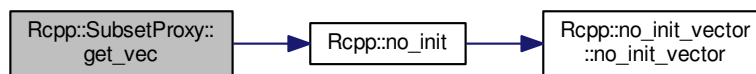
```
6.739.4.6 template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T>
Vector<RTYPE, StoragePolicy> Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T
>::get_vec( ) const [inline],[private]
```

Definition at line 200 of file Subsetter.h.

References Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T >::indices, Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T >::indices\_n, Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T >::lhs, and Rcpp::no\_init().

Referenced by Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T >::operator SEXP(), and Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T >::operator Vector< RTYPE, StoragePolicy >().

Here is the call graph for this function:

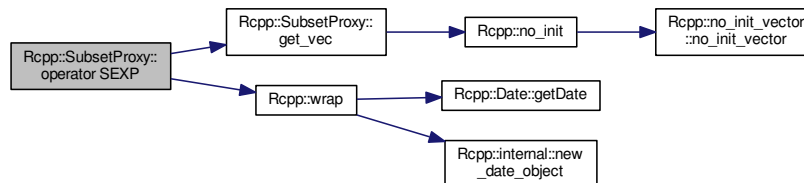


```
6.739.4.7 template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T>
Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator SEXP ( ) const
[inline]
```

Definition at line 128 of file Subsetter.h.

References Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T >::get\_vec(), and Rcpp::wrap().

Here is the call graph for this function:



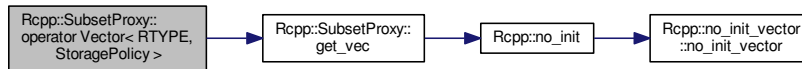
## 6.739 Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T > Class Template Reference

6.739.4.8 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T>  
Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator Vector< RTYPE,  
StoragePolicy > ( ) const [inline]`

Definition at line 124 of file Subsetter.h.

References `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_vec()`.

Here is the call graph for this function:

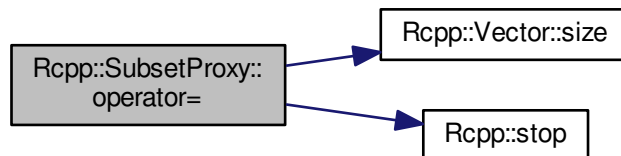


6.739.4.9 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T>  
template<int OtherRTYPE, template< class > class OtherStoragePolicy> SubsetProxy& Rcpp::SubsetProxy<  
RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator= ( const Vector< OtherRTYPE, OtherStoragePolicy >  
& other ) [inline]`

Definition at line 53 of file Subsetter.h.

References `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices_n`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs`, `Rcpp::Vector< RTYPE, StoragePolicy >::size()`, and `Rcpp::stop()`.

Here is the call graph for this function:



6.739.4.10 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> SubsetProxy& Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator=( double other ) [inline]`

Definition at line 72 of file Subsetter.h.

References `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices_n`, and `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs`.

6.739.4.11 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> SubsetProxy& Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator=( int other ) [inline]`

Definition at line 79 of file Subsetter.h.

References `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices_n`, and `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs`.

6.739.4.12 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> SubsetProxy& Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator=( const char * other ) [inline]`

Definition at line 86 of file Subsetter.h.

References `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices_n`, and `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs`.

6.739.4.13 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> SubsetProxy& Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator=( bool other ) [inline]`

Definition at line 93 of file Subsetter.h.

References `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices_n`, and `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs`.

6.739.4.14 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> template<int RTYPE_OTHER, template< class > class StoragePolicyOther, int RHS_RTYPE_OTHER, bool RHS_NA_OTHER, typename RHS_T_OTHER > SubsetProxy& Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator=( const SubsetProxy< RTYPE_OTHER, StoragePolicyOther, RHS_RTYPE_OTHER, RHS_NA_OTHER, RHS_T_OTHER > & other ) [inline]`

Definition at line 101 of file Subsetter.h.

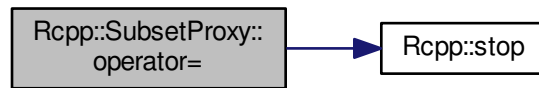
## 6.739 Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\_RTYPE, RHS\_NA, RHS\_T > Class Template Reference

6.739.4.15 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> SubsetProxy& Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator= ( const SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T > & other ) [inline]`

Definition at line 108 of file Subsetter.h.

References `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices_n`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs`, and `Rcpp::stop()`.

Here is the call graph for this function:



### 6.739.5 Member Data Documentation

6.739.5.1 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> std::vector<int> Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices [private]`

Definition at line 222 of file Subsetter.h.

Referenced by `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_vec()`, and `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator=()`.

6.739.5.2 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> int Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::indices_n [private]`

Definition at line 225 of file Subsetter.h.

Referenced by `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_vec()`, and `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator=()`.

6.739.5.3 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> LHS_t& Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs [private]`

Definition at line 217 of file Subsetter.h.

Referenced by `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_vec()`, and `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::operator=()`.

6.739.5.4 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> int Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::lhs_n [private]`

Definition at line 219 of file Subsetter.h.

Referenced by `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices()`.

6.739.5.5 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> const RHS_t& Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::rhs [private]`

Definition at line 218 of file Subsetter.h.

Referenced by `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices()`.

6.739.5.6 `template<int RTYPE, template< class > class StoragePolicy, int RHS_RTYPE, bool RHS_NA, typename RHS_T> int Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::rhs_n [private]`

Definition at line 220 of file Subsetter.h.

Referenced by `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T >::get_indices()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/vector/Subsetter.h](#)

## 6.740 `tinyformat::detail::is_convertible< T1, T2 >::succeed` Struct Reference

### Public Attributes

- char `dummy`

### 6.740.1 Detailed Description

```
template<typename T1, typename T2>
struct tinyformat::detail::is_convertible< T1, T2 >::succeed
```

Definition at line 190 of file `tinyformat.h`.



## 6.740.2 Member Data Documentation

6.740.2.1 `template<typename T1 , typename T2 > char tinyformat::detail::is_convertible< T1, T2 >::succeed::dummy`

Definition at line 190 of file `tinyformat.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/utils/tinyformat.h](#)

## 6.741 Rcpp::sugar::sugar\_const\_iterator\_type< T > Struct Template Reference

```
#include <iterator.h>
```

### Public Types

- typedef [SugarIterator< T > type](#)

### 6.741.1 Detailed Description

```
template<typename T>
struct Rcpp::sugar::sugar_const_iterator_type< T >
```

Definition at line 110 of file `iterator.h`.

### 6.741.2 Member Typedef Documentation

6.741.2.1 `template<typename T> typedef SugarIterator<T> Rcpp::sugar::sugar_const_iterator_type< T >::type`

Definition at line 111 of file `iterator.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/tools/iterator.h](#)

## 6.742 Rcpp::sugar::sugar\_const\_iterator\_type< CharacterVector > Struct Template Reference

```
#include <iterator.h>
```

## Public Types

- typedef SEXP \* [type](#)

### 6.742.1 Detailed Description

```
template<>
struct Rcpp::sugar::sugar_const_iterator_type< CharacterVector >
```

Definition at line 116 of file iterator.h.

### 6.742.2 Member Typedef Documentation

6.742.2.1 typedef SEXP\* [Rcpp::sugar::sugar\\_const\\_iterator\\_type< CharacterVector >::type](#)

Definition at line 117 of file iterator.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/sugar/tools/[iterator.h](#)

## 6.743 Rcpp::sugar::sugar\_const\_iterator\_type< Rcpp::Vector< RTYPE > > Struct Template Reference

```
#include <iterator.h>
```

## Public Types

- typedef [Rcpp::Vector< RTYPE >::const\\_iterator](#) [type](#)

### 6.743.1 Detailed Description

```
template<int RTYPE>
struct Rcpp::sugar::sugar_const_iterator_type< Rcpp::Vector< RTYPE > >
```

Definition at line 113 of file iterator.h.

## 6.743.2 Member Typedef Documentation

6.743.2.1 `template<int RTYPE> typedef Rcpp::Vector<RTYPE>::const_iterator Rcpp::sugar::sugar_const_iterator_↵  
type< Rcpp::Vector< RTYPE > >::type`

Definition at line 114 of file `iterator.h`.

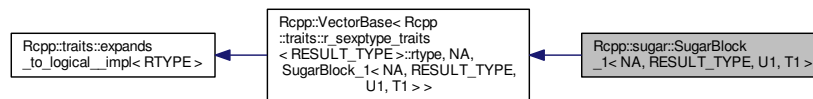
The documentation for this struct was generated from the following file:

- `inst/include/Rcpp/sugar/tools/iterator.h`

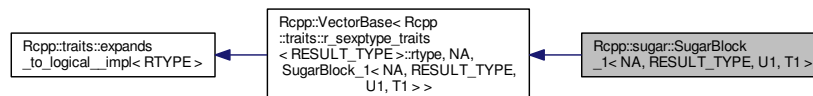
## 6.744 Rcpp::sugar::SugarBlock\_1< NA, RESULT\_TYPE, U1, T1 > Class Template Reference

```
#include <SugarBlock_1.h>
```

Inheritance diagram for `Rcpp::sugar::SugarBlock_1< NA, RESULT_TYPE, U1, T1 >`:



Collaboration diagram for `Rcpp::sugar::SugarBlock_1< NA, RESULT_TYPE, U1, T1 >`:



### Public Types

- `typedef RESULT_TYPE(* FunPtr) (U1)`

### Public Member Functions

- `SugarBlock_1 (FunPtr ptr_, const T1 &vec_)`
- `RESULT_TYPE operator[] (R_xlen_t i) const`
- `R_xlen_t size () const`

## Private Attributes

- [FunPtr ptr](#)
- const T1 & [vec](#)

### 6.744.1 Detailed Description

```
template<bool NA, typename RESULT_TYPE, typename U1, typename T1>
class Rcpp::sugar::SugarBlock_1< NA, RESULT_TYPE, U1, T1 >
```

Definition at line 29 of file SugarBlock\_1.h.

### 6.744.2 Member Typedef Documentation

```
6.744.2.1 template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 > typedef RESULT_TYPE(*
Rcpp::sugar::SugarBlock_1< NA, RESULT_TYPE, U1, T1 >::FunPtr) (U1)
```

Definition at line 31 of file SugarBlock\_1.h.

### 6.744.3 Constructor & Destructor Documentation

```
6.744.3.1 template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 > Rcpp::sugar::SugarBlock_1< NA,
RESULT_TYPE, U1, T1 >::SugarBlock_1 ( FunPtr ptr_, const T1 & vec_ ) [inline]
```

Definition at line 32 of file SugarBlock\_1.h.

### 6.744.4 Member Function Documentation

```
6.744.4.1 template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 > RESULT_TYPE
Rcpp::sugar::SugarBlock_1< NA, RESULT_TYPE, U1, T1 >::operator[] ( R_xlen_t i ) const [inline]
```

Definition at line 34 of file SugarBlock\_1.h.

References [Rcpp::sugar::SugarBlock\\_1< NA, RESULT\\_TYPE, U1, T1 >::ptr](#), and [Rcpp::sugar::SugarBlock\\_1< NA, RESULT\\_TYPE, U1, T1 >::vec](#).

```
6.744.4.2 template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 > R_xlen_t Rcpp::sugar::SugarBlock_1<
NA, RESULT_TYPE, U1, T1 >::size ( ) const [inline]
```

Definition at line 37 of file SugarBlock\_1.h.

References [Rcpp::sugar::SugarBlock\\_1< NA, RESULT\\_TYPE, U1, T1 >::vec](#).

### 6.744.5 Member Data Documentation

6.744.5.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 > FunPtr Rcpp::sugar::SugarBlock_1< NA, RESULT_TYPE, U1, T1 >::ptr` [private]

Definition at line 40 of file SugarBlock\_1.h.

Referenced by `Rcpp::sugar::SugarBlock_1< NA, RESULT_TYPE, U1, T1 >::operator[]()`.

6.744.5.2 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 > const T1& Rcpp::sugar::SugarBlock_1< NA, RESULT_TYPE, U1, T1 >::vec` [private]

Definition at line 41 of file SugarBlock\_1.h.

Referenced by `Rcpp::sugar::SugarBlock_1< NA, RESULT_TYPE, U1, T1 >::operator[]()`, and `Rcpp::sugar::SugarBlock_1< NA, RESULT_TYPE, U1, T1 >::size()`.

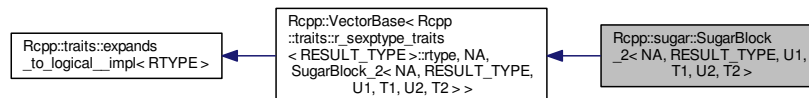
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/block/SugarBlock\\_1.h](#)

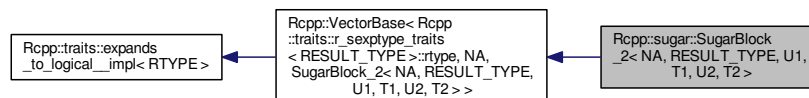
## 6.745 Rcpp::sugar::SugarBlock\_2< NA, RESULT\_TYPE, U1, T1, U2, T2 > Class Template Reference

```
#include <SugarBlock_2.h>
```

Inheritance diagram for `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >`:



Collaboration diagram for `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >`:



## Public Types

- typedef RESULT\_TYPE(\* FunPtr) (U1, U2)

## Public Member Functions

- SugarBlock\_2 (FunPtr ptr\_, const T1 &x\_, const T2 &y\_)
- RESULT\_TYPE operator[] (R\_xlen\_t i) const
- R\_xlen\_t size () const

## Private Attributes

- FunPtr ptr
- const T1 &x
- const T2 &y

### 6.745.1 Detailed Description

```
template<bool NA, typename RESULT_TYPE, typename U1, typename T1, typename U2, typename T2>
class Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >
```

Definition at line 29 of file SugarBlock\_2.h.

### 6.745.2 Member Typedef Documentation

6.745.2.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 > typedef RESULT_TYPE(* Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::FunPtr) (U1, U2)`

Definition at line 31 of file SugarBlock\_2.h.

### 6.745.3 Constructor & Destructor Documentation

6.745.3.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 > Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::SugarBlock_2 ( FunPtr ptr_, const T1 &x_, const T2 &y_ ) [inline]`

Definition at line 32 of file SugarBlock\_2.h.

#### 6.745.4 Member Function Documentation

6.745.4.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 > RESULT_TYPE Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 37 of file SugarBlock\_2.h.

References `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::ptr`, `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::x`, and `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::y`.

6.745.4.2 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 > R_xlen_t Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::size ( ) const [inline]`

Definition at line 40 of file SugarBlock\_2.h.

References `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::x`.

#### 6.745.5 Member Data Documentation

6.745.5.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 > FunPtr Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::ptr [private]`

Definition at line 43 of file SugarBlock\_2.h.

Referenced by `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::operator[]()`, `Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >::operator[]()`, and `Rcpp::sugar::SugarBlock_2__PV< NA, RESULT_TYPE, U1, U2, T2 >::operator[]()`.

6.745.5.2 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 > const T1& Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::x [private]`

Definition at line 44 of file SugarBlock\_2.h.

Referenced by `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::operator[]()`, `Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >::operator[]()`, `Rcpp::sugar::SugarBlock_2__PV< NA, RESULT_TYPE, U1, U2, T2 >::operator[]()`, `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::size()`, and `Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >::size()`.

6.745.5.3 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 > const T2& Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::y [private]`

Definition at line 45 of file SugarBlock\_2.h.

Referenced by `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::operator[]()`, `Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >::operator[]()`, `Rcpp::sugar::SugarBlock_2__PV< NA, RESULT_TYPE, U1, U2, T2 >::operator[]()`, and `Rcpp::sugar::SugarBlock_2__PV< NA, RESULT_TYPE, U1, U2, T2 >::size()`.

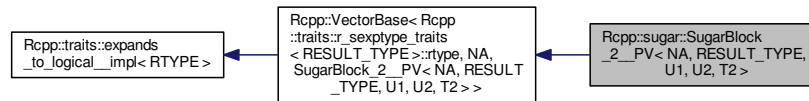
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/block/SugarBlock\\_2.h](#)

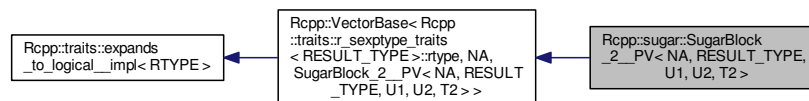
## 6.746 Rcpp::sugar::SugarBlock\_2\_PV< NA, RESULT\_TYPE, U1, U2, T2 > Class Template Reference

```
#include <SugarBlock_2.h>
```

Inheritance diagram for Rcpp::sugar::SugarBlock\_2\_PV< NA, RESULT\_TYPE, U1, U2, T2 >:



Collaboration diagram for Rcpp::sugar::SugarBlock\_2\_PV< NA, RESULT\_TYPE, U1, U2, T2 >:



### Public Types

- typedef RESULT\_TYPE(\* FunPtr) (U1, U2)

### Public Member Functions

- SugarBlock\_2\_PV (FunPtr ptr\_, U1 u1, const T2 &y\_)
- RESULT\_TYPE operator[] (R\_xlen\_t i) const
- R\_xlen\_t size () const

### Private Attributes

- FunPtr ptr
- U1 x
- const T2 & y

### 6.746.1 Detailed Description

```
template<bool NA, typename RESULT_TYPE, typename U1, typename U2, typename T2>
class Rcpp::sugar::SugarBlock_2_PV< NA, RESULT_TYPE, U1, U2, T2 >
```

Definition at line 68 of file SugarBlock\_2.h.



## 6.746.2 Member Typedef Documentation

6.746.2.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename U2 , typename T2 > typedef RESULT_TYPE(* Rcpp::sugar::SugarBlock_2__PV< NA, RESULT_TYPE, U1, U2, T2 >::FunPtr) (U1, U2)`

Definition at line 70 of file SugarBlock\_2.h.

## 6.746.3 Constructor & Destructor Documentation

6.746.3.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename U2 , typename T2 > Rcpp::sugar::SugarBlock_2__PV< NA, RESULT_TYPE, U1, U2, T2 >::SugarBlock_2__PV ( FunPtr ptr_, U1 u1, const T2 & y_ ) [inline]`

Definition at line 71 of file SugarBlock\_2.h.

## 6.746.4 Member Function Documentation

6.746.4.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename U2 , typename T2 > RESULT_TYPE Rcpp::sugar::SugarBlock_2__PV< NA, RESULT_TYPE, U1, U2, T2 >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 74 of file SugarBlock\_2.h.

References `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::ptr`, `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::x`, and `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::y`.

6.746.4.2 `template<bool NA, typename RESULT_TYPE , typename U1 , typename U2 , typename T2 > R_xlen_t Rcpp::sugar::SugarBlock_2__PV< NA, RESULT_TYPE, U1, U2, T2 >::size ( ) const [inline]`

Definition at line 77 of file SugarBlock\_2.h.

References `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::y`.

## 6.746.5 Member Data Documentation

6.746.5.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename U2 , typename T2 > FunPtr Rcpp::sugar::SugarBlock_2__PV< NA, RESULT_TYPE, U1, U2, T2 >::ptr [private]`

Definition at line 80 of file SugarBlock\_2.h.

6.746.5.2 `template<bool NA, typename RESULT_TYPE , typename U1 , typename U2 , typename T2 > U1 Rcpp::sugar::SugarBlock_2__PV< NA, RESULT_TYPE, U1, U2, T2 >::x [private]`

Definition at line 81 of file SugarBlock\_2.h.

6.746.5.3 `template<bool NA, typename RESULT_TYPE , typename U1 , typename U2 , typename T2 > const T2& Rcpp::sugar::SugarBlock_2__PV< NA, RESULT_TYPE, U1, U2, T2 >::y [private]`

Definition at line 82 of file SugarBlock\_2.h.

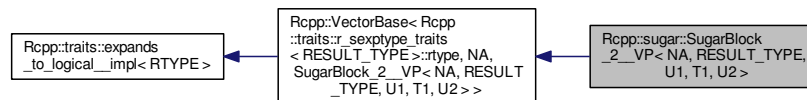
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/block/SugarBlock\\_2.h](#)

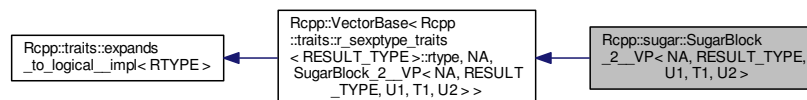
## 6.747 Rcpp::sugar::SugarBlock\_2\_\_VP< NA, RESULT\_TYPE, U1, T1, U2 > Class Template Reference

```
#include <SugarBlock_2.h>
```

Inheritance diagram for Rcpp::sugar::SugarBlock\_2\_\_VP< NA, RESULT\_TYPE, U1, T1, U2 >:



Collaboration diagram for Rcpp::sugar::SugarBlock\_2\_\_VP< NA, RESULT\_TYPE, U1, T1, U2 >:



### Public Types

- `typedef RESULT_TYPE(* FunPtr) (U1, U2)`

### Public Member Functions

- `SugarBlock_2__VP (FunPtr ptr_, const T1 &x_, U2 u2)`
- `RESULT_TYPE operator[] (R_xlen_t i) const`
- `R_xlen_t size () const`

## Private Attributes

- [FunPtr ptr](#)
- `const T1 & x`
- `U2 y`

### 6.747.1 Detailed Description

```
template<bool NA, typename RESULT_TYPE, typename U1, typename T1, typename U2>
class Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >
```

Definition at line 50 of file SugarBlock\_2.h.

### 6.747.2 Member Typedef Documentation

6.747.2.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 > typedef RESULT_TYPE(* Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >::FunPtr) (U1, U2)`

Definition at line 52 of file SugarBlock\_2.h.

### 6.747.3 Constructor & Destructor Documentation

6.747.3.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 > Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >::SugarBlock_2__VP ( FunPtr ptr_, const T1 & x_, U2 u2 ) [inline]`

Definition at line 53 of file SugarBlock\_2.h.

### 6.747.4 Member Function Documentation

6.747.4.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 > RESULT_TYPE Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 56 of file SugarBlock\_2.h.

References `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::ptr`, `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::x`, and `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::y`.

6.747.4.2 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 > R_xlen_t Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >::size ( ) const [inline]`

Definition at line 59 of file SugarBlock\_2.h.

References `Rcpp::sugar::SugarBlock_2< NA, RESULT_TYPE, U1, T1, U2, T2 >::x`.

### 6.747.5 Member Data Documentation

6.747.5.1 `template<bool NA, typename RESULT_TYPE, typename U1, typename T1, typename U2 > FunPtr  
Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >::ptr [private]`

Definition at line 62 of file SugarBlock\_2.h.

6.747.5.2 `template<bool NA, typename RESULT_TYPE, typename U1, typename T1, typename U2 > const T1&  
Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >::x [private]`

Definition at line 63 of file SugarBlock\_2.h.

6.747.5.3 `template<bool NA, typename RESULT_TYPE, typename U1, typename T1, typename U2 > U2  
Rcpp::sugar::SugarBlock_2__VP< NA, RESULT_TYPE, U1, T1, U2 >::y [private]`

Definition at line 64 of file SugarBlock\_2.h.

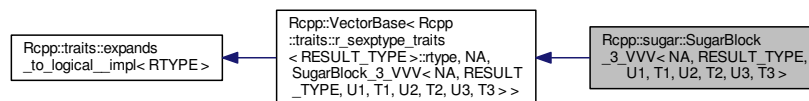
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/block/SugarBlock\\_2.h](#)

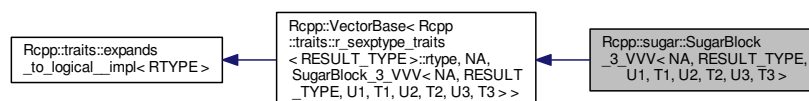
## 6.748 Rcpp::sugar::SugarBlock\_3\_VVV< NA, RESULT\_TYPE, U1, T1, U2, T2, U3, T3 > Class Template Reference

```
#include <SugarBlock_3.h>
```

Inheritance diagram for Rcpp::sugar::SugarBlock\_3\_VVV< NA, RESULT\_TYPE, U1, T1, U2, T2, U3, T3 >:



Collaboration diagram for Rcpp::sugar::SugarBlock\_3\_VVV< NA, RESULT\_TYPE, U1, T1, U2, T2, U3, T3 >:



## Public Types

- typedef RESULT\_TYPE(\* FunPtr) (U1, U2, U3)

## Public Member Functions

- SugarBlock\_3\_VVV (FunPtr ptr\_, const T1 &x\_, const T2 &y\_, const T3 &z\_)
- RESULT\_TYPE operator[] (R\_xlen\_t i) const
- R\_xlen\_t size () const

## Private Attributes

- FunPtr ptr
- const T1 & x
- const T2 & y
- const T2 & z

### 6.748.1 Detailed Description

```
template<bool NA, typename RESULT_TYPE, typename U1, typename T1, typename U2, typename T2, typename U3, typename T3>
class Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >
```

Definition at line 34 of file SugarBlock\_3.h.

### 6.748.2 Member Typedef Documentation

6.748.2.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 , typename U3 , typename T3 > typedef RESULT_TYPE(* Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::FunPtr) (U1, U2, U3)`

Definition at line 39 of file SugarBlock\_3.h.

### 6.748.3 Constructor & Destructor Documentation

6.748.3.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 , typename U3 , typename T3 > Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::SugarBlock_3_VVV ( FunPtr ptr_, const T1 & x_, const T2 & y_, const T3 & z_ ) [inline]`

Definition at line 40 of file SugarBlock\_3.h.

## 6.748.4 Member Function Documentation

6.748.4.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 , typename U3 ,  
typename T3 > RESULT_TYPE Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 44 of file SugarBlock\_3.h.

References `Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::ptr`, `Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::x`, `Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::y`, and `Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::z`.

6.748.4.2 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 , typename U3 ,  
typename T3 > R_xlen_t Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::size ( ) const [inline]`

Definition at line 47 of file SugarBlock\_3.h.

References `Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::x`.

## 6.748.5 Member Data Documentation

6.748.5.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 , typename U3 ,  
typename T3 > FunPtr Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::ptr  
[private]`

Definition at line 50 of file SugarBlock\_3.h.

Referenced by `Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::operator[]()`.

6.748.5.2 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 , typename U3 ,  
typename T3 > const T1& Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::x  
[private]`

Definition at line 51 of file SugarBlock\_3.h.

Referenced by `Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::operator[]()`, and `Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::size()`.

6.748.5.3 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 , typename U3 ,  
typename T3 > const T2& Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::y  
[private]`

Definition at line 52 of file SugarBlock\_3.h.

Referenced by `Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::operator[]()`.

```
6.748.5.4 template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename U2 , typename T2 , typename U3 ,
typename T3 > const T& Rcpp::sugar::SugarBlock_3_VVV< NA, RESULT_TYPE, U1, T1, U2, T2, U3, T3 >::z
[private]
```

Definition at line 53 of file SugarBlock\_3.h.

Referenced by Rcpp::sugar::SugarBlock\_3\_VVV< NA, RESULT\_TYPE, U1, T1, U2, T2, U3, T3 >::operator[ ]().

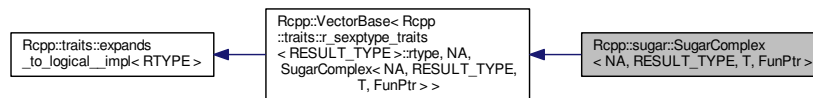
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/block/SugarBlock\\_3.h](#)

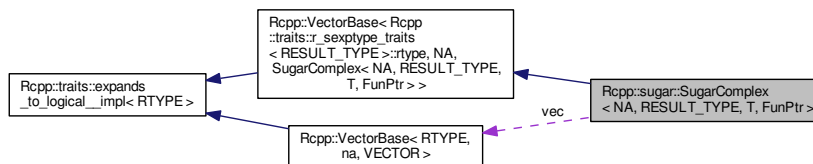
## 6.749 Rcpp::sugar::SugarComplex< NA, RESULT\_TYPE, T, FunPtr > Class Template Reference

```
#include <complex.h>
```

Inheritance diagram for Rcpp::sugar::SugarComplex< NA, RESULT\_TYPE, T, FunPtr >:



Collaboration diagram for Rcpp::sugar::SugarComplex< NA, RESULT\_TYPE, T, FunPtr >:



### Public Types

- typedef [Rcpp::VectorBase< CPLXSP, NA, T >](#) [VEC\\_TYPE](#)

## Public Member Functions

- [SugarComplex](#) (FunPtr ptr\_, const [VEC\\_TYPE](#) &vec\_)
- [RESULT\\_TYPE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- FunPtr [ptr](#)
- const [VEC\\_TYPE](#) & [vec](#)

### 6.749.1 Detailed Description

```
template<bool NA, typename RESULT_TYPE, typename T, typename FunPtr>
class Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >
```

Definition at line 36 of file complex.h.

### 6.749.2 Member Typedef Documentation

```
6.749.2.1 template<bool NA, typename RESULT_TYPE , typename T , typename FunPtr > typedef
Rcpp::VectorBase<CPLXSP,NA,T> Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr
>::VEC_TYPE
```

Definition at line 43 of file complex.h.

### 6.749.3 Constructor & Destructor Documentation

```
6.749.3.1 template<bool NA, typename RESULT_TYPE , typename T , typename FunPtr > Rcpp::sugar::SugarComplex< NA,
RESULT_TYPE, T, FunPtr >::SugarComplex ( FunPtr ptr_, const VEC_TYPE & vec_ ) [inline]
```

Definition at line 45 of file complex.h.



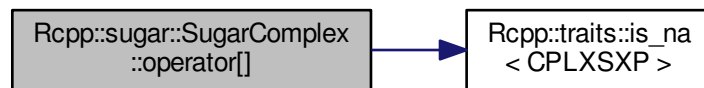
## 6.749.4 Member Function Documentation

6.749.4.1 `template<bool NA, typename RESULT_TYPE , typename T , typename FunPtr > RESULT_TYPE  
Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 47 of file complex.h.

References `Rcpp::traits::is_na< CPLXSXP >()`, `Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::ptr`, and `Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::vec`.

Here is the call graph for this function:



6.749.4.2 `template<bool NA, typename RESULT_TYPE , typename T , typename FunPtr > R_xlen_t  
Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::size ( ) const [inline]`

Definition at line 53 of file complex.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::vec`.

Here is the call graph for this function:



## 6.749.5 Member Data Documentation

6.749.5.1 `template<bool NA, typename RESULT_TYPE , typename T , typename FunPtr > FunPtr  
Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::ptr [private]`

Definition at line 56 of file complex.h.

Referenced by `Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::operator[]()`.

6.749.5.2 `template<bool NA, typename RESULT_TYPE , typename T , typename FunPtr > const VEC_TYPE& Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::vec [private]`

Definition at line 57 of file `complex.h`.

Referenced by `Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::operator[]()`, and `Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::size()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/complex.h`

## 6.750 Rcpp::sugar::SugarIterator< T > Class Template Reference

```
#include <iterator.h>
```

### Public Types

- typedef `R_xlen_t difference_type`
- typedef `Rcpp::traits::storage_type< Rcpp::traits::r_sexptype_traits< T >::rtype >::type STORAGE_TYPE`
- typedef `STORAGE_TYPE reference`
- typedef `STORAGE_TYPE * pointer`
- typedef `std::random_access_iterator_tag iterator_category`
- typedef `SugarIterator iterator`

### Public Member Functions

- `SugarIterator` (const T &ref\_)
- `SugarIterator` (const T &ref\_, R\_xlen\_t index\_)
- `SugarIterator` (const `SugarIterator` &other)
- `iterator & operator++` ()
- `iterator operator++` (int)
- `iterator & operator--` ()
- `iterator operator--` (int)
- `iterator operator+` (`difference_type` n) const
- `iterator operator-` (`difference_type` n) const
- `iterator & operator+=` (`difference_type` n)
- `iterator & operator-=` (`difference_type` n)
- `reference operator[]` (R\_xlen\_t i)
- `reference operator*` ()
- `pointer operator->` ()
- bool `operator==` (const `iterator` &y) const
- bool `operator!=` (const `iterator` &y) const
- bool `operator<` (const `iterator` &other) const
- bool `operator>` (const `iterator` &other) const
- bool `operator<=` (const `iterator` &other) const
- bool `operator>=` (const `iterator` &other) const
- `difference_type operator-` (const `iterator` &other) const

## Private Attributes

- const T & [ref](#)
- R\_xlen\_t [index](#)

### 6.750.1 Detailed Description

```
template<typename T>  
class Rcpp::sugar::SugarIterator< T >
```

Definition at line 30 of file iterator.h.

### 6.750.2 Member Typedef Documentation

6.750.2.1 `template<typename T > typedef R_xlen_t Rcpp::sugar::SugarIterator< T >::difference_type`

Definition at line 33 of file iterator.h.

6.750.2.2 `template<typename T > typedef SugarIterator Rcpp::sugar::SugarIterator< T >::iterator`

Definition at line 38 of file iterator.h.

6.750.2.3 `template<typename T > typedef std::random_access_iterator_tag Rcpp::sugar::SugarIterator< T >::iterator_category`

Definition at line 37 of file iterator.h.

6.750.2.4 `template<typename T > typedef STORAGE_TYPE* Rcpp::sugar::SugarIterator< T >::pointer`

Definition at line 36 of file iterator.h.

6.750.2.5 `template<typename T > typedef STORAGE_TYPE Rcpp::sugar::SugarIterator< T >::reference`

Definition at line 35 of file iterator.h.

6.750.2.6 `template<typename T > typedef Rcpp::traits::storage_type< Rcpp::traits::r_sexptype_traits<T>::rtype >::type Rcpp::sugar::SugarIterator< T >::STORAGE_TYPE`

Definition at line 34 of file iterator.h.

### 6.750.3 Constructor & Destructor Documentation

6.750.3.1 `template<typename T> Rcpp::sugar::SugarIterator< T >::SugarIterator ( const T & ref_ ) [inline]`

Definition at line 40 of file iterator.h.

6.750.3.2 `template<typename T> Rcpp::sugar::SugarIterator< T >::SugarIterator ( const T & ref_, R_xlen_t index_ ) [inline]`

Definition at line 41 of file iterator.h.

6.750.3.3 `template<typename T> Rcpp::sugar::SugarIterator< T >::SugarIterator ( const SugarIterator< T > & other ) [inline]`

Definition at line 42 of file iterator.h.

### 6.750.4 Member Function Documentation

6.750.4.1 `template<typename T> bool Rcpp::sugar::SugarIterator< T >::operator!=( const iterator & y ) const [inline]`

Definition at line 84 of file iterator.h.

References `Rcpp::sugar::SugarIterator< T >::index`.

6.750.4.2 `template<typename T> reference Rcpp::sugar::SugarIterator< T >::operator*( ) [inline]`

Definition at line 74 of file iterator.h.

References `Rcpp::sugar::SugarIterator< T >::index`, and `Rcpp::sugar::SugarIterator< T >::ref`.

6.750.4.3 `template<typename T> iterator Rcpp::sugar::SugarIterator< T >::operator+( difference_type n ) const [inline]`

Definition at line 56 of file iterator.h.

References `Rcpp::sugar::SugarIterator< T >::index`, and `Rcpp::sugar::SugarIterator< T >::ref`.

6.750.4.4 `template<typename T> iterator& Rcpp::sugar::SugarIterator< T >::operator++( ) [inline]`

Definition at line 44 of file iterator.h.

References `Rcpp::sugar::SugarIterator< T >::index`.

6.750.4.5 `template<typename T > iterator Rcpp::sugar::SugarIterator< T >::operator++( int ) [inline]`

Definition at line 45 of file iterator.h.

6.750.4.6 `template<typename T > iterator& Rcpp::sugar::SugarIterator< T >::operator+=( difference_type n ) [inline]`

Definition at line 62 of file iterator.h.

References Rcpp::sugar::SugarIterator< T >::index.

6.750.4.7 `template<typename T > iterator Rcpp::sugar::SugarIterator< T >::operator-( difference_type n ) const [inline]`

Definition at line 59 of file iterator.h.

References Rcpp::sugar::SugarIterator< T >::index, and Rcpp::sugar::SugarIterator< T >::ref.

6.750.4.8 `template<typename T > difference_type Rcpp::sugar::SugarIterator< T >::operator-( const iterator & other ) const [inline]`

Definition at line 100 of file iterator.h.

References Rcpp::sugar::SugarIterator< T >::index.

6.750.4.9 `template<typename T > iterator& Rcpp::sugar::SugarIterator< T >::operator--( ) [inline]`

Definition at line 50 of file iterator.h.

References Rcpp::sugar::SugarIterator< T >::index.

6.750.4.10 `template<typename T > iterator Rcpp::sugar::SugarIterator< T >::operator--( int ) [inline]`

Definition at line 51 of file iterator.h.

6.750.4.11 `template<typename T > iterator& Rcpp::sugar::SugarIterator< T >::operator-=( difference_type n ) [inline]`

Definition at line 66 of file iterator.h.

References Rcpp::sugar::SugarIterator< T >::index.

6.750.4.12 `template<typename T> pointer Rcpp::sugar::SugarIterator< T >::operator-> ( ) [inline]`

Definition at line 77 of file iterator.h.

References `Rcpp::sugar::SugarIterator< T >::index`, and `Rcpp::sugar::SugarIterator< T >::ref`.

6.750.4.13 `template<typename T> bool Rcpp::sugar::SugarIterator< T >::operator< ( const iterator & other ) const [inline]`

Definition at line 87 of file iterator.h.

References `Rcpp::sugar::SugarIterator< T >::index`.

6.750.4.14 `template<typename T> bool Rcpp::sugar::SugarIterator< T >::operator<= ( const iterator & other ) const [inline]`

Definition at line 93 of file iterator.h.

References `Rcpp::sugar::SugarIterator< T >::index`.

6.750.4.15 `template<typename T> bool Rcpp::sugar::SugarIterator< T >::operator== ( const iterator & y ) const [inline]`

Definition at line 81 of file iterator.h.

References `Rcpp::sugar::SugarIterator< T >::index`.

6.750.4.16 `template<typename T> bool Rcpp::sugar::SugarIterator< T >::operator> ( const iterator & other ) const [inline]`

Definition at line 90 of file iterator.h.

References `Rcpp::sugar::SugarIterator< T >::index`.

6.750.4.17 `template<typename T> bool Rcpp::sugar::SugarIterator< T >::operator>= ( const iterator & other ) const [inline]`

Definition at line 96 of file iterator.h.

References `Rcpp::sugar::SugarIterator< T >::index`.

6.750.4.18 `template<typename T> reference Rcpp::sugar::SugarIterator< T >::operator[]( R_xlen_t i ) [inline]`

Definition at line 70 of file iterator.h.

References `Rcpp::sugar::SugarIterator< T >::index`, and `Rcpp::sugar::SugarIterator< T >::ref`.

## 6.750.5 Member Data Documentation

6.750.5.1 `template<typename T> R_xlen_t Rcpp::sugar::SugarIterator< T >::index [private]`

Definition at line 107 of file iterator.h.

Referenced by `Rcpp::sugar::SugarIterator< T >::operator!==( )`, `Rcpp::sugar::SugarIterator< T >::operator*( )`, `Rcpp::sugar::SugarIterator< T >::operator+( )`, `Rcpp::sugar::SugarIterator< T >::operator++( )`, `Rcpp::sugar::SugarIterator< T >::operator+=( )`, `Rcpp::sugar::SugarIterator< T >::operator-( )`, `Rcpp::sugar::SugarIterator< T >::operator--( )`, `Rcpp::sugar::SugarIterator< T >::operator-=( )`, `Rcpp::sugar::SugarIterator< T >::operator->( )`, `Rcpp::sugar::SugarIterator< T >::operator<( )`, `Rcpp::sugar::SugarIterator< T >::operator<=( )`, `Rcpp::sugar::SugarIterator< T >::operator==( )`, `Rcpp::sugar::SugarIterator< T >::operator>( )`, `Rcpp::sugar::SugarIterator< T >::operator>=( )`, and `Rcpp::sugar::SugarIterator< T >::operator[]( )`.

6.750.5.2 `template<typename T> const T& Rcpp::sugar::SugarIterator< T >::ref [private]`

Definition at line 106 of file iterator.h.

Referenced by `Rcpp::sugar::SugarIterator< T >::operator*( )`, `Rcpp::sugar::SugarIterator< T >::operator+( )`, `Rcpp::sugar::SugarIterator< T >::operator-( )`, `Rcpp::sugar::SugarIterator< T >::operator->( )`, and `Rcpp::sugar::SugarIterator< T >::operator[]( )`.

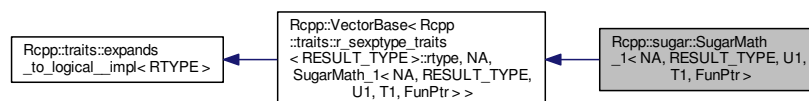
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/tools/iterator.h`

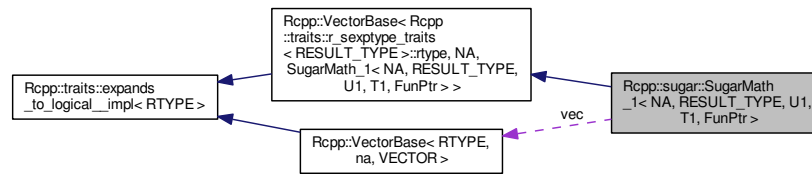
## 6.751 Rcpp::sugar::SugarMath\_1< NA, RESULT\_TYPE, U1, T1, FunPtr > Class Template Reference

```
#include <SugarMath.h>
```

Inheritance diagram for `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >`:



Collaboration diagram for `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >`:



## Public Types

- typedef `Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits< RESULT_TYPE >::rtype,NA, T1 > VEC_TYPE`

## Public Member Functions

- `SugarMath_1` (FunPtr ptr\_, const `VEC_TYPE` &vec\_)
- `RESULT_TYPE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- FunPtr `ptr`
- const `VEC_TYPE` & `vec`

### 6.751.1 Detailed Description

```

template<bool NA, typename RESULT_TYPE, typename U1, typename T1, typename FunPtr>
class Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >
  
```

Definition at line 29 of file SugarMath.h.

### 6.751.2 Member Typedef Documentation

6.751.2.1 `template<bool NA, typename RESULT_TYPE, typename U1, typename T1, typename FunPtr >`  
`typedef Rcpp::VectorBase< Rcpp::traits::r_sexptype_traits<RESULT_TYPE>::rtype,NA,T1>`  
`Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::VEC_TYPE`

Definition at line 36 of file SugarMath.h.



### 6.751.3 Constructor & Destructor Documentation

6.751.3.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename FunPtr >  
Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::SugarMath_1 ( FunPtr ptr_, const  
VEC_TYPE & vec_ ) [inline]`

Definition at line 38 of file SugarMath.h.

### 6.751.4 Member Function Documentation

6.751.4.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename FunPtr > RESULT_TYPE  
Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 40 of file SugarMath.h.

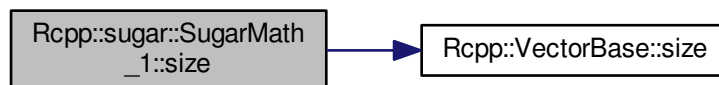
References `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::ptr`, and `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::vec`.

6.751.4.2 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename FunPtr > R_xlen_t  
Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::size ( ) const [inline]`

Definition at line 45 of file SugarMath.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::vec`.

Here is the call graph for this function:



### 6.751.5 Member Data Documentation

6.751.5.1 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename FunPtr > FunPtr  
Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::ptr [private]`

Definition at line 48 of file SugarMath.h.

Referenced by `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::operator[]()`, `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >::operator[]()`, and `Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >::operator[]()`.

6.751.5.2 `template<bool NA, typename RESULT_TYPE , typename U1 , typename T1 , typename FunPtr > const VEC_TYPE& Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::vec` [private]

Definition at line 49 of file SugarMath.h.

Referenced by `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::operator[]()`, `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >::operator[]()`, `Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >::operator[]()`, `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::size()`, `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >::size()`, and `Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >::size()`.

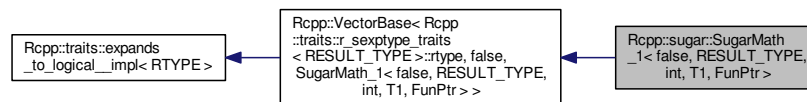
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/block/SugarMath.h](#)

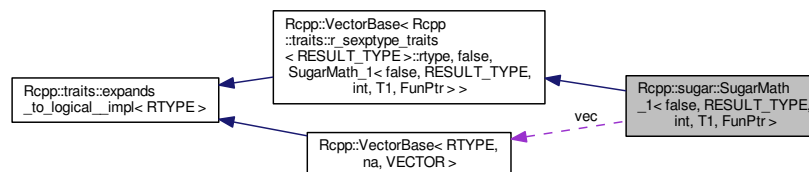
## 6.752 Rcpp::sugar::SugarMath\_1< false, RESULT\_TYPE, int, T1, FunPtr > Class Template Reference

```
#include <SugarMath.h>
```

Inheritance diagram for `Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >`:



Collaboration diagram for `Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >`:



### Public Types

- typedef `Rcpp::VectorBase< INTXP,false, T1 >` `VEC_TYPE`

## Public Member Functions

- [SugarMath\\_1](#) (FunPtr ptr\_, const [VEC\\_TYPE](#) &vec\_)
- [RESULT\\_TYPE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- FunPtr [ptr](#)
- const [VEC\\_TYPE](#) & [vec](#)

### 6.752.1 Detailed Description

```
template<typename RESULT_TYPE, typename T1, typename FunPtr>
class Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >
```

Definition at line 76 of file SugarMath.h.

### 6.752.2 Member Typedef Documentation

6.752.2.1 `template<typename RESULT_TYPE , typename T1 , typename FunPtr > typedef Rcpp::VectorBase< INTSXP ,false,T1> Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >::VEC_TYPE`

Definition at line 83 of file SugarMath.h.

### 6.752.3 Constructor & Destructor Documentation

6.752.3.1 `template<typename RESULT_TYPE , typename T1 , typename FunPtr > Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >::SugarMath_1 ( FunPtr ptr_ , const VEC_TYPE & vec_ ) [inline]`

Definition at line 84 of file SugarMath.h.

### 6.752.4 Member Function Documentation

6.752.4.1 `template<typename RESULT_TYPE , typename T1 , typename FunPtr > RESULT_TYPE Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 86 of file SugarMath.h.

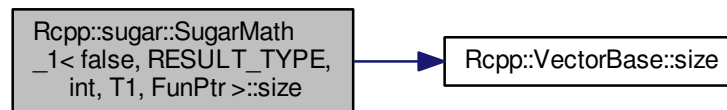
References `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::ptr`, and `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::vec`.

6.752.4.2 `template<typename RESULT_TYPE , typename T1 , typename FunPtr > R_xlen_t Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >::size ( ) const [inline]`

Definition at line 89 of file SugarMath.h.

References `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`, and `Rcpp::sugar::SugarMath_1< NA, RESULT_T←YPE, U1, T1, FunPtr >::vec`.

Here is the call graph for this function:



## 6.752.5 Member Data Documentation

6.752.5.1 `template<typename RESULT_TYPE , typename T1 , typename FunPtr > FunPtr Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >::ptr [private]`

Definition at line 92 of file SugarMath.h.

6.752.5.2 `template<typename RESULT_TYPE , typename T1 , typename FunPtr > const VEC_TYPE& Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >::vec [private]`

Definition at line 93 of file SugarMath.h.

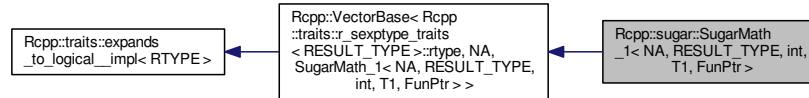
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/block/SugarMath.h](#)

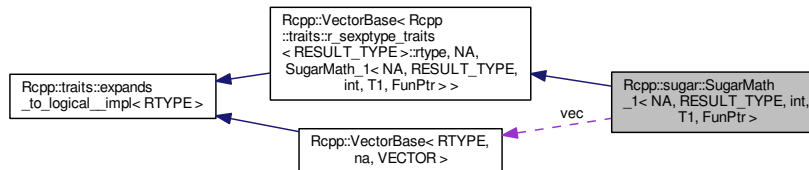
## 6.753 Rcpp::sugar::SugarMath\_1< NA, RESULT\_TYPE, int, T1, FunPtr > Class Template Reference

```
#include <SugarMath.h>
```

Inheritance diagram for Rcpp::sugar::SugarMath\_1< NA, RESULT\_TYPE, int, T1, FunPtr >:



Collaboration diagram for Rcpp::sugar::SugarMath\_1< NA, RESULT\_TYPE, int, T1, FunPtr >:



### Public Types

- typedef [Rcpp::VectorBase](#)< INTSPX,NA, T1 > [VEC\\_TYPE](#)

### Public Member Functions

- [SugarMath\\_1](#) (FunPtr ptr\_, const [VEC\\_TYPE](#) &vec\_)
- [RESULT\\_TYPE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- FunPtr [ptr](#)
- const [VEC\\_TYPE](#) & [vec](#)

### 6.753.1 Detailed Description

```
template<bool NA, typename RESULT_TYPE, typename T1, typename FunPtr>
class Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >
```

Definition at line 53 of file SugarMath.h.

### 6.753.2 Member Typedef Documentation

```
6.753.2.1 template<bool NA, typename RESULT_TYPE , typename T1 , typename FunPtr > typedef Rcpp::VectorBase< INTSXP
,NA,T1> Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >::VEC_TYPE
```

Definition at line 59 of file SugarMath.h.

### 6.753.3 Constructor & Destructor Documentation

```
6.753.3.1 template<bool NA, typename RESULT_TYPE , typename T1 , typename FunPtr > Rcpp::sugar::SugarMath_1< NA,
RESULT_TYPE, int, T1, FunPtr >::SugarMath_1 ( FunPtr ptr_, const VEC_TYPE & vec_ ) [inline]
```

Definition at line 61 of file SugarMath.h.

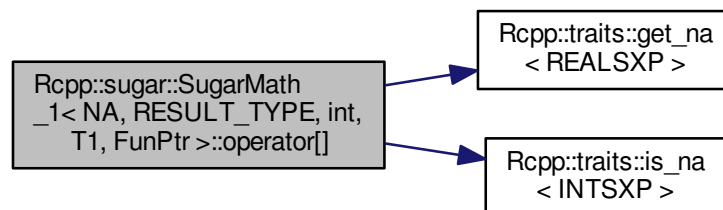
### 6.753.4 Member Function Documentation

```
6.753.4.1 template<bool NA, typename RESULT_TYPE , typename T1 , typename FunPtr > RESULT_TYPE
Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >::operator[] ( R_xlen_t i ) const [inline]
```

Definition at line 63 of file SugarMath.h.

References `Rcpp::traits::get_na< REALSXP >()`, `Rcpp::traits::is_na< INTSXP >()`, `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::ptr`, and `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, U1, T1, FunPtr >::vec`.

Here is the call graph for this function:

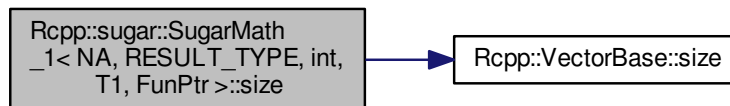


```
6.753.4.2 template<bool NA, typename RESULT_TYPE , typename T1 , typename FunPtr > R_xlen_t
Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >::size ( ) const [inline]
```

Definition at line 68 of file SugarMath.h.

References Rcpp::VectorBase< RTYPE, na, VECTOR >::size(), and Rcpp::sugar::SugarMath\_1< NA, RESULT\_T←  
YPE, U1, T1, FunPtr >::vec.

Here is the call graph for this function:



## 6.753.5 Member Data Documentation

```
6.753.5.1 template<bool NA, typename RESULT_TYPE , typename T1 , typename FunPtr > FunPtr
Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >::ptr [private]
```

Definition at line 71 of file SugarMath.h.

```
6.753.5.2 template<bool NA, typename RESULT_TYPE , typename T1 , typename FunPtr > const VEC_TYPE&
Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >::vec [private]
```

Definition at line 72 of file SugarMath.h.

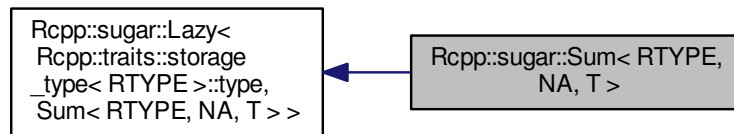
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/block/SugarMath.h](#)

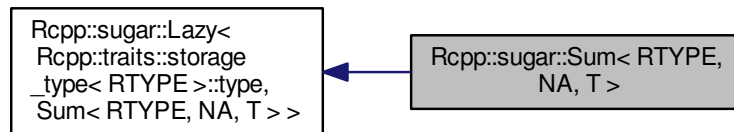
## 6.754 Rcpp::sugar::Sum< RTYPE, NA, T > Class Template Reference

```
#include <sum.h>
```

Inheritance diagram for Rcpp::sugar::Sum< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Sum< RTYPE, NA, T >:



### Public Types

- typedef [Rcpp::VectorBase< RTYPE, NA, T >](#) [VEC\\_TYPE](#)
- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)
- typedef [Rcpp::traits::Extractor< RTYPE, NA, T >::type](#) [VEC\\_EXT](#)

### Public Member Functions

- [Sum](#) (const [VEC\\_TYPE](#) &object\_)
- [STORAGE](#) [get](#) () const

### Private Attributes

- const [VEC\\_EXT](#) & [object](#)



### 6.754.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Sum< RTYPE, NA, T >
```

Definition at line 29 of file sum.h.

### 6.754.2 Member Typedef Documentation

6.754.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Sum< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file sum.h.

6.754.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::Extractor< RTYPE, NA, T>::type Rcpp::sugar::Sum< RTYPE, NA, T >::VEC_EXT`

Definition at line 33 of file sum.h.

6.754.2.3 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Sum< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file sum.h.

### 6.754.3 Constructor & Destructor Documentation

6.754.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Sum< RTYPE, NA, T >::Sum ( const VEC_TYPE & object_ ) [inline]`

Definition at line 35 of file sum.h.

### 6.754.4 Member Function Documentation

6.754.4.1 `template<int RTYPE, bool NA, typename T > STORAGE Rcpp::sugar::Sum< RTYPE, NA, T >::get ( ) const [inline]`

Definition at line 37 of file sum.h.

### 6.754.5 Member Data Documentation

6.754.5.1 `template<int RTYPE, bool NA, typename T > const VEC_EXT& Rcpp::sugar::Sum< RTYPE, NA, T >::object`  
`[private]`

Definition at line 50 of file `sum.h`.

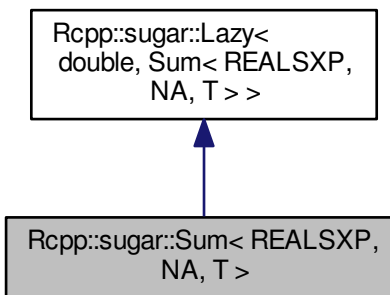
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/sum.h`

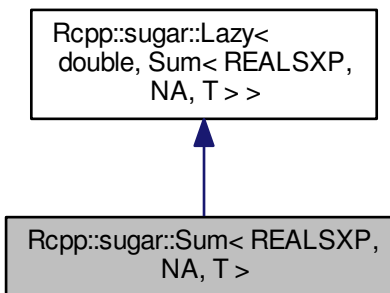
### 6.755 Rcpp::sugar::Sum< REALSXP, NA, T > Class Template Reference

```
#include <sum.h>
```

Inheritance diagram for `Rcpp::sugar::Sum< REALSXP, NA, T >`:



Collaboration diagram for `Rcpp::sugar::Sum< REALSXP, NA, T >`:



## Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, NA, T > [VEC\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, NA, T >::type [VEC\\_EXT](#)

## Public Member Functions

- [Sum](#) (const [VEC\\_TYPE](#) &object\_)
- double [get](#) () const

## Private Attributes

- const [VEC\\_EXT](#) & [object](#)

### 6.755.1 Detailed Description

```
template<bool NA, typename T>
class Rcpp::sugar::Sum< REALSXP, NA, T >
```

Definition at line 54 of file sum.h.

### 6.755.2 Member Typedef Documentation

6.755.2.1 `template<bool NA, typename T > typedef Rcpp::traits::Extractor< REALSXP, NA, T>::type Rcpp::sugar::Sum< REALSXP, NA, T >::VEC_EXT`

Definition at line 57 of file sum.h.

6.755.2.2 `template<bool NA, typename T > typedef Rcpp::VectorBase<REALSXP,NA,T> Rcpp::sugar::Sum< REALSXP, NA, T >::VEC_TYPE`

Definition at line 56 of file sum.h.

### 6.755.3 Constructor & Destructor Documentation

6.755.3.1 `template<bool NA, typename T > Rcpp::sugar::Sum< REALSXP, NA, T >::Sum ( const VEC_TYPE & object_ )`  
`[inline]`

Definition at line 59 of file sum.h.

## 6.755.4 Member Function Documentation

6.755.4.1 `template<bool NA, typename T > double Rcpp::sugar::Sum< REALSXP, NA, T >::get ( ) const` `[inline]`

Definition at line 61 of file `sum.h`.

## 6.755.5 Member Data Documentation

6.755.5.1 `template<bool NA, typename T > const VEC_EXT& Rcpp::sugar::Sum< REALSXP, NA, T >::object`  
`[private]`

Definition at line 70 of file `sum.h`.

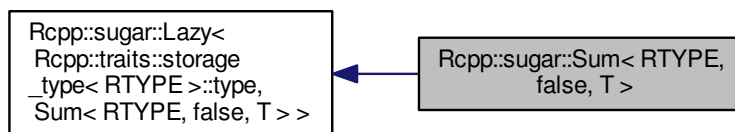
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/sum.h`

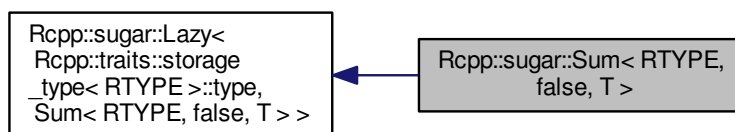
## 6.756 Rcpp::sugar::Sum< RTYPE, false, T > Class Template Reference

```
#include <sum.h>
```

Inheritance diagram for `Rcpp::sugar::Sum< RTYPE, false, T >`:



Collaboration diagram for `Rcpp::sugar::Sum< RTYPE, false, T >`:



## Public Types

- typedef [Rcpp::VectorBase< RTYPE, false, T >](#) [VEC\\_TYPE](#)
- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)
- typedef [Rcpp::traits::Extractor< RTYPE, false, T >::type](#) [VEC\\_EXT](#)

## Public Member Functions

- [Sum](#) (const [VEC\\_TYPE](#) &object\_)
- [STORAGE](#) [get](#) () const

## Private Attributes

- const [VEC\\_EXT](#) & [object](#)

### 6.756.1 Detailed Description

```
template<int RTYPE, typename T>
class Rcpp::sugar::Sum< RTYPE, false, T >
```

Definition at line 75 of file sum.h.

### 6.756.2 Member Typedef Documentation

6.756.2.1 `template<int RTYPE, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Sum< RTYPE, false, T >::STORAGE`

Definition at line 78 of file sum.h.

6.756.2.2 `template<int RTYPE, typename T > typedef Rcpp::traits::Extractor< RTYPE, false, T>::type Rcpp::sugar::Sum< RTYPE, false, T >::VEC_EXT`

Definition at line 79 of file sum.h.

6.756.2.3 `template<int RTYPE, typename T > typedef Rcpp::VectorBase<RTYPE,false,T> Rcpp::sugar::Sum< RTYPE, false, T >::VEC_TYPE`

Definition at line 77 of file sum.h.

### 6.756.3 Constructor & Destructor Documentation

6.756.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Sum< RTYPE, false, T >::Sum ( const VEC_TYPE & object_ )`  
`[inline]`

Definition at line 81 of file sum.h.

### 6.756.4 Member Function Documentation

6.756.4.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Sum< RTYPE, false, T >::get ( ) const`  
`[inline]`

Definition at line 83 of file sum.h.

### 6.756.5 Member Data Documentation

6.756.5.1 `template<int RTYPE, typename T > const VEC_EXT& Rcpp::sugar::Sum< RTYPE, false, T >::object`  
`[private]`

Definition at line 92 of file sum.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/sum.h](#)

## 6.757 Rcpp::sugar::Table< RTYPE, TABLE\_T > Class Template Reference

```
#include <table.h>
```

### Public Types

- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) STORAGE

### Public Member Functions

- [Table](#) (const TABLE\_T &table)
- [operator IntegerVector](#) () const

## Private Types

- typedef [RCPP\\_UNORDERED\\_MAP](#)< [STORAGE](#), int > [HASH](#)
- typedef [CountInserter](#)< [HASH](#), [STORAGE](#) > [Inserter](#)
- typedef std::map< [STORAGE](#), int, internal::NAComparator< [STORAGE](#) > > [SORTED\\_MAP](#)

## Private Attributes

- [HASH](#) hash
- [SORTED\\_MAP](#) map

### 6.757.1 Detailed Description

```
template<int RTYPE, typename TABLE_T>
class Rcpp::sugar::Table< RTYPE, TABLE_T >
```

Definition at line 89 of file table.h.

### 6.757.2 Member Typedef Documentation

6.757.2.1 `template<int RTYPE, typename TABLE_T > typedef RCPP\_UNORDERED\_MAP<STORAGE, int>  
Rcpp::sugar::Table< RTYPE, TABLE_T >::HASH [private]`

Definition at line 112 of file table.h.

6.757.2.2 `template<int RTYPE, typename TABLE_T > typedef CountInserter<HASH,STORAGE> Rcpp::sugar::Table<  
RTYPE, TABLE_T >::Inserter [private]`

Definition at line 113 of file table.h.

6.757.2.3 `template<int RTYPE, typename TABLE_T > typedef std::map<STORAGE, int, internal::NAComparator<STORAGE>  
> Rcpp::sugar::Table< RTYPE, TABLE_T >::SORTED_MAP [private]`

Definition at line 116 of file table.h.

6.757.2.4 `template<int RTYPE, typename TABLE_T > typedef Rcpp::traits::storage_type<RTYPE>::type  
Rcpp::sugar::Table< RTYPE, TABLE_T >::STORAGE`

Definition at line 91 of file table.h.

### 6.757.3 Constructor & Destructor Documentation

6.757.3.1 `template<int RTYPE, typename TABLE_T > Rcpp::sugar::Table< RTYPE, TABLE_T >::Table ( const TABLE_T & table ) [inline]`

Definition at line 93 of file table.h.

References `Rcpp::sugar::CountInserter< HASH, STORAGE >::hash`.

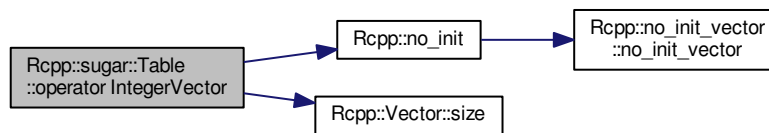
### 6.757.4 Member Function Documentation

6.757.4.1 `template<int RTYPE, typename TABLE_T > Rcpp::sugar::Table< RTYPE, TABLE_T >::operator IntegerVector ( ) const [inline]`

Definition at line 101 of file table.h.

References `Rcpp::sugar::Grabber< HASH, RTYPE >::names`, `Rcpp::no_init()`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



### 6.757.5 Member Data Documentation

6.757.5.1 `template<int RTYPE, typename TABLE_T > HASH Rcpp::sugar::Table< RTYPE, TABLE_T >::hash [private]`

Definition at line 114 of file table.h.

6.757.5.2 `template<int RTYPE, typename TABLE_T > SORTED_MAP Rcpp::sugar::Table< RTYPE, TABLE_T >::map [private]`

Definition at line 117 of file table.h.

The documentation for this class was generated from the following file:

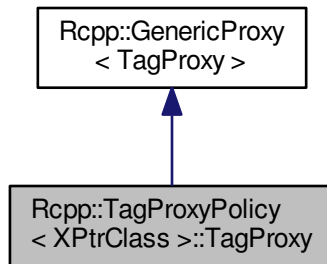
- `inst/include/Rcpp/sugar/functions/table.h`



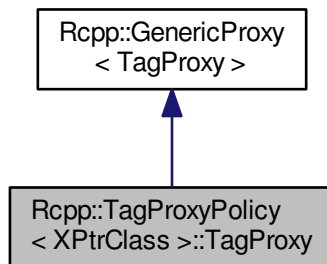
## 6.758 Rcpp::TagProxyPolicy< XPtrClass >::TagProxy Class Reference

```
#include <TagProxy.h>
```

Inheritance diagram for Rcpp::TagProxyPolicy< XPtrClass >::TagProxy:



Collaboration diagram for Rcpp::TagProxyPolicy< XPtrClass >::TagProxy:



### Public Member Functions

- [TagProxy](#) (XPtrClass &xp\_)
- `template<typename U >`  
[TagProxy](#) & `operator=` (const U &u)
- `template<typename U >`  
`operator U` () const
- `operator SEXP` () const
- `template<typename T >`  
[TagProxyPolicy](#)< CLASS >::TagProxy & `operator=` (const T &rhs)

## Private Member Functions

- SEXP [get](#) () const
- void [set](#) (SEXP x)

## Private Attributes

- XPtrClass & [xp](#)

### 6.758.1 Detailed Description

```
template<typename XPtrClass>
class Rcpp::TagProxyPolicy< XPtrClass >::TagProxy
```

Definition at line 27 of file TagProxy.h.

### 6.758.2 Constructor & Destructor Documentation

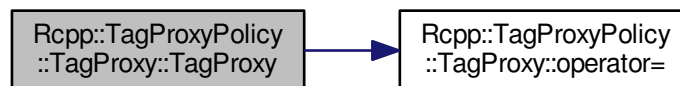
6.758.2.1 `template<typename XPtrClass> Rcpp::TagProxyPolicy< XPtrClass >::TagProxy::TagProxy ( XPtrClass & xp_ )`  
`[inline]`

Definition at line 29 of file TagProxy.h.

References `Rcpp::TagProxyPolicy< XPtrClass >::TagProxy::operator=()`.

Referenced by `Rcpp::TagProxyPolicy< XPtr< T, StoragePolicy, Finalizer > >::tag()`.

Here is the call graph for this function:



### 6.758.3 Member Function Documentation

6.758.3.1 `template<typename XPtrClass> SEXP Rcpp::TagProxyPolicy< XPtrClass >::TagProxy::get ( ) const`  
`[inline], [private]`

Definition at line 43 of file TagProxy.h.

6.758.3.2 `template<typename CLASS > Rcpp::TagProxyPolicy< CLASS >::TagProxy::operator SEXP ( ) const`

Definition at line 111 of file proxy.h.

6.758.3.3 `template<typename XPtrClass> template<typename U > Rcpp::TagProxyPolicy< XPtrClass >::TagProxy::operator U ( ) const`

6.758.3.4 `template<typename XPtrClass> template<typename U > TagProxy& Rcpp::TagProxyPolicy< XPtrClass >::TagProxy::operator= ( const U & u )`

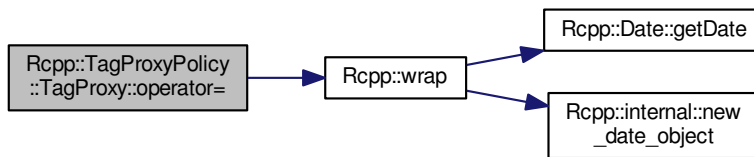
Referenced by `Rcpp::TagProxyPolicy< XPtrClass >::TagProxy::TagProxy()`.

6.758.3.5 `template<typename XPtrClass> template<typename T > TagProxyPolicy<CLASS>::TagProxy& Rcpp::TagProxyPolicy< XPtrClass >::TagProxy::operator= ( const T & rhs )`

Definition at line 99 of file proxy.h.

References `Rcpp::wrap()`.

Here is the call graph for this function:



6.758.3.6 `template<typename XPtrClass> void Rcpp::TagProxyPolicy< XPtrClass >::TagProxy::set ( SEXP x ) [inline], [private]`

Definition at line 47 of file TagProxy.h.

## 6.758.4 Member Data Documentation

6.758.4.1 `template<typename XPtrClass> XPtrClass& Rcpp::TagProxyPolicy< XPtrClass >::TagProxy::xp [private]`

Definition at line 41 of file TagProxy.h.

The documentation for this class was generated from the following files:

- [inst/include/Rcpp/proxy/TagProxy.h](#)
- [inst/include/Rcpp/api/meat/proxy.h](#)

## 6.759 Rcpp::TagProxyPolicy< XPtrClass > Class Template Reference

```
#include <TagProxy.h>
```

### Classes

- class [const\\_TagProxy](#)
- class [TagProxy](#)

### Public Member Functions

- [TagProxy tag \(\)](#)
- [const\\_TagProxy tag \(\) const](#)

#### 6.759.1 Detailed Description

```
template<typename XPtrClass>  
class Rcpp::TagProxyPolicy< XPtrClass >
```

Definition at line 24 of file TagProxy.h.

#### 6.759.2 Member Function Documentation

6.759.2.1 `template<typename XPtrClass> TagProxy Rcpp::TagProxyPolicy< XPtrClass >::tag ( ) [inline]`

Definition at line 73 of file TagProxy.h.

6.759.2.2 `template<typename XPtrClass> const_TagProxy Rcpp::TagProxyPolicy< XPtrClass >::tag ( ) const [inline]`

Definition at line 77 of file TagProxy.h.

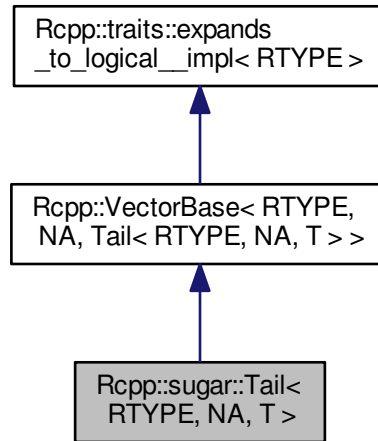
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/proxy/TagProxy.h`

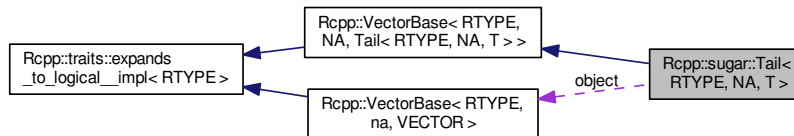
## 6.760 Rcpp::sugar::Tail< RTYPE, NA, T > Class Template Reference

```
#include <tail.h>
```

Inheritance diagram for Rcpp::sugar::Tail< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Tail< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`

### Public Member Functions

- `Tail` (const `VEC_TYPE` &object\_, `R_xlen_t` n\_)
- `STORAGE` `operator[]` (`R_xlen_t` i) const
- `R_xlen_t` `size` () const

## Private Attributes

- const [VEC\\_TYPE](#) & *object*
- [R\\_xlen\\_t](#) *start*
- [R\\_xlen\\_t](#) *n*

### 6.760.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Tail< RTYPE, NA, T >
```

Definition at line 29 of file tail.h.

### 6.760.2 Member Typedef Documentation

6.760.2.1 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Tail< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file tail.h.

6.760.2.2 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Tail< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file tail.h.

### 6.760.3 Constructor & Destructor Documentation

6.760.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Tail< RTYPE, NA, T >::Tail ( const VEC_TYPE & object, R_xlen_t n ) [inline]`

Definition at line 34 of file tail.h.

References `Rcpp::sugar::Tail< RTYPE, NA, T >::n`, and `Rcpp::sugar::Tail< RTYPE, NA, T >::start`.

### 6.760.4 Member Function Documentation

6.760.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Tail< RTYPE, NA, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 43 of file tail.h.

References `Rcpp::sugar::Tail< RTYPE, NA, T >::start`.

6.760.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Tail< RTYPE, NA, T >::size ( ) const`  
`[inline]`

Definition at line 46 of file tail.h.

References `Rcpp::sugar::Tail< RTYPE, NA, T >::n`.

### 6.760.5 Member Data Documentation

6.760.5.1 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Tail< RTYPE, NA, T >::n` `[private]`

Definition at line 50 of file tail.h.

Referenced by `Rcpp::sugar::Tail< RTYPE, NA, T >::size()`, `Rcpp::sugar::Tail< RTYPE, NA, T >::Tail()`, and `Rcpp::tail()`.

6.760.5.2 `template<int RTYPE, bool NA, typename T> const VEC_TYPE& Rcpp::sugar::Tail< RTYPE, NA, T >::object`  
`[private]`

Definition at line 49 of file tail.h.

6.760.5.3 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Tail< RTYPE, NA, T >::start` `[private]`

Definition at line 50 of file tail.h.

Referenced by `Rcpp::sugar::Tail< RTYPE, NA, T >::operator[]()`, and `Rcpp::sugar::Tail< RTYPE, NA, T >::Tail()`.

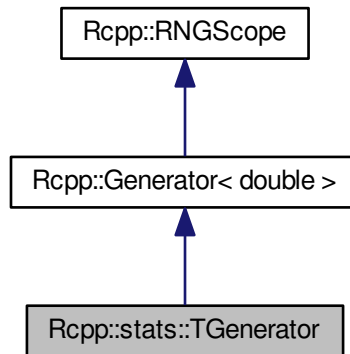
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/tail.h](#)

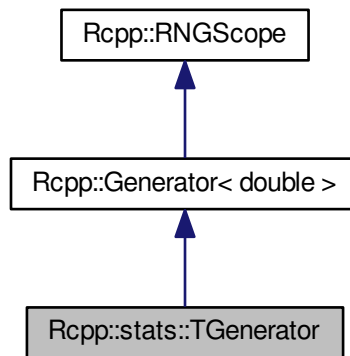
## 6.761 Rcpp::stats::TGenerator Class Reference

```
#include <rt.h>
```

Inheritance diagram for Rcpp::stats::TGenerator:



Collaboration diagram for Rcpp::stats::TGenerator:



### Public Member Functions

- [TGenerator](#) (double df\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [df](#)
- double [df\\_2](#)



## Additional Inherited Members

### 6.761.1 Detailed Description

Definition at line 28 of file rt.h.

### 6.761.2 Constructor & Destructor Documentation

6.761.2.1 `Rcpp::stats::TGenerator::TGenerator ( double df_ ) [inline]`

Definition at line 31 of file rt.h.

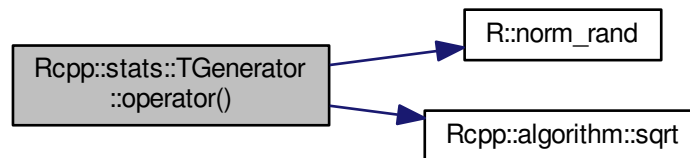
### 6.761.3 Member Function Documentation

6.761.3.1 `double Rcpp::stats::TGenerator::operator() ( ) const [inline]`

Definition at line 33 of file rt.h.

References `df`, `df_2`, `R::norm_rand()`, and `Rcpp::algorithm::sqrt()`.

Here is the call graph for this function:



### 6.761.4 Member Data Documentation

6.761.4.1 `double Rcpp::stats::TGenerator::df [private]`

Definition at line 45 of file rt.h.

Referenced by `operator()`.

6.761.4.2 `double Rcpp::stats::TGenerator::df_2` [private]

Definition at line 45 of file `rt.h`.

Referenced by `operator()`.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rt.h`

## 6.762 Timer Class Reference

```
#include <Timer.h>
```

### Public Member Functions

- `Timer` ()
- `void Start` ()
- `void Stop` ()
- `void Reset` ()
- `double ElapsedTime` ()
- `double CumulativeTime` ()

### Private Member Functions

- `double getFractionalSeconds` (void)

### Private Attributes

- Function `sys_time`
- `double start_t`
- `double end_t`
- `double elapsed`
- `double cumul`

### 6.762.1 Detailed Description

Examples:

[SugarPerformance/Timer.h](#), and [SugarPerformance/Timertest.cpp](#).

Definition at line 31 of file `Timer.h`.

## 6.762.2 Constructor & Destructor Documentation

### 6.762.2.1 Timer::Timer ( ) [inline]

Examples:

[SugarPerformance/Timer.h](#).

Definition at line 33 of file Timer.h.

References [Reset\(\)](#).

Here is the call graph for this function:



## 6.762.3 Member Function Documentation

### 6.762.3.1 double Timer::CumulativeTime ( ) [inline]

Examples:

[SugarPerformance/Timer.h](#), and [SugarPerformance/Timertest.cpp](#).

Definition at line 42 of file Timer.h.

References [cumul](#).

Referenced by [main\(\)](#).

### 6.762.3.2 double Timer::ElapsedTime ( ) [inline]

Examples:

[SugarPerformance/Timer.h](#), and [SugarPerformance/Timertest.cpp](#).

Definition at line 41 of file Timer.h.

References [elapsed](#).

Referenced by [main\(\)](#).

6.762.3.3 `double Timer::getFractionalSeconds ( void ) [inline],[private]`

Examples:

[SugarPerformance/Timer.h](#).

Definition at line 49 of file `Timer.h`.

References `sys_time`.

Referenced by `Start()`, and `Stop()`.

6.762.3.4 `void Timer::Reset ( ) [inline]`

Examples:

[SugarPerformance/Timer.h](#), and [SugarPerformance/Timertest.cpp](#).

Definition at line 40 of file `Timer.h`.

References `cumul`, `elapsed`, `end_t`, and `start_t`.

Referenced by `main()`, and `Timer()`.

6.762.3.5 `void Timer::Start ( ) [inline]`

Examples:

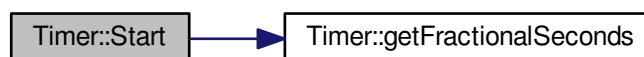
[SugarPerformance/Timer.h](#), and [SugarPerformance/Timertest.cpp](#).

Definition at line 34 of file `Timer.h`.

References `getFractionalSeconds()`, and `start_t`.

Referenced by `main()`.

Here is the call graph for this function:



6.762.3.6 `void Timer::Stop( ) [inline]`

Examples:

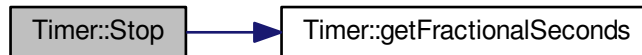
[SugarPerformance/Timer.h](#), and [SugarPerformance/Timertest.cpp](#).

Definition at line 35 of file `Timer.h`.

References `cumul`, `elapsed`, `end_t`, `getFractionalSeconds()`, and `start_t`.

Referenced by `main()`.

Here is the call graph for this function:



## 6.762.4 Member Data Documentation

6.762.4.1 `double Timer::cumul [private]`

Examples:

[SugarPerformance/Timer.h](#).

Definition at line 47 of file `Timer.h`.

Referenced by `CumulativeTime()`, `Reset()`, and `Stop()`.

6.762.4.2 `double Timer::elapsed [private]`

Examples:

[SugarPerformance/Timer.h](#).

Definition at line 47 of file `Timer.h`.

Referenced by `ElapsedTime()`, `Reset()`, and `Stop()`.

6.762.4.3 `double Timer::end_t` [private]

Examples:

[SugarPerformance/Timer.h](#).

Definition at line 47 of file `Timer.h`.

Referenced by `Reset()`, and `Stop()`.

6.762.4.4 `double Timer::start_t` [private]

Examples:

[SugarPerformance/Timer.h](#).

Definition at line 47 of file `Timer.h`.

Referenced by `Reset()`, `Start()`, and `Stop()`.

6.762.4.5 `Function Timer::sys_time` [private]

Examples:

[SugarPerformance/Timer.h](#).

Definition at line 46 of file `Timer.h`.

Referenced by `getFractionalSeconds()`.

The documentation for this class was generated from the following file:

- [inst/examples/SugarPerformance/Timer.h](#)

## 6.763 Rcpp::Timer Class Reference

```
#include <Timer.h>
```

### Public Member Functions

- [Timer](#) ()
- [Timer](#) ([nanotime\\_t](#) start\_time\_)
- void [step](#) (const std::string &name)
- [operator SEXP](#) () const
- [nanotime\\_t](#) [now](#) () const
- [nanotime\\_t](#) [origin](#) () const

## Static Public Member Functions

- static `std::vector< Timer > get_timers` (int n)

## Private Types

- typedef `std::pair< std::string, nanotime_t > Step`
- typedef `std::vector< Step > Steps`

## Private Attributes

- `Steps data`
- const `nanotime_t start_time`

### 6.763.1 Detailed Description

Definition at line 103 of file Timer.h.

### 6.763.2 Member Typedef Documentation

6.763.2.1 `typedef std::pair<std::string,nanotime_t> Rcpp::Timer::Step` [private]

Definition at line 137 of file Timer.h.

6.763.2.2 `typedef std::vector<Step> Rcpp::Timer::Steps` [private]

Definition at line 138 of file Timer.h.

### 6.763.3 Constructor & Destructor Documentation

6.763.3.1 `Rcpp::Timer::Timer ( )` [inline]

Definition at line 105 of file Timer.h.

Referenced by `get_timers()`.

6.763.3.2 `Rcpp::Timer::Timer ( nanotime_t start_time_ )` [inline]

Definition at line 106 of file Timer.h.

## 6.763.4 Member Function Documentation

### 6.763.4.1 `static std::vector<Timer> Rcpp::Timer::get_timers ( int n ) [inline],[static]`

Definition at line 124 of file Timer.h.

References `Timer()`.

Here is the call graph for this function:



### 6.763.4.2 `nanotime_t Rcpp::Timer::now ( ) const [inline]`

Definition at line 128 of file Timer.h.

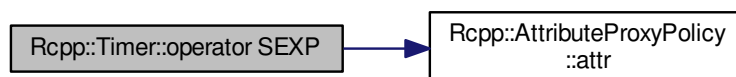
Referenced by `step()`.

### 6.763.4.3 `Rcpp::Timer::operator SEXP ( ) const [inline]`

Definition at line 112 of file Timer.h.

References `Rcpp::AttributeProxyPolicy< CLASS >::attr()`, `data`, and `start_time`.

Here is the call graph for this function:





#### 6.763.4.4 `nanotime_t Rcpp::Timer::origin ( ) const` `[inline]`

Definition at line 132 of file `Timer.h`.

References `start_time`.

#### 6.763.4.5 `void Rcpp::Timer::step ( const std::string & name )` `[inline]`

Definition at line 108 of file `Timer.h`.

References `data`, and `now()`.

Here is the call graph for this function:



### 6.763.5 Member Data Documentation

#### 6.763.5.1 `Steps Rcpp::Timer::data` `[private]`

Definition at line 140 of file `Timer.h`.

Referenced by operator `SEXP()`, and `step()`.

#### 6.763.5.2 `const nanotime_t Rcpp::Timer::start_time` `[private]`

Definition at line 141 of file `Timer.h`.

Referenced by operator `SEXP()`, and `origin()`.

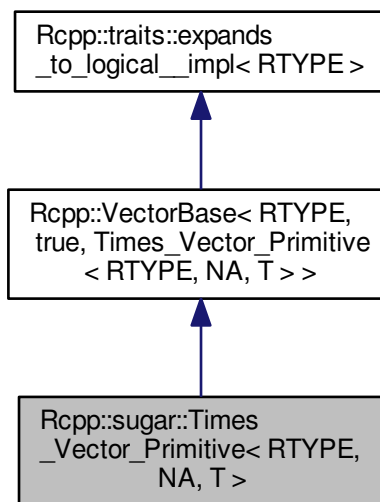
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/Benchmark/Timer.h`

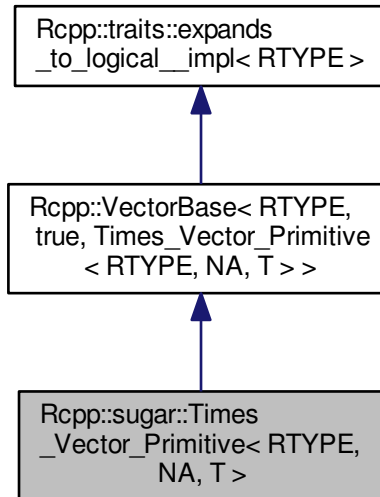
## 6.764 Rcpp::sugar::Times\_Vector\_Primitive< RTYPE, NA, T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Primitive< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Times\_Vector\_Primitive< RTYPE, NA, T >:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::traits::Extractor< RTYPE, NA, T >::type` `EXT`

## Public Member Functions

- `Times_Vector_Primitive` (const `VEC_TYPE` &lhs\_, `STORAGE` rhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- const `EXT` & lhs
- `STORAGE` rhs
- bool rhs\_na

### 6.764.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Times_Vector_Primitive< RTYPE, NA, T >
  
```

Definition at line 236 of file times.h.

## 6.764.2 Member Typedef Documentation

6.764.2.1 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::Extractor< RTYPE, NA, T>::type  
Rcpp::sugar::Times_Vector_Primitive< RTYPE, NA, T >::EXT`

Definition at line 241 of file times.h.

6.764.2.2 `template<int RTYPE, bool NA, typename T> typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Times_Vector_Primitive< RTYPE, NA, T >::STORAGE`

Definition at line 239 of file times.h.

6.764.2.3 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::Times_Vector_Primitive< RTYPE, NA, T >::VEC_TYPE`

Definition at line 238 of file times.h.

## 6.764.3 Constructor & Destructor Documentation

6.764.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Times_Vector_Primitive< RTYPE, NA, T  
>::Times_Vector_Primitive ( const VEC_TYPE & lhs_, STORAGE rhs_ ) [inline]`

Definition at line 243 of file times.h.

## 6.764.4 Member Function Documentation

6.764.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Times_Vector_Primitive< RTYPE, NA, T  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 247 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.764.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Times_Vector_Primitive< RTYPE, NA, T  
>::size ( ) const [inline]`

Definition at line 253 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.764.5 Member Data Documentation

6.764.5.1 `template<int RTYPE, bool NA, typename T> const EXT& Rcpp::sugar::Times_Vector_Primitive< RTYPE, NA, T >::lhs [private]`

Definition at line 256 of file times.h.

6.764.5.2 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Times_Vector_Primitive< RTYPE, NA, T >::rhs [private]`

Definition at line 257 of file times.h.

6.764.5.3 `template<int RTYPE, bool NA, typename T> bool Rcpp::sugar::Times_Vector_Primitive< RTYPE, NA, T >::rhs_na [private]`

Definition at line 258 of file times.h.

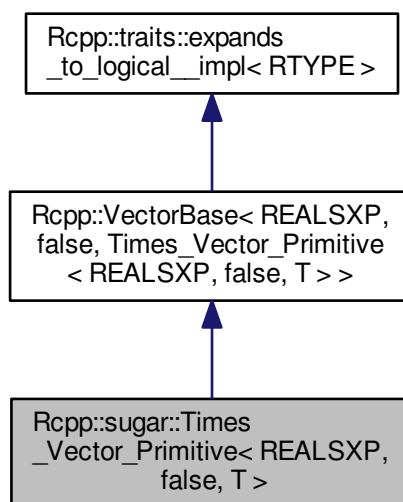
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

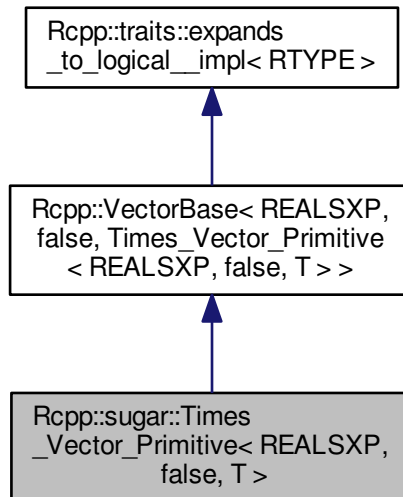
## 6.765 Rcpp::sugar::Times\_Vector\_Primitive< REALSXP, false, T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Primitive< REALSXP, false, T >:



Collaboration diagram for `Rcpp::sugar::Times_Vector_Primitive< REALSXP, false, T >`:



## Public Types

- typedef `Rcpp::VectorBase< REALSXP, false, T >` `VEC_TYPE`
- typedef `Rcpp::traits::Extractor< REALSXP, false, T >::type` `EXT`

## Public Member Functions

- `Times_Vector_Primitive` (const `VEC_TYPE` &lhs\_, double rhs\_)
- double `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- const `EXT` & lhs
- double rhs

### 6.765.1 Detailed Description

```

template<typename T>
class Rcpp::sugar::Times_Vector_Primitive< REALSXP, false, T >
  
```

Definition at line 309 of file times.h.

## 6.765.2 Member Typedef Documentation

6.765.2.1 `template<typename T > typedef Rcpp::traits::Extractor<REALSXP, false, T>::type  
Rcpp::sugar::Times_Vector_Primitive< REALSXP, false, T >::EXT`

Definition at line 313 of file times.h.

6.765.2.2 `template<typename T > typedef Rcpp::VectorBase<REALSXP,false,T> Rcpp::sugar::Times_Vector_↔  
Primitive< REALSXP, false, T >::VEC_TYPE`

Definition at line 312 of file times.h.

## 6.765.3 Constructor & Destructor Documentation

6.765.3.1 `template<typename T > Rcpp::sugar::Times_Vector_Primitive< REALSXP, false, T  
>::Times_Vector_Primitive ( const VEC_TYPE & lhs_, double rhs_ ) [inline]`

Definition at line 315 of file times.h.

## 6.765.4 Member Function Documentation

6.765.4.1 `template<typename T > double Rcpp::sugar::Times_Vector_Primitive< REALSXP, false, T >::operator[] (   
R_xlen_t i ) const [inline]`

Definition at line 318 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp↔  
::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.765.4.2 `template<typename T > R_xlen_t Rcpp::sugar::Times_Vector_Primitive< REALSXP, false, T >::size ( ) const  
[inline]`

Definition at line 322 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.765.5 Member Data Documentation

6.765.5.1 `template<typename T > const EXT& Rcpp::sugar::Times_Vector_Primitive< REALSXP, false, T >::lhs  
[private]`

Definition at line 325 of file times.h.

6.765.5.2 `template<typename T > double Rcpp::sugar::Times_Vector_Primitive< REALSXP, false, T >::rhs`  
`[private]`

Definition at line 326 of file times.h.

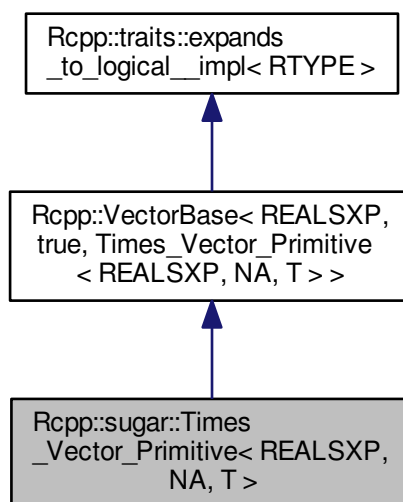
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

## 6.766 Rcpp::sugar::Times\_Vector\_Primitive< REALSXP, NA, T > Class Template Reference

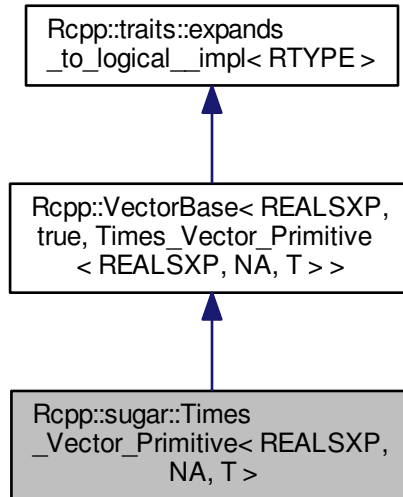
```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Primitive< REALSXP, NA, T >:





Collaboration diagram for Rcpp::sugar::Times\_Vector\_Primitive< REALSXP, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase< REALSXP, NA, T >](#) [VEC\\_TYPE](#)
- typedef [Rcpp::traits::Extractor< REALSXP, NA, T >::type](#) [EXT](#)

## Public Member Functions

- [Times\\_Vector\\_Primitive](#) (const [VEC\\_TYPE](#) &lhs\_, double rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [EXT](#) & [lhs](#)
- double [rhs](#)

### 6.766.1 Detailed Description

```

template<bool NA, typename T>
class Rcpp::sugar::Times_Vector_Primitive< REALSXP, NA, T >
  
```

Definition at line 262 of file times.h.

## 6.766.2 Member Typedef Documentation

6.766.2.1 `template<bool NA, typename T > typedef Rcpp::traits::Extractor<REALSXP, NA, T>::type  
Rcpp::sugar::Times_Vector_Primitive< REALSXP, NA, T >::EXT`

Definition at line 266 of file times.h.

6.766.2.2 `template<bool NA, typename T > typedef Rcpp::VectorBase<REALSXP,NA,T>  
Rcpp::sugar::Times_Vector_Primitive< REALSXP, NA, T >::VEC_TYPE`

Definition at line 265 of file times.h.

## 6.766.3 Constructor & Destructor Documentation

6.766.3.1 `template<bool NA, typename T > Rcpp::sugar::Times_Vector_Primitive< REALSXP, NA, T  
>::Times_Vector_Primitive ( const VEC_TYPE & lhs_, double rhs_ ) [inline]`

Definition at line 268 of file times.h.

## 6.766.4 Member Function Documentation

6.766.4.1 `template<bool NA, typename T > double Rcpp::sugar::Times_Vector_Primitive< REALSXP, NA, T >::operator[]  
( R_xlen_t i ) const [inline]`

Definition at line 272 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.766.4.2 `template<bool NA, typename T > R_xlen_t Rcpp::sugar::Times_Vector_Primitive< REALSXP, NA, T >::size ( )  
const [inline]`

Definition at line 276 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.766.5 Member Data Documentation

6.766.5.1 `template<bool NA, typename T > const EXT& Rcpp::sugar::Times_Vector_Primitive< REALSXP, NA, T >::lhs  
[private]`

Definition at line 279 of file times.h.

```
6.766.5.2 template<bool NA, typename T > double Rcpp::sugar::Times_Vector_Primitive< REALSXP, NA, T >::rhs  
[private]
```

Definition at line 280 of file times.h.

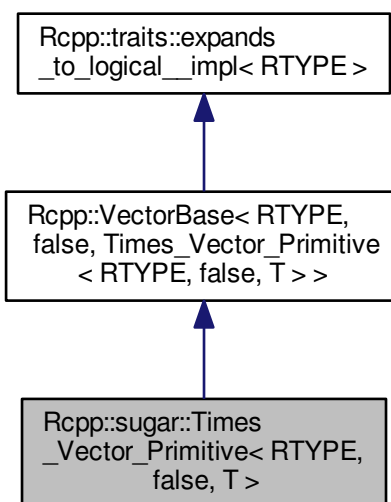
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

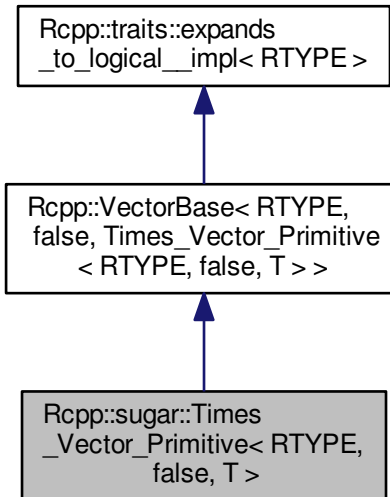
## 6.767 Rcpp::sugar::Times\_Vector\_Primitive< RTYPE, false, T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Primitive< RTYPE, false, T >:



Collaboration diagram for `Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T >`:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, false, T >` `VEC_TYPE`
- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `Rcpp::traits::Extractor< RTYPE, false, T >::type` `EXT`

## Public Member Functions

- `Times_Vector_Primitive` (const `VEC_TYPE` &lhs\_, `STORAGE` rhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- const `EXT` & lhs
- `STORAGE` rhs
- bool rhs\_na

### 6.767.1 Detailed Description

```

template<int RTYPE, typename T>
class Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T >
  
```

Definition at line 285 of file `times.h`.

## 6.767.2 Member Typedef Documentation

6.767.2.1 `template<int RTYPE, typename T > typedef Rcpp::traits::Extractor< RTYPE, false, T>::type  
Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T >::EXT`

Definition at line 290 of file times.h.

6.767.2.2 `template<int RTYPE, typename T > typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T >::STORAGE`

Definition at line 288 of file times.h.

6.767.2.3 `template<int RTYPE, typename T > typedef Rcpp::VectorBase<RTYPE,false,T>  
Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T >::VEC_TYPE`

Definition at line 287 of file times.h.

## 6.767.3 Constructor & Destructor Documentation

6.767.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T  
>::Times_Vector_Primitive ( const VEC_TYPE & lhs_, STORAGE rhs_ ) [inline]`

Definition at line 292 of file times.h.

## 6.767.4 Member Function Documentation

6.767.4.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 295 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.767.4.2 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T >::size ( )  
const [inline]`

Definition at line 299 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.767.5 Member Data Documentation

6.767.5.1 `template<int RTYPE, typename T > const EXT& Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T >::lhs`  
`[private]`

Definition at line 302 of file times.h.

6.767.5.2 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T >::rhs`  
`[private]`

Definition at line 303 of file times.h.

6.767.5.3 `template<int RTYPE, typename T > bool Rcpp::sugar::Times_Vector_Primitive< RTYPE, false, T >::rhs_na`  
`[private]`

Definition at line 304 of file times.h.

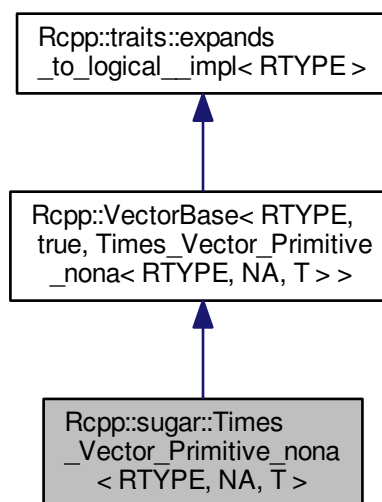
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

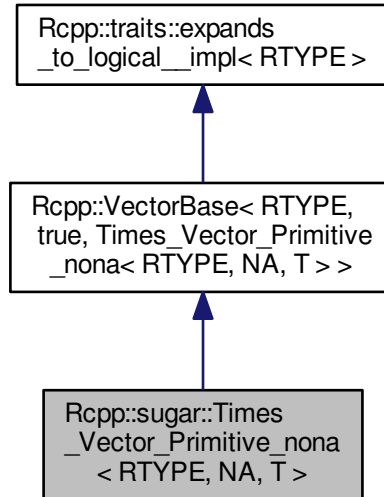
### 6.768 Rcpp::sugar::Times\_Vector\_Primitive\_nona< RTYPE, NA, T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Primitive\_nona< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Times\_Vector\_Primitive\_nona< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, NA, T > [VEC\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, NA, T >::type [EXT](#)

## Public Member Functions

- [Times\\_Vector\\_Primitive\\_nona](#) (const [VEC\\_TYPE](#) &lhs\_, [STORAGE](#) rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [EXT](#) &lhs
- [STORAGE](#) rhs

### 6.768.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, NA, T >
  
```

Definition at line 336 of file times.h.

## 6.768.2 Member Typedef Documentation

6.768.2.1 `template<int RTYPE, bool NA, typename T> typedef Rcpp::traits::Extractor< RTYPE, NA, T>::type  
Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, NA, T >::EXT`

Definition at line 340 of file times.h.

6.768.2.2 `template<int RTYPE, bool NA, typename T> typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, NA, T >::STORAGE`

Definition at line 339 of file times.h.

6.768.2.3 `template<int RTYPE, bool NA, typename T> typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, NA, T >::VEC_TYPE`

Definition at line 338 of file times.h.

## 6.768.3 Constructor & Destructor Documentation

6.768.3.1 `template<int RTYPE, bool NA, typename T> Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, NA, T  
>::Times_Vector_Primitive_nona ( const VEC_TYPE & lhs_, STORAGE rhs_ ) [inline]`

Definition at line 342 of file times.h.

## 6.768.4 Member Function Documentation

6.768.4.1 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE,  
NA, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 346 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.768.4.2 `template<int RTYPE, bool NA, typename T> R_xlen_t Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE,  
NA, T >::size ( ) const [inline]`

Definition at line 351 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.



## 6.768.5 Member Data Documentation

6.768.5.1 `template<int RTYPE, bool NA, typename T> const EXT& Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, NA, T >::lhs [private]`

Definition at line 354 of file times.h.

6.768.5.2 `template<int RTYPE, bool NA, typename T> STORAGE Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, NA, T >::rhs [private]`

Definition at line 355 of file times.h.

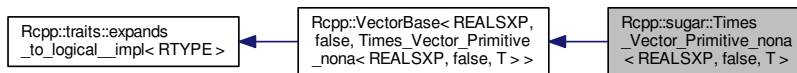
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

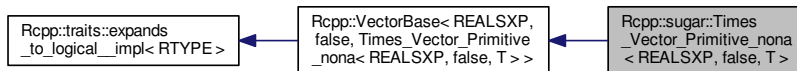
## 6.769 Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, false, T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, false, T >:



Collaboration diagram for Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, false, T >:



## Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, false, T > [VEC\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, T >::type [EXT](#)

## Public Member Functions

- [Times\\_Vector\\_Primitive\\_nona](#) (const [VEC\\_TYPE](#) &lhs\_, double rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [EXT](#) & lhs
- double [rhs](#)

### 6.769.1 Detailed Description

```
template<typename T>
class Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, false, T >
```

Definition at line 405 of file times.h.

### 6.769.2 Member Typedef Documentation

6.769.2.1 `template<typename T > typedef Rcpp::traits::Extractor<REALSXP, false, T>::type Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, false, T >::EXT`

Definition at line 409 of file times.h.

6.769.2.2 `template<typename T > typedef Rcpp::VectorBase<REALSXP,false,T> Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, false, T >::VEC_TYPE`

Definition at line 408 of file times.h.

### 6.769.3 Constructor & Destructor Documentation

6.769.3.1 `template<typename T > Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, false, T >::Times_Vector_Primitive_nona ( const VEC_TYPE & lhs_, double rhs_ ) [inline]`

Definition at line 411 of file times.h.

## 6.769.4 Member Function Documentation

6.769.4.1 `template<typename T > double Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, false, T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 414 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.769.4.2 `template<typename T > R_xlen_t Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, false, T >::size ( ) const [inline]`

Definition at line 418 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.769.5 Member Data Documentation

6.769.5.1 `template<typename T > const EXT& Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, false, T >::lhs [private]`

Definition at line 421 of file times.h.

6.769.5.2 `template<typename T > double Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, false, T >::rhs [private]`

Definition at line 422 of file times.h.

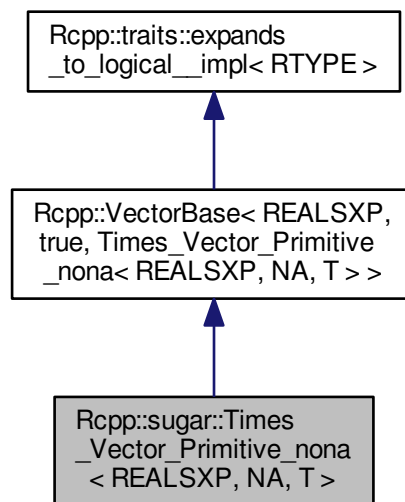
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

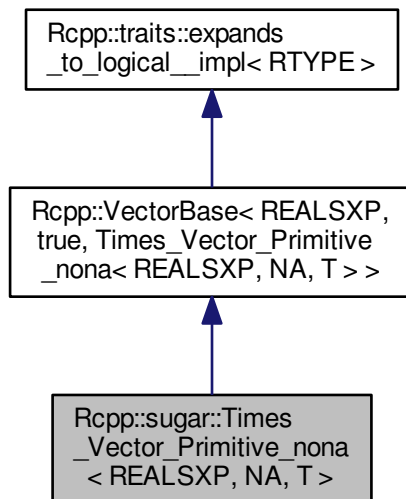
## 6.770 Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, NA, T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, NA, T >:



Collaboration diagram for Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase< REALSXP, NA, T >](#) [VEC\\_TYPE](#)
- typedef [Rcpp::traits::Extractor< REALSXP, NA, T >::type](#) [EXT](#)

## Public Member Functions

- [Times\\_Vector\\_Primitive\\_nona](#) (const [VEC\\_TYPE](#) &lhs\_, double rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [EXT](#) & [lhs](#)
- double [rhs](#)

### 6.770.1 Detailed Description

```

template<bool NA, typename T>
class Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, NA, T >

```

Definition at line 360 of file times.h.

## 6.770.2 Member Typedef Documentation

6.770.2.1 `template<bool NA, typename T > typedef Rcpp::traits::Extractor<REALSXP,NA,T>::type  
Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, NA, T >::EXT`

Definition at line 364 of file times.h.

6.770.2.2 `template<bool NA, typename T > typedef Rcpp::VectorBase<REALSXP,NA,T>  
Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, NA, T >::VEC_TYPE`

Definition at line 363 of file times.h.

## 6.770.3 Constructor & Destructor Documentation

6.770.3.1 `template<bool NA, typename T > Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, NA, T  
>::Times_Vector_Primitive_nona( const VEC_TYPE & lhs, double rhs ) [inline]`

Definition at line 366 of file times.h.

## 6.770.4 Member Function Documentation

6.770.4.1 `template<bool NA, typename T > double Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, NA, T  
>::operator[]( R_xlen_t i ) const [inline]`

Definition at line 370 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.770.4.2 `template<bool NA, typename T > R_xlen_t Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, NA, T  
>::size( ) const [inline]`

Definition at line 374 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.770.5 Member Data Documentation

6.770.5.1 `template<bool NA, typename T > const EXT& Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, NA, T  
>::lhs [private]`

Definition at line 377 of file times.h.

```
6.770.5.2 template<bool NA, typename T> double Rcpp::sugar::Times_Vector_Primitive_nona< REALSXP, NA, T >::rhs  
[private]
```

Definition at line 378 of file times.h.

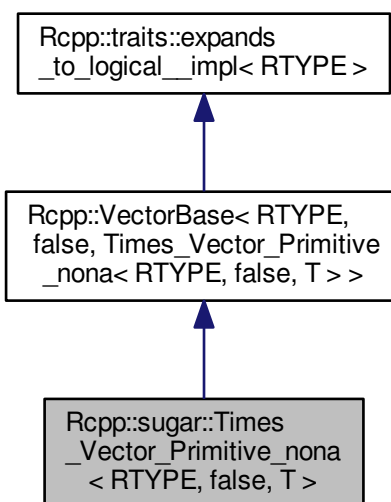
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

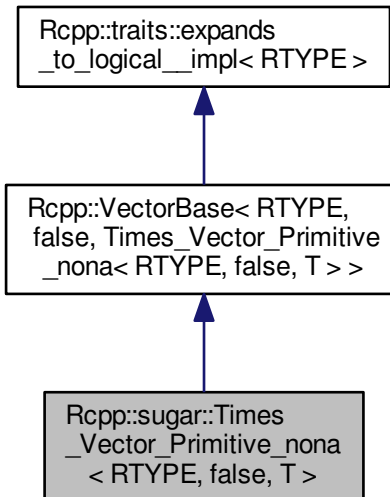
## 6.771 Rcpp::sugar::Times\_Vector\_Primitive\_nona< RTYPE, false, T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Primitive\_nona< RTYPE, false, T >:



Collaboration diagram for `Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, false, T >`:



## Public Types

- typedef `Rcpp::VectorBase < RTYPE, false, T >` `VEC_TYPE`
- typedef `traits::storage_type < RTYPE >::type` `STORAGE`
- typedef `Rcpp::traits::Extractor < RTYPE, false, T >::type` `EXT`

## Public Member Functions

- `Times_Vector_Primitive_nona` (const `VEC_TYPE` &lhs\_, `STORAGE` rhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

## Private Attributes

- const `EXT` & lhs
- `STORAGE` rhs

### 6.771.1 Detailed Description

```

template<int RTYPE, typename T>
class Rcpp::sugar::Times_Vector_Primitive_nona < RTYPE, false, T >

```

Definition at line 383 of file times.h.



## 6.771.2 Member Typedef Documentation

6.771.2.1 `template<int RTYPE, typename T > typedef Rcpp::traits::Extractor< RTYPE, false, T>::type  
Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, false, T >::EXT`

Definition at line 388 of file times.h.

6.771.2.2 `template<int RTYPE, typename T > typedef traits::storage_type<RTYPE>::type  
Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, false, T >::STORAGE`

Definition at line 386 of file times.h.

6.771.2.3 `template<int RTYPE, typename T > typedef Rcpp::VectorBase<RTYPE,false,T>  
Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, false, T >::VEC_TYPE`

Definition at line 385 of file times.h.

## 6.771.3 Constructor & Destructor Documentation

6.771.3.1 `template<int RTYPE, typename T > Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, false, T  
>::Times_Vector_Primitive_nona ( const VEC_TYPE & lhs, STORAGE rhs_ ) [inline]`

Definition at line 390 of file times.h.

## 6.771.4 Member Function Documentation

6.771.4.1 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, false, T  
>::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 393 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.771.4.2 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, false, T  
>::size ( ) const [inline]`

Definition at line 397 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.771.5 Member Data Documentation

6.771.5.1 `template<int RTYPE, typename T > const EXT& Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, false, T >::lhs [private]`

Definition at line 400 of file times.h.

6.771.5.2 `template<int RTYPE, typename T > STORAGE Rcpp::sugar::Times_Vector_Primitive_nona< RTYPE, false, T >::rhs [private]`

Definition at line 401 of file times.h.

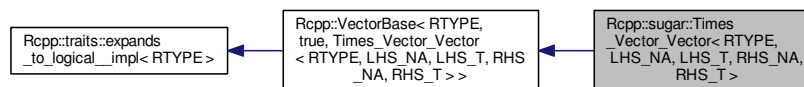
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

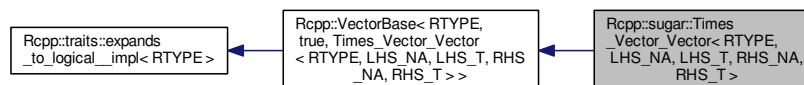
## 6.772 Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



## Public Types

- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

## Public Member Functions

- [Times\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

## Private Attributes

- const [LHS\\_EXT](#) & lhs
- const [RHS\\_EXT](#) & rhs

### 6.772.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 29 of file times.h.

### 6.772.2 Member Typedef Documentation

6.772.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, LHS_NA, LHS_T>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 35 of file times.h.

6.772.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,LHS_NA,LHS_T> Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 32 of file times.h.

6.772.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, RHS_NA, RHS_T>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 36 of file times.h.

6.772.2.4 `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 33 of file times.h.

```
6.772.2.5 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > typedef
traits::storage_type<RTYPE>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA,
RHS_T >::STORAGE
```

Definition at line 31 of file times.h.

### 6.772.3 Constructor & Destructor Documentation

```
6.772.3.1 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T >
Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Times_Vector_Vector (
const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]
```

Definition at line 38 of file times.h.

### 6.772.4 Member Function Documentation

```
6.772.4.1 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > STORAGE
Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const
[inline]
```

Definition at line 42 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

```
6.772.4.2 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t
Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]
```

Definition at line 49 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.772.5 Member Data Documentation

```
6.772.5.1 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_EXT&
Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]
```

Definition at line 52 of file times.h.

Referenced by `Rcpp::operator*()`, `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`, `Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[]()`,

Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive< RTYPE, NA, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive< REALSXP, NA, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive< RTYPE, false, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive< REALSXP, false, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive\_nona< RTYPE, NA, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, NA, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive\_nona< RTYPE, false, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, false, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::Times\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::Times\_Vector\_Vector< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T >::size(), Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >::size(), Rcpp::sugar::Times\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >::size(), Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >::size(), Rcpp::sugar::Times\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T >::size(), Rcpp::sugar::Times\_Vector\_Primitive< RTYPE, NA, T >::size(), Rcpp::sugar::Times\_Vector\_Primitive< REALSXP, NA, T >::size(), Rcpp::sugar::Times\_Vector\_Primitive< RTYPE, false, T >::size(), Rcpp::sugar::Times\_Vector\_Primitive< REALSXP, false, T >::size(), Rcpp::sugar::Times\_Vector\_Primitive\_nona< RTYPE, NA, T >::size(), Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, NA, T >::size(), Rcpp::sugar::Times\_Vector\_Primitive\_nona< RTYPE, false, T >::size(), and Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, false, T >::size().

6.772.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT& Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 53 of file times.h.

Referenced by Rcpp::operator\*(), Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive< RTYPE, NA, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive< REALSXP, NA, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive< RTYPE, false, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive< REALSXP, false, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive\_nona< RTYPE, NA, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, NA, T >::operator[ ](), Rcpp::sugar::Times\_Vector\_Primitive\_nona< RTYPE, false, T >::operator[ ](), and Rcpp::sugar::Times\_Vector\_Primitive\_nona< REALSXP, false, T >::operator[ ]().

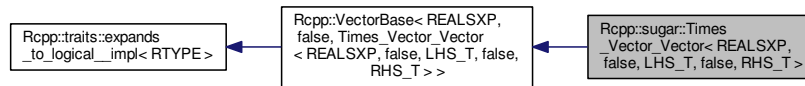
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/times.h`

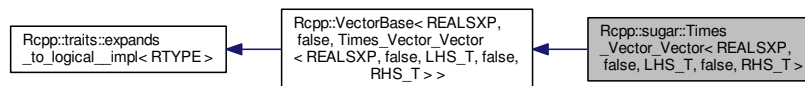
## 6.773 Rcpp::sugar::Times\_Vector\_Vector< REALSXP, false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for `Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >`:



Collaboration diagram for `Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >`:



## Public Types

- typedef `Rcpp::VectorBase< REALSXP, false, LHS_T >` `LHS_TYPE`
- typedef `Rcpp::VectorBase< REALSXP, false, RHS_T >` `RHS_TYPE`
- typedef `Rcpp::traits::Extractor< REALSXP, false, LHS_T >::type` `LHS_EXT`
- typedef `Rcpp::traits::Extractor< REALSXP, false, RHS_T >::type` `RHS_EXT`

## Public Member Functions

- `Times_Vector_Vector` (const `LHS_TYPE` &lhs\_, const `RHS_TYPE` &rhs\_)
- double `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- const `LHS_EXT` &lhs
- const `RHS_EXT` &rhs

### 6.773.1 Detailed Description

```

template<typename LHS_T, typename RHS_T>
class Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >

```

Definition at line 211 of file times.h.

## 6.773.2 Member Typedef Documentation

6.773.2.1 `template<typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, LHS_T>::type Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 217 of file times.h.

6.773.2.2 `template<typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,LHS_T> Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 214 of file times.h.

6.773.2.3 `template<typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, RHS_T>::type Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 218 of file times.h.

6.773.2.4 `template<typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,RHS_T> Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 215 of file times.h.

## 6.773.3 Constructor & Destructor Documentation

6.773.3.1 `template<typename LHS_T, typename RHS_T > Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::Times_Vector_Vector ( const LHS_TYPE & lhs, const RHS_TYPE & rhs ) [inline]`

Definition at line 220 of file times.h.

## 6.773.4 Member Function Documentation

6.773.4.1 `template<typename LHS_T, typename RHS_T > double Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 223 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.773.4.2 `template<typename LHS_T, typename RHS_T> R_xlen_t Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::size ( ) const [inline]`

Definition at line 227 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.773.5 Member Data Documentation

6.773.5.1 `template<typename LHS_T, typename RHS_T> const LHS_EXT& Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 230 of file times.h.

6.773.5.2 `template<typename LHS_T, typename RHS_T> const RHS_EXT& Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 231 of file times.h.

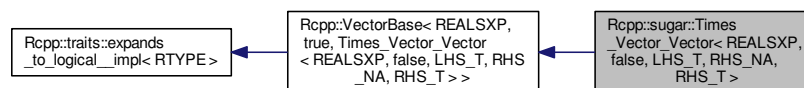
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

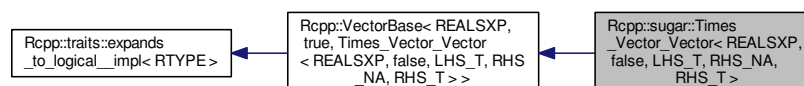
## 6.774 Rcpp::sugar::Times\_Vector\_Vector< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for `Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >`:



Collaboration diagram for `Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >`:





## Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

## Public Member Functions

- [Times\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [LHS\\_EXT](#) & lhs
- const [RHS\\_EXT](#) & rhs

### 6.774.1 Detailed Description

```
template<typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 110 of file times.h.

### 6.774.2 Member Typedef Documentation

6.774.2.1 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, LHS_T>::type Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 116 of file times.h.

6.774.2.2 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP,false,LHS_T> Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 113 of file times.h.

6.774.2.3 `template<typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, RHS_NA, RHS_T>::type Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 117 of file times.h.

```
6.774.2.4 template<typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, RHS_NA, RHS_T> Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::RHS_TYPE
```

Definition at line 114 of file times.h.

### 6.774.3 Constructor & Destructor Documentation

```
6.774.3.1 template<typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::Times_Vector_Vector ( const LHS_TYPE & lhs, const RHS_TYPE & rhs ) [inline]
```

Definition at line 119 of file times.h.

### 6.774.4 Member Function Documentation

```
6.774.4.1 template<typename LHS_T , bool RHS_NA, typename RHS_T > double Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]
```

Definition at line 122 of file times.h.

References Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

```
6.774.4.2 template<typename LHS_T , bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]
```

Definition at line 126 of file times.h.

References Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs.

### 6.774.5 Member Data Documentation

```
6.774.5.1 template<typename LHS_T , bool RHS_NA, typename RHS_T > const LHS_EXT& Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::lhs [private]
```

Definition at line 129 of file times.h.

```
6.774.5.2 template<typename LHS_T , bool RHS_NA, typename RHS_T > const RHS_EXT& Rcpp::sugar::Times_Vector_Vector< REALSXP, false, LHS_T, RHS_NA, RHS_T >::rhs [private]
```

Definition at line 130 of file times.h.

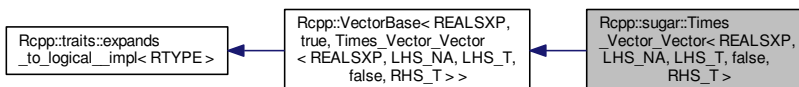
The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/operators/times.h

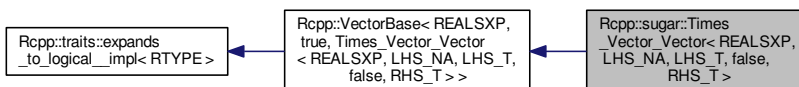
## 6.775 Rcpp::sugar::Times\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Times\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, false, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, false, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Times\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.775.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 162 of file times.h.

### 6.775.2 Member Typedef Documentation

6.775.2.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, LHS_NA, LHS_T>::type Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 168 of file times.h.

6.775.2.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, LHS_NA, LHS_T> Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 165 of file times.h.

6.775.2.3 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, false, RHS_T>::type Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 169 of file times.h.

6.775.2.4 `template<bool LHS_NA, typename LHS_T, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, false, RHS_T> Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 166 of file times.h.

### 6.775.3 Constructor & Destructor Documentation

6.775.3.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::Times_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ )`  
`[inline]`

Definition at line 171 of file times.h.

#### 6.775.4 Member Function Documentation

6.775.4.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > double Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 174 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.775.4.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::size ( ) const [inline]`

Definition at line 178 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

#### 6.775.5 Member Data Documentation

6.775.5.1 `template<bool LHS_NA, typename LHS_T, typename RHS_T > const LHS_EXT& Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 181 of file times.h.

6.775.5.2 `template<bool LHS_NA, typename LHS_T, typename RHS_T > const RHS_EXT& Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 182 of file times.h.

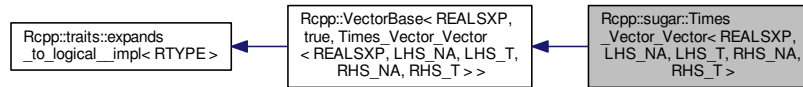
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

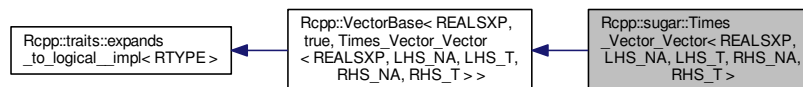
## 6.776 Rcpp::sugar::Times\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Times\_Vector\_Vector< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< REALSXP, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, LHS\_NA, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Times\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.776.1 Detailed Description

```
template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 57 of file times.h.

### 6.776.2 Member Typedef Documentation

6.776.2.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, LHS_NA, LHS_T>::type Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 63 of file times.h.

6.776.2.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, LHS_NA, LHS_T> Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 60 of file times.h.

6.776.2.3 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor<REALSXP, RHS_NA, RHS_T>::type Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 64 of file times.h.

6.776.2.4 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<REALSXP, RHS_NA, RHS_T> Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 61 of file times.h.

### 6.776.3 Constructor & Destructor Documentation

6.776.3.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::Times_Vector_Vector ( const LHS_TYPE & lhs, const RHS_TYPE & rhs ) [inline]`

Definition at line 66 of file times.h.

## 6.776.4 Member Function Documentation

6.776.4.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > double Rcpp::sugar::←  
Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const  
[inline]`

Definition at line 70 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp←  
::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.776.4.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > R_xlen_t  
Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::size ( ) const  
[inline]`

Definition at line 74 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.776.5 Member Data Documentation

6.776.5.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const LHS_EXT&  
Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 77 of file times.h.

6.776.5.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT&  
Rcpp::sugar::Times_Vector_Vector< REALSXP, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 78 of file times.h.

The documentation for this class was generated from the following file:

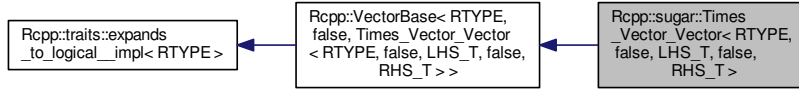
- `inst/include/Rcpp/sugar/operators/times.h`



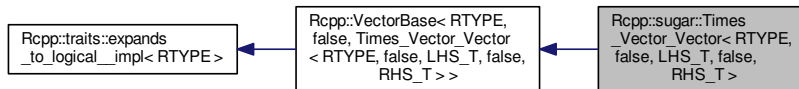
## 6.777 Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, false, RHS\_T >:



### Public Types

- typedef [traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)
- typedef [Rcpp::VectorBase< RTYPE, false, LHS\\_T >](#) [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase< RTYPE, false, RHS\\_T >](#) [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor< RTYPE, false, LHS\\_T >::type](#) [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor< RTYPE, false, RHS\\_T >::type](#) [RHS\\_EXT](#)

### Public Member Functions

- [Times\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.777.1 Detailed Description

```
template<int RTYPE, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >
```

Definition at line 187 of file times.h.

### 6.777.2 Member Typedef Documentation

6.777.2.1 `template<int RTYPE, typename LHS_T , typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, false, LHS_T>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 193 of file times.h.

6.777.2.2 `template<int RTYPE, typename LHS_T , typename RHS_T > typedef Rcpp::VectorBase<RTYPE,false,LHS_T> Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 190 of file times.h.

6.777.2.3 `template<int RTYPE, typename LHS_T , typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, false, RHS_T>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 194 of file times.h.

6.777.2.4 `template<int RTYPE, typename LHS_T , typename RHS_T > typedef Rcpp::VectorBase<RTYPE,false,RHS_T> Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 191 of file times.h.

6.777.2.5 `template<int RTYPE, typename LHS_T , typename RHS_T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::STORAGE`

Definition at line 189 of file times.h.

### 6.777.3 Constructor & Destructor Documentation

6.777.3.1 `template<int RTYPE, typename LHS_T , typename RHS_T > Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::Times_Vector_Vector ( const LHS_TYPE & lhs_ , const RHS_TYPE & rhs_ ) [inline]`

Definition at line 196 of file times.h.

## 6.777.4 Member Function Documentation

6.777.4.1 `template<int RTYPE, typename LHS_T, typename RHS_T > STORAGE Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 199 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.777.4.2 `template<int RTYPE, typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::size( ) const [inline]`

Definition at line 203 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

## 6.777.5 Member Data Documentation

6.777.5.1 `template<int RTYPE, typename LHS_T, typename RHS_T > const LHS_EXT& Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 206 of file times.h.

6.777.5.2 `template<int RTYPE, typename LHS_T, typename RHS_T > const RHS_EXT& Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 207 of file times.h.

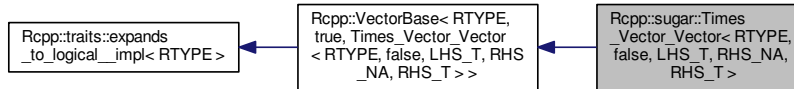
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

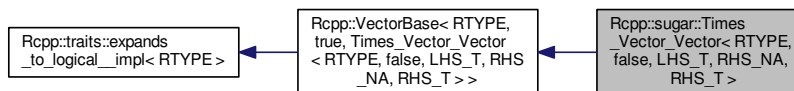
## 6.778 Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Times\_Vector\_Vector< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >:



### Public Types

- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, false, LHS\_T > [LHS\\_TYPE](#)
- typedef [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > [RHS\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, false, LHS\_T >::type [LHS\\_EXT](#)
- typedef [Rcpp::traits::Extractor](#)< RTYPE, RHS\_NA, RHS\_T >::type [RHS\\_EXT](#)

### Public Member Functions

- [Times\\_Vector\\_Vector](#) (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- [STORAGE operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.778.1 Detailed Description

```
template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >
```

Definition at line 84 of file times.h.

### 6.778.2 Member Typedef Documentation

6.778.2.1 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, false, LHS_T>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::LHS_EXT`

Definition at line 90 of file times.h.

6.778.2.2 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,false,LHS_T> Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::LHS_TYPE`

Definition at line 87 of file times.h.

6.778.2.3 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, RHS_NA, RHS_T>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::RHS_EXT`

Definition at line 91 of file times.h.

6.778.2.4 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef Rcpp::VectorBase<RTYPE,RHS_NA,RHS_T> Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::RHS_TYPE`

Definition at line 88 of file times.h.

6.778.2.5 `template<int RTYPE, typename LHS_T , bool RHS_NA, typename RHS_T > typedef traits::storage_type<RTYPE>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 86 of file times.h.

### 6.778.3 Constructor & Destructor Documentation

6.778.3.1 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::Times_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 93 of file times.h.

### 6.778.4 Member Function Documentation

6.778.4.1 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > STORAGE Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 96 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.778.4.2 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > R_xlen_t Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::size ( ) const [inline]`

Definition at line 102 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.778.5 Member Data Documentation

6.778.5.1 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > const LHS_EXT& Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::lhs [private]`

Definition at line 105 of file times.h.

6.778.5.2 `template<int RTYPE, typename LHS_T, bool RHS_NA, typename RHS_T > const RHS_EXT& Rcpp::sugar::Times_Vector_Vector< RTYPE, false, LHS_T, RHS_NA, RHS_T >::rhs [private]`

Definition at line 106 of file times.h.

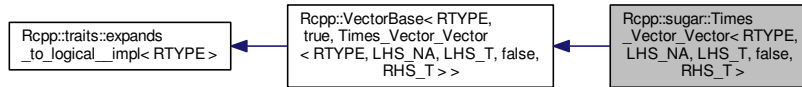
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/times.h](#)

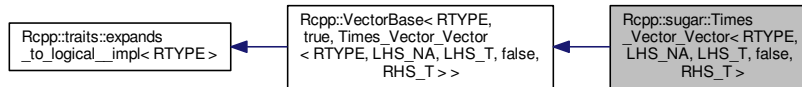
## 6.779 Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T > Class Template Reference

```
#include <times.h>
```

Inheritance diagram for Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >:



Collaboration diagram for Rcpp::sugar::Times\_Vector\_Vector< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >:



### Public Types

- typedef `traits::storage_type< RTYPE >::type` [STORAGE](#)
- typedef `Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T >` [LHS\\_TYPE](#)
- typedef `Rcpp::VectorBase< RTYPE, false, RHS_T >` [RHS\\_TYPE](#)
- typedef `Rcpp::traits::Extractor< RTYPE, LHS_NA, LHS_T >::type` [LHS\\_EXT](#)
- typedef `Rcpp::traits::Extractor< RTYPE, false, RHS_T >::type` [RHS\\_EXT](#)

### Public Member Functions

- `Times_Vector_Vector` (const [LHS\\_TYPE](#) &lhs\_, const [RHS\\_TYPE](#) &rhs\_)
- `STORAGE operator[]` (R\_xlen\_t i) const
- `R_xlen_t size` () const

### Private Attributes

- const [LHS\\_EXT](#) &lhs
- const [RHS\\_EXT](#) &rhs

### 6.779.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T>
class Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >
```

Definition at line 136 of file times.h.

### 6.779.2 Member Typedef Documentation

6.779.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T , typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, LHS_NA, LHS_T>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::LHS_EXT`

Definition at line 142 of file times.h.

6.779.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T , typename RHS_T > typedef Rcpp::VectorBase<R< RTYPE,LHS_NA,LHS_T> Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::LHS_TYPE`

Definition at line 139 of file times.h.

6.779.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T , typename RHS_T > typedef Rcpp::traits::Extractor< RTYPE, false, RHS_T>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::RHS_EXT`

Definition at line 143 of file times.h.

6.779.2.4 `template<int RTYPE, bool LHS_NA, typename LHS_T , typename RHS_T > typedef Rcpp::VectorBase<R< RTYPE,false,RHS_T> Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::RHS_TYPE`

Definition at line 140 of file times.h.

6.779.2.5 `template<int RTYPE, bool LHS_NA, typename LHS_T , typename RHS_T > typedef traits::storage_< RTYPE>::type Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::STORAGE`

Definition at line 138 of file times.h.



### 6.779.3 Constructor & Destructor Documentation

6.779.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::Times_Vector_Vector ( const LHS_TYPE & lhs_, const RHS_TYPE & rhs_ ) [inline]`

Definition at line 145 of file times.h.

### 6.779.4 Member Function Documentation

6.779.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > STORAGE Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 148 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

6.779.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > R_xlen_t Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::size ( ) const [inline]`

Definition at line 154 of file times.h.

References `Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`.

### 6.779.5 Member Data Documentation

6.779.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > const LHS_EXT& Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::lhs [private]`

Definition at line 157 of file times.h.

6.779.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, typename RHS_T > const RHS_EXT& Rcpp::sugar::Times_Vector_Vector< RTYPE, LHS_NA, LHS_T, false, RHS_T >::rhs [private]`

Definition at line 158 of file times.h.

The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/times.h`

## 6.780 Rcpp::tinfo Struct Reference

### Public Attributes

- long [tt\\_gmtoff](#)
- int [tt\\_isdst](#)
- int [tt\\_abbrind](#)
- int [tt\\_tisstd](#)
- int [tt\\_tisgmt](#)

### 6.780.1 Detailed Description

Definition at line 321 of file Date.cpp.

### 6.780.2 Member Data Documentation

#### 6.780.2.1 int Rcpp::tinfo::tt\_abbrind

Definition at line 324 of file Date.cpp.

Referenced by [Rcpp::typesequiv\(\)](#), [Rcpp::tzload\(\)](#), and [Rcpp::tzparse\(\)](#).

#### 6.780.2.2 long Rcpp::tinfo::tt\_gmtoff

Definition at line 322 of file Date.cpp.

Referenced by [Rcpp::typesequiv\(\)](#), [Rcpp::tzload\(\)](#), and [Rcpp::tzparse\(\)](#).

#### 6.780.2.3 int Rcpp::tinfo::tt\_isdst

Definition at line 323 of file Date.cpp.

Referenced by [Rcpp::typesequiv\(\)](#), [Rcpp::tzload\(\)](#), and [Rcpp::tzparse\(\)](#).

#### 6.780.2.4 int Rcpp::tinfo::tt\_tisgmt

Definition at line 326 of file Date.cpp.

Referenced by [Rcpp::typesequiv\(\)](#), [Rcpp::tzload\(\)](#), and [Rcpp::tzparse\(\)](#).

### 6.780.2.5 int Rcpp::tinfo::tt\_tisstd

Definition at line 325 of file Date.cpp.

Referenced by Rcpp::typesequiv(), Rcpp::tzload(), and Rcpp::tzparse().

The documentation for this struct was generated from the following file:

- [src/Date.cpp](#)

## 6.781 Rcpp::attributes::Type Class Reference

### Public Member Functions

- [Type](#) ()
- [Type](#) (const std::string &name, bool isConst, bool isReference)
- bool [empty](#) () const
- bool [operator==](#) (const [Type](#) &other) const
- bool [operator!=](#) (const [Type](#) &other) const
- const std::string & [name](#) () const
- std::string [full\\_name](#) () const
- bool [isVoid](#) () const
- bool [isConst](#) () const
- bool [isReference](#) () const

### Private Attributes

- std::string [name\\_](#)
- bool [isConst\\_](#)
- bool [isReference\\_](#)

### 6.781.1 Detailed Description

Definition at line 164 of file attributes.cpp.

### 6.781.2 Constructor & Destructor Documentation

#### 6.781.2.1 Rcpp::attributes::Type::Type( ) [inline]

Definition at line 166 of file attributes.cpp.

6.781.2.2 `Rcpp::attributes::Type::Type ( const std::string & name, bool isConst, bool isReference ) [inline]`

Definition at line 167 of file attributes.cpp.

### 6.781.3 Member Function Documentation

6.781.3.1 `bool Rcpp::attributes::Type::empty ( ) const [inline]`

Definition at line 171 of file attributes.cpp.

Referenced by `Rcpp::attributes::operator<<()`, and `Rcpp::attributes::SourceFileAttributesParser::parseFunction()`.

6.781.3.2 `std::string Rcpp::attributes::Type::full_name ( ) const [inline]`

Definition at line 184 of file attributes.cpp.

Referenced by `Rcpp::attributes::generateCpp()`.

6.781.3.3 `bool Rcpp::attributes::Type::isConst ( ) const [inline]`

Definition at line 193 of file attributes.cpp.

Referenced by `Rcpp::attributes::operator<<()`.

6.781.3.4 `bool Rcpp::attributes::Type::isReference ( ) const [inline]`

Definition at line 194 of file attributes.cpp.

Referenced by `Rcpp::attributes::operator<<()`.

6.781.3.5 `bool Rcpp::attributes::Type::isVoid ( ) const [inline]`

Definition at line 192 of file attributes.cpp.

6.781.3.6 `const std::string& Rcpp::attributes::Type::name ( ) const [inline]`

Definition at line 183 of file attributes.cpp.

Referenced by `Rcpp::attributes::generateRArgList()`, and `Rcpp::attributes::operator<<()`.

6.781.3.7 `bool Rcpp::attributes::Type::operator!=( const Type & other ) const` `[inline]`

Definition at line 179 of file `attributes.cpp`.

6.781.3.8 `bool Rcpp::attributes::Type::operator==( const Type & other ) const` `[inline]`

Definition at line 173 of file `attributes.cpp`.

References `isConst_`, `isReference_`, and `name_`.

## 6.781.4 Member Data Documentation

6.781.4.1 `bool Rcpp::attributes::Type::isConst_` `[private]`

Definition at line 198 of file `attributes.cpp`.

Referenced by `operator==( )`.

6.781.4.2 `bool Rcpp::attributes::Type::isReference_` `[private]`

Definition at line 199 of file `attributes.cpp`.

Referenced by `operator==( )`.

6.781.4.3 `std::string Rcpp::attributes::Type::name_` `[private]`

Definition at line 197 of file `attributes.cpp`.

Referenced by `operator==( )`.

The documentation for this class was generated from the following file:

- [src/attributes.cpp](#)

## 6.782 Rcpp::tzhead Struct Reference

### Public Attributes

- char [tzhead\\_magic](#) [4]
- char [tzhead\\_version](#) [1]
- char [tzhead\\_reserved](#) [15]
- char [tzhead\\_ttisgmtcnt](#) [4]
- char [tzhead\\_ttisstdcnt](#) [4]
- char [tzhead\\_leapcnt](#) [4]
- char [tzhead\\_timecnt](#) [4]
- char [tzhead\\_typecnt](#) [4]
- char [tzhead\\_charcnt](#) [4]

### 6.782.1 Detailed Description

Definition at line 160 of file Date.cpp.

### 6.782.2 Member Data Documentation

#### 6.782.2.1 char Rcpp::tzhead::tzh\_charcnt[4]

Definition at line 169 of file Date.cpp.

#### 6.782.2.2 char Rcpp::tzhead::tzh\_leapcnt[4]

Definition at line 166 of file Date.cpp.

#### 6.782.2.3 char Rcpp::tzhead::tzh\_magic[4]

Definition at line 161 of file Date.cpp.

#### 6.782.2.4 char Rcpp::tzhead::tzh\_reserved[15]

Definition at line 163 of file Date.cpp.

#### 6.782.2.5 char Rcpp::tzhead::tzh\_timecnt[4]

Definition at line 167 of file Date.cpp.

#### 6.782.2.6 char Rcpp::tzhead::tzh\_ttisgmtcnt[4]

Definition at line 164 of file Date.cpp.

#### 6.782.2.7 char Rcpp::tzhead::tzh\_ttisstdcnt[4]

Definition at line 165 of file Date.cpp.

#### 6.782.2.8 char Rcpp::tzhead::tzh\_typecnt[4]

Definition at line 168 of file Date.cpp.

6.782.2.9 char Rcpp::tzhead::tzh\_version[1]

Definition at line 162 of file Date.cpp.

The documentation for this struct was generated from the following file:

- [src/Date.cpp](#)

## 6.783 Rcpp::traits::un\_pointer< T > Struct Template Reference

```
#include <un_pointer.h>
```

### Public Types

- typedef T [type](#)

### 6.783.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::un_pointer< T >
```

Definition at line 29 of file un\_pointer.h.

### 6.783.2 Member Typedef Documentation

6.783.2.1 `template<typename T> typedef T Rcpp::traits::un_pointer< T >::type`

Definition at line 29 of file un\_pointer.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/un\\_pointer.h](#)

## 6.784 Rcpp::traits::un\_pointer< object< T > > Struct Template Reference

```
#include <un_pointer.h>
```

### Public Types

- typedef T [type](#)

### 6.784.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::un_pointer< object< T > >
```

Definition at line 31 of file `un_pointer.h`.

### 6.784.2 Member Typedef Documentation

6.784.2.1 `template<typename T > typedef T Rcpp::traits::un_pointer< object< T > >::type`

Definition at line 31 of file `un_pointer.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/un\\_pointer.h](#)

## 6.785 Rcpp::traits::un\_pointer< T \* > Struct Template Reference

```
#include <un_pointer.h>
```

### Public Types

- `typedef T` [type](#)

### 6.785.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::un_pointer< T * >
```

Definition at line 30 of file `un_pointer.h`.

### 6.785.2 Member Typedef Documentation

6.785.2.1 `template<typename T > typedef T Rcpp::traits::un_pointer< T * >::type`

Definition at line 30 of file `un_pointer.h`.

The documentation for this struct was generated from the following file:

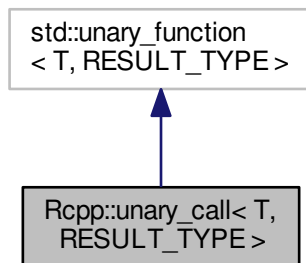
- [inst/include/Rcpp/traits/un\\_pointer.h](#)



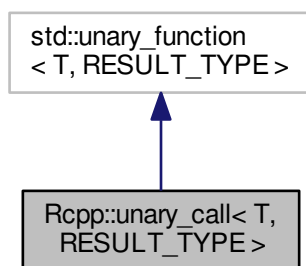
## 6.786 Rcpp::unary\_call< T, RESULT\_TYPE > Class Template Reference

```
#include <Language.h>
```

Inheritance diagram for Rcpp::unary\_call< T, RESULT\_TYPE >:



Collaboration diagram for Rcpp::unary\_call< T, RESULT\_TYPE >:



### Public Member Functions

- [unary\\_call](#) ([Language](#) call\_)
- [unary\\_call](#) ([Language](#) call\_, R\_xlen\_t index)
- [unary\\_call](#) ([Function](#) fun)
- `RESULT_TYPE` [operator\(\)](#) (const T &object)

## Private Attributes

- [Language call](#)
- [Language::Proxy proxy](#)

### 6.786.1 Detailed Description

```
template<typename T, typename RESULT_TYPE = SEXP>
class Rcpp::unary_call< T, RESULT_TYPE >
```

Definition at line 180 of file Language.h.

### 6.786.2 Constructor & Destructor Documentation

6.786.2.1 `template<typename T, typename RESULT_TYPE = SEXP> Rcpp::unary_call< T, RESULT_TYPE >::unary_call ( Language call_ ) [inline]`

Definition at line 182 of file Language.h.

6.786.2.2 `template<typename T, typename RESULT_TYPE = SEXP> Rcpp::unary_call< T, RESULT_TYPE >::unary_call ( Language call_, R_xlen_t index ) [inline]`

Definition at line 183 of file Language.h.

6.786.2.3 `template<typename T, typename RESULT_TYPE = SEXP> Rcpp::unary_call< T, RESULT_TYPE >::unary_call ( Function fun ) [inline]`

Definition at line 184 of file Language.h.

### 6.786.3 Member Function Documentation

6.786.3.1 `template<typename T, typename RESULT_TYPE = SEXP> RESULT_TYPE Rcpp::unary_call< T, RESULT_TYPE >::operator() ( const T & object ) [inline]`

Definition at line 186 of file Language.h.

References [Rcpp::fixed\\_call< RESULT\\_TYPE >::call](#).

### 6.786.4 Member Data Documentation

6.786.4.1 `template<typename T , typename RESULT_TYPE = SEXP> Language Rcpp::unary_call< T, RESULT_TYPE >::call`  
`[private]`

Definition at line 192 of file Language.h.

6.786.4.2 `template<typename T , typename RESULT_TYPE = SEXP> Language::Proxy Rcpp::unary_call< T, RESULT_TYPE`  
`>::proxy [private]`

Definition at line 193 of file Language.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/Language.h](#)

## 6.787 Rcpp::sugar::unary\_minus< RTYPE, NA > Class Template Reference

```
#include <unary_minus.h>
```

### Public Types

- typedef `traits::storage_type< RTYPE >::type` `STORAGE`
- typedef `unary_minus_result_type< RTYPE >::type` `RESULT`

### Public Member Functions

- `RESULT apply (STORAGE x) const`

### 6.787.1 Detailed Description

```
template<int RTYPE, bool NA>
class Rcpp::sugar::unary_minus< RTYPE, NA >
```

Definition at line 41 of file unary\_minus.h.

### 6.787.2 Member Typedef Documentation

6.787.2.1 `template<int RTYPE, bool NA> typedef unary_minus_result_type<RTYPE>::type`  
`Rcpp::sugar::unary_minus< RTYPE, NA >::RESULT`

Definition at line 44 of file unary\_minus.h.

6.787.2.2 `template<int RTYPE, bool NA> typedef traits::storage_type<RTYPE>::type Rcpp::sugar::unary_minus<RTYPE, NA >::STORAGE`

Definition at line 43 of file unary\_minus.h.

### 6.787.3 Member Function Documentation

6.787.3.1 `template<int RTYPE, bool NA> RESULT Rcpp::sugar::unary_minus< RTYPE, NA >::apply ( STORAGE x ) const [inline]`

Definition at line 45 of file unary\_minus.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/unary\\_minus.h](#)

## 6.788 Rcpp::sugar::unary\_minus< CPLXSCP, false > Class Template Reference

```
#include <unary_minus.h>
```

### Public Member Functions

- Rcomplex [apply](#) (Rcomplex x) const

### 6.788.1 Detailed Description

```
template<>
class Rcpp::sugar::unary_minus< CPLXSCP, false >
```

Definition at line 71 of file unary\_minus.h.

### 6.788.2 Member Function Documentation

6.788.2.1 `Rcomplex Rcpp::sugar::unary_minus< CPLXSCP, false >::apply ( Rcomplex x ) const [inline]`

Definition at line 73 of file unary\_minus.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/unary\\_minus.h](#)

## 6.789 Rcpp::sugar::unary\_minus< CPLXSXP, NA > Class Template Reference

```
#include <unary_minus.h>
```

### Public Member Functions

- Rcomplex [apply](#) (Rcomplex x) const

### 6.789.1 Detailed Description

```
template<bool NA>  
class Rcpp::sugar::unary_minus< CPLXSXP, NA >
```

Definition at line 59 of file unary\_minus.h.

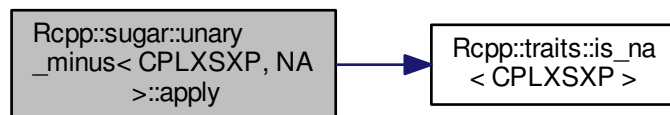
### 6.789.2 Member Function Documentation

6.789.2.1 `template<bool NA> Rcomplex Rcpp::sugar::unary_minus< CPLXSXP, NA >::apply ( Rcomplex x ) const`  
[inline]

Definition at line 61 of file unary\_minus.h.

References `Rcpp::traits::is_na< CPLXSXP >()`.

Here is the call graph for this function:



The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/operators/unary_minus.h`

## 6.790 Rcpp::sugar::unary\_minus< RTYPE, false > Class Template Reference

```
#include <unary_minus.h>
```

### Public Types

- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) STORAGE
- typedef [unary\\_minus\\_result\\_type< RTYPE >::type](#) RESULT

### Public Member Functions

- [RESULT](#) apply (STORAGE x) const

#### 6.790.1 Detailed Description

```
template<int RTYPE>  
class Rcpp::sugar::unary_minus< RTYPE, false >
```

Definition at line 50 of file unary\_minus.h.

#### 6.790.2 Member Typedef Documentation

6.790.2.1 `template<int RTYPE> typedef unary_minus_result_type<RTYPE>::type Rcpp::sugar::unary_minus< RTYPE, false >::RESULT`

Definition at line 53 of file unary\_minus.h.

6.790.2.2 `template<int RTYPE> typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::unary_minus< RTYPE, false >::STORAGE`

Definition at line 52 of file unary\_minus.h.

#### 6.790.3 Member Function Documentation

6.790.3.1 `template<int RTYPE> RESULT Rcpp::sugar::unary_minus< RTYPE, false >::apply ( STORAGE x ) const [inline]`

Definition at line 54 of file unary\_minus.h.

The documentation for this class was generated from the following file:

- inst/include/Rcpp/sugar/operators/[unary\\_minus.h](#)

## 6.791 Rcpp::sugar::unary\_minus\_result\_type< RTYPE > Struct Template Reference

```
#include <unary_minus.h>
```

### Public Types

- enum { [value](#) = RTYPE }
- typedef [traits::storage\\_type< RTYPE >::type](#) type

### 6.791.1 Detailed Description

```
template<int RTYPE>  
struct Rcpp::sugar::unary_minus_result_type< RTYPE >
```

Definition at line 29 of file unary\_minus.h.

### 6.791.2 Member Typedef Documentation

6.791.2.1 `template<int RTYPE> typedef traits::storage_type<RTYPE>::type Rcpp::sugar::unary_minus_result_type< RTYPE >::type`

Definition at line 30 of file unary\_minus.h.

### 6.791.3 Member Enumeration Documentation

6.791.3.1 `template<int RTYPE> anonymous enum`

Enumerator

***value***

Definition at line 31 of file unary\_minus.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/sugar/operators/unary\\_minus.h](#)

## 6.792 Rcpp::sugar::unary\_minus\_result\_type< LGLSXP > Struct Template Reference

```
#include <unary_minus.h>
```

## Public Types

- enum { `value = INTSXP` }
- typedef `traits::storage_type< INTSXP >::type type`

### 6.792.1 Detailed Description

```
template<>  
struct Rcpp::sugar::unary_minus_result_type< LGLSXP >
```

Definition at line 34 of file `unary_minus.h`.

### 6.792.2 Member Typedef Documentation

6.792.2.1 `typedef traits::storage_type<INTSXP>::type Rcpp::sugar::unary_minus_result_type< LGLSXP >::type`

Definition at line 35 of file `unary_minus.h`.

### 6.792.3 Member Enumeration Documentation

6.792.3.1 anonymous enum

Enumerator

***value***

Definition at line 36 of file `unary_minus.h`.

The documentation for this struct was generated from the following file:

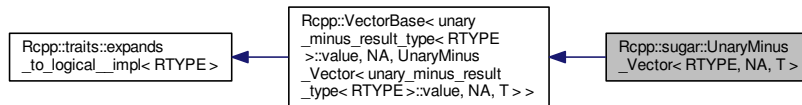
- `inst/include/Rcpp/sugar/operators/unary_minus.h`



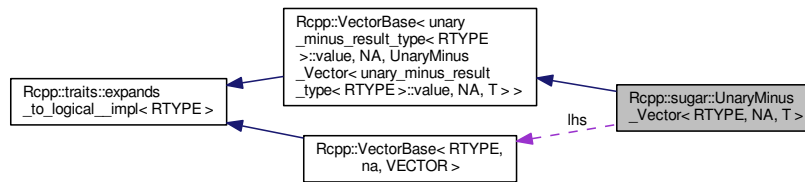
## 6.793 Rcpp::sugar::UnaryMinus\_Vector< RTYPE, NA, T > Class Template Reference

```
#include <unary_minus.h>
```

Inheritance diagram for Rcpp::sugar::UnaryMinus\_Vector< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::UnaryMinus\_Vector< RTYPE, NA, T >:



### Public Types

- typedef [Rcpp::VectorBase](#)< RTYPE, NA, T > [VEC\\_TYPE](#)
- typedef [traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)
- typedef [unary\\_minus\\_result\\_type](#)< RTYPE >::type [RESULT](#)
- typedef [unary\\_minus](#)< RTYPE, NA > [OPERATOR](#)

### Public Member Functions

- [UnaryMinus\\_Vector](#) (const [VEC\\_TYPE](#) &lhs\_)
- [RESULT operator\[\]](#) (R\_xlen\_t i) const
- [R\\_xlen\\_t size](#) () const

### Private Attributes

- const [VEC\\_TYPE](#) & lhs
- [OPERATOR](#) op

### 6.793.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::UnaryMinus_Vector< RTYPE, NA, T >
```

Definition at line 83 of file unary\_minus.h.

### 6.793.2 Member Typedef Documentation

```
6.793.2.1 template<int RTYPE, bool NA, typename T > typedef unary_minus<RTYPE,NA>
Rcpp::sugar::UnaryMinus_Vector< RTYPE, NA, T >::OPERATOR
```

Definition at line 92 of file unary\_minus.h.

```
6.793.2.2 template<int RTYPE, bool NA, typename T > typedef unary_minus_result_type<RTYPE>::type
Rcpp::sugar::UnaryMinus_Vector< RTYPE, NA, T >::RESULT
```

Definition at line 91 of file unary\_minus.h.

```
6.793.2.3 template<int RTYPE, bool NA, typename T > typedef traits::storage_type<RTYPE>::type
Rcpp::sugar::UnaryMinus_Vector< RTYPE, NA, T >::STORAGE
```

Definition at line 90 of file unary\_minus.h.

```
6.793.2.4 template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T>
Rcpp::sugar::UnaryMinus_Vector< RTYPE, NA, T >::VEC_TYPE
```

Definition at line 89 of file unary\_minus.h.

### 6.793.3 Constructor & Destructor Documentation

```
6.793.3.1 template<int RTYPE, bool NA, typename T > Rcpp::sugar::UnaryMinus_Vector< RTYPE, NA, T
>::UnaryMinus_Vector ( const VEC_TYPE & lhs_ ) [inline]
```

Definition at line 94 of file unary\_minus.h.

### 6.793.4 Member Function Documentation

```
6.793.4.1 template<int RTYPE, bool NA, typename T > RESULT Rcpp::sugar::UnaryMinus_Vector< RTYPE, NA, T
>::operator[]( R_xlen_t i ) const [inline]
```

Definition at line 97 of file unary\_minus.h.

6.793.4.2 `template<int RTYPE, bool NA, typename T > R_xlen_t Rcpp::sugar::UnaryMinus_Vector< RTYPE, NA, T >::size ( )const [inline]`

Definition at line 101 of file unary\_minus.h.

### 6.793.5 Member Data Documentation

6.793.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::UnaryMinus_Vector< RTYPE, NA, T >::lhs [private]`

Definition at line 104 of file unary\_minus.h.

6.793.5.2 `template<int RTYPE, bool NA, typename T > OPERATOR Rcpp::sugar::UnaryMinus_Vector< RTYPE, NA, T >::op [private]`

Definition at line 105 of file unary\_minus.h.

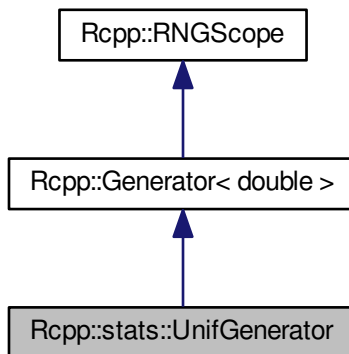
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/operators/unary\\_minus.h](#)

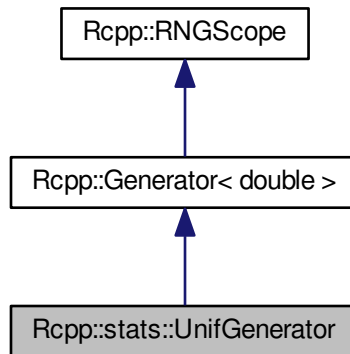
## 6.794 Rcpp::stats::UnifGenerator Class Reference

```
#include <runif.h>
```

Inheritance diagram for Rcpp::stats::UnifGenerator:



Collaboration diagram for Rcpp::stats::UnifGenerator:



## Public Member Functions

- [UnifGenerator](#) (double min\_=0.0, double max\_=1.0)
- double [operator\(\)](#) () const

## Private Attributes

- double [min](#)
- double [diff](#)

## Additional Inherited Members

### 6.794.1 Detailed Description

Definition at line 28 of file runif.h.

### 6.794.2 Constructor & Destructor Documentation

6.794.2.1 `Rcpp::stats::UnifGenerator::UnifGenerator ( double min_ = 0.0, double max_ = 1.0 )` [inline]

Definition at line 31 of file runif.h.

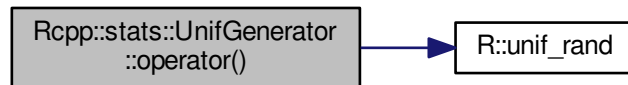
### 6.794.3 Member Function Documentation

6.794.3.1 `double Rcpp::stats::UnifGenerator::operator() ( ) const` `[inline]`

Definition at line 34 of file `runif.h`.

References `diff`, `min`, and `R::unif_rand()`.

Here is the call graph for this function:



### 6.794.4 Member Data Documentation

6.794.4.1 `double Rcpp::stats::UnifGenerator::diff` `[private]`

Definition at line 42 of file `runif.h`.

Referenced by `operator()`.

6.794.4.2 `double Rcpp::stats::UnifGenerator::min` `[private]`

Definition at line 41 of file `runif.h`.

Referenced by `operator()`.

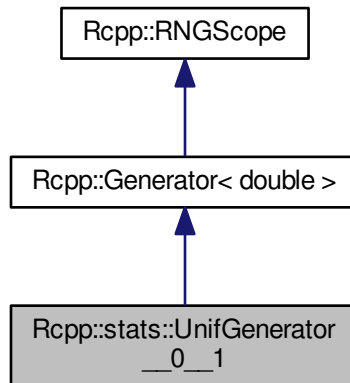
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/runif.h`

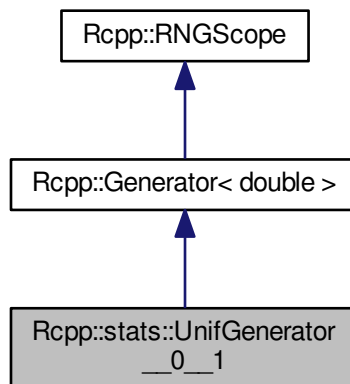
## 6.795 Rcpp::stats::UnifGenerator\_\_0\_\_1 Class Reference

```
#include <runif.h>
```

Inheritance diagram for Rcpp::stats::UnifGenerator\_\_0\_\_1:



Collaboration diagram for Rcpp::stats::UnifGenerator\_\_0\_\_1:



### Public Member Functions

- [UnifGenerator\\_\\_0\\_\\_1\(\)](#)
- `double operator()() const`

## Additional Inherited Members

### 6.795.1 Detailed Description

Definition at line 45 of file runif.h.

### 6.795.2 Constructor & Destructor Documentation

6.795.2.1 Rcpp::stats::UnifGenerator\_\_0\_\_1::UnifGenerator\_\_0\_\_1( ) [inline]

Definition at line 48 of file runif.h.

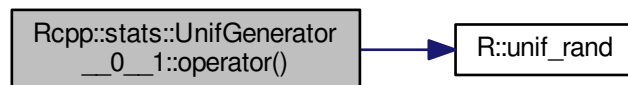
### 6.795.3 Member Function Documentation

6.795.3.1 double Rcpp::stats::UnifGenerator\_\_0\_\_1::operator()( ) const [inline]

Definition at line 50 of file runif.h.

References R::unif\_rand().

Here is the call graph for this function:



The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/runif.h](#)

## 6.796 Rcpp::sugar::Union< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > Class Template Reference

```
#include <setdiff.h>
```

## Public Types

- typedef [Rcpp::traits::storage\\_type](#)< RTYPE >::type [STORAGE](#)

## Public Member Functions

- [Union](#) (const LHS\_T &lhs, const RHS\_T &rhs)
- [Vector](#)< RTYPE > [get](#) () const

## Private Types

- typedef [RCPP\\_UNORDERED\\_SET](#)< [STORAGE](#) > [SET](#)
- typedef [SET](#)::const\_iterator [ITERATOR](#)

## Private Attributes

- [SET](#) result

### 6.796.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T>
class Rcpp::sugar::Union< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >
```

Definition at line 133 of file setdiff.h.

### 6.796.2 Member Typedef Documentation

6.796.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef SET::const_iterator Rcpp::sugar::Union< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::ITERATOR [private]`

Definition at line 152 of file setdiff.h.

6.796.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef RCPP_UNORDERED_SET<STORAGE> Rcpp::sugar::Union< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::SET [private]`

Definition at line 151 of file setdiff.h.

6.796.2.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::Union< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::STORAGE`

Definition at line 135 of file setdiff.h.



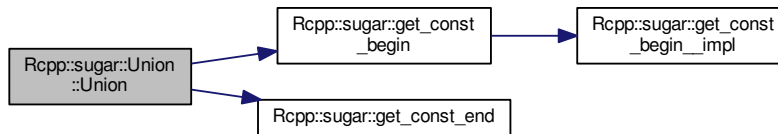
### 6.796.3 Constructor & Destructor Documentation

6.796.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Union< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Union ( const LHS_T & lhs, const RHS_T & rhs ) [inline]`

Definition at line 137 of file `setdiff.h`.

References `Rcpp::sugar::get_const_begin()`, and `Rcpp::sugar::get_const_end()`.

Here is the call graph for this function:



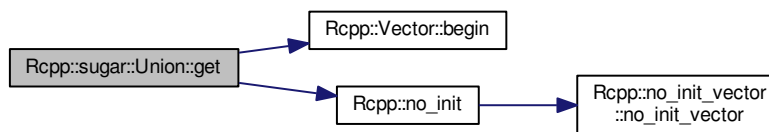
### 6.796.4 Member Function Documentation

6.796.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Vector<RTYPE> Rcpp::sugar::Union< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get ( ) const [inline]`

Definition at line 143 of file `setdiff.h`.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, and `Rcpp::no_init()`.

Here is the call graph for this function:



### 6.796.5 Member Data Documentation

6.796.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > SET Rcpp::sugar::Union< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::result [private]`

Definition at line 153 of file `setdiff.h`.

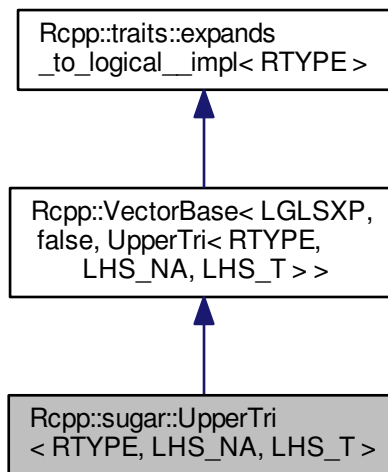
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/setdiff.h`

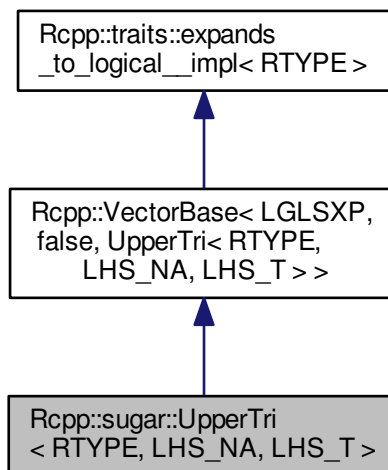
## 6.797 Rcpp::sugar::UpperTri< RTYPE, LHS\_NA, LHS\_T > Class Template Reference

```
#include <upper_tri.h>
```

Inheritance diagram for Rcpp::sugar::UpperTri< RTYPE, LHS\_NA, LHS\_T >:



Collaboration diagram for Rcpp::sugar::UpperTri< RTYPE, LHS\_NA, LHS\_T >:



## Public Types

- typedef [Rcpp::MatrixBase](#)< RTYPE, LHS\_NA, LHS\_T > [LHS\\_TYPE](#)

## Public Member Functions

- [UpperTri](#) (const [LHS\\_TYPE](#) &lhs, bool [diag](#))
- int [operator\(\)](#) (int i, int j) const
- [R\\_xlen\\_t](#) [size](#) () const
- int [nrow](#) () const
- int [ncol](#) () const

## Private Types

- typedef bool(UpperTri::\* [Method](#)) (int, int)

## Private Member Functions

- bool [get\\_diag\\_true](#) (int i, int j)
- bool [get\\_diag\\_false](#) (int i, int j)
- bool [get](#) (int i, int j)

## Private Attributes

- int [nr](#)
- int [nc](#)
- [Method](#) [getter](#)

### 6.797.1 Detailed Description

```
template<int RTYPE, bool LHS_NA, typename LHS_T>
class Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >
```

Definition at line 29 of file upper\_tri.h.

### 6.797.2 Member Typedef Documentation

6.797.2.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> typedef Rcpp::MatrixBase<RTYPE,LHS_NA,LHS_T> Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::LHS_TYPE`

Definition at line 35 of file upper\_tri.h.

6.797.2.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> typedef bool(UpperTri::* Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::Method)(int, int) [private]`

Definition at line 51 of file upper\_tri.h.

### 6.797.3 Constructor & Destructor Documentation

6.797.3.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::UpperTri( const LHS_TYPE & lhs, bool diag ) [inline]`

Definition at line 37 of file upper\_tri.h.

### 6.797.4 Member Function Documentation

6.797.4.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> bool Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::get( int i, int j ) [inline],[private]`

Definition at line 60 of file upper\_tri.h.

6.797.4.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> bool Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::get_diag_false( int i, int j ) [inline],[private]`

Definition at line 57 of file upper\_tri.h.

6.797.4.3 `template<int RTYPE, bool LHS_NA, typename LHS_T> bool Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::get_diag_true( int i, int j ) [inline],[private]`

Definition at line 54 of file upper\_tri.h.

6.797.4.4 `template<int RTYPE, bool LHS_NA, typename LHS_T> int Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::ncol( )const [inline]`

Definition at line 47 of file upper\_tri.h.

References `Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::nc`.

6.797.4.5 `template<int RTYPE, bool LHS_NA, typename LHS_T> int Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::nrow( )const [inline]`

Definition at line 46 of file upper\_tri.h.

References `Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::nr`.

6.797.4.6 `template<int RTYPE, bool LHS_NA, typename LHS_T> int Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::operator()( int i, int j ) const [inline]`

Definition at line 41 of file upper\_tri.h.

6.797.4.7 `template<int RTYPE, bool LHS_NA, typename LHS_T> R_xlen_t Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::size( ) const [inline]`

Definition at line 45 of file upper\_tri.h.

References `Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::nc`, and `Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::nr`.

## 6.797.5 Member Data Documentation

6.797.5.1 `template<int RTYPE, bool LHS_NA, typename LHS_T> Method Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::getter [private]`

Definition at line 53 of file upper\_tri.h.

6.797.5.2 `template<int RTYPE, bool LHS_NA, typename LHS_T> int Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::nc [private]`

Definition at line 50 of file upper\_tri.h.

Referenced by `Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::ncol()`, and `Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::size()`.

6.797.5.3 `template<int RTYPE, bool LHS_NA, typename LHS_T> int Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::nr [private]`

Definition at line 50 of file upper\_tri.h.

Referenced by `Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::nrow()`, and `Rcpp::sugar::UpperTri< RTYPE, LHS_NA, LHS_T >::size()`.

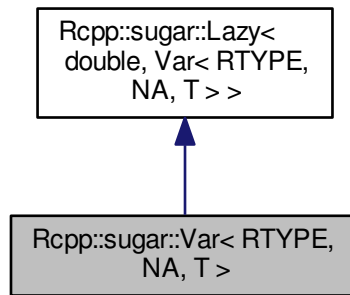
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/matrix/upper\\_tri.h](#)

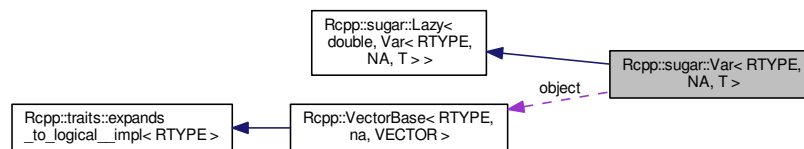
## 6.798 Rcpp::sugar::Var< RTYPE, NA, T > Class Template Reference

```
#include <var.h>
```

Inheritance diagram for Rcpp::sugar::Var< RTYPE, NA, T >:



Collaboration diagram for Rcpp::sugar::Var< RTYPE, NA, T >:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`

### Public Member Functions

- `Var` (const `VEC_TYPE` &object\_)
- `double get ()` const

### Private Attributes

- const `VEC_TYPE` & `object`

### 6.798.1 Detailed Description

```
template<int RTYPE, bool NA, typename T>  
class Rcpp::sugar::Var< RTYPE, NA, T >
```

Definition at line 30 of file var.h.

### 6.798.2 Member Typedef Documentation

6.798.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T> Rcpp::sugar::Var< RTYPE, NA, T >::VEC_TYPE`

Definition at line 32 of file var.h.

### 6.798.3 Constructor & Destructor Documentation

6.798.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Var< RTYPE, NA, T >::Var ( const VEC_TYPE & object ) [inline]`

Definition at line 34 of file var.h.

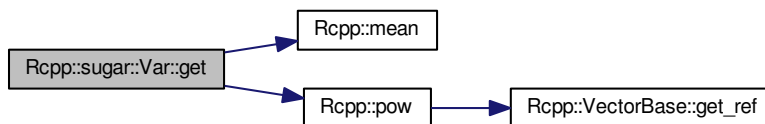
### 6.798.4 Member Function Documentation

6.798.4.1 `template<int RTYPE, bool NA, typename T > double Rcpp::sugar::Var< RTYPE, NA, T >::get ( ) const [inline]`

Definition at line 36 of file var.h.

References `Rcpp::mean()`, and `Rcpp::pow()`.

Here is the call graph for this function:



## 6.798.5 Member Data Documentation

6.798.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Var< RTYPE, NA, T >::object`  
`[private]`

Definition at line 46 of file var.h.

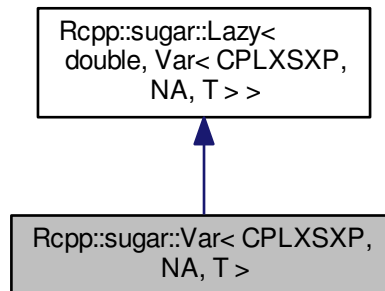
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/var.h](#)

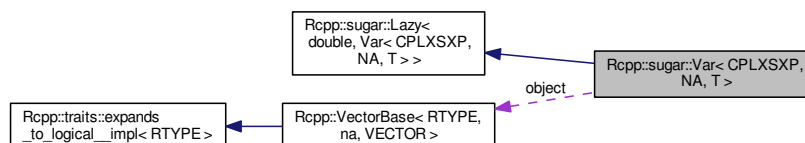
## 6.799 Rcpp::sugar::Var< CPLXSCP, NA, T > Class Template Reference

```
#include <var.h>
```

Inheritance diagram for Rcpp::sugar::Var< CPLXSCP, NA, T >:



Collaboration diagram for Rcpp::sugar::Var< CPLXSCP, NA, T >:





## Public Types

- typedef [Rcpp::VectorBase](#)< CPLXSP, NA, T > [VEC\\_TYPE](#)

## Public Member Functions

- [Var](#) (const [VEC\\_TYPE](#) &object\_)
- double [get](#) () const

## Private Attributes

- const [VEC\\_TYPE](#) & [object](#)

### 6.799.1 Detailed Description

```
template<bool NA, typename T>
class Rcpp::sugar::Var< CPLXSP, NA, T >
```

Definition at line 50 of file var.h.

### 6.799.2 Member Typedef Documentation

6.799.2.1 `template<bool NA, typename T > typedef Rcpp::VectorBase<CPLXSP,NA,T> Rcpp::sugar::Var< CPLXSP, NA, T >::VEC_TYPE`

Definition at line 52 of file var.h.

### 6.799.3 Constructor & Destructor Documentation

6.799.3.1 `template<bool NA, typename T > Rcpp::sugar::Var< CPLXSP, NA, T >::Var ( const VEC_TYPE & object_ )`  
`[inline]`

Definition at line 54 of file var.h.

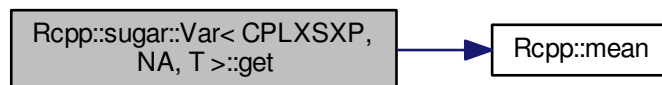
## 6.799.4 Member Function Documentation

6.799.4.1 `template<bool NA, typename T > double Rcpp::sugar::Var< CPLXSXP, NA, T >::get ( ) const [inline]`

Definition at line 56 of file var.h.

References `Rcpp::mean()`.

Here is the call graph for this function:



## 6.799.5 Member Data Documentation

6.799.5.1 `template<bool NA, typename T > const VEC_TYPE& Rcpp::sugar::Var< CPLXSXP, NA, T >::object [private]`

Definition at line 68 of file var.h.

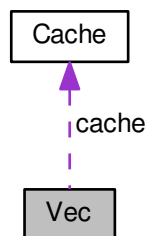
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/functions/var.h](#)

## 6.800 Vec Class Reference

```
#include <convolve10_cpp.h>
```

Collaboration diagram for Vec:



## Public Types

- typedef double & [proxy](#)
- typedef double & [proxy](#)

## Public Member Functions

- [Vec](#) (double \*data\_)
- [proxy operator\[\]](#) (int i)
- [proxy operator\[\]](#) (int i) const
- [Vec](#) (double \*data\_)
- double & [operator\[\]](#) (int i)
- [Vec](#) (double \*data\_)
- [proxy operator\[\]](#) (int i)
- [proxy operator\[\]](#) (int i) const

## Private Attributes

- [Cache cache](#)
- double \* [data](#)

### 6.800.1 Detailed Description

Definition at line 16 of file convolve10\_cpp.h.

### 6.800.2 Member Typedef Documentation

#### 6.800.2.1 typedef double& Vec::proxy

Definition at line 18 of file convolve10\_cpp.h.

#### 6.800.2.2 typedef double& Vec::proxy

Definition at line 31 of file convolve9\_cpp.cpp.

### 6.800.3 Constructor & Destructor Documentation

#### 6.800.3.1 Vec::Vec ( double \* data\_ ) [inline]

Definition at line 20 of file convolve10\_cpp.h.

**6.800.3.2** `Vec::Vec ( double * data_ ) [inline]`

Definition at line 16 of file convolve8\_cpp.cpp.

**6.800.3.3** `Vec::Vec ( double * data_ ) [inline]`

Definition at line 33 of file convolve9\_cpp.cpp.

## 6.800.4 Member Function Documentation

**6.800.4.1** `double& Vec::operator[] ( int i ) [inline]`

Definition at line 17 of file convolve8\_cpp.cpp.

References data.

**6.800.4.2** `proxy Vec::operator[] ( int i ) [inline]`

Definition at line 21 of file convolve10\_cpp.h.

**6.800.4.3** `proxy Vec::operator[] ( int i ) const [inline]`

Definition at line 22 of file convolve10\_cpp.h.

**6.800.4.4** `proxy Vec::operator[] ( int i ) [inline]`

Definition at line 34 of file convolve9\_cpp.cpp.

**6.800.4.5** `proxy Vec::operator[] ( int i ) const [inline]`

Definition at line 35 of file convolve9\_cpp.cpp.

## 6.800.5 Member Data Documentation

**6.800.5.1** `Cache Vec::cache [private]`

Definition at line 25 of file convolve10\_cpp.h.

```
6.800.5.2 double* Vec::data [private]
```

Definition at line 20 of file convolve8\_.cpp.cpp.

Referenced by operator[ ]().

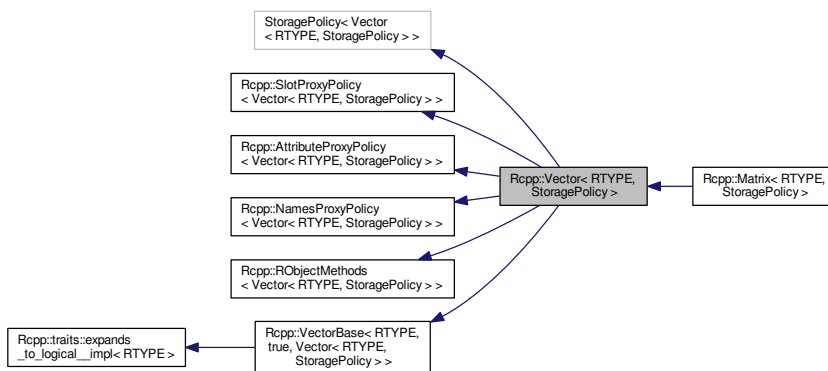
The documentation for this class was generated from the following files:

- [inst/examples/ConvolveBenchmarks/convolve10\\_.cpp.h](#)
- [inst/examples/ConvolveBenchmarks/convolve9\\_.cpp.cpp](#)
- [inst/examples/ConvolveBenchmarks/convolve8\\_.cpp.cpp](#)

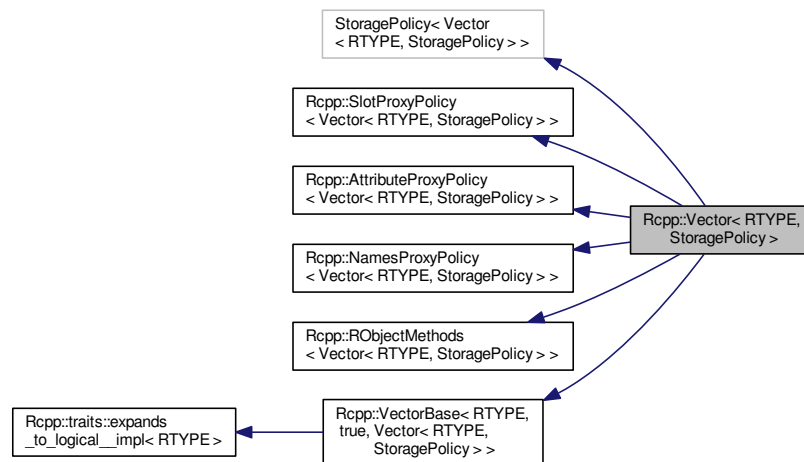
## 6.801 Rcpp::Vector< RTYPE, StoragePolicy > Class Template Reference

```
#include <00_forward_Vector.h>
```

Inheritance diagram for Rcpp::Vector< RTYPE, StoragePolicy >:



Collaboration diagram for `Rcpp::Vector< RTYPE, StoragePolicy >`:



## Public Types

- typedef `StoragePolicy< Vector > Storage`
- typedef `traits::r_vector_proxy< RTYPE >::type Proxy`
- typedef `traits::r_vector_const_proxy< RTYPE >::type const_Proxy`
- typedef `traits::r_vector_name_proxy< RTYPE >::type NameProxy`
- typedef `traits::r_vector_proxy< RTYPE >::type value_type`
- typedef `traits::r_vector_iterator< RTYPE >::type iterator`
- typedef `traits::r_vector_const_iterator< RTYPE >::type const_iterator`
- typedef `traits::init_type< RTYPE >::type init_type`
- typedef `traits::r_vector_element_converter< RTYPE >::type converter_type`
- typedef `traits::storage_type< RTYPE >::type stored_type`
- typedef `internal::RangeIndexer< RTYPE, true, Vector > Indexer`

## Public Member Functions

- `Vector ()`
- `Vector (const Vector &other)`
- `Vector & operator= (const Vector &rhs)`
- `Vector (SEXP x)`
- `template<typename Proxy > Vector (const GenericProxy< Proxy > &proxy)`
- `Vector (const no_init_vector &obj)`
- `template<typename T > Vector (const T &size, const stored_type &u, typename Rcpp::traits::enable_if< traits::is_arithmetic< T >::value, void >::type *=0)`
- `Vector (const int &size, const stored_type &u)`
- `Vector (const std::string &st)`

- [Vector](#) (const char \*st)
- [template<typename T >](#)  
[Vector](#) (const T &sz, [stored\\_type](#)(\*gen)(void), typename [Rcpp::traits::enable\\_if](#)< [traits::is\\_arithmetic](#)< T >::value, void >::type !=0)
- [template<typename T >](#)  
[Vector](#) (T size, typename [Rcpp::traits::enable\\_if](#)< [traits::is\\_arithmetic](#)< T >::value, void >::type !=0)
- [Vector](#) (const int &size)
- [Vector](#) (const [Dimension](#) &dims)
- [template<typename T >](#)  
[Vector](#) (T value, typename [Rcpp::traits::enable\\_if](#)< [traits::is\\_bool](#)< T >::value &&RTYPE==LGLSXP, void >::type !=0)
- [template<typename U >](#)  
[Vector](#) (const [Dimension](#) &dims, const U &u)
- [template<bool NA, typename VEC >](#)  
[Vector](#) (const [VectorBase](#)< RTYPE, NA, VEC > &other)
- [template<typename T, typename U >](#)  
[Vector](#) (const T &size, const U &u, typename [Rcpp::traits::enable\\_if](#)< [traits::is\\_arithmetic](#)< T >::value, void >::type !=0)
- [template<bool NA, typename T >](#)  
[Vector](#) (const [sugar::SingleLogicalResult](#)< NA, T > &obj)
- [template<typename T, typename U1 >](#)  
[Vector](#) (const T &sz, [stored\\_type](#)(\*gen)(U1), const U1 &u1, typename [Rcpp::traits::enable\\_if](#)< [traits::is\\_arithmetic](#)< T >::value, void >::type !=0)
- [template<typename T, typename U1, typename U2 >](#)  
[Vector](#) (const T &sz, [stored\\_type](#)(\*gen)(U1, U2), const U1 &u1, const U2 &u2, typename [Rcpp::traits::enable\\_if](#)< [traits::is\\_arithmetic](#)< T >::value, void >::type !=0)
- [template<typename T, typename U1, typename U2, typename U3 >](#)  
[Vector](#) (const T &sz, [stored\\_type](#)(\*gen)(U1, U2, U3), const U1 &u1, const U2 &u2, const U3 &u3, typename [Rcpp::traits::enable\\_if](#)< [traits::is\\_arithmetic](#)< T >::value, void >::type !=0)
- [template<typename InputIterator >](#)  
[Vector](#) (InputIterator first, InputIterator last)
- [template<typename InputIterator, typename T >](#)  
[Vector](#) (InputIterator first, InputIterator last, T n, typename [Rcpp::traits::enable\\_if](#)< [traits::is\\_arithmetic](#)< T >::value, void >::type !=0)
- [template<typename InputIterator, typename Func >](#)  
[Vector](#) (InputIterator first, InputIterator last, Func func)
- [template<typename InputIterator, typename Func, typename T >](#)  
[Vector](#) (InputIterator first, InputIterator last, Func func, T n, typename [Rcpp::traits::enable\\_if](#)< [traits::is\\_arithmetic](#)< T >::value, void >::type !=0)
- [template<typename T >](#)  
[Vector](#) & [operator=](#) (const T &x)
- [R\\_xlen\\_t length](#) () const
- [R\\_xlen\\_t size](#) () const
- [R\\_xlen\\_t offset](#) (const int &i, const int &j) const
- [R\\_xlen\\_t offset](#) (const R\_xlen\_t &i) const
- [R\\_xlen\\_t offset](#) (const std::string &name) const
- [template<typename U >](#)  
void [fill](#) (const U &u)
- [iterator begin](#) ()
- [iterator end](#) ()
- [const\\_iterator begin](#) () const
- [const\\_iterator end](#) () const

- [Proxy operator\[\]](#) (R\_xlen\_t i)
- [const\\_Proxy operator\[\]](#) (R\_xlen\_t i) const
- [Proxy operator\(\)](#) (const size\_t &i)
- [const\\_Proxy operator\(\)](#) (const size\_t &i) const
- [Proxy at](#) (const size\_t &i)
- [const\\_Proxy at](#) (const size\_t &i) const
- [Proxy operator\(\)](#) (const size\_t &i, const size\_t &j)
- [const\\_Proxy operator\(\)](#) (const size\_t &i, const size\_t &j) const
- [NameProxy operator\[\]](#) (const std::string &name)
- [NameProxy operator\(\)](#) (const std::string &name)
- [NameProxy operator\[\]](#) (const std::string &name) const
- [NameProxy operator\(\)](#) (const std::string &name) const
- [operator RObject](#) () const
- [template<int RHS\\_RTYPE, bool RHS\\_NA, typename RHS\\_T > SubsetProxy< RTYPE, StoragePolicy, RHS\\_RTYPE, RHS\\_NA, RHS\\_T > operator\[\]](#) (const [VectorBase< RH↔S\\_RTYPE, RHS\\_NA, RHS\\_T >](#) &rhs)
- [template<int RHS\\_RTYPE, bool RHS\\_NA, typename RHS\\_T > const SubsetProxy< RTYPE, StoragePolicy, RHS\\_RTYPE, RHS\\_NA, RHS\\_T > operator\[\]](#) (const [VectorBase< RHS\\_RTYPE, RHS\\_NA, RHS\\_T >](#) &rhs) const
- [Vector & sort](#) (bool decreasing=false)
- [template<typename InputIterator > void assign](#) (InputIterator first, InputIterator last)
- [template<typename T > void push\\_back](#) (const T &object)
- [template<typename T > void push\\_back](#) (const T &object, const std::string &name)
- [template<typename T > void push\\_front](#) (const T &object)
- [template<typename T > void push\\_front](#) (const T &object, const std::string &name)
- [template<typename T > iterator insert](#) (iterator position, const T &object)
- [template<typename T > iterator insert](#) (int position, const T &object)
- [iterator erase](#) (int position)
- [iterator erase](#) (iterator position)
- [iterator erase](#) (int first, int last)
- [iterator erase](#) (iterator first, iterator last)
- [void update](#) (SEXP)
- [Indexer operator\[\]](#) (const [Range](#) &range)
- [template<typename EXPR\\_VEC > Vector & operator+=](#) (const [VectorBase< RTYPE, true, EXPR\\_VEC >](#) &rhs)
- [template<typename EXPR\\_VEC > Vector & operator+=](#) (const [VectorBase< RTYPE, false, EXPR\\_VEC >](#) &rhs)
- [bool containsElementNamed](#) (const char \*target) const
- [int findName](#) (const std::string &name) const
- [SEXP eval](#) () const
- [SEXP eval](#) (SEXP env) const



## Static Public Member Functions

- static [stored\\_type](#) [get\\_na](#) ()
- static bool [is\\_na](#) ([stored\\_type](#) x)
- template<typename InputIterator >  
static [Vector import](#) (InputIterator first, InputIterator last)
- template<typename InputIterator , typename F >  
static [Vector import\\_transform](#) (InputIterator first, InputIterator last, F f)
- template<typename U >  
static void [replace\\_element](#) (iterator it, SEXP [names](#), R\_xlen\_t index, const U &u)
- template<typename U >  
static void [replace\\_element\\_dispatch](#) (traits::false\_type, iterator it, SEXP [names](#), R\_xlen\_t index, const U &u)
- template<typename U >  
static void [replace\\_element\\_dispatch](#) (traits::true\_type, iterator it, SEXP [names](#), R\_xlen\_t index, const U &u)
- template<typename U >  
static void [replace\\_element\\_dispatch\\_\\_isArgument](#) (traits::false\_type, iterator it, SEXP [names](#), R\_xlen\_t index, const U &u)
- template<typename U >  
static void [replace\\_element\\_dispatch\\_\\_isArgument](#) (traits::true\_type, iterator it, SEXP [names](#), R\_xlen\_t index, const U &u)
- static [Vector create](#) ()

## Public Attributes

- [traits::r\\_vector\\_cache\\_type](#)< RTYPE, StoragePolicy >::type [cache](#)

## Protected Member Functions

- int \* [dims](#) () const
- void [init](#) ()

## Private Member Functions

- void [push\\_back\\_\\_impl](#) (const [stored\\_type](#) &object, traits::true\_type)
- void [push\\_back\\_\\_impl](#) (const [stored\\_type](#) &object, traits::false\_type)
- void [push\\_back\\_name\\_\\_impl](#) (const [stored\\_type](#) &object, const std::string &name, traits::true\_type)
- void [push\\_back\\_name\\_\\_impl](#) (const [stored\\_type](#) &object, const std::string &name, traits::false\_type)
- void [push\\_front\\_\\_impl](#) (const [stored\\_type](#) &object, traits::true\_type)
- void [push\\_front\\_\\_impl](#) (const [stored\\_type](#) &object, traits::false\_type)
- void [push\\_front\\_name\\_\\_impl](#) (const [stored\\_type](#) &object, const std::string &name, traits::true\_type)
- void [push\\_front\\_name\\_\\_impl](#) (const [stored\\_type](#) &object, const std::string &name, traits::false\_type)
- iterator [insert\\_\\_impl](#) (iterator position, const [stored\\_type](#) &object\_, traits::true\_type)
- iterator [insert\\_\\_impl](#) (iterator position, const [stored\\_type](#) &object, traits::false\_type)
- iterator [erase\\_single\\_\\_impl](#) (iterator position)
- iterator [erase\\_range\\_\\_impl](#) (iterator first, iterator last)
- template<typename T >  
void [assign\\_sugar\\_expression](#) (const T &x)
- template<typename T >  
void [assign\\_object](#) (const T &x, traits::true\_type)

- `template<typename T >`  
void `assign_object` (const T &x, `traits::false_type`)
- `template<bool NA, typename VEC >`  
void `import_sugar_expression` (const `Rcpp::VectorBase< RTYPE, NA, VEC >` &other, `traits::false_type`)
- `template<bool NA, typename VEC >`  
void `import_sugar_expression` (const `Rcpp::VectorBase< RTYPE, NA, VEC >` &other, `traits::true_type`)
- `template<typename T >`  
void `import_expression` (const T &other, int n)
- `template<typename T >`  
void `fill_or_generate` (const T &t)
- `template<typename T >`  
void `fill_or_generate__impl` (const T &gen, `traits::true_type`)
- `template<typename T >`  
void `fill_or_generate__impl` (const T &t, `traits::false_type`)
- `template<typename U >`  
void `fill__dispatch` (`traits::false_type`, const U &u)
- `template<typename U >`  
void `fill__dispatch` (`traits::true_type`, const U &u)

### 6.801.1 Detailed Description

```
template<int RTYPE, template< class > class StoragePolicy = PreserveStorage>
class Rcpp::Vector< RTYPE, StoragePolicy >
```

Examples:

[ConvolveBenchmarks/convolve3\\_cpp.cpp](#), and [ConvolveBenchmarks/convolve4\\_cpp.cpp](#).

Definition at line 26 of file `00_forward_Vector.h`.

### 6.801.2 Member Typedef Documentation

6.801.2.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef`  
`traits::r_vector_const_iterator<RTYPE>::type Rcpp::Vector< RTYPE, StoragePolicy >::const_iterator`

Definition at line 48 of file `Vector.h`.

6.801.2.2 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef`  
`traits::r_vector_const_proxy<RTYPE>::type Rcpp::Vector< RTYPE, StoragePolicy >::const_Proxy`

Definition at line 44 of file `Vector.h`.

6.801.2.3 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef`  
`traits::r_vector_element_converter<RTYPE>::type Rcpp::Vector< RTYPE, StoragePolicy >::converter_type`

Definition at line 50 of file `Vector.h`.

6.801.2.4 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef  
internal::RangeIndexer<RTYPE,true,Vector> Rcpp::Vector< RTYPE, StoragePolicy >::Indexer`

Definition at line 528 of file Vector.h.

6.801.2.5 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef  
traits::init_type<RTYPE>::type Rcpp::Vector< RTYPE, StoragePolicy >::init_type`

Definition at line 49 of file Vector.h.

6.801.2.6 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef  
traits::r_vector_iterator<RTYPE>::type Rcpp::Vector< RTYPE, StoragePolicy >::iterator`

Definition at line 47 of file Vector.h.

6.801.2.7 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef  
traits::r_vector_name_proxy<RTYPE>::type Rcpp::Vector< RTYPE, StoragePolicy >::NameProxy`

Definition at line 45 of file Vector.h.

6.801.2.8 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef  
traits::r_vector_proxy<RTYPE>::type Rcpp::Vector< RTYPE, StoragePolicy >::Proxy`

Definition at line 43 of file Vector.h.

6.801.2.9 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef StoragePolicy<Vector>  
Rcpp::Vector< RTYPE, StoragePolicy >::Storage`

Definition at line 40 of file Vector.h.

6.801.2.10 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef  
traits::storage_type<RTYPE>::type Rcpp::Vector< RTYPE, StoragePolicy >::stored_type`

Definition at line 51 of file Vector.h.

6.801.2.11 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> typedef  
traits::r_vector_proxy<RTYPE>::type Rcpp::Vector< RTYPE, StoragePolicy >::value_type`

Definition at line 46 of file Vector.h.

### 6.801.3 Constructor & Destructor Documentation

6.801.3.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( ) [inline]`

Default constructor. Creates a vector of the appropriate type and 0 length

Definition at line 57 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::create()`, `Rcpp::Vector< INTSXP >::import_transform()`, and `Rcpp::Vector< INTSXP >::Vector()`.

6.801.3.2 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const Vector< RTYPE, StoragePolicy > & other ) [inline]`

copy constructor. shallow copy of the SEXP

Definition at line 65 of file Vector.h.

6.801.3.3 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( SEXP x ) [inline]`

Definition at line 73 of file Vector.h.

6.801.3.4 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename Proxy > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const GenericProxy< Proxy > & proxy ) [inline]`

Definition at line 78 of file Vector.h.

6.801.3.5 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const no_init_vector & obj ) [inline],[explicit]`

Definition at line 82 of file Vector.h.

6.801.3.6 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const T & size, const stored_type & u, typename Rcpp::traits::enable_if< traits::is_arithmetic< T >::value, void >::type * = 0 ) [inline]`

Definition at line 87 of file Vector.h.

6.801.3.7 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const int & size, const stored_type & u ) [inline]`

Definition at line 94 of file Vector.h.

6.801.3.8 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const std::string & sf ) [inline]`

Definition at line 101 of file Vector.h.

6.801.3.9 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const char * sf ) [inline]`

Definition at line 107 of file Vector.h.

6.801.3.10 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const T & siz, stored_type(*) (void) gen, typename Rcpp::traits::enable_if< traits::is_arithmetic< T >::value, void >::type * = 0 ) [inline]`

Definition at line 113 of file Vector.h.

6.801.3.11 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( T size, typename Rcpp::traits::enable_if< traits::is_arithmetic< T >::value, void >::type * = 0 ) [inline]`

Definition at line 122 of file Vector.h.

6.801.3.12 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const int & size ) [inline]`

Definition at line 128 of file Vector.h.

6.801.3.13 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const Dimension & dims ) [inline]`

Definition at line 133 of file Vector.h.

6.801.3.14 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( T value, typename Rcpp::traits::enable_if< traits::is_bool< T >::value &&RTYPE==LGLSXP, void >::type * = 0 ) [inline]`

Definition at line 145 of file Vector.h.

6.801.3.15 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const Dimension & dims, const U & u ) [inline]`

Definition at line 152 of file Vector.h.

6.801.3.16 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<bool NA, typename VEC > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const VectorBase< RTYPE, NA, VEC > & other ) [inline]`

Definition at line 162 of file Vector.h.

6.801.3.17 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T , typename U > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const T & size, const U & u, typename Rcpp::traits::enable_if< traits::is_arithmetic< T >::value, void >::type * =0 ) [inline]`

Definition at line 168 of file Vector.h.

6.801.3.18 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<bool NA, typename T > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const sugar::SingleLogicalResult< NA, T > & obj ) [inline]`

Definition at line 176 of file Vector.h.

6.801.3.19 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T , typename U1 > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const T & siz, stored_type(*)(U1) gen, const U1 & u1, typename Rcpp::traits::enable_if< traits::is_arithmetic< T >::value, void >::type * =0 ) [inline]`

Definition at line 182 of file Vector.h.

6.801.3.20 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T , typename U1 , typename U2 > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const T & siz, stored_type(*)(U1, U2) gen, const U1 & u1, const U2 & u2, typename Rcpp::traits::enable_if< traits::is_arithmetic< T >::value, void >::type * =0 ) [inline]`

Definition at line 191 of file Vector.h.

6.801.3.21 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T , typename U1 , typename U2 , typename U3 > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( const T & siz, stored_type(*)(U1, U2, U3) gen, const U1 & u1, const U2 & u2, const U3 & u3, typename Rcpp::traits::enable_if< traits::is_arithmetic< T >::value, void >::type * =0 ) [inline]`

Definition at line 200 of file Vector.h.

6.801.3.22 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename InputIterator > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( InputIterator first, InputIterator last ) [inline]`

Definition at line 209 of file Vector.h.

```
6.801.3.23  template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename InputIterator ,
            typename T > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( InputIterator first, InputIterator last, T n, typename
            Rcpp::traits::enable_if< traits::is_arithmetic< T >::value, void >::type * = 0 ) [inline]
```

Definition at line 216 of file Vector.h.

```
6.801.3.24  template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename InputIterator ,
            typename Func > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( InputIterator first, InputIterator last, Func func
            ) [inline]
```

Definition at line 224 of file Vector.h.

```
6.801.3.25  template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename InputIterator ,
            typename Func , typename T > Rcpp::Vector< RTYPE, StoragePolicy >::Vector ( InputIterator first, InputIterator
            last, Func func, T n, typename Rcpp::traits::enable_if< traits::is_arithmetic< T >::value, void >::type * = 0
            ) [inline]
```

Definition at line 231 of file Vector.h.

## 6.801.4 Member Function Documentation

```
6.801.4.1  template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename InputIterator >
            void Rcpp::Vector< RTYPE, StoragePolicy >::assign ( InputIterator first, InputIterator last ) [inline]
```

Definition at line 413 of file Vector.h.

Referenced by Rcpp::Vector< INTSXP >::Vector().

```
6.801.4.2  template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > void
            Rcpp::Vector< RTYPE, StoragePolicy >::assign_object ( const T & x, traits::true_type ) [inline],
            [private]
```

Definition at line 1004 of file Vector.h.

Referenced by Rcpp::Vector< INTSXP >::operator=().

```
6.801.4.3  template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > void
            Rcpp::Vector< RTYPE, StoragePolicy >::assign_object ( const T & x, traits::false_type ) [inline],
            [private]
```

Definition at line 1010 of file Vector.h.

6.801.4.4 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > void Rcpp::Vector< RTYPE, StoragePolicy >::assign_sugar_expression ( const T & x ) [inline],[private]`

Definition at line 989 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::assign_object()`.

6.801.4.5 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Proxy Rcpp::Vector< RTYPE, StoragePolicy >::at ( const size_t & i ) [inline]`

Definition at line 334 of file Vector.h.

Referenced by `Rcpp::attributes::SourceFileAttributesParser::parseSignature()`.

6.801.4.6 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_Proxy Rcpp::Vector< RTYPE, StoragePolicy >::at ( const size_t & i ) const [inline]`

Definition at line 337 of file Vector.h.

6.801.4.7 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Vector< RTYPE, StoragePolicy >::begin ( ) [inline]`

Examples:

[ConvolveBenchmarks/convolve4\\_cpp.cpp](#).

Definition at line 319 of file Vector.h.

Referenced by `Rcpp::ListOf< T >::begin()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::begin()`, `convolve10cpp()`, `convolve12cpp()`, `convolve4cpp()`, `convolve8cpp()`, `convolve9cpp()`, `Rcpp::Vector< INTSXP >::erase_range__impl()`, `Rcpp::Vector< INTSXP >::erase_single__impl()`, `fastLm()`, `Rcpp::Vector< INTSXP >::fill_dispatch()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::fill_diag_dispatch()`, `Rcpp::Vector< INTSXP >::fill_or_generate__impl()`, `Rcpp::sugar::Mean< RTYPE, NA, T >::get()`, `Rcpp::sugar::SetDiff< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get()`, `Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get()`, `Rcpp::sugar::Mean< INTSXP, NA, A, T >::get()`, `Rcpp::sugar::Union< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get()`, `Rcpp::Vector< INTSXP >::import_expression()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::import_matrix_expression()`, `Rcpp::Vector< INTSXP >::insert__impl()`, `Rcpp::Vector< INTSXP >::is_na()`, `lapplyCpp()`, `Rcpp::ListOf< T >::ListOf()`, `Rcpp::sugar::IndexHash< RTYPE >::lookup()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix()`, `Rcpp::Vector< INTSXP >::operator+=()`, `Rcpp::operator<<()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::operator=()`, `Rcpp::Vector< INTSXP >::push_back__impl()`, `Rcpp::Vector< INTSXP >::push_back_name__impl()`, `Rcpp::Vector< INTSXP >::push_front__impl()`, `Rcpp::Vector< INTSXP >::push_front_name__impl()`, `stack_trace()`, and `Rcpp::Vector< INTSXP >::Vector()`.

6.801.4.8 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_iterator Rcpp::Vector< RTYPE, StoragePolicy >::begin ( ) const [inline]`

Definition at line 321 of file Vector.h.



6.801.4.9 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> bool Rcpp::Vector< RTYPE, StoragePolicy >::containsElementNamed ( const char * target ) const [inline]`

Does this vector have an element with the target name

Definition at line 569 of file Vector.h.

6.801.4.10 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> static Vector Rcpp::Vector< RTYPE, StoragePolicy >::create ( ) [inline],[static]`

Definition at line 1073 of file Vector.h.

Referenced by `fastLm()`, `Rcpp::Module::get_function()`, `Rcpp::Module::invoke()`, `class_< Class >::invoke()`, `Rcpp::sugar::Range< RTYPE, NA, T >::operator Vector< RTYPE >()`, `Rcpp::sugar::Range< RTYPE, false, T >::operator Vector< RTYPE >()`, `Rcpp::shush_about_NA()`, `sourceCppContext()`, and `stack_trace()`.

6.801.4.11 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> int* Rcpp::Vector< RTYPE, StoragePolicy >::dims ( ) const [inline],[protected]`

Definition at line 596 of file Vector.h.

Referenced by `Rcpp::Matrix< RTYPE, StoragePolicy >::cols()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`, `Rcpp::Vector< INTSXP >::offset()`, `Rcpp::transpose_impl()`, and `Rcpp::Vector< INTSXP >::Vector()`.

6.801.4.12 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Vector< RTYPE, StoragePolicy >::end ( ) [inline]`

Definition at line 320 of file Vector.h.

Referenced by `Rcpp::ListOf< T >::end()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::end()`, `Rcpp::Vector< INTSXP >::erase_range__impl()`, `Rcpp::Vector< INTSXP >::erase_single__impl()`, `Rcpp::Vector< INTSXP >::fill_dispatch()`, `Rcpp::Vector< INTSXP >::fill_or_generate__impl()`, `Rcpp::sugar::Mean< RTYPE, NA, T >::get()`, `Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get()`, `Rcpp::sugar::Mean< INTSXP, NA, T >::get()`, `Rcpp::Vector< INTSXP >::insert__impl()`, `lapplyCpp()`, `Rcpp::ListOf< T >::ListOf()`, `Rcpp::operator<<()`, `Rcpp::Vector< INTSXP >::push_back__impl()`, `Rcpp::Vector< INTSXP >::push_back_name__impl()`, `Rcpp::Vector< INTSXP >::push_front__impl()`, `Rcpp::Vector< INTSXP >::push_front_name__impl()`, and `Rcpp::Vector< INTSXP >::Vector()`.

6.801.4.13 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_iterator Rcpp::Vector< RTYPE, StoragePolicy >::end ( ) const [inline]`

Definition at line 322 of file Vector.h.

6.801.4.14 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Vector< RTYPE, StoragePolicy >::erase ( int position ) [inline]`

Definition at line 475 of file Vector.h.

Referenced by `Rcpp::DataFrame_Impl< StoragePolicy >::from_list()`.

6.801.4.15 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Vector< RTYPE, StoragePolicy >::erase ( iterator position ) [inline]`

Definition at line 479 of file Vector.h.

6.801.4.16 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Vector< RTYPE, StoragePolicy >::erase ( int first, int last ) [inline]`

Definition at line 483 of file Vector.h.

6.801.4.17 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Vector< RTYPE, StoragePolicy >::erase ( iterator first, iterator last ) [inline]`

Definition at line 488 of file Vector.h.

6.801.4.18 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Vector< RTYPE, StoragePolicy >::erase_range__impl ( iterator first, iterator last ) [inline], [private]`

Definition at line 946 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::erase()`.

6.801.4.19 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Vector< RTYPE, StoragePolicy >::erase_single__impl ( iterator position ) [inline], [private]`

Definition at line 907 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::erase()`.

6.801.4.20 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> SEXP Rcpp::Vector< RTYPE, StoragePolicy >::eval ( ) const [inline]`

Definition at line 1081 of file Vector.h.

6.801.4.21 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> SEXP Rcpp::Vector< RTYPE, StoragePolicy >::eval ( SEXP env ) const [inline]`

Definition at line 1085 of file Vector.h.

6.801.4.22 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > void Rcpp::Vector< RTYPE, StoragePolicy >::fill ( const U & u ) [inline]`

Definition at line 315 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::fill_or_generate__impl()`, and `Rcpp::Vector< INTSXP >::Vector()`.

6.801.4.23 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > void Rcpp::Vector< RTYPE, StoragePolicy >::fill_dispatch ( traits::false_type , const U & u ) [inline], [private]`

Definition at line 1057 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::fill()`.

6.801.4.24 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > void Rcpp::Vector< RTYPE, StoragePolicy >::fill_dispatch ( traits::true_type , const U & u ) [inline], [private]`

Definition at line 1067 of file Vector.h.

6.801.4.25 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > void Rcpp::Vector< RTYPE, StoragePolicy >::fill_or_generate ( const T & t ) [inline], [private]`

Definition at line 1040 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::Vector()`.

6.801.4.26 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > void Rcpp::Vector< RTYPE, StoragePolicy >::fill_or_generate__impl ( const T & gen, traits::true_type ) [inline], [private]`

Definition at line 1045 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::fill_or_generate()`.

6.801.4.27 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > void Rcpp::Vector< RTYPE, StoragePolicy >::fill_or_generate__impl ( const T & t, traits::false_type ) [inline], [private]`

Definition at line 1052 of file Vector.h.

6.801.4.28 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> int Rcpp::Vector< RTYPE, StoragePolicy >::findName ( const std::string & name ) const [inline]`

Definition at line 580 of file Vector.h.

6.801.4.29 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> static stored_type Rcpp::Vector< RTYPE, StoragePolicy >::get_na ( ) [inline],[static]`

Definition at line 250 of file Vector.h.

6.801.4.30 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename InputIterator > static Vector Rcpp::Vector< RTYPE, StoragePolicy >::import ( InputIterator first, InputIterator last ) [inline],[static]`

Definition at line 423 of file Vector.h.

6.801.4.31 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > void Rcpp::Vector< RTYPE, StoragePolicy >::import_expression ( const T & other, int n ) [inline],[private]`

Definition at line 1034 of file Vector.h.

6.801.4.32 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<bool NA, typename VEC > void Rcpp::Vector< RTYPE, StoragePolicy >::import_sugar_expression ( const Rcpp::VectorBase< RTYPE, NA, VEC > & other, traits::false_type ) [inline],[private]`

Definition at line 1018 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::Vector()`.

6.801.4.33 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<bool NA, typename VEC > void Rcpp::Vector< RTYPE, StoragePolicy >::import_sugar_expression ( const Rcpp::VectorBase< RTYPE, NA, VEC > & other, traits::true_type ) [inline],[private]`

Definition at line 1027 of file Vector.h.

6.801.4.34 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename InputIterator , typename F > static Vector Rcpp::Vector< RTYPE, StoragePolicy >::import_transform ( InputIterator first, InputIterator last, F f ) [inline],[static]`

Definition at line 430 of file Vector.h.

6.801.4.35 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void Rcpp::Vector< RTYPE, StoragePolicy >::init ( ) [inline], [protected]`

Definition at line 600 of file Vector.h.

Referenced by `Rcpp::Matrix< RTYPE, StoragePolicy >::Matrix()`, and `Rcpp::Vector< INTSXP >::Vector()`.

6.801.4.36 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > iterator Rcpp::Vector< RTYPE, StoragePolicy >::insert ( iterator position, const T & object ) [inline]`

Definition at line 462 of file Vector.h.

Referenced by `compileAttributes()`, and `Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::Intersect()`.

6.801.4.37 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > iterator Rcpp::Vector< RTYPE, StoragePolicy >::insert ( int position, const T & object ) [inline]`

Definition at line 469 of file Vector.h.

6.801.4.38 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Vector< RTYPE, StoragePolicy >::insert_impl ( iterator position, const stored_type & object, traits::true_type ) [inline], [private]`

Definition at line 826 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::insert()`.

6.801.4.39 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> iterator Rcpp::Vector< RTYPE, StoragePolicy >::insert_impl ( iterator position, const stored_type & object, traits::false_type ) [inline], [private]`

Definition at line 867 of file Vector.h.

6.801.4.40 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> static bool Rcpp::Vector< RTYPE, StoragePolicy >::is_na ( stored_type x ) [inline], [static]`

Definition at line 253 of file Vector.h.

6.801.4.41 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> R_xlen_t Rcpp::Vector< RTYPE, StoragePolicy >::length ( ) const [inline]`

the length of the vector, uses `Rf_xlength`

Definition at line 267 of file Vector.h.

Referenced by `Rcpp::attributes::isRxygenCpp()`.

6.801.4.42 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> R_xlen_t Rcpp::Vector< RTYPE, StoragePolicy >::offset ( const int & i, const int & j ) const [inline]`

offset based on the dimensions of this vector

Definition at line 281 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::at()`, `Rcpp::internal::simple_name_proxy< RTYPE >::get()`, `Rcpp::internal::string_name_proxy< RTYPE >::get()`, `Rcpp::internal::generic_name_proxy< RTYPE >::get()`, `Rcpp::Vector< INTSXP >::operator()()`, `Rcpp::internal::simple_name_proxy< RTYPE >::set()`, `Rcpp::internal::string_name_proxy< RTYPE >::set()`, and `Rcpp::internal::generic_name_proxy< RTYPE >::set()`.

6.801.4.43 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> R_xlen_t Rcpp::Vector< RTYPE, StoragePolicy >::offset ( const R_xlen_t & i ) const [inline]`

one dimensional offset doing bounds checking to ensure it is valid

Definition at line 296 of file Vector.h.

6.801.4.44 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> R_xlen_t Rcpp::Vector< RTYPE, StoragePolicy >::offset ( const std::string & name ) const [inline]`

Definition at line 301 of file Vector.h.

6.801.4.45 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Rcpp::Vector< RTYPE, StoragePolicy >::operator RObject ( ) const [inline]`

Definition at line 362 of file Vector.h.

6.801.4.46 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Proxy Rcpp::Vector< RTYPE, StoragePolicy >::operator() ( const size_t & i ) [inline]`

Definition at line 327 of file Vector.h.

6.801.4.47 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_Proxy Rcpp::Vector< RTYPE, StoragePolicy >::operator() ( const size_t & i ) const [inline]`

Definition at line 330 of file Vector.h.

6.801.4.48 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Proxy Rcpp::Vector< RTYPE, StoragePolicy >::operator() ( const size_t & i, const size_t & j ) [inline]`

Definition at line 341 of file Vector.h.

6.801.4.49 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_Proxy Rcpp::Vector< RTYPE, StoragePolicy >::operator() ( const size_t & i, const size_t & j ) const [inline]`

Definition at line 344 of file Vector.h.

6.801.4.50 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> NameProxy Rcpp::Vector< RTYPE, StoragePolicy >::operator() ( const std::string & name ) [inline]`

Definition at line 351 of file Vector.h.

6.801.4.51 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> NameProxy Rcpp::Vector< RTYPE, StoragePolicy >::operator() ( const std::string & name ) const [inline]`

Definition at line 358 of file Vector.h.

6.801.4.52 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename EXPR_VEC > Vector& Rcpp::Vector< RTYPE, StoragePolicy >::operator+= ( const VectorBase< RTYPE, true, EXPR_VEC > & rhs ) [inline]`

Definition at line 535 of file Vector.h.

6.801.4.53 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename EXPR_VEC > Vector& Rcpp::Vector< RTYPE, StoragePolicy >::operator+= ( const VectorBase< RTYPE, false, EXPR_VEC > & rhs ) [inline]`

Definition at line 552 of file Vector.h.

6.801.4.54 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Vector& Rcpp::Vector< RTYPE, StoragePolicy >::operator= ( const Vector< RTYPE, StoragePolicy > & rhs ) [inline]`

Definition at line 69 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::is_na()`.

6.801.4.55 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > Vector& Rcpp::Vector< RTYPE, StoragePolicy >::operator= ( const T & x ) [inline]`

Definition at line 245 of file Vector.h.

6.801.4.56 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Proxy Rcpp::Vector< RTYPE, StoragePolicy >::operator[] ( R_xlen_t i ) [inline]`

Definition at line 324 of file Vector.h.

6.801.4.57 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> const_Proxy Rcpp::Vector< RTYPE, StoragePolicy >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 325 of file Vector.h.

6.801.4.58 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> NameProxy Rcpp::Vector< RTYPE, StoragePolicy >::operator[]( const std::string & name ) [inline]`

Definition at line 348 of file Vector.h.

6.801.4.59 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> NameProxy Rcpp::Vector< RTYPE, StoragePolicy >::operator[]( const std::string & name ) const [inline]`

Definition at line 355 of file Vector.h.

6.801.4.60 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<int RHS_RTYPE, bool RHS_NA, typename RHS_T > SubsetProxy<RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T> Rcpp::Vector< RTYPE, StoragePolicy >::operator[]( const VectorBase< RHS_RTYPE, RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 369 of file Vector.h.

6.801.4.61 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<int RHS_RTYPE, bool RHS_NA, typename RHS_T > const SubsetProxy<RTYPE, StoragePolicy, RHS_RTYPE, RHS_NA, RHS_T> Rcpp::Vector< RTYPE, StoragePolicy >::operator[]( const VectorBase< RHS_RTYPE, RHS_NA, RHS_T > & rhs ) const [inline]`

Definition at line 378 of file Vector.h.

6.801.4.62 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Indexer Rcpp::Vector< RTYPE, StoragePolicy >::operator[]( const Range & range ) [inline]`

Definition at line 530 of file Vector.h.

6.801.4.63 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > void Rcpp::Vector< RTYPE, StoragePolicy >::push_back ( const T & object ) [inline]`

Definition at line 435 of file Vector.h.

Referenced by `Rcpp::attributes::isRoxygenCpp()`, `Rcpp::internal::simple_name_proxy< RTYPE >::set()`, `Rcpp::internal::string_name_proxy< RTYPE >::set()`, and `Rcpp::internal::generic_name_proxy< RTYPE >::set()`.



6.801.4.64 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > void Rcpp::Vector< RTYPE, StoragePolicy >::push_back ( const T & object, const std::string & name ) [inline]`

Definition at line 442 of file Vector.h.

6.801.4.65 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void Rcpp::Vector< RTYPE, StoragePolicy >::push_back_impl ( const stored_type & object, traits::true_type ) [inline], [private]`

Definition at line 607 of file Vector.h.

Referenced by Rcpp::Vector< INTSXP >::push\_back().

6.801.4.66 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void Rcpp::Vector< RTYPE, StoragePolicy >::push_back_impl ( const stored_type & object, traits::false_type ) [inline], [private]`

Definition at line 633 of file Vector.h.

6.801.4.67 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void Rcpp::Vector< RTYPE, StoragePolicy >::push_back_name_impl ( const stored_type & object, const std::string & name, traits::true_type ) [inline], [private]`

Definition at line 658 of file Vector.h.

Referenced by Rcpp::Vector< INTSXP >::push\_back().

6.801.4.68 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void Rcpp::Vector< RTYPE, StoragePolicy >::push_back_name_impl ( const stored_type & object, const std::string & name, traits::false_type ) [inline], [private]`

Definition at line 685 of file Vector.h.

6.801.4.69 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > void Rcpp::Vector< RTYPE, StoragePolicy >::push_front ( const T & object ) [inline]`

Definition at line 449 of file Vector.h.

6.801.4.70 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename T > void Rcpp::Vector< RTYPE, StoragePolicy >::push_front ( const T & object, const std::string & name ) [inline]`

Definition at line 455 of file Vector.h.

6.801.4.71 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void Rcpp::Vector< RTYPE, StoragePolicy >::push_front_impl ( const stored_type & object, traits::true_type ) [inline], [private]`

Definition at line 713 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::push_front()`.

6.801.4.72 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void Rcpp::Vector< RTYPE, StoragePolicy >::push_front_impl ( const stored_type & object, traits::false_type ) [inline], [private]`

Definition at line 740 of file Vector.h.

6.801.4.73 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void Rcpp::Vector< RTYPE, StoragePolicy >::push_front_name_impl ( const stored_type & object, const std::string & name, traits::true_type ) [inline], [private]`

Definition at line 767 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::push_front()`.

6.801.4.74 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void Rcpp::Vector< RTYPE, StoragePolicy >::push_front_name_impl ( const stored_type & object, const std::string & name, traits::false_type ) [inline], [private]`

Definition at line 796 of file Vector.h.

6.801.4.75 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > static void Rcpp::Vector< RTYPE, StoragePolicy >::replace_element ( iterator it, SEXP names, R_xlen_t index, const U & u ) [inline], [static]`

Definition at line 497 of file Vector.h.

6.801.4.76 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > static void Rcpp::Vector< RTYPE, StoragePolicy >::replace_element_dispatch ( traits::false_type , iterator it, SEXP names, R_xlen_t index, const U & u ) [inline], [static]`

Definition at line 503 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::replace_element()`.

6.801.4.77 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > static void Rcpp::Vector< RTYPE, StoragePolicy >::replace_element_dispatch ( traits::true_type , iterator it, SEXP names, R_xlen_t index, const U & u ) [inline], [static]`

Definition at line 508 of file Vector.h.

6.801.4.78 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > static void Rcpp::Vector< RTYPE, StoragePolicy >::replace_element_dispatch_isArgument ( traits::false_type , iterator it, SEXP names, R_xlen_t index, const U & u ) [inline], [static]`

Definition at line 513 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::replace_element_dispatch()`.

6.801.4.79 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> template<typename U > static void Rcpp::Vector< RTYPE, StoragePolicy >::replace_element_dispatch_isArgument ( traits::true_type , iterator it, SEXP names, R_xlen_t index, const U & u ) [inline], [static]`

Definition at line 521 of file Vector.h.

6.801.4.80 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> R_xlen_t Rcpp::Vector< RTYPE, StoragePolicy >::size ( ) const [inline]`

alias of `length`

Examples:

[ConvolveBenchmarks/convolve3\\_cpp.cpp](#), and [ConvolveBenchmarks/convolve4\\_cpp.cpp](#).

Definition at line 274 of file Vector.h.

Referenced by `Rcpp::Vector< INTSXP >::assign_sugar_expression()`, `convolve()`, `convolve10cpp()`, `convolve11cpp()`, `convolve12cpp()`, `convolve14cpp()`, `convolve3cpp()`, `convolve4cpp()`, `convolve5cpp()`, `convolve8cpp()`, `convolve9cpp()`, `Rcpp::Vector< INTSXP >::end()`, `Rcpp::Vector< INTSXP >::erase_range_impl()`, `Rcpp::Vector< INTSXP >::erase_single_impl()`, `fastLm()`, `Rcpp::Vector< INTSXP >::fill_dispatch()`, `Rcpp::DataFrame_Impl< StoragePolicy >::from_list()`, `Rcpp::sugar::Mean< RTYPE, NA, T >::get()`, `Rcpp::sugar::SetDiff< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get()`, `Rcpp::sugar::Mean< CPLXSXP, NA, T >::get()`, `Rcpp::sugar::Mean< LGLSXP, NA, T >::get()`, `Rcpp::sugar::Intersect< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >::get()`, `Rcpp::sugar::Mean< INTSXP, NA, T >::get()`, `Rcpp::Vector< INTSXP >::insert_impl()`, `lapplyCpp()`, `Rcpp::sugar::IndexHash< RTYPE >::lookup()`, `Rcpp::sugar::na_omit_impl()`, `Rcpp::Vector< INTSXP >::offset()`, `Rcpp::sugar::Table< RTYPE, TABLE_T >::operator IntegerVector()`, `Rcpp::Vector< INTSXP >::operator+=()`, `Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS_RTYP E, RHS_NA, RHS_T >::operator=()`, `Rcpp::attributes::SourceFileAttributesParser::parseAttribute()`, `Rcpp::attributes::SourceFileAttributesParser::parseSignature()`, `Rcpp::Vector< INTSXP >::push_back_impl()`, `Rcpp::Vector< INTSXP >::push_back_name_impl()`, `Rcpp::Vector< INTSXP >::push_front_impl()`, `Rcpp::Vector< INTSXP >::push_front_name_impl()`, `Rcpp::ListOf< T >::size()`, `Rcpp::Vector< INTSXP >::sort()`, and `Rcpp::attributes::SourceFileAttributesParser::SourceFileAttributesParser()`.

6.801.4.81 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> Vector& Rcpp::Vector< RTYPE, StoragePolicy >::sort ( bool decreasing = false ) [inline]`

Definition at line 385 of file Vector.h.

6.801.4.82 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> void Rcpp::Vector< RTYPE, StoragePolicy >::update ( SEXP ) [inline]`

Definition at line 492 of file Vector.h.

## 6.801.5 Member Data Documentation

6.801.5.1 `template<int RTYPE, template< class > class StoragePolicy = PreserveStorage> traits::r↔_vector_cache_type<RTYPE, StoragePolicy>::type Rcpp::Vector< RTYPE, StoragePolicy >::cache`

Definition at line 42 of file Vector.h.

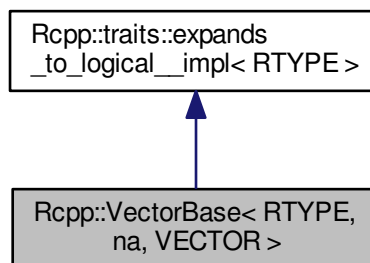
The documentation for this class was generated from the following files:

- [inst/include/Rcpp/vector/00\\_forward\\_Vector.h](#)
- [inst/include/Rcpp/vector/Vector.h](#)

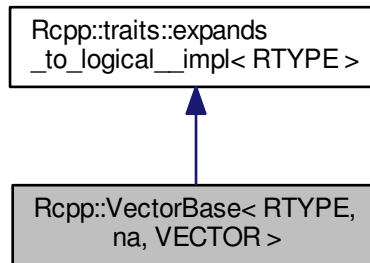
## 6.802 Rcpp::VectorBase< RTYPE, na, VECTOR > Class Template Reference

```
#include <VectorBase.h>
```

Inheritance diagram for Rcpp::VectorBase< RTYPE, na, VECTOR >:



Collaboration diagram for Rcpp::VectorBase< RTYPE, na, VECTOR >:



## Classes

- struct [can\\_have\\_na](#)
- class [iterator](#)
- struct [r\\_type](#)
- struct [rcpp\\_sugar\\_expression](#)

## Public Types

- typedef [traits::storage\\_type< RTYPE >::type](#) [stored\\_type](#)
- typedef [traits::storage\\_type< RTYPE >::type](#) [elem\\_type](#)
- typedef [iterator](#) [const\\_iterator](#)

## Public Member Functions

- VECTOR & [get\\_ref](#) ()
- const VECTOR & [get\\_ref](#) () const
- [stored\\_type](#) [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const
- [iterator](#) [begin](#) () const
- [iterator](#) [end](#) () const

### 6.802.1 Detailed Description

```
template<int RTYPE, bool na, typename VECTOR>  
class Rcpp::VectorBase< RTYPE, na, VECTOR >
```

a base class for vectors, modelled after the CRTP

Definition at line 29 of file VectorBase.h.

## 6.802.2 Member Typedef Documentation

6.802.2.1 `template<int RTYPE, bool na, typename VECTOR> typedef iterator Rcpp::VectorBase< RTYPE, na, VECTOR >::const_iterator`

Definition at line 138 of file VectorBase.h.

6.802.2.2 `template<int RTYPE, bool na, typename VECTOR> typedef traits::storage_type<RTYPE>::type Rcpp::VectorBase< RTYPE, na, VECTOR >::elem_type`

Definition at line 35 of file VectorBase.h.

6.802.2.3 `template<int RTYPE, bool na, typename VECTOR> typedef traits::storage_type<RTYPE>::type Rcpp::VectorBase< RTYPE, na, VECTOR >::stored_type`

Definition at line 34 of file VectorBase.h.

## 6.802.3 Member Function Documentation

6.802.3.1 `template<int RTYPE, bool na, typename VECTOR> iterator Rcpp::VectorBase< RTYPE, na, VECTOR >::begin ( ) const [inline]`

Definition at line 140 of file VectorBase.h.

6.802.3.2 `template<int RTYPE, bool na, typename VECTOR> iterator Rcpp::VectorBase< RTYPE, na, VECTOR >::end ( ) const [inline]`

Definition at line 141 of file VectorBase.h.

6.802.3.3 `template<int RTYPE, bool na, typename VECTOR> VECTOR& Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref ( ) [inline]`

Definition at line 37 of file VectorBase.h.

Referenced by `Rcpp::clamp()`, `Rcpp::collapse()`, `Rcpp::Vector< INTSXP >::import_sugar_expression()`, `Rcpp::in()`, `Rcpp::intersect()`, `Rcpp::is_finite()`, `Rcpp::is_infinite()`, `Rcpp::is_nan()`, `Rcpp::mapply()`, `Rcpp::match()`, `Rcpp::max()`, `Rcpp::min()`, `Rcpp::na_omit()`, `Rcpp::Vector< INTSXP >::operator+=()`, `Rcpp::MatrixColumn< RTYPE >::operator=()`, `Rcpp::MatrixRow< RTYPE >::operator=()`, `Rcpp::pmax()`, `Rcpp::pmin()`, `Rcpp::pow()`, `Rcpp::range()`, `Rcpp::setdiff()`, `Rcpp::setequal()`, `Rcpp::table()`, and `Rcpp::union_()`.

6.802.3.4 `template<int RTYPE, bool na, typename VECTOR> const VECTOR& Rcpp::VectorBase< RTYPE, na, VECTOR >::get_ref ( ) const [inline]`

Definition at line 41 of file VectorBase.h.

6.802.3.5 `template<int RTYPE, bool na, typename VECTOR> stored_type Rcpp::VectorBase< RTYPE, na, VECTOR >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 45 of file VectorBase.h.

6.802.3.6 `template<int RTYPE, bool na, typename VECTOR> R_xlen_t Rcpp::VectorBase< RTYPE, na, VECTOR >::size ( ) const [inline]`

Definition at line 49 of file VectorBase.h.

Referenced by `Rcpp::collapse()`, `Rcpp::VectorBase< RTYPE, true, IfElse_Primitive_Primitive< RTYPE, false, COND_T > >::end()`, `Rcpp::sugar::WhichMin< RTYPE, NA, T >::get()`, `Rcpp::sugar::WhichMax< RTYPE, NA, T >::get()`, `Rcpp::sugar::WhichMax< RTYPE, false, T >::get()`, `Rcpp::sugar::WhichMin< RTYPE, false, T >::get()`, `Rcpp::Vector< INTSXP >::import_sugar_expression()`, `Rcpp::seq_along()`, `Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >::size()`, `Rcpp::sugar::Lapply< RTYPE, NA, T, Function >::size()`, `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, E, U1, T1, FunPtr >::size()`, `Rcpp::stats::D0< RTYPE, NA, T >::size()`, `Rcpp::sugar::Comparator< RTYPE, Operator, LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, NA, T >::size()`, `Rcpp::VectorBase< RTYPE, true, IfElse_Primitive_Primitive< RTYPE, false, COND_T > >::size()`, `Rcpp::sugar::SugarComplex< NA, RESULT_TYPE, T, FunPtr >::size()`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >::size()`, `Rcpp::sugar::Diff< RTYPE, LHS_NA, LHS_T >::size()`, `Rcpp::stats::D1< RTYPE, NA, T >::size()`, `Rcpp::sugar::SugarMath_1< NA, RESULT_TYPE, int, T1, FunPtr >::size()`, `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Comparator_With_One_Value< RTYPE, Operator, false, T >::size()`, `Rcpp::stats::D2< RTYPE, NA, T >::size()`, `Rcpp::sugar::SugarMath_1< false, RESULT_TYPE, int, T1, FunPtr >::size()`, `Rcpp::sugar::Diff< REALSXP, LHS_NA, LHS_T >::size()`, `Rcpp::sugar::IfElse< RTYPE, false, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::size()`, `Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS_T, false, RHS_T >::size()`, `Rcpp::stats::D3< RTYPE, NA, T >::size()`, `Rcpp::sugar::Diff< RTYPE, false, LHS_T >::size()`, `Rcpp::stats::P0< RTYPE, NA, T >::size()`, `Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, COND_NA, COND_T, RHS_NA, RHS_T >::size()`, `Rcpp::stats::P1< RTYPE, NA, T >::size()`, `Rcpp::sugar::IfElse_Primitive_Vector< RTYPE, false, COND_T, RHS_NA, RHS_T >::size()`, `Rcpp::stats::P2< RTYPE, NA, T >::size()`, `Rcpp::stats::P3< RTYPE, NA, T >::size()`, `Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T >::size()`, `Rcpp::stats::Q0< RTYPE, NA, T >::size()`, `Rcpp::sugar::IfElse_Vector_Primitive< RTYPE, false, COND_T, LHS_NA, LHS_T >::size()`, `Rcpp::stats::Q1< RTYPE, NA, T >::size()`, `Rcpp::stats::Q2< RTYPE, NA, T >::size()`, `Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, COND_NA, COND_T >::size()`, `Rcpp::stats::Q3< RTYPE, NA, T >::size()`, and `Rcpp::sugar::IfElse_Primitive_Primitive< RTYPE, false, COND_T >::size()`.

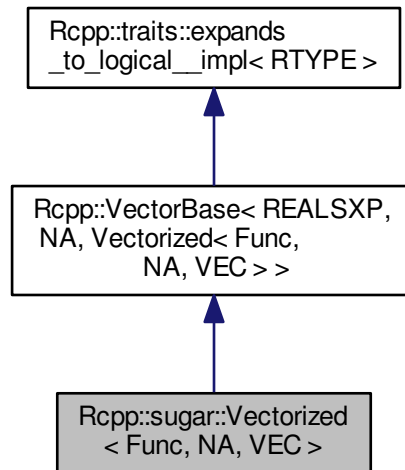
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/vector/VectorBase.h`

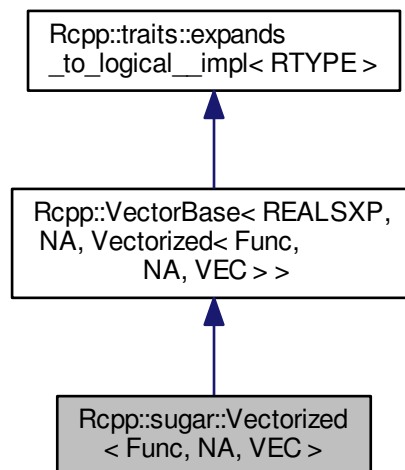
## 6.803 Rcpp::sugar::Vectorized< Func, NA, VEC > Class Template Reference

```
#include <Vectorized_Math.h>
```

Inheritance diagram for Rcpp::sugar::Vectorized< Func, NA, VEC >:



Collaboration diagram for Rcpp::sugar::Vectorized< Func, NA, VEC >:





## Public Types

- typedef [Rcpp::VectorBase](#)< REALSXP, NA, VEC > [VEC\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< REALSXP, NA, VEC >::type [VEC\\_EXT](#)

## Public Member Functions

- [Vectorized](#) (const [VEC\\_TYPE](#) &object\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [VEC\\_EXT](#) & [object](#)

### 6.803.1 Detailed Description

```
template<DDFun Func, bool NA, typename VEC>
class Rcpp::sugar::Vectorized< Func, NA, VEC >
```

Definition at line 31 of file [Vectorized\\_Math.h](#).

### 6.803.2 Member Typedef Documentation

6.803.2.1 `template<DDFun Func, bool NA, typename VEC > typedef Rcpp::traits::Extractor<REALSXP,NA,VEC>::type Rcpp::sugar::Vectorized< Func, NA, VEC >::VEC_EXT`

Definition at line 34 of file [Vectorized\\_Math.h](#).

6.803.2.2 `template<DDFun Func, bool NA, typename VEC > typedef Rcpp::VectorBase<REALSXP,NA,VEC> Rcpp::sugar::Vectorized< Func, NA, VEC >::VEC_TYPE`

Definition at line 33 of file [Vectorized\\_Math.h](#).

### 6.803.3 Constructor & Destructor Documentation

6.803.3.1 `template<DDFun Func, bool NA, typename VEC > Rcpp::sugar::Vectorized< Func, NA, VEC >::Vectorized ( const VEC_TYPE &object_ ) [inline]`

Definition at line 36 of file [Vectorized\\_Math.h](#).

### 6.803.4 Member Function Documentation

6.803.4.1 `template<DDFun Func, bool NA, typename VEC > double Rcpp::sugar::Vectorized< Func, NA, VEC >::operator[] ( R_xlen_t i ) const [inline]`

Definition at line 37 of file `Vectorized_Math.h`.

6.803.4.2 `template<DDFun Func, bool NA, typename VEC > R_xlen_t Rcpp::sugar::Vectorized< Func, NA, VEC >::size ( ) const [inline]`

Definition at line 40 of file `Vectorized_Math.h`.

### 6.803.5 Member Data Documentation

6.803.5.1 `template<DDFun Func, bool NA, typename VEC > const VEC_EXT& Rcpp::sugar::Vectorized< Func, NA, VEC >::object [private]`

Definition at line 43 of file `Vectorized_Math.h`.

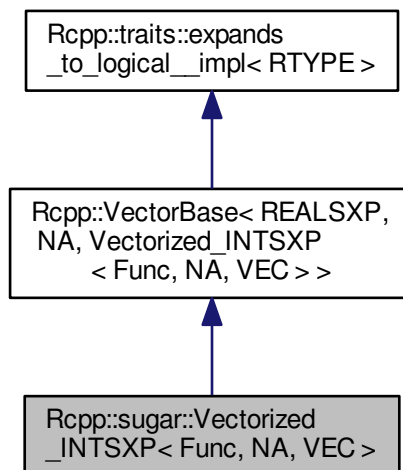
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/block/Vectorized\\_Math.h](#)

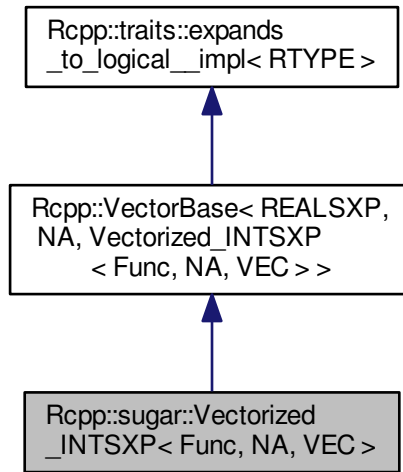
## 6.804 Rcpp::sugar::Vectorized\_INTSXP< Func, NA, VEC > Class Template Reference

```
#include <Vectorized_Math.h>
```

Inheritance diagram for `Rcpp::sugar::Vectorized_INTSXP< Func, NA, VEC >`:



Collaboration diagram for Rcpp::sugar::Vectorized\_INTSXP< Func, NA, VEC >:



## Public Types

- typedef `Rcpp::VectorBase< INTSXP, NA, VEC >` `VEC_TYPE`
- typedef `Rcpp::traits::Extractor< INTSXP, NA, VEC >::type` `VEC_EXT`

## Public Member Functions

- `Vectorized_INTSXP` (const `VEC_TYPE` &object\_)
- double `operator[]` (R\_xlen\_t i) const
- R\_xlen\_t `size` () const

## Private Attributes

- const `VEC_EXT` & `object`

### 6.804.1 Detailed Description

```

template<DDFun Func, bool NA, typename VEC>
class Rcpp::sugar::Vectorized_INTSXP< Func, NA, VEC >

```

Definition at line 47 of file `Vectorized_Math.h`.

## 6.804.2 Member Typedef Documentation

6.804.2.1 `template<DDFun Func, bool NA, typename VEC > typedef Rcpp::traits::Extractor<INTSXP,NA,VEC>::type  
Rcpp::sugar::Vectorized_INTSXP< Func, NA, VEC >::VEC_EXT`

Definition at line 50 of file `Vectorized_Math.h`.

6.804.2.2 `template<DDFun Func, bool NA, typename VEC > typedef Rcpp::VectorBase<INTSXP,NA,VEC>  
Rcpp::sugar::Vectorized_INTSXP< Func, NA, VEC >::VEC_TYPE`

Definition at line 49 of file `Vectorized_Math.h`.

## 6.804.3 Constructor & Destructor Documentation

6.804.3.1 `template<DDFun Func, bool NA, typename VEC > Rcpp::sugar::Vectorized_INTSXP< Func, NA, VEC  
>::Vectorized_INTSXP ( const VEC_TYPE & object_ ) [inline]`

Definition at line 52 of file `Vectorized_Math.h`.

## 6.804.4 Member Function Documentation

6.804.4.1 `template<DDFun Func, bool NA, typename VEC > double Rcpp::sugar::Vectorized_INTSXP< Func, NA, VEC  
>::operator[]( R_xlen_t i ) const [inline]`

Definition at line 53 of file `Vectorized_Math.h`.

6.804.4.2 `template<DDFun Func, bool NA, typename VEC > R_xlen_t Rcpp::sugar::Vectorized_INTSXP< Func, NA, VEC  
>::size ( ) const [inline]`

Definition at line 58 of file `Vectorized_Math.h`.

## 6.804.5 Member Data Documentation

6.804.5.1 `template<DDFun Func, bool NA, typename VEC > const VEC_EXT& Rcpp::sugar::Vectorized_INTSXP< Func,  
NA, VEC >::object [private]`

Definition at line 61 of file `Vectorized_Math.h`.

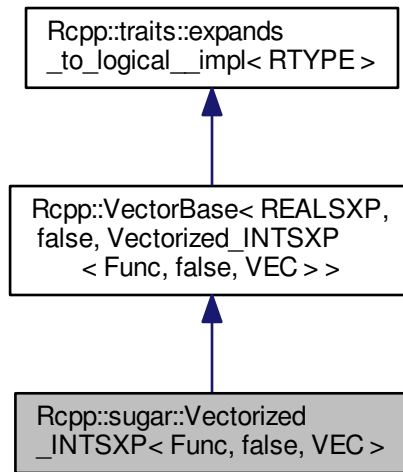
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/block/Vectorized_Math.h`

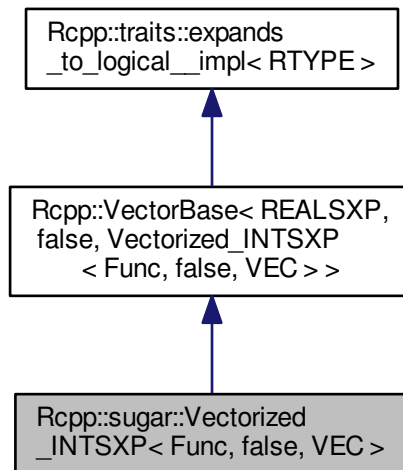
## 6.805 Rcpp::sugar::Vectorized\_INTSXP< Func, false, VEC > Class Template Reference

```
#include <Vectorized_Math.h>
```

Inheritance diagram for Rcpp::sugar::Vectorized\_INTSXP< Func, false, VEC >:



Collaboration diagram for Rcpp::sugar::Vectorized\_INTSXP< Func, false, VEC >:



## Public Types

- typedef [Rcpp::VectorBase](#)< INTSXP, false, VEC > [VEC\\_TYPE](#)
- typedef [Rcpp::traits::Extractor](#)< INTSXP, false, VEC >::type [VEC\\_EXT](#)

## Public Member Functions

- [Vectorized\\_INTSXP](#) (const [VEC\\_TYPE](#) &object\_)
- double [operator\[\]](#) (R\_xlen\_t i) const
- R\_xlen\_t [size](#) () const

## Private Attributes

- const [VEC\\_EXT](#) & [object](#)

### 6.805.1 Detailed Description

```
template<DDFun Func, typename VEC>
class Rcpp::sugar::Vectorized_INTSXP< Func, false, VEC >
```

Definition at line 64 of file [Vectorized\\_Math.h](#).

### 6.805.2 Member Typedef Documentation

6.805.2.1 `template<DDFun Func, typename VEC > typedef Rcpp::traits::Extractor<INTSXP,false,VEC>::type Rcpp::sugar::Vectorized_INTSXP< Func, false, VEC >::VEC_EXT`

Definition at line 68 of file [Vectorized\\_Math.h](#).

6.805.2.2 `template<DDFun Func, typename VEC > typedef Rcpp::VectorBase<INTSXP,false,VEC> Rcpp::sugar::Vectorized_INTSXP< Func, false, VEC >::VEC_TYPE`

Definition at line 67 of file [Vectorized\\_Math.h](#).

### 6.805.3 Constructor & Destructor Documentation

6.805.3.1 `template<DDFun Func, typename VEC > Rcpp::sugar::Vectorized_INTSXP< Func, false, VEC >::Vectorized_INTSXP ( const VEC_TYPE & object_ ) [inline]`

Definition at line 70 of file [Vectorized\\_Math.h](#).

### 6.805.4 Member Function Documentation

6.805.4.1 `template<DDFun Func, typename VEC > double Rcpp::sugar::Vectorized_INTSXP< Func, false, VEC >::operator[]( R_xlen_t i ) const [inline]`

Definition at line 71 of file Vectorized\_Math.h.

6.805.4.2 `template<DDFun Func, typename VEC > R_xlen_t Rcpp::sugar::Vectorized_INTSXP< Func, false, VEC >::size ( ) const [inline]`

Definition at line 74 of file Vectorized\_Math.h.

### 6.805.5 Member Data Documentation

6.805.5.1 `template<DDFun Func, typename VEC > const VEC_EXT& Rcpp::sugar::Vectorized_INTSXP< Func, false, VEC >::object [private]`

Definition at line 77 of file Vectorized\_Math.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/sugar/block/Vectorized\\_Math.h](#)

## 6.806 Rcpp::void\_type Struct Reference

```
#include <get_return_type.h>
```

### 6.806.1 Detailed Description

Definition at line 27 of file get\_return\_type.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/module/get\\_return\\_type.h](#)

## 6.807 Rcpp::traits::void\_wrap\_tag Struct Reference

```
#include <module_wrap_traits.h>
```

### 6.807.1 Detailed Description

Definition at line 30 of file `module_wrap_traits.h`.

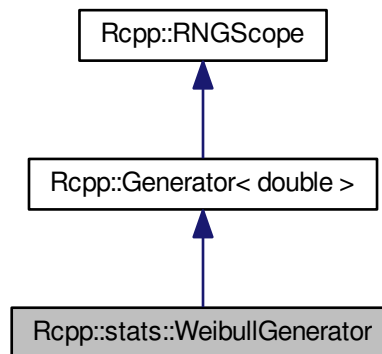
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/module\\_wrap\\_traits.h](#)

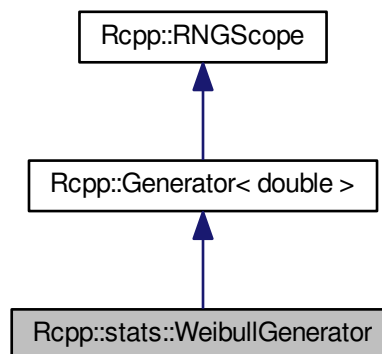
### 6.808 Rcpp::stats::WeibullGenerator Class Reference

```
#include <rweibull.h>
```

Inheritance diagram for `Rcpp::stats::WeibullGenerator`:



Collaboration diagram for `Rcpp::stats::WeibullGenerator`:





## Public Member Functions

- [WeibullGenerator](#) (double shape\_, double scale\_)
- double [operator\(\)](#) () const

## Private Attributes

- double [shape\\_inv](#)
- double [scale](#)

## Additional Inherited Members

### 6.808.1 Detailed Description

Definition at line 28 of file rweibull.h.

### 6.808.2 Constructor & Destructor Documentation

6.808.2.1 `Rcpp::stats::WeibullGenerator::WeibullGenerator ( double shape_, double scale_ )` `[inline]`

Definition at line 31 of file rweibull.h.

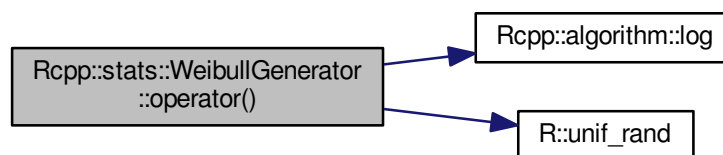
### 6.808.3 Member Function Documentation

6.808.3.1 `double Rcpp::stats::WeibullGenerator::operator() ( ) const` `[inline]`

Definition at line 34 of file rweibull.h.

References [Rcpp::algorithm::log\(\)](#), [scale](#), [shape\\_inv](#), and [R::unif\\_rand\(\)](#).

Here is the call graph for this function:



## 6.808.4 Member Data Documentation

### 6.808.4.1 `double Rcpp::stats::WeibullGenerator::scale` [private]

Definition at line 39 of file `rweibull.h`.

Referenced by `operator()`.

### 6.808.4.2 `double Rcpp::stats::WeibullGenerator::shape_inv` [private]

Definition at line 39 of file `rweibull.h`.

Referenced by `operator()`, and `Rcpp::stats::WeibullGenerator__scale1::operator()`.

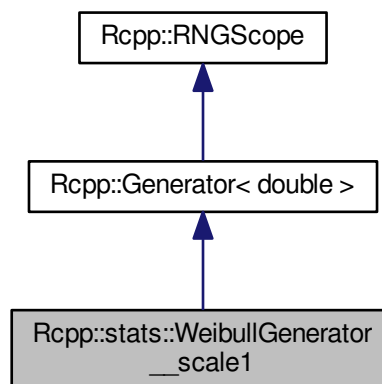
The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rweibull.h](#)

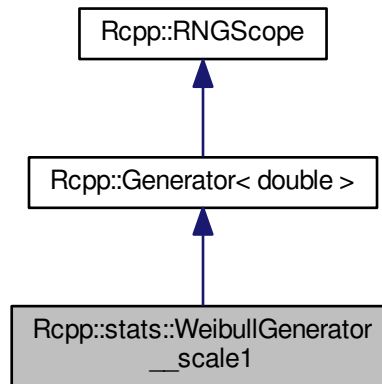
## 6.809 `Rcpp::stats::WeibullGenerator__scale1` Class Reference

```
#include <rweibull.h>
```

Inheritance diagram for `Rcpp::stats::WeibullGenerator__scale1`:



Collaboration diagram for Rcpp::stats::WeibullGenerator\_\_scale1:



### Public Member Functions

- [WeibullGenerator\\_\\_scale1](#) (double shape\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [shape\\_inv](#)

### Additional Inherited Members

#### 6.809.1 Detailed Description

Definition at line 42 of file rweibull.h.

#### 6.809.2 Constructor & Destructor Documentation

6.809.2.1 `Rcpp::stats::WeibullGenerator__scale1::WeibullGenerator__scale1 ( double shape_ ) [inline]`

Definition at line 45 of file rweibull.h.

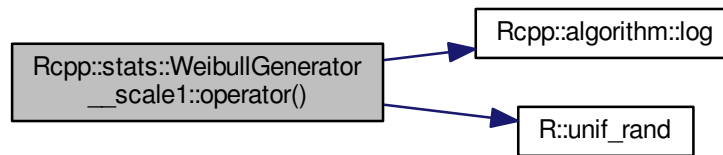
### 6.809.3 Member Function Documentation

6.809.3.1 `double Rcpp::stats::WeibullGenerator__scale1::operator() ( ) const [inline]`

Definition at line 48 of file `rweibull.h`.

References `Rcpp::algorithm::log()`, `Rcpp::stats::WeibullGenerator::shape_inv`, and `R::unif_rand()`.

Here is the call graph for this function:



### 6.809.4 Member Data Documentation

6.809.4.1 `double Rcpp::stats::WeibullGenerator__scale1::shape_inv [private]`

Definition at line 53 of file `rweibull.h`.

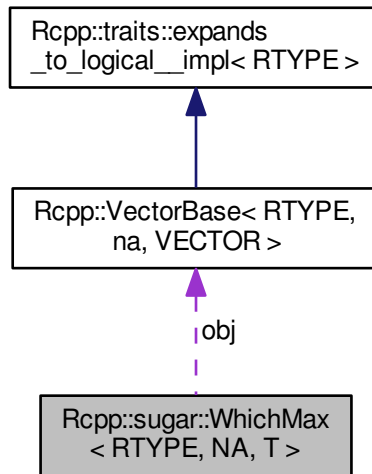
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/stats/random/rweibull.h`

## 6.810 `Rcpp::sugar::WhichMax< RTYPE, NA, T >` Class Template Reference

```
#include <which_max.h>
```

Collaboration diagram for Rcpp::sugar::WhichMax< RTYPE, NA, T >:



## Public Types

- typedef [Rcpp::VectorBase< RTYPE, NA, T >](#) [VEC\\_TYPE](#)
- typedef [Rcpp::traits::storage\\_type< RTYPE >::type](#) [STORAGE](#)

## Public Member Functions

- [WhichMax](#) (const [VEC\\_TYPE](#) &obj\_)
- [R\\_xlen\\_t get](#) () const

## Private Attributes

- const [VEC\\_TYPE](#) &obj

### 6.810.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::WhichMax< RTYPE, NA, T >
  
```

Definition at line 29 of file `which_max.h`.

## 6.810.2 Member Typedef Documentation

6.810.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type  
Rcpp::sugar::WhichMax< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file which\_max.h.

6.810.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::WhichMax< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file which\_max.h.

## 6.810.3 Constructor & Destructor Documentation

6.810.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::WhichMax< RTYPE, NA, T >::WhichMax ( const  
VEC_TYPE & obj_ ) [inline]`

Definition at line 33 of file which\_max.h.

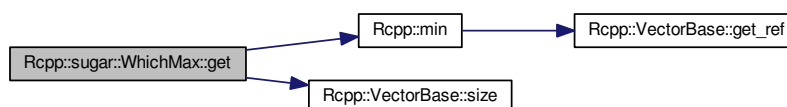
## 6.810.4 Member Function Documentation

6.810.4.1 `template<int RTYPE, bool NA, typename T > R_xlen_t Rcpp::sugar::WhichMax< RTYPE, NA, T >::get ( ) const  
[inline]`

Definition at line 35 of file which\_max.h.

References `Rcpp::min()`, `Rcpp::sugar::WhichMax< RTYPE, NA, T >::obj`, and `Rcpp::VectorBase< RTYPE, na, VEC←  
TOR >::size()`.

Here is the call graph for this function:



### 6.810.5 Member Data Documentation

6.810.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::WhichMax< RTYPE, NA, T >::obj`  
`[private]`

Definition at line 53 of file `which_max.h`.

Referenced by `Rcpp::sugar::WhichMax< RTYPE, NA, T >::get()`, and `Rcpp::sugar::WhichMax< RTYPE, false, T >::get()`.

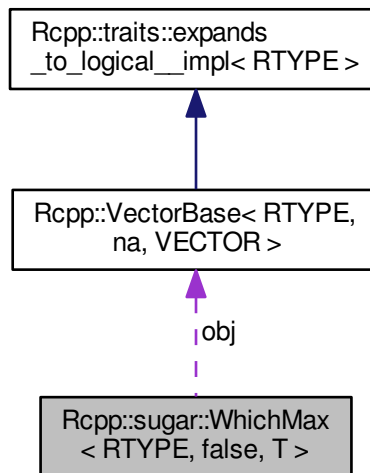
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/which_max.h`

## 6.811 Rcpp::sugar::WhichMax< RTYPE, false, T > Class Template Reference

```
#include <which_max.h>
```

Collaboration diagram for `Rcpp::sugar::WhichMax< RTYPE, false, T >`:



### Public Types

- typedef `Rcpp::VectorBase< RTYPE, false, T >` `VEC_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`

## Public Member Functions

- [WhichMax](#) (const [VEC\\_TYPE](#) &obj\_)
- [R\\_xlen\\_t\\_get](#) () const

## Private Attributes

- const [VEC\\_TYPE](#) & [obj](#)

### 6.811.1 Detailed Description

```
template<int RTYPE, typename T>  
class Rcpp::sugar::WhichMax< RTYPE, false, T >
```

Definition at line 58 of file `which_max.h`.

### 6.811.2 Member Typedef Documentation

6.811.2.1 `template<int RTYPE, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type  
Rcpp::sugar::WhichMax< RTYPE, false, T >::STORAGE`

Definition at line 61 of file `which_max.h`.

6.811.2.2 `template<int RTYPE, typename T > typedef Rcpp::VectorBase<RTYPE,false,T> Rcpp::sugar::WhichMax<  
RTYPE, false, T >::VEC_TYPE`

Definition at line 60 of file `which_max.h`.

### 6.811.3 Constructor & Destructor Documentation

6.811.3.1 `template<int RTYPE, typename T > Rcpp::sugar::WhichMax< RTYPE, false, T >::WhichMax ( const  
VEC_TYPE & obj_ ) [inline]`

Definition at line 62 of file `which_max.h`.



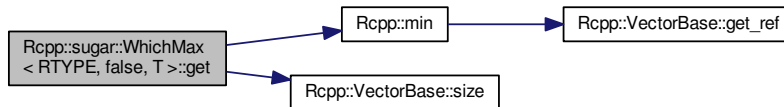
### 6.811.4 Member Function Documentation

6.811.4.1 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::WhichMax< RTYPE, false, T >::get ( ) const`  
`[inline]`

Definition at line 64 of file `which_max.h`.

References `Rcpp::min()`, `Rcpp::sugar::WhichMax< RTYPE, NA, T >::obj`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.811.5 Member Data Documentation

6.811.5.1 `template<int RTYPE, typename T > const VEC_TYPE& Rcpp::sugar::WhichMax< RTYPE, false, T >::obj`  
`[private]`

Definition at line 80 of file `which_max.h`.

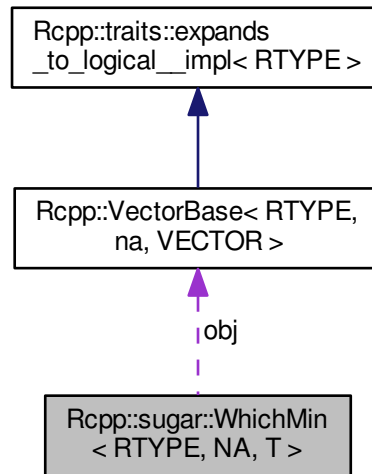
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/which_max.h`

## 6.812 Rcpp::sugar::WhichMin< RTYPE, NA, T > Class Template Reference

```
#include <which_min.h>
```

Collaboration diagram for `Rcpp::sugar::WhichMin< RTYPE, NA, T >`:



## Public Types

- typedef `Rcpp::VectorBase< RTYPE, NA, T >` `VEC_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`

## Public Member Functions

- `WhichMin` (const `VEC_TYPE` &obj\_)
- `R_xlen_t get` () const

## Private Attributes

- const `VEC_TYPE` &obj

### 6.812.1 Detailed Description

```

template<int RTYPE, bool NA, typename T>
class Rcpp::sugar::WhichMin< RTYPE, NA, T >

```

Definition at line 29 of file `which_min.h`.

## 6.812.2 Member Typedef Documentation

6.812.2.1 `template<int RTYPE, bool NA, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type  
Rcpp::sugar::WhichMin< RTYPE, NA, T >::STORAGE`

Definition at line 32 of file `which_min.h`.

6.812.2.2 `template<int RTYPE, bool NA, typename T > typedef Rcpp::VectorBase<RTYPE,NA,T>  
Rcpp::sugar::WhichMin< RTYPE, NA, T >::VEC_TYPE`

Definition at line 31 of file `which_min.h`.

## 6.812.3 Constructor & Destructor Documentation

6.812.3.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::WhichMin< RTYPE, NA, T >::WhichMin ( const  
VEC_TYPE & obj_ ) [inline]`

Definition at line 33 of file `which_min.h`.

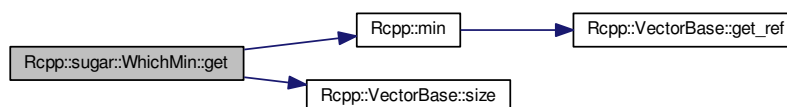
## 6.812.4 Member Function Documentation

6.812.4.1 `template<int RTYPE, bool NA, typename T > R_xlen_t Rcpp::sugar::WhichMin< RTYPE, NA, T >::get ( ) const  
[inline]`

Definition at line 35 of file `which_min.h`.

References `Rcpp::min()`, `Rcpp::sugar::WhichMin< RTYPE, NA, T >::obj`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.812.5 Member Data Documentation

6.812.5.1 `template<int RTYPE, bool NA, typename T > const VEC_TYPE& Rcpp::sugar::WhichMin< RTYPE, NA, T >::obj`  
`[private]`

Definition at line 53 of file `which_min.h`.

Referenced by `Rcpp::sugar::WhichMin< RTYPE, NA, T >::get()`, and `Rcpp::sugar::WhichMin< RTYPE, false, T >::get()`.

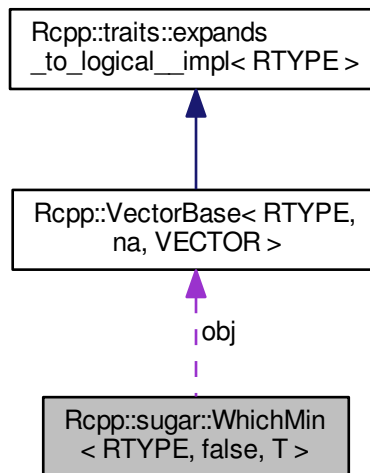
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/which_min.h`

### 6.813 Rcpp::sugar::WhichMin< RTYPE, false, T > Class Template Reference

```
#include <which_min.h>
```

Collaboration diagram for `Rcpp::sugar::WhichMin< RTYPE, false, T >`:



#### Public Types

- typedef `Rcpp::VectorBase< RTYPE, false, T >` `VEC_TYPE`
- typedef `Rcpp::traits::storage_type< RTYPE >::type` `STORAGE`

## Public Member Functions

- [WhichMin](#) (const [VEC\\_TYPE](#) &obj\_)
- [R\\_xlen\\_t\\_get](#) () const

## Private Attributes

- const [VEC\\_TYPE](#) & [obj](#)

### 6.813.1 Detailed Description

```
template<int RTYPE, typename T>
class Rcpp::sugar::WhichMin< RTYPE, false, T >
```

Definition at line 58 of file `which_min.h`.

### 6.813.2 Member Typedef Documentation

6.813.2.1 `template<int RTYPE, typename T > typedef Rcpp::traits::storage_type<RTYPE>::type Rcpp::sugar::WhichMin< RTYPE, false, T >::STORAGE`

Definition at line 61 of file `which_min.h`.

6.813.2.2 `template<int RTYPE, typename T > typedef Rcpp::VectorBase<RTYPE,false,T> Rcpp::sugar::WhichMin< RTYPE, false, T >::VEC_TYPE`

Definition at line 60 of file `which_min.h`.

### 6.813.3 Constructor & Destructor Documentation

6.813.3.1 `template<int RTYPE, typename T > Rcpp::sugar::WhichMin< RTYPE, false, T >::WhichMin ( const VEC_TYPE & obj_ ) [inline]`

Definition at line 62 of file `which_min.h`.

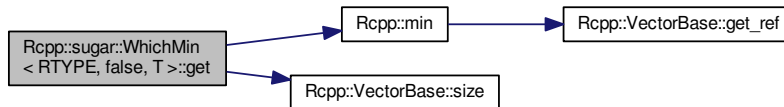
### 6.813.4 Member Function Documentation

6.813.4.1 `template<int RTYPE, typename T > R_xlen_t Rcpp::sugar::WhichMin< RTYPE, false, T >::get ( ) const`  
`[inline]`

Definition at line 64 of file `which_min.h`.

References `Rcpp::min()`, `Rcpp::sugar::WhichMin< RTYPE, NA, T >::obj`, and `Rcpp::VectorBase< RTYPE, na, VECTOR >::size()`.

Here is the call graph for this function:



### 6.813.5 Member Data Documentation

6.813.5.1 `template<int RTYPE, typename T > const VECTOR_TYPE& Rcpp::sugar::WhichMin< RTYPE, false, T >::obj`  
`[private]`

Definition at line 80 of file `which_min.h`.

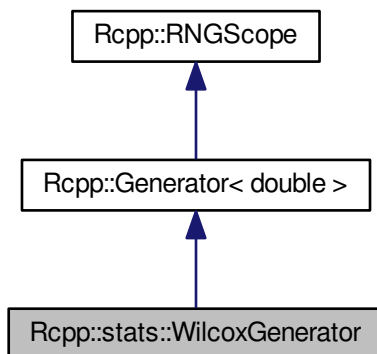
The documentation for this class was generated from the following file:

- `inst/include/Rcpp/sugar/functions/which_min.h`

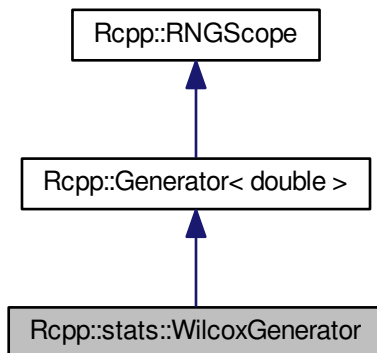
## 6.814 Rcpp::stats::WilcoxGenerator Class Reference

```
#include <rwilcox.h>
```

Inheritance diagram for Rcpp::stats::WilcoxGenerator:



Collaboration diagram for Rcpp::stats::WilcoxGenerator:



### Public Member Functions

- [WilcoxGenerator](#) (double mm\_, double nn\_)
- double [operator\(\)](#) () const

### Private Attributes

- double [mm](#)
- double [nn](#)

## Additional Inherited Members

### 6.814.1 Detailed Description

Definition at line 28 of file `rwilcox.h`.

### 6.814.2 Constructor & Destructor Documentation

6.814.2.1 `Rcpp::stats::WilcoxGenerator::WilcoxGenerator ( double mm_, double nn_ )` `[inline]`

Definition at line 30 of file `rwilcox.h`.

### 6.814.3 Member Function Documentation

6.814.3.1 `double Rcpp::stats::WilcoxGenerator::operator() ( ) const` `[inline]`

Definition at line 31 of file `rwilcox.h`.

References `mm`, and `nn`.

### 6.814.4 Member Data Documentation

6.814.4.1 `double Rcpp::stats::WilcoxGenerator::mm` `[private]`

Definition at line 33 of file `rwilcox.h`.

Referenced by `operator()`.

6.814.4.2 `double Rcpp::stats::WilcoxGenerator::nn` `[private]`

Definition at line 33 of file `rwilcox.h`.

Referenced by `operator()`.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/stats/random/rwilcox.h](#)

## 6.815 Rcpp::traits::wrap\_type\_char\_array Struct Reference

```
#include <wrap_type_traits.h>
```



### 6.815.1 Detailed Description

character arrays

Definition at line 57 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[wrap\\_type\\_traits.h](#)

## 6.816 Rcpp::traits::wrap\_type\_enum\_tag Struct Reference

```
#include <wrap_type_traits.h>
```

### 6.816.1 Detailed Description

enums

Definition at line 52 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[wrap\\_type\\_traits.h](#)

## 6.817 Rcpp::traits::wrap\_type\_module\_object\_pointer\_tag Struct Reference

```
#include <wrap_type_traits.h>
```

### 6.817.1 Detailed Description

module objects pointers (object<T>). conversion done using [make\\_new\\_object<>\(\)](#)

Definition at line 42 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[wrap\\_type\\_traits.h](#)

## 6.818 Rcpp::traits::wrap\_type\_module\_object\_tag Struct Reference

```
#include <wrap_type_traits.h>
```

### 6.818.1 Detailed Description

declared module object type (by the RCPP\_EXPOSED\_CLASS macro)

Definition at line 47 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/wrap\_type\_traits.h

## 6.819 Rcpp::traits::wrap\_type\_primitive\_tag Struct Reference

```
#include <wrap_type_traits.h>
```

### 6.819.1 Detailed Description

primitive type : int, double, std::string, Rcomplex, size\_t, Rbyte

Definition at line 32 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/wrap\_type\_traits.h

## 6.820 Rcpp::traits::wrap\_type\_traits< T > Struct Template Reference

```
#include <wrap_type_traits.h>
```

### Public Types

- typedef [wrap\\_type\\_unknown\\_tag](#) wrap\_category

### 6.820.1 Detailed Description

```
template<typename T>  
struct Rcpp::traits::wrap_type_traits< T >
```

Type trait that helps the dispatch of wrap to the proper method

This builds a struct that contains a typedef called wrap\_category that has to be one of "wrap\_type\_primitive\_tag" or "wrap\_type\_unknown\_tag"

The default is "wrap\_type\_unknown\_tag" and this is specialized for primitive types

Definition at line 68 of file wrap\_type\_traits.h.

## 6.820.2 Member Typedef Documentation

6.820.2.1 `template<typename T > typedef wrap_type_unknown_tag Rcpp::traits::wrap_type_traits< T >::wrap_category`

Definition at line 68 of file `wrap_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.821 Rcpp::traits::wrap\_type\_traits< bool > Struct Template Reference

```
#include <wrap_type_traits.h>
```

### Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) `wrap_category`

### 6.821.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< bool >
```

Definition at line 82 of file `wrap_type_traits.h`.

### 6.821.2 Member Typedef Documentation

6.821.2.1 `typedef wrap_type_primitive_tag Rcpp::traits::wrap_type_traits< bool >::wrap_category`

Definition at line 82 of file `wrap_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.822 Rcpp::traits::wrap\_type\_traits< char > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.822.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< char >
```

Definition at line 86 of file wrap\_type\_traits.h.

### 6.822.2 Member Typedef Documentation

6.822.2.1 typedef [wrap\\_type\\_primitive\\_tag](#) Rcpp::traits::wrap\_type\_traits< char >::wrap\_category

Definition at line 86 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[wrap\\_type\\_traits.h](#)

## 6.823 Rcpp::traits::wrap\_type\_traits< char[N]> Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_char\\_array](#) wrap\_category

### 6.823.1 Detailed Description

```
template<std::size_t N>
struct Rcpp::traits::wrap_type_traits< char[N]>
```

Definition at line 70 of file wrap\_type\_traits.h.

## 6.823.2 Member Typedef Documentation

6.823.2.1 `template<std::size_t N> typedef wrap_type_char_array Rcpp::traits::wrap_type_traits< char[N]>::wrap_category`

Definition at line 70 of file `wrap_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.824 Rcpp::traits::wrap\_type\_traits< const char[N]> Struct Template Reference

```
#include <wrap_type_traits.h>
```

### Public Types

- typedef [wrap\\_type\\_char\\_array](#) `wrap_category`

## 6.824.1 Detailed Description

```
template<std::size_t N>  
struct Rcpp::traits::wrap_type_traits< const char[N]>
```

Definition at line 71 of file `wrap_type_traits.h`.

## 6.824.2 Member Typedef Documentation

6.824.2.1 `template<std::size_t N> typedef wrap_type_char_array Rcpp::traits::wrap_type_traits< const char[N]>::wrap_category`

Definition at line 71 of file `wrap_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.825 Rcpp::traits::wrap\_type\_traits< const int > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.825.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< const int >
```

Definition at line 76 of file wrap\_type\_traits.h.

### 6.825.2 Member Typedef Documentation

6.825.2.1 typedef [wrap\\_type\\_primitive\\_tag](#) Rcpp::traits::wrap\_type\_traits< const int >::wrap\_category

Definition at line 76 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[wrap\\_type\\_traits.h](#)

## 6.826 Rcpp::traits::wrap\_type\_traits< double > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.826.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< double >
```

Definition at line 78 of file wrap\_type\_traits.h.

## 6.826.2 Member Typedef Documentation

### 6.826.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< double >::wrap\_category

Definition at line 78 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.827 Rcpp::traits::wrap\_type\_traits< float > Struct Template Reference

```
#include <wrap_type_traits.h>
```

### Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.827.1 Detailed Description

```
template<>  
struct Rcpp::traits::wrap_type_traits< float >
```

Definition at line 89 of file wrap\_type\_traits.h.

## 6.827.2 Member Typedef Documentation

### 6.827.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< float >::wrap\_category

Definition at line 89 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.828 Rcpp::traits::wrap\_type\_traits< int > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.828.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< int >
```

Total specialization for primitive types

Definition at line 75 of file wrap\_type\_traits.h.

### 6.828.2 Member Typedef Documentation

#### 6.828.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< int >::wrap\_category

Definition at line 75 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[wrap\\_type\\_traits.h](#)

## 6.829 Rcpp::traits::wrap\_type\_traits< long > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.829.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< long >
```

Definition at line 93 of file wrap\_type\_traits.h.



## 6.829.2 Member Typedef Documentation

### 6.829.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< long >::wrap\_category

Definition at line 93 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.830 Rcpp::traits::wrap\_type\_traits< long double > Struct Template Reference

```
#include <wrap_type_traits.h>
```

### Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.830.1 Detailed Description

```
template<>  
struct Rcpp::traits::wrap_type_traits< long double >
```

Definition at line 96 of file wrap\_type\_traits.h.

## 6.830.2 Member Typedef Documentation

### 6.830.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< long double >::wrap\_category

Definition at line 96 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.831 Rcpp::traits::wrap\_type\_traits< Rbyte > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.831.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< Rbyte >
```

Definition at line 79 of file wrap\_type\_traits.h.

### 6.831.2 Member Typedef Documentation

6.831.2.1 typedef [wrap\\_type\\_primitive\\_tag](#) Rcpp::traits::wrap\_type\_traits< Rbyte >::wrap\_category

Definition at line 79 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[wrap\\_type\\_traits.h](#)

## 6.832 Rcpp::traits::wrap\_type\_traits< Rcomplex > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.832.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< Rcomplex >
```

Definition at line 80 of file wrap\_type\_traits.h.

## 6.832.2 Member Typedef Documentation

### 6.832.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< Rcomplex >::wrap\_category

Definition at line 80 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.833 Rcpp::traits::wrap\_type\_traits< Rcpp::Date > Struct Template Reference

```
#include <Date.h>
```

### Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

## 6.833.1 Detailed Description

```
template<>  
struct Rcpp::traits::wrap_type_traits< Rcpp::Date >
```

Definition at line 28 of file Date.h.

## 6.833.2 Member Typedef Documentation

### 6.833.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< Rcpp::Date >::wrap\_category

Definition at line 29 of file Date.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/api/bones/Date.h](#)

## 6.834 Rcpp::traits::wrap\_type\_traits< Rcpp::Datetime > Struct Template Reference

```
#include <Datetime.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.834.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< Rcpp::Datetime >
```

Definition at line 28 of file Datetime.h.

### 6.834.2 Member Typedef Documentation

6.834.2.1 typedef [wrap\\_type\\_primitive\\_tag](#) Rcpp::traits::wrap\_type\_traits< Rcpp::Datetime >::wrap\_category

Definition at line 29 of file Datetime.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/api/bones/[Datetime.h](#)

## 6.835 Rcpp::traits::wrap\_type\_traits< Rcpp::object< T > > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_module\\_object\\_pointer\\_tag](#) wrap\_category

### 6.835.1 Detailed Description

```
template<typename T>
struct Rcpp::traits::wrap_type_traits< Rcpp::object< T > >
```

Definition at line 101 of file wrap\_type\_traits.h.

## 6.835.2 Member Typedef Documentation

6.835.2.1 `template<typename T > typedef wrap_type_module_object_pointer_tag Rcpp::traits::wrap_type_traits< Rcpp::object< T > >::wrap_category`

Definition at line 101 of file `wrap_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.836 Rcpp::traits::wrap\_type\_traits< Rcpp::String > Struct Template Reference

```
#include <wrap_type_traits.h>
```

### Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) `wrap_category`

### 6.836.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< Rcpp::String >
```

Definition at line 85 of file `wrap_type_traits.h`.

## 6.836.2 Member Typedef Documentation

6.836.2.1 `typedef wrap_type_primitive_tag Rcpp::traits::wrap_type_traits< Rcpp::String >::wrap_category`

Definition at line 85 of file `wrap_type_traits.h`.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.837 Rcpp::traits::wrap\_type\_traits< short > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.837.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< short >
```

Definition at line 98 of file wrap\_type\_traits.h.

### 6.837.2 Member Typedef Documentation

#### 6.837.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< short >::wrap\_category

Definition at line 98 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[wrap\\_type\\_traits.h](#)

## 6.838 Rcpp::traits::wrap\_type\_traits< std::complex< double > > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.838.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< std::complex< double > >
```

Definition at line 91 of file wrap\_type\_traits.h.

## 6.838.2 Member Typedef Documentation

### 6.838.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< std::complex< double > >::wrap\_category

Definition at line 91 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.839 Rcpp::traits::wrap\_type\_traits< std::complex< float > > Struct Template Reference

```
#include <wrap_type_traits.h>
```

### Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

## 6.839.1 Detailed Description

```
template<>  
struct Rcpp::traits::wrap_type_traits< std::complex< float > >
```

Definition at line 90 of file wrap\_type\_traits.h.

## 6.839.2 Member Typedef Documentation

### 6.839.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< std::complex< float > >::wrap\_category

Definition at line 90 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.840 Rcpp::traits::wrap\_type\_traits< std::string > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.840.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< std::string >
```

Definition at line 83 of file wrap\_type\_traits.h.

### 6.840.2 Member Typedef Documentation

6.840.2.1 typedef [wrap\\_type\\_primitive\\_tag](#) Rcpp::traits::wrap\_type\_traits< std::string >::wrap\_category

Definition at line 83 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[wrap\\_type\\_traits.h](#)

## 6.841 Rcpp::traits::wrap\_type\_traits< std::wstring > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.841.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< std::wstring >
```

Definition at line 84 of file wrap\_type\_traits.h.



## 6.841.2 Member Typedef Documentation

### 6.841.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< std::wstring >::wrap\_category

Definition at line 84 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.842 Rcpp::traits::wrap\_type\_traits< unsigned int > Struct Template Reference

```
#include <wrap_type_traits.h>
```

### Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.842.1 Detailed Description

```
template<>  
struct Rcpp::traits::wrap_type_traits< unsigned int >
```

Definition at line 81 of file wrap\_type\_traits.h.

## 6.842.2 Member Typedef Documentation

### 6.842.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< unsigned int >::wrap\_category

Definition at line 81 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.843 Rcpp::traits::wrap\_type\_traits< unsigned long > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.843.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< unsigned long >
```

Definition at line 94 of file wrap\_type\_traits.h.

### 6.843.2 Member Typedef Documentation

6.843.2.1 typedef [wrap\\_type\\_primitive\\_tag](#) Rcpp::traits::wrap\_type\_traits< unsigned long >::wrap\_category

Definition at line 94 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- inst/include/Rcpp/traits/[wrap\\_type\\_traits.h](#)

## 6.844 Rcpp::traits::wrap\_type\_traits< unsigned short > Struct Template Reference

```
#include <wrap_type_traits.h>
```

## Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.844.1 Detailed Description

```
template<>
struct Rcpp::traits::wrap_type_traits< unsigned short >
```

Definition at line 99 of file wrap\_type\_traits.h.

## 6.844.2 Member Typedef Documentation

### 6.844.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< unsigned short >::wrap\_category

Definition at line 99 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.845 Rcpp::traits::wrap\_type\_traits< wchar\_t > Struct Template Reference

```
#include <wrap_type_traits.h>
```

### Public Types

- typedef [wrap\\_type\\_primitive\\_tag](#) wrap\_category

### 6.845.1 Detailed Description

```
template<>  
struct Rcpp::traits::wrap_type_traits< wchar_t >
```

Definition at line 87 of file wrap\_type\_traits.h.

## 6.845.2 Member Typedef Documentation

### 6.845.2.1 typedef wrap\_type\_primitive\_tag Rcpp::traits::wrap\_type\_traits< wchar\_t >::wrap\_category

Definition at line 87 of file wrap\_type\_traits.h.

The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

## 6.846 Rcpp::traits::wrap\_type\_unknown\_tag Struct Reference

```
#include <wrap_type_traits.h>
```

### 6.846.1 Detailed Description

unknown. Implicit conversion to SEXP will be tried.

Definition at line 37 of file wrap\_type\_traits.h.

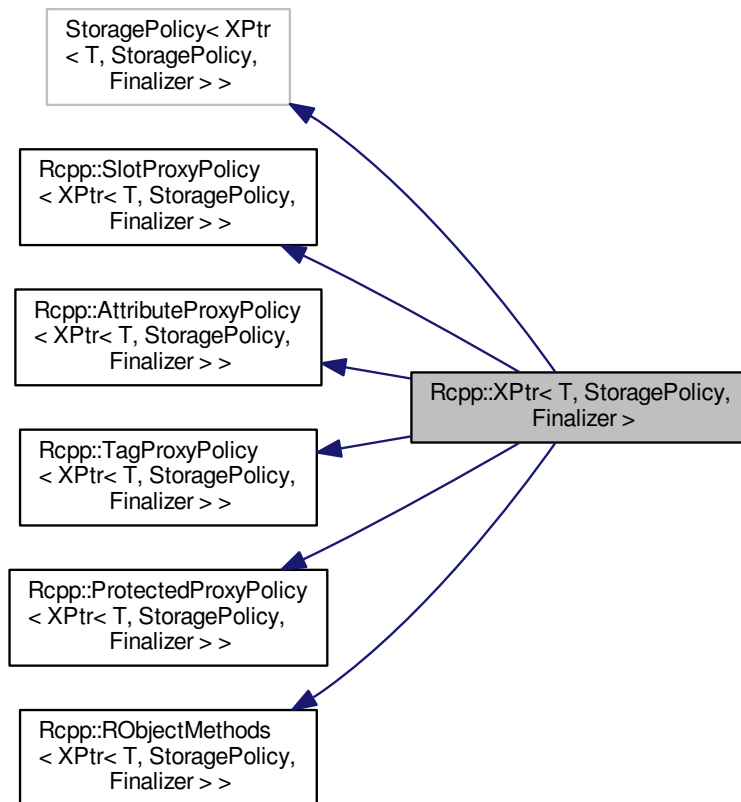
The documentation for this struct was generated from the following file:

- [inst/include/Rcpp/traits/wrap\\_type\\_traits.h](#)

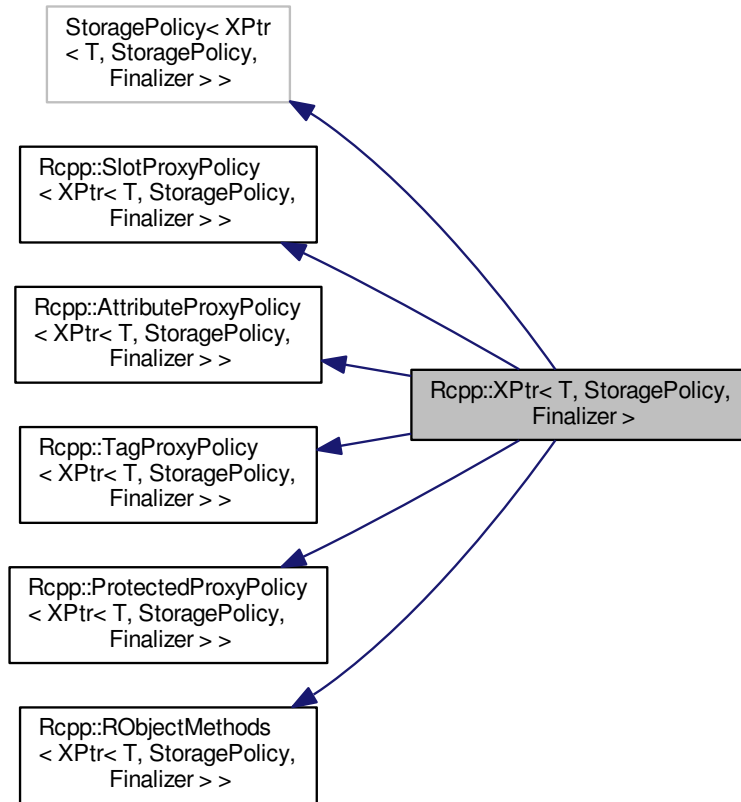
## 6.847 Rcpp::XPtr< T, StoragePolicy, Finalizer > Class Template Reference

```
#include <XPtr.h>
```

Inheritance diagram for Rcpp::XPtr< T, StoragePolicy, Finalizer >:



Collaboration diagram for Rcpp::XPtr< T, StoragePolicy, Finalizer >:



## Public Types

- typedef StoragePolicy< XPtr > Storage
- typedef void(\* unspecified\_bool\_type) ()

## Public Member Functions

- XPtr (SEXP x, SEXP tag=R\_NilValue, SEXP prot=R\_NilValue)
- XPtr (T \*p, bool set\_delete\_finalizer=true, SEXP tag=R\_NilValue, SEXP prot=R\_NilValue)
- XPtr (const XPtr &other)
- XPtr & operator= (const XPtr &other)
- T \* get () const
- operator unspecified\_bool\_type () const
- bool operator! () const
- T \* checked\_get () const
- T & operator\* () const

- T \* `operator->` () const
- void `setDeleteFinalizer` ()
- void `release` ()
- `operator T *` ()
- void `update` (SEXP)

## Static Public Member Functions

- static void `unspecified_bool_true` ()

### 6.847.1 Detailed Description

```
template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>>
class Rcpp::XPtr< T, StoragePolicy, Finalizer >
```

Definition at line 48 of file XPtr.h.

### 6.847.2 Member Typedef Documentation

6.847.2.1 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> typedef StoragePolicy<XPtr> Rcpp::XPtr< T, StoragePolicy, Finalizer >::Storage`

Definition at line 58 of file XPtr.h.

6.847.2.2 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> typedef void(* Rcpp::XPtr< T, StoragePolicy, Finalizer >::unspecified_bool_type) ()`

Boolean operator wrapper for `get()` using the "safe bool idiom", see: [http://www.boost.org/doc/libs/1\\_57\\_0/boost/smart\\_ptr/detail/operator\\_bool.hpp](http://www.boost.org/doc/libs/1_57_0/boost/smart_ptr/detail/operator_bool.hpp)

Definition at line 113 of file XPtr.h.

### 6.847.3 Constructor & Destructor Documentation

6.847.3.1 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> Rcpp::XPtr< T, StoragePolicy, Finalizer >::XPtr ( SEXP x, SEXP tag = R_NilValue, SEXP prot = R_NilValue ) [inline], [explicit]`

constructs a `XPtr` wrapping the external pointer (EXTPTRSXP SEXP)

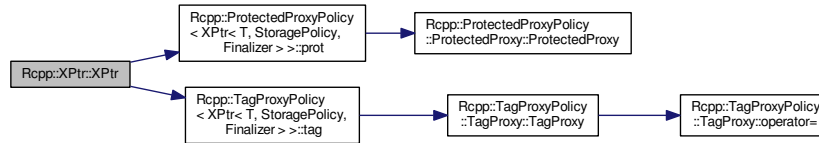
#### Parameters

<code>xp</code>	external pointer to wrap
-----------------	--------------------------

Definition at line 65 of file XPtr.h.

References Rcpp::ProtectedProxyPolicy< XPtr< T, StoragePolicy, Finalizer > >::prot(), and Rcpp::TagProxyPolicy< XPtr< T, StoragePolicy, Finalizer > >::tag().

Here is the call graph for this function:



**6.847.3.2** `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> Rcpp::XPtr< T, StoragePolicy, Finalizer >::XPtr ( T * p, bool set_delete_finalizer = true, SEXP tag = R_NilValue, SEXP prot = R_NilValue ) [inline], [explicit]`

creates a new external pointer wrapping the dumb pointer p.

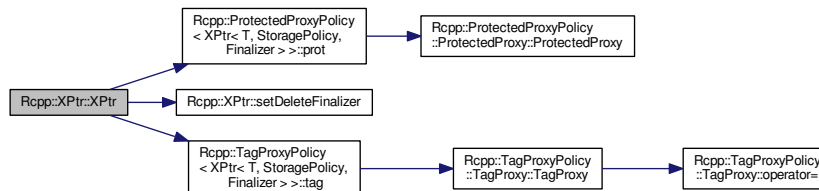
#### Parameters

<i>p</i>	dumb pointer to some object
<i>set_delete_finalizer</i>	if set to true, a finalizer will be registered for the external pointer. The finalizer is called when the xp is garbage collected. The finalizer is merely a call to the delete operator or the pointer so you need to make sure the pointer can be "delete" d this way (has to be a C++ object)

Definition at line 84 of file XPtr.h.

References Rcpp::ProtectedProxyPolicy< XPtr< T, StoragePolicy, Finalizer > >::prot(), RCPP\_DEBUG\_2, Rcpp::XPtr< T, StoragePolicy, Finalizer >::setDeleteFinalizer(), and Rcpp::TagProxyPolicy< XPtr< T, StoragePolicy, Finalizer > >::tag().

Here is the call graph for this function:



6.847.3.3 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> Rcpp::XPtr< T, StoragePolicy, Finalizer >::XPtr ( const XPtr< T, StoragePolicy, Finalizer > & other ) [inline]`

Definition at line 92 of file XPtr.h.

## 6.847.4 Member Function Documentation

6.847.4.1 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> T* Rcpp::XPtr< T, StoragePolicy, Finalizer >::checked_get ( ) const [inline]`

Access underlying pointer throwing an exception if the ptr is NULL

Definition at line 127 of file XPtr.h.

Referenced by `Rcpp::XPtr< T, StoragePolicy, Finalizer >::operator T *()`, `Rcpp::XPtr< T, StoragePolicy, Finalizer >::operator*()`, and `Rcpp::XPtr< T, StoragePolicy, Finalizer >::operator->()`.

6.847.4.2 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> T* Rcpp::XPtr< T, StoragePolicy, Finalizer >::get ( ) const [inline]`

Typesafe accessor for underlying pointer (use `checked_get` if you want an exception thrown if the pointer is NULL)

Definition at line 105 of file XPtr.h.

6.847.4.3 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> Rcpp::XPtr< T, StoragePolicy, Finalizer >::operator T * ( ) [inline]`

Definition at line 177 of file XPtr.h.

References `Rcpp::XPtr< T, StoragePolicy, Finalizer >::checked_get()`.

Here is the call graph for this function:



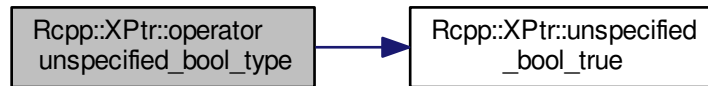


6.847.4.4 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> Rcpp::XPtr< T, StoragePolicy, Finalizer >::operator unspecified_bool_type ( ) const [inline]`

Definition at line 115 of file XPtr.h.

References `Rcpp::XPtr< T, StoragePolicy, Finalizer >::unspecified_bool_true()`.

Here is the call graph for this function:



6.847.4.5 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> bool Rcpp::XPtr< T, StoragePolicy, Finalizer >::operator! ( ) const [inline]`

Definition at line 119 of file XPtr.h.

6.847.4.6 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> T& Rcpp::XPtr< T, StoragePolicy, Finalizer >::operator* ( ) const [inline]`

Returns a reference to the object wrapped. This allows this object to look and feel like a dumb pointer to T

Definition at line 138 of file XPtr.h.

References `Rcpp::XPtr< T, StoragePolicy, Finalizer >::checked_get()`.

Here is the call graph for this function:



6.847.4.7 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> T* Rcpp::XPtr< T, StoragePolicy, Finalizer >::operator-> ( ) const [inline]`

Returns the dumb pointer. This allows to call the `->` operator on this as if it was the dumb pointer

Definition at line 146 of file XPtr.h.

References `Rcpp::XPtr< T, StoragePolicy, Finalizer >::checked_get()`.

Here is the call graph for this function:



6.847.4.8 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> XPtr& Rcpp::XPtr< T, StoragePolicy, Finalizer >::operator= ( const XPtr< T, StoragePolicy, Finalizer > & other ) [inline]`

Definition at line 96 of file XPtr.h.

6.847.4.9 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> void Rcpp::XPtr< T, StoragePolicy, Finalizer >::release ( ) [inline]`

Release the external pointer (if any) immediately. This will cause the pointer to be deleted and its storage to be set to NULL. After this call the `get()` method returns NULL and the `checked_get()` method throws an exception.

See the discussion here for the basic logic behind release: <https://stat.ethz.ch/pipermail/r-help/2007-August/137871.html>

Definition at line 163 of file XPtr.h.

6.847.4.10 `template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer = standard_delete_finalizer<T>> void Rcpp::XPtr< T, StoragePolicy, Finalizer >::setDeleteFinalizer ( ) [inline]`

Definition at line 150 of file XPtr.h.

Referenced by `Rcpp::XPtr< T, StoragePolicy, Finalizer >::XPtr()`.

```
6.847.4.11 template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer =
        standard_delete_finalizer<T>> static void Rcpp::XPtr< T, StoragePolicy, Finalizer >::unspecified_bool_true ( )
        [inline], [static]
```

Definition at line 114 of file XPtr.h.

Referenced by Rcpp::XPtr< T, StoragePolicy, Finalizer >::operator unspecified\_bool\_type().

```
6.847.4.12 template<typename T, template< class > class StoragePolicy = PreserveStorage, void Finalizer =
        standard_delete_finalizer<T>> void Rcpp::XPtr< T, StoragePolicy, Finalizer >::update ( SEXP ) [inline]
```

Definition at line 181 of file XPtr.h.

The documentation for this class was generated from the following file:

- [inst/include/Rcpp/XPtr.h](#)



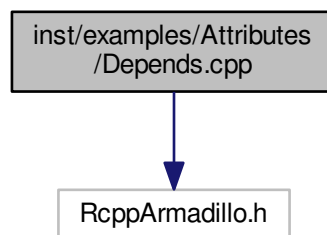
## Chapter 7

# File Documentation

### 7.1 `inst/examples/Attributes/cppFunction.R` File Reference

### 7.2 `inst/examples/Attributes/Depends.cpp` File Reference

```
#include <RcppArmadillo.h>  
Include dependency graph for Depends.cpp:
```



### Functions

- [List fastLm](#) ([NumericVector](#) yr, [NumericMatrix](#) Xr)

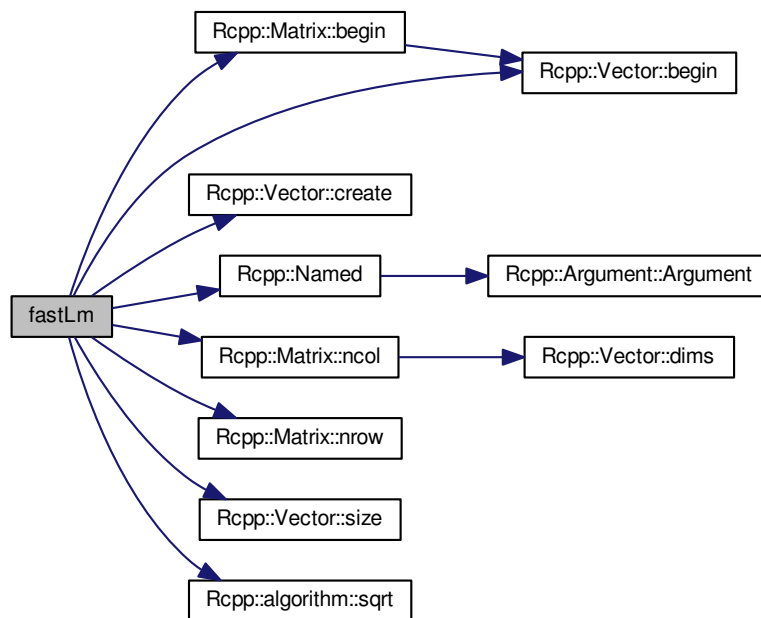
## 7.2.1 Function Documentation

### 7.2.1.1 List `fastLm ( NumericVector yr, NumericMatrix Xr )`

Definition at line 9 of file `Depends.cpp`.

References `Rcpp::Matrix< RTYPE, StoragePolicy >::begin()`, `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::Vector< RTYPE, StoragePolicy >::create()`, `Rcpp::Named()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::ncol()`, `Rcpp::Matrix< RTYPE, StoragePolicy >::nrow()`, `Rcpp::Vector< RTYPE, StoragePolicy >::size()`, and `Rcpp::algorithm::sqrt()`.

Here is the call graph for this function:



## 7.3 inst/examples/Attributes/Export.cpp File Reference

```
#include <Rcpp.h>
```

Include dependency graph for `Export.cpp`:



## Functions

- int [fibonacci](#) (const int x)
- [NumericVector convolve](#) ([NumericVector](#) a, [NumericVector](#) b)
- [List lapplyCpp](#) ([List](#) input, [Function](#) f)

### 7.3.1 Function Documentation

#### 7.3.1.1 [NumericVector convolve](#) ( [NumericVector](#) a, [NumericVector](#) b )

Definition at line 17 of file `Export.cpp`.

References `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



#### 7.3.1.2 [int fibonacci](#) ( [const int](#) x )

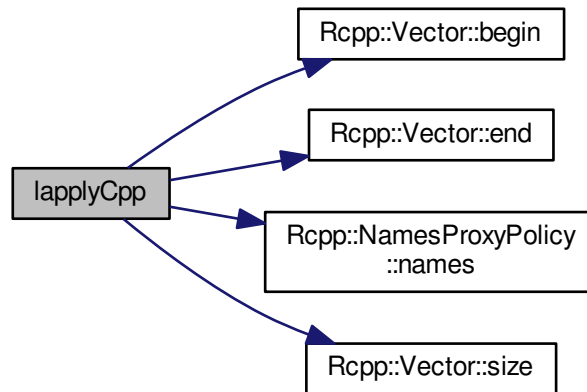
Definition at line 7 of file `Export.cpp`.

#### 7.3.1.3 [List lapplyCpp](#) ( [List](#) input, [Function](#) f )

Definition at line 32 of file `Export.cpp`.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `Rcpp::Vector< RTYPE, StoragePolicy >::end()`, `Rcpp::NamesProxyPolicy< CLASS >::names()`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

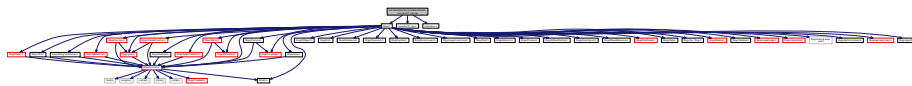
Here is the call graph for this function:



## 7.4 inst/examples/Attributes/sourceCpp.R File Reference

## 7.5 inst/examples/ConvolveBenchmarks/convolve10\_cpp.cpp File Reference

```
#include <Rcpp.h>
#include "convolve10_cpp.h"
#include "loopmacro.h"
Include dependency graph for convolve10_cpp.cpp:
```



### Functions

- [RcppExport](#) `SEXP convolve10cpp` (`SEXP a`, `SEXP b`)

### 7.5.1 Function Documentation

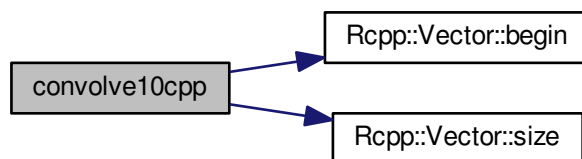
#### 7.5.1.1 `RcppExport SEXP convolve10cpp ( SEXP a, SEXP b )`

Definition at line 17 of file `convolve10_cpp.cpp`.



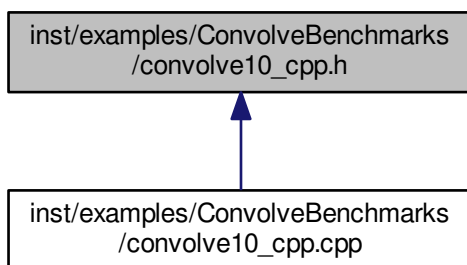
References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `LOOPMACRO_CPP`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



## 7.6 inst/examples/ConvolveBenchmarks/convolve10\_cpp.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Cache](#)
- class [Vec](#)

## 7.7 inst/examples/ConvolveBenchmarks/convolve11\_cpp.cpp File Reference

```
#include <Rcpp.h>
#include "loopmacro.h"
Include dependency graph for convolve11_cpp.cpp:
```



### Functions

- [RcppExport SEXP convolve11cpp](#) (SEXP a, SEXP b)

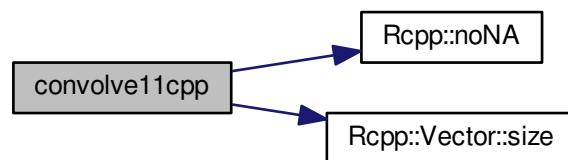
#### 7.7.1 Function Documentation

##### 7.7.1.1 RcppExport SEXP convolve11cpp ( SEXP a, SEXP b )

Definition at line 10 of file convolve11\_cpp.cpp.

References `LOOPMACRO_CPP`, `Rcpp::noNA()`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:



## 7.8 inst/examples/ConvolveBenchmarks/convolve12\_cpp.cpp File Reference

```
#include <Rcpp.h>
#include "loopmacro.h"
Include dependency graph for convolve12_cpp.cpp:
```



## Functions

- [RcppExport](#) SEXP [convolve12cpp](#) (SEXP a, SEXP b)

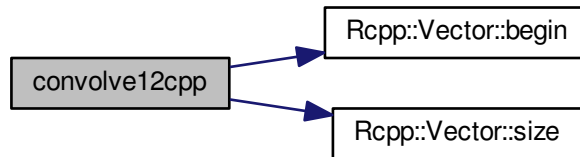
### 7.8.1 Function Documentation

#### 7.8.1.1 [RcppExport](#) SEXP [convolve12cpp](#) ( SEXP a, SEXP b )

Definition at line 7 of file `convolve12_cpp.cpp`.

References [Rcpp::Vector< RTYPE, StoragePolicy >::begin\(\)](#), `LOOPMACRO_CPP`, and [Rcpp::Vector< RTYPE, StoragePolicy >::size\(\)](#).

Here is the call graph for this function:



## 7.9 inst/examples/ConvolveBenchmarks/convolve13\_cpp.cpp File Reference

```
#include <Rcpp.h>
#include "loopmacro.h"
```

Include dependency graph for `convolve13_cpp.cpp`:



## Functions

- `template<typename T >`  
T [convolve](#) (const T &a, const T &b)
- [RcppExport](#) SEXP [convolve13cpp](#) (SEXP a, SEXP b)

## 7.9.1 Function Documentation

### 7.9.1.1 `template<typename T > T convolve ( const T & a, const T & b )`

Definition at line 8 of file `convolve13_cpp.cpp`.

Referenced by `convolve13cpp()`.

### 7.9.1.2 `RcppExport SEXP convolve13cpp ( SEXP a, SEXP b )`

Definition at line 21 of file `convolve13_cpp.cpp`.

References `convolve()`, and `LOOPMACRO_CPP`.

Here is the call graph for this function:



## 7.10 `inst/examples/ConvolveBenchmarks/convolve14_cpp.cpp` File Reference

```
#include <Rcpp.h>
#include "loopmacro.h"
Include dependency graph for convolve14_cpp.cpp:
```



### Functions

- `RcppExport SEXP convolve14cpp (SEXP a, SEXP b)`

## 7.10.1 Function Documentation

### 7.10.1.1 RcppExport SEXP convolve14cpp ( SEXP a, SEXP b )

Definition at line 8 of file convolve14\_cpp.cpp.

References LOOPMACRO\_CPP, and Rcpp::Vector< RTYPE, StoragePolicy >::size().

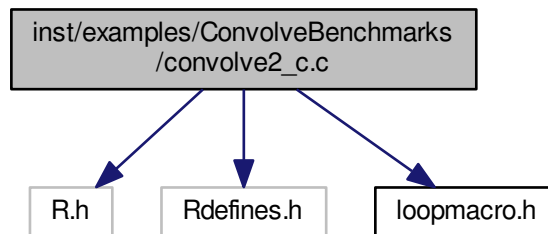
Here is the call graph for this function:



## 7.11 inst/examples/ConvolveBenchmarks/convolve2\_c.c File Reference

```
#include <R.h>
#include <Rdefines.h>
#include "loopmacro.h"
```

Include dependency graph for convolve2\_c.c:



## Functions

- SEXP [convolve2](#) (SEXP a, SEXP b)

## 7.11.1 Function Documentation

### 7.11.1.1 SEXP convolve2 ( SEXP a, SEXP b )

Examples:

[ConvolveBenchmarks/convolve2\\_c.c.](#)

Definition at line 7 of file convolve2\_c.c.

References LOOPMACRO\_C.

## 7.12 inst/examples/ConvolveBenchmarks/convolve3\_cpp.cpp File Reference

```
#include <Rcpp.h>
```

```
#include "loopmacro.h"
```

Include dependency graph for convolve3\_cpp.cpp:



## Functions

- [RcppExport](#) SEXP [convolve3cpp](#) (SEXP a, SEXP b)

## 7.12.1 Function Documentation

### 7.12.1.1 RcppExport SEXP convolve3cpp ( SEXP a, SEXP b )

Examples:

[ConvolveBenchmarks/convolve3\\_cpp.cpp.](#)

Definition at line 7 of file convolve3\_cpp.cpp.

References LOOPMACRO\_CPP, and [Rcpp::Vector< RTYPE, StoragePolicy >::size\(\)](#).

Here is the call graph for this function:



## 7.13 inst/examples/ConvolvBenchmarks/convolve4\_cpp.cpp File Reference

```
#include <Rcpp.h>
#include "loopmacro.h"
Include dependency graph for convolve4_cpp.cpp:
```



### Functions

- [RcppExport SEXP convolve4cpp](#) (SEXP a, SEXP b)

#### 7.13.1 Function Documentation

##### 7.13.1.1 RcppExport SEXP convolve4cpp ( SEXP a, SEXP b )

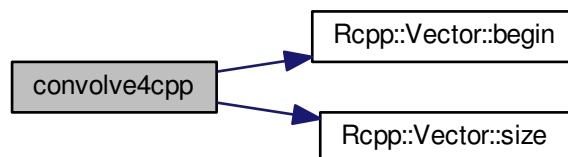
##### Examples:

[ConvolvBenchmarks/convolve4\\_cpp.cpp](#).

Definition at line 7 of file convolve4\_cpp.cpp.

References [Rcpp::Vector< RTYPE, StoragePolicy >::begin\(\)](#), [LOOPMACRO\\_CPP](#), and [Rcpp::Vector< RTYPE, StoragePolicy >::size\(\)](#).

Here is the call graph for this function:



## 7.14 inst/examples/ConvolveBenchmarks/convolve5\_cpp.cpp File Reference

```
#include <Rcpp.h>
#include "loopmacro.h"
Include dependency graph for convolve5_cpp.cpp:
```



### Functions

- `RcppExport SEXP convolve5cpp` (SEXP a, SEXP b)

#### 7.14.1 Function Documentation

##### 7.14.1.1 `RcppExport SEXP convolve5cpp ( SEXP a, SEXP b )`

Definition at line 9 of file convolve5\_cpp.cpp.

References `LOOPMACRO_CPP`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

Here is the call graph for this function:

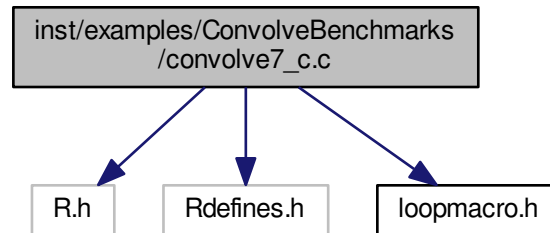


## 7.15 inst/examples/ConvolveBenchmarks/convolve7\_c.c File Reference

```
#include <R.h>
#include <Rdefines.h>
#include "loopmacro.h"
```



Include dependency graph for convolve7\_c.c:



## Functions

- SEXP [convolve7](#) (SEXP a, SEXP b)

### 7.15.1 Function Documentation

#### 7.15.1.1 SEXP [convolve7](#) ( SEXP a, SEXP b )

Examples:

[ConvolveBenchmarks/convolve7\\_c.c](#).

Definition at line 8 of file `convolve7_c.c`.

References `LOOPMACRO_C`.

## 7.16 inst/examples/ConvolveBenchmarks/convolve8\_cpp.cpp File Reference

```
#include <Rcpp.h>
```

```
#include "loopmacro.h"
```

Include dependency graph for `convolve8_cpp.cpp`:



## Classes

- class [Vec](#)

## Functions

- [RcppExport SEXP convolve8cpp](#) (SEXP a, SEXP b)

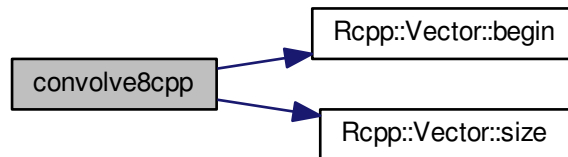
### 7.16.1 Function Documentation

#### 7.16.1.1 RcppExport SEXP convolve8cpp ( SEXP a, SEXP b )

Definition at line 24 of file convolve8\_cpp.cpp.

References [Rcpp::Vector< RTYPE, StoragePolicy >::begin\(\)](#), [LOOPMACRO\\_CPP](#), and [Rcpp::Vector< RTYPE, StoragePolicy >::size\(\)](#).

Here is the call graph for this function:



## 7.17 inst/examples/ConvolveBenchmarks/convolve9\_cpp.cpp File Reference

```
#include <Rcpp.h>
#include "loopmacro.h"
```

Include dependency graph for convolve9\_cpp.cpp:



## Classes

- class [Cache](#)
- class [Vec](#)

## Functions

- [RcppExport SEXP convolve9cpp](#) (SEXP a, SEXP b)

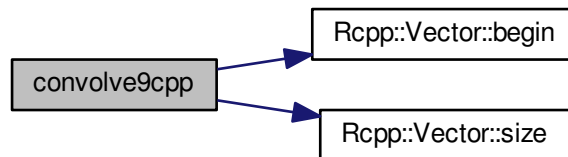
### 7.17.1 Function Documentation

#### 7.17.1.1 RcppExport SEXP convolve9cpp ( SEXP a, SEXP b )

Definition at line 42 of file convolve9\_cpp.cpp.

References `Rcpp::Vector< RTYPE, StoragePolicy >::begin()`, `LOOPMACRO_CPP`, and `Rcpp::Vector< RTYPE, StoragePolicy >::size()`.

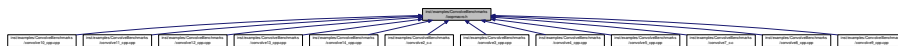
Here is the call graph for this function:



## 7.18 inst/examples/ConvolveBenchmarks/exampleRCode.r File Reference

## 7.19 inst/examples/ConvolveBenchmarks/loopmacro.h File Reference

This graph shows which files directly or indirectly include this file:



### Macros

- `#define LOOPMACRO_C(name)`
- `#define LOOPMACRO_CPP(name) RcppExport LOOPMACRO_C(name)`

## 7.19.1 Macro Definition Documentation

### 7.19.1.1 #define LOOPMACRO\_C( name )

#### Value:

```
SEXP name##_loop(SEXP n_, SEXP a, SEXP b){ \
  int n = INTEGER(n_)[0] ;           \
  SEXP res = R_NilValue ;           \
  for( int i=0; i<n; i++){           \
    res = name( a, b ) ;           \
  }                                   \
  return res ;                       \
}
```

#### Examples:

[ConvolveBenchmarks/convolve2\\_c.c](#), and [ConvolveBenchmarks/convolve7\\_c.c](#).

Definition at line 2 of file loopmacro.h.

Referenced by [convolve2\(\)](#), and [convolve7\(\)](#).

### 7.19.1.2 #define LOOPMACRO\_CPP( name ) RcppExport LOOPMACRO\_C(name)

#### Examples:

[ConvolveBenchmarks/convolve3\\_cpp.cpp](#), and [ConvolveBenchmarks/convolve4\\_cpp.cpp](#).

Definition at line 12 of file loopmacro.h.

Referenced by [convolve10cpp\(\)](#), [convolve11cpp\(\)](#), [convolve12cpp\(\)](#), [convolve13cpp\(\)](#), [convolve14cpp\(\)](#), [convolve3cpp\(\)](#), [convolve4cpp\(\)](#), [convolve5cpp\(\)](#), [convolve8cpp\(\)](#), and [convolve9cpp\(\)](#).

## 7.20 inst/examples/ConvolveBenchmarks/overhead.r File Reference

## 7.21 inst/examples/ConvolveBenchmarks/overhead\_1.cpp File Reference

```
#include <Rcpp.h>
```

Include dependency graph for overhead\_1.cpp:



## Functions

- SEXP [overhead\\_cpp](#) (SEXP a, SEXP b)
- void [R\\_init\\_overhead\\_1](#) (DllInfo \*info)

### 7.21.1 Function Documentation

#### 7.21.1.1 SEXP overhead\_cpp ( SEXP a, SEXP b )

Definition at line 8 of file overhead\_1.cpp.

Referenced by [R\\_init\\_overhead\\_1](#)().

#### 7.21.1.2 void R\_init\_overhead\_1 ( DllInfo \* info )

Definition at line 12 of file overhead\_1.cpp.

References [overhead\\_cpp](#)().

Here is the call graph for this function:



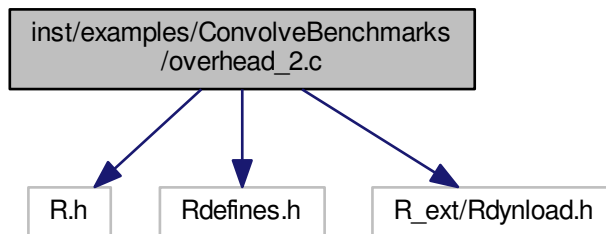
## 7.22 inst/examples/ConvolveBenchmarks/overhead\_2.c File Reference

```

#include <R.h>
#include <Rdefines.h>
#include <R_ext/Rdynload.h>

```

Include dependency graph for overhead\_2.c:



## Functions

- SEXP [overhead\\_c](#) (SEXP a, SEXP b)
- void [R\\_init\\_overhead\\_2](#) (DllInfo \*info)

### 7.22.1 Function Documentation

#### 7.22.1.1 SEXP [overhead\\_c](#) ( SEXP a, SEXP b )

Definition at line 8 of file [overhead\\_2.c](#).

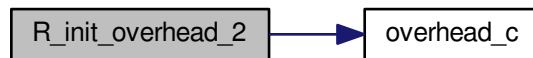
Referenced by [R\\_init\\_overhead\\_2\(\)](#).

#### 7.22.1.2 void [R\\_init\\_overhead\\_2](#) ( DllInfo \* info )

Definition at line 12 of file [overhead\\_2.c](#).

References [overhead\\_c\(\)](#).

Here is the call graph for this function:



### 7.23 [inst/examples/FastLM/benchmark.r](#) File Reference

### 7.24 [inst/examples/FastLM/benchmarkLongley.r](#) File Reference

### 7.25 [inst/examples/FastLM/fastLMviaArmadillo.r](#) File Reference

### 7.26 [inst/examples/FastLM/fastLMviaGSL.r](#) File Reference

### 7.27 [inst/examples/FastLM/ImArmadillo.R](#) File Reference

## 7.28 inst/examples/FastLM/ImGSL.R File Reference

## 7.29 inst/examples/functionCallback/newApiExample.r File Reference

## 7.30 inst/examples/Misc/fibonacci.r File Reference

## 7.31 inst/examples/Misc/iffelseLooped.r File Reference

## 7.32 inst/examples/Misc/newFib.r File Reference

## 7.33 inst/examples/Misc/piBySimulation.r File Reference

## 7.34 inst/examples/Misc/piSugar.cpp File Reference

```
#include <Rcpp.h>
```

Include dependency graph for piSugar.cpp:



### Functions

- double [piSugar](#) (const int N)

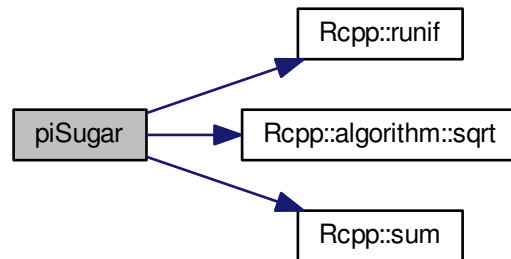
#### 7.34.1 Function Documentation

##### 7.34.1.1 double piSugar ( const int N )

Definition at line 7 of file piSugar.cpp.

References [Rcpp::runif\(\)](#), [Rcpp::algorithm::sqrt\(\)](#), and [Rcpp::sum\(\)](#).

Here is the call graph for this function:



### 7.35 inst/examples/OpenMP/check.R File Reference

### 7.36 inst/examples/OpenMP/OpenMPandInline.r File Reference

### 7.37 inst/examples/OpenMP/piWithInterrupts.cpp File Reference

```
#include <Rcpp.h>
#include <R_ext/Utils.h>
```

Include dependency graph for `piWithInterrupts.cpp`:



## Classes

- class [interrupt\\_exception](#)

## Functions

- static void [check\\_interrupt\\_impl](#) (void \*)
- bool [check\\_interrupt](#) ()
- [RcppExport](#) SEXP [PiLeibniz](#) (SEXP n, SEXP frequency)



### 7.37.1 Function Documentation

#### 7.37.1.1 `bool check_interrupt( ) [inline]`

Call this method to check for user interrupts. This is based on the results of a discussion on the R-devel mailing list, suggested by Simon Urbanek.

#### Attention

This method must not be called by any other thread than the master thread. If called from within an OpenMP parallel for loop, make sure to check for `omp_get_thread_num()==0` before calling this method!

#### Returns

True, if a user interrupt has been detected.

Definition at line 64 of file `piWithInterrupts.cpp`.

References `check_interrupt_impl()`.

Referenced by `PiLeibniz()`.

Here is the call graph for this function:



#### 7.37.1.2 `static void check_interrupt_impl( void * ) [inline],[static]`

Do the actual check for an interrupt.

#### Attention

This method should never be called directly.

#### Parameters

<code>in</code>	<code>dummy</code>	Dummy argument.
-----------------	--------------------	-----------------

Definition at line 50 of file piWithInterrupts.cpp.

Referenced by check\_interrupt().

### 7.37.1.3 RcppExport SEXP PiLeibniz ( SEXP *n*, SEXP *frequency* )

Compute pi using the Leibniz formula (a very inefficient approach).

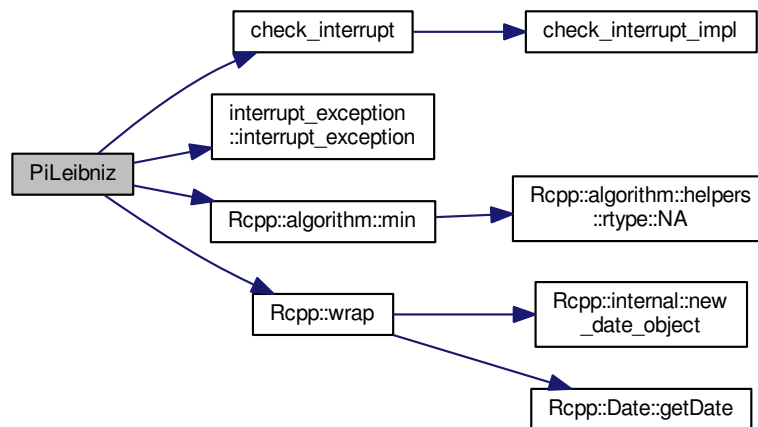
#### Parameters

in	<i>n</i>	Number of summands
in	<i>frequency</i>	Check for interrupts after every <i>frequency</i> loop cycles.

Definition at line 75 of file piWithInterrupts.cpp.

References BEGIN\_RCPP, check\_interrupt(), END\_RCPP, interrupt\_exception::interrupt\_exception(), Rcpp←::algorithm::min(), and Rcpp::wrap().

Here is the call graph for this function:



## 7.38 inst/examples/performance/extractors.R File Reference

## 7.39 inst/examples/performance/performance.R File Reference

## 7.40 inst/examples/RcppGibbs/RcppGibbs.R File Reference

7.41 inst/examples/RcppGibbs/timeRNGs.R File Reference

7.42 inst/examples/RcppInline/external\_pointer.r File Reference

7.43 inst/examples/RcppInline/RcppInlineExample.r File Reference

7.44 inst/examples/RcppInline/RcppInlineWithLibsExamples.r File Reference

7.45 inst/examples/RcppInline/RcppSimpleExample.r File Reference

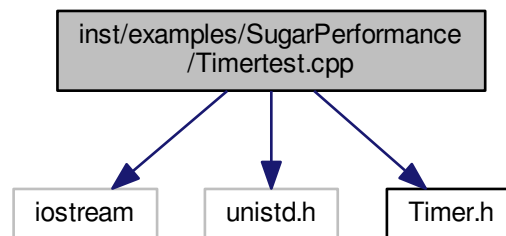
7.46 inst/examples/RcppInline/RObject.r File Reference

7.47 inst/examples/RcppInline/UncaughtExceptions.r File Reference

7.48 inst/examples/SugarPerformance/sugarBenchmarks.R File Reference

7.49 inst/examples/SugarPerformance/Timertest.cpp File Reference

```
#include <iostream>
#include <unistd.h>
#include "Timer.h"
Include dependency graph for Timertest.cpp:
```



## Functions

- int [main](#) ()

## 7.49.1 Function Documentation

### 7.49.1.1 int main ( )

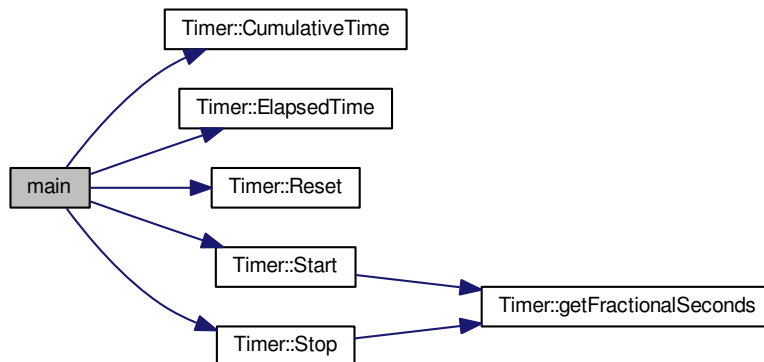
Examples:

[SugarPerformance/Timertest.cpp](#).

Definition at line 9 of file Timertest.cpp.

References `Timer::CumulativeTime()`, `Timer::ElapsedTime()`, `Timer::Reset()`, `Timer::Start()`, and `Timer::Stop()`.

Here is the call graph for this function:



## 7.50 inst/include/doxygen/Examples.h File Reference

## 7.51 inst/include/Rcpp.h File Reference

```
#include <RcppCommon.h>
```

```

#include <Rcpp/RObject.h>
#include <Rcpp/S4.h>
#include <Rcpp/Reference.h>
#include <Rcpp/clone.h>
#include <Rcpp/grow.h>
#include <Rcpp/Dimension.h>
#include <Rcpp/Symbol.h>
#include <Rcpp/Environment.h>
#include <Rcpp/Vector.h>
#include <Rcpp/sugar/nona/nona.h>
#include <Rcpp/Fast.h>
#include <Rcpp/Extractor.h>
#include <Rcpp/Promise.h>
#include <Rcpp/XPtr.h>
#include <Rcpp/DottedPairImpl.h>
#include <Rcpp/Function.h>
#include <Rcpp/Language.h>
#include <Rcpp/DottedPair.h>
#include <Rcpp/Pairlist.h>
#include <Rcpp/StretchyList.h>
#include <Rcpp/WeakReference.h>
#include <Rcpp/StringTransformer.h>
#include <Rcpp/Formula.h>
#include <Rcpp/DataFrame.h>
#include <Rcpp/Date.h>
#include <Rcpp/DateVector.h>
#include <Rcpp/Datetime.h>
#include <Rcpp/DatetimeVector.h>
#include <Rcpp/Na_Proxy.h>
#include <Rcpp/Module.h>
#include <Rcpp/InternalFunction.h>
#include <Rcpp/Nullable.h>
#include <Rcpp/sugar/sugar.h>
#include <Rcpp/stats/stats.h>
#include <Rcpp/Rmath.h>
#include <Rcpp/internal/wrap_end.h>
#include <Rcpp/platform/solaris.h>
#include <Rcpp/api/meat/meat.h>
#include <Rcpp/algorithm.h>

```

Include dependency graph for Rcpp.h:

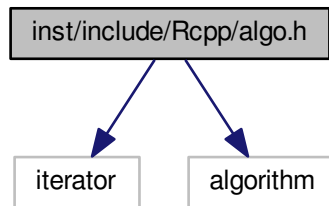


This graph shows which files directly or indirectly include this file:



## 7.52 inst/include/Rcpp/algo.h File Reference

```
#include <iterator>
#include <algorithm>
Include dependency graph for algo.h:
```



This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*

### Functions

- `template<class InputIterator, class T >`  
`bool Rcpp::\_\_any (InputIterator first, InputIterator last, const T &value, std::input_iterator_tag)`
- `template<class RandomAccessIterator, class T >`  
`bool Rcpp::\_\_any (RandomAccessIterator __first, RandomAccessIterator __last, const T &__val, std::random_↵  
access_iterator_tag)`
- `template<class InputIterator, class T >`  
`bool Rcpp::any (InputIterator first, InputIterator last, const T &value)`
- `template<class InputIterator, class Predicate >`  
`bool Rcpp::\_\_any\_if (InputIterator first, InputIterator last, Predicate pred, std::input_iterator_tag)`
- `template<class RandomAccessIterator, class Predicate >`  
`bool Rcpp::\_\_any\_if (RandomAccessIterator __first, RandomAccessIterator __last, Predicate __pred, std:↵  
::random_access_iterator_tag)`
- `template<class InputIterator, class Predicate >`  
`bool Rcpp::any\_if (InputIterator first, InputIterator last, Predicate pred)`

## 7.53 inst/include/Rcpp/algorithm.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::algorithm::helpers::CTYPE\\_CHAR](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_SHORT](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_INT](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_LONG](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_FLOAT](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_DOUBLE](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_LONG\\_DOUBLE](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_STRING](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_UNSIGNED\\_CHAR](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_UNSIGNED\\_SHORT](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_UNSIGNED\\_INT](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_UNSIGNED\\_LONG](#)
- struct [Rcpp::algorithm::helpers::CTYPE\\_UNKNOWN](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< I >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_CHAR\) >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_SHORT\) >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_INT\) >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_LONG\) >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_FLOAT\) >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_DOUBLE\) >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_LONG\\_DOUBLE\) >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_STRING\) >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_UNSIGNED\\_CHAR\) >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_UNSIGNED\\_SHORT\) >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_UNSIGNED\\_INT\) >](#)
- struct [Rcpp::algorithm::helpers::ctype\\_helper< sizeof\(CTYPE\\_UNSIGNED\\_LONG\) >](#)
- struct [Rcpp::algorithm::helpers::ctype< T >](#)
- struct [Rcpp::algorithm::helpers::decays\\_to\\_ctype< T >](#)
- struct [Rcpp::algorithm::helpers::rtype\\_helper< T >](#)
- struct [Rcpp::algorithm::helpers::rtype\\_helper< double >](#)
- struct [Rcpp::algorithm::helpers::rtype\\_helper< int >](#)
- struct [Rcpp::algorithm::helpers::rtype< T >](#)
- struct [Rcpp::algorithm::helpers::log](#)
- struct [Rcpp::algorithm::helpers::exp](#)
- struct [Rcpp::algorithm::helpers::sqrt](#)

## Namespaces

- [Rcpp](#)
  - *Rcpp API.*
- [Rcpp::algorithm](#)
- [Rcpp::algorithm::helpers](#)

## Macros

- `#define RCPP_CONSTEXPR const`

## Functions

- `template<typename InputIterator >`  
`traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >↵`  
`::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type`  
[Rcpp::algorithm::sum](#) (InputIterator begin, InputIterator end)
- `template<typename InputIterator >`  
`traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >↵`  
`::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type`  
[Rcpp::algorithm::sum\\_nona](#) (InputIterator begin, InputIterator end)
- `template<typename InputIterator >`  
`traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >↵`  
`::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type`  
[Rcpp::algorithm::prod](#) (InputIterator begin, InputIterator end)
- `template<typename InputIterator >`  
`traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >↵`  
`::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type`  
[Rcpp::algorithm::prod\\_nona](#) (InputIterator begin, InputIterator end)
- `template<typename InputIterator >`  
`traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >↵`  
`::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type`  
[Rcpp::algorithm::max](#) (InputIterator begin, InputIterator end)
- `template<typename InputIterator >`  
`traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >↵`  
`::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type`  
[Rcpp::algorithm::max\\_nona](#) (InputIterator begin, InputIterator end)
- `template<typename InputIterator >`  
`traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >↵`  
`::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type`  
[Rcpp::algorithm::min](#) (InputIterator begin, InputIterator end)
- `template<typename InputIterator >`  
`traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >↵`  
`::value, typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >::type >::type`  
[Rcpp::algorithm::min\\_nona](#) (InputIterator begin, InputIterator end)
- `template<typename InputIterator >`  
`traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value`  
`&&traits::same_type< typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >↵`  
`::type, double >::value, double >::type` [Rcpp::algorithm::mean](#) (InputIterator begin, InputIterator end)



- `template<typename InputIterator >`  
`traits::enable_if< helpers::decays_to_ctype< typename std::iterator_traits< InputIterator >::value_type >::value`  
`&&traits::same_type< typename helpers::ctype< typename std::iterator_traits< InputIterator >::value_type >`  
`::type, int >::value, double >::type` `Rcpp::algorithm::mean` (InputIterator begin, InputIterator end)
- `template<typename InputIterator , typename OutputIterator >`  
`void` `Rcpp::algorithm::log` (InputIterator begin, InputIterator end, OutputIterator out)
- `template<typename InputIterator , typename OutputIterator >`  
`void` `Rcpp::algorithm::exp` (InputIterator begin, InputIterator end, OutputIterator out)
- `template<typename InputIterator , typename OutputIterator >`  
`void` `Rcpp::algorithm::sqrt` (InputIterator begin, InputIterator end, OutputIterator out)

### 7.53.1 Macro Definition Documentation

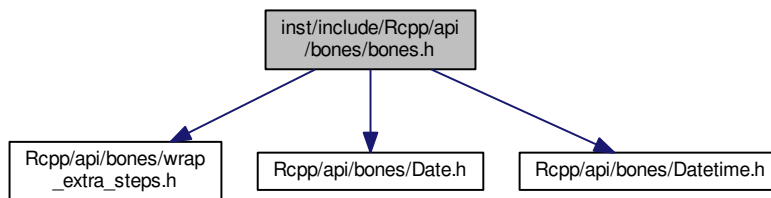
#### 7.53.1.1 #define RCPP\_CONSTEXPR const

Definition at line 4 of file algorithm.h.

## 7.54 inst/include/Rcpp/api/bones/bones.h File Reference

```
#include <Rcpp/api/bones/wrap_extra_steps.h>
#include <Rcpp/api/bones/Date.h>
#include <Rcpp/api/bones/Datetime.h>
```

Include dependency graph for bones.h:



This graph shows which files directly or indirectly include this file:



## 7.55 inst/include/Rcpp/api/bones/Date.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::traits::wrap\\_type\\_traits< Rcpp::Date >](#)
- struct [Rcpp::traits::r\\_type\\_traits< Rcpp::Date >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, Rcpp::Date > >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< Rcpp::Date >](#)

### Namespaces

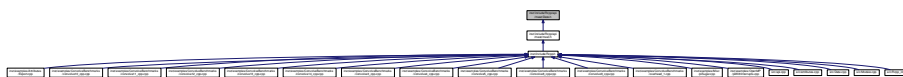
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*
- [Rcpp::internal](#)  
*internal implementation details*

### Functions

- [template<>](#)  
[SEXP Rcpp::wrap\\_extra\\_steps< Rcpp::Date >](#) (SEXP)
- [template<>](#)  
[double Rcpp::internal::caster< Rcpp::Date, double >](#) ([Rcpp::Date](#) from)
- [template<>](#)  
[Rcpp::Date Rcpp::internal::caster< double, Rcpp::Date >](#) (double from)

## 7.56 inst/include/Rcpp/api/meat/Date.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

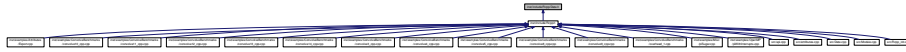
- [Rcpp](#)  
*Rcpp API.*

## Functions

- `template<>`  
SEXP [Rcpp::wrap](#) (const Date &date)

## 7.57 inst/include/Rcpp/Date.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Date](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

- `template<>`  
SEXP [Rcpp::wrap](#)< [Rcpp::Date](#) > (const [Rcpp::Date](#) &date)
- `template<>`  
double [Rcpp::internal::caster](#)< [Rcpp::Date](#), double > ([Rcpp::Date](#) from)
- `template<>`  
[Rcpp::Date](#) [Rcpp::internal::caster](#)< double, [Rcpp::Date](#) > (double from)
- `template<>`  
SEXP [Rcpp::wrap\\_extra\\_steps](#)< [Rcpp::Date](#) > (SEXP)
- Date [Rcpp::operator+](#) (const Date &date, int offset)
- double [Rcpp::operator-](#) (const Date &d1, const Date &d2)
- bool [Rcpp::operator<](#) (const Date &d1, const Date &d2)
- bool [Rcpp::operator>](#) (const Date &d1, const Date &d2)
- bool [Rcpp::operator==](#) (const Date &d1, const Date &d2)
- bool [Rcpp::operator>=](#) (const Date &d1, const Date &d2)
- bool [Rcpp::operator<=](#) (const Date &d1, const Date &d2)
- bool [Rcpp::operator!=](#) (const Date &d1, const Date &d2)
- SEXP [Rcpp::internal::getPosixClasses](#) ()
- SEXP [Rcpp::internal::new\\_posixt\\_object](#) (double d)
- SEXP [Rcpp::internal::new\\_date\\_object](#) (double d)

## 7.58 inst/include/Rcpp/api/bones/Datetime.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::traits::wrap\\_type\\_traits< Rcpp::Datetime >](#)
- struct [Rcpp::traits::r\\_type\\_traits< Rcpp::Datetime >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, Rcpp::Datetime > >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< Rcpp::Datetime >](#)

### Namespaces

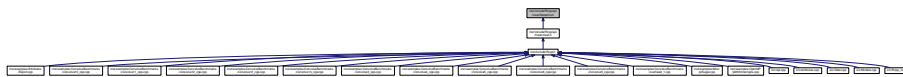
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*
- [Rcpp::internal](#)  
*internal implementation details*

### Functions

- [template<>](#)  
[SEXP Rcpp::wrap\\_extra\\_steps< Rcpp::Datetime >](#) (SEXP)
- [template<>](#)  
[double Rcpp::internal::caster< Rcpp::Datetime, double >](#) (Rcpp::Datetime from)
- [template<>](#)  
[Rcpp::Datetime Rcpp::internal::caster< double, Rcpp::Datetime >](#) (double from)

## 7.59 inst/include/Rcpp/api/meat/Datetime.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Functions

- `template<>`  
SEXP [Rcpp::wrap\\_extra\\_steps< Rcpp::Datetime >](#) (SEXP)
- `template<>`  
SEXP [Rcpp::wrap< Datetime >](#) (const Datetime &date)

## 7.60 inst/include/Rcpp/Datetime.h File Reference

```
#include <RcppCommon.h>
```

Include dependency graph for Datetime.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Datetime](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

- `template<>`  
SEXP `Rcpp::wrap< Rcpp::Datetime >` (const `Rcpp::Datetime` &dt)
- `template<>`  
double `Rcpp::internal::caster< Rcpp::Datetime, double >` (`Rcpp::Datetime` from)
- `template<>`  
`Rcpp::Datetime` `Rcpp::internal::caster< double, Rcpp::Datetime >` (double from)
- `template<>`  
SEXP `Rcpp::wrap_extra_steps< Rcpp::Datetime >` (SEXP)
- `Datetime` `Rcpp::operator+` (const `Datetime` &datetime, double offset)
- double `Rcpp::operator-` (const `Datetime` &d1, const `Datetime` &d2)
- bool `Rcpp::operator<` (const `Datetime` &d1, const `Datetime` &d2)
- bool `Rcpp::operator>` (const `Datetime` &d1, const `Datetime` &d2)
- bool `Rcpp::operator==` (const `Datetime` &d1, const `Datetime` &d2)
- bool `Rcpp::operator>=` (const `Datetime` &d1, const `Datetime` &d2)
- bool `Rcpp::operator<=` (const `Datetime` &d1, const `Datetime` &d2)
- bool `Rcpp::operator!=` (const `Datetime` &d1, const `Datetime` &d2)

## 7.61 inst/include/Rcpp/api/bones/wrap\_extra\_steps.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

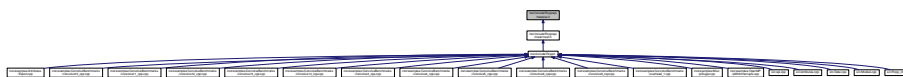
- `Rcpp`  
*Rcpp API.*

## Functions

- `template<typename T >`  
SEXP `Rcpp::wrap_extra_steps` (SEXP x)

## 7.62 inst/include/Rcpp/api/meat/as.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

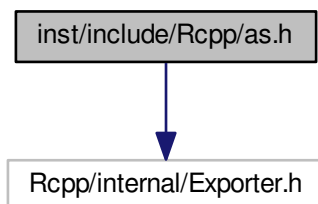
## Functions

- `void * Rcpp::internal::as\_module\_object\_internal (SEXP obj)`

## 7.63 inst/include/Rcpp/as.h File Reference

```
#include <Rcpp/internal/Exporter.h>
```

Include dependency graph for as.h:



This graph shows which files directly or indirectly include this file:



## Namespaces

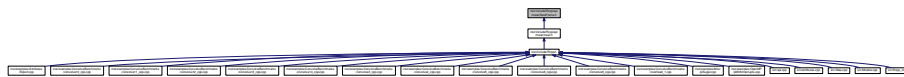
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

- `template<typename T >`  
`T Rcpp::internal::primitive_as (SEXP x)`
- `template<typename T >`  
`T Rcpp::internal::as (SEXP x,::Rcpp::traits::r_type_primitive_tag)`
- `const char * Rcpp::internal::check_single_string (SEXP x)`
- `template<typename T >`  
`T Rcpp::internal::as_string (SEXP x, Rcpp::traits::true_type)`
- `template<typename T >`  
`T Rcpp::internal::as_string (SEXP x, Rcpp::traits::false_type)`
- `template<typename T >`  
`T Rcpp::internal::as (SEXP x,::Rcpp::traits::r_type_string_tag)`
- `template<typename T >`  
`T Rcpp::internal::as (SEXP x,::Rcpp::traits::r_type_RcppString_tag)`
- `template<typename T >`  
`T Rcpp::internal::as (SEXP x,::Rcpp::traits::r_type_generic_tag)`
- `void * Rcpp::internal::as_module_object_internal (SEXP obj)`
- `template<typename T >`  
`object< T > Rcpp::internal::as_module_object (SEXP x)`
- `template<typename T >`  
`T Rcpp::internal::as (SEXP x,::Rcpp::traits::r_type_module_object_const_pointer_tag)`
- `template<typename T >`  
`T Rcpp::internal::as (SEXP x,::Rcpp::traits::r_type_module_object_pointer_tag)`
- `template<typename T >`  
`T Rcpp::internal::as (SEXP x,::Rcpp::traits::r_type_module_object_tag)`
- `template<typename T >`  
`T Rcpp::internal::as (SEXP x,::Rcpp::traits::r_type_module_object_reference_tag)`
- `template<typename T >`  
`T Rcpp::internal::as (SEXP x,::Rcpp::traits::r_type_module_object_const_reference_tag)`
- `template<typename T >`  
`T Rcpp::internal::as (SEXP x,::Rcpp::traits::r_type_enum_tag)`
- `template<typename T >`  
`T Rcpp::as (SEXP x)`
- `template<>`  
`char Rcpp::as< char > (SEXP x)`
- `template<typename T >`  
`traits::remove_const_and_reference< T >::type Rcpp::bare_as (SEXP x)`
- `template<>`  
`SEXP Rcpp::as (SEXP x)`

## 7.64 inst/include/Rcpp/api/meat/DataFrame.h File Reference

This graph shows which files directly or indirectly include this file:





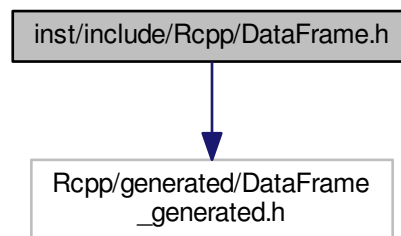
## Namespaces

- [Rcpp](#)  
*Rcpp API.*

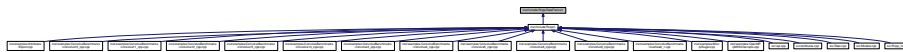
## 7.65 inst/include/Rcpp/DataFrame.h File Reference

```
#include <Rcpp/generated/DataFrame_generated.h>
```

Include dependency graph for DataFrame.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::DataFrame\\_Impl< StoragePolicy >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Typedefs

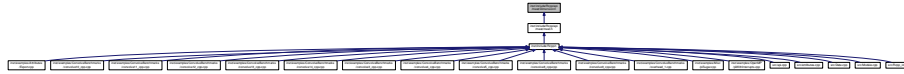
- typedef `DataFrame_Impl< PreserveStorage >` [Rcpp::DataFrame](#)

## Functions

- SEXP [Rcpp::internal::empty\\_data\\_frame \(\)](#)

## 7.66 inst/include/Rcpp/api/meat/Dimension.h File Reference

This graph shows which files directly or indirectly include this file:

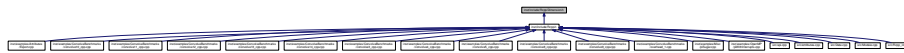


## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.67 inst/include/Rcpp/Dimension.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

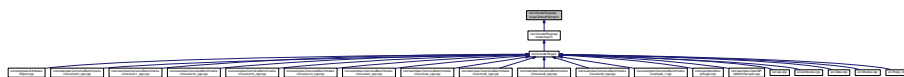
- class [Rcpp::Dimension](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.68 inst/include/Rcpp/api/meat/DottedPairImpl.h File Reference

This graph shows which files directly or indirectly include this file:

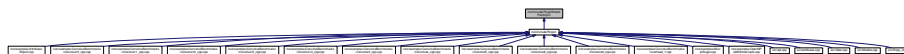


## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.69 inst/include/Rcpp/DottedPairImpl.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

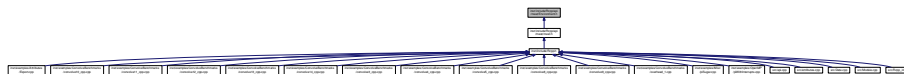
- class [Rcpp::DottedPairImpl](#)< CLASS >

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.70 inst/include/Rcpp/api/meat/Environment.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.71 inst/include/Rcpp/Environment.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Typedefs

- typedef Environment\_Impl< PreserveStorage > [Rcpp::Environment](#)

## Functions

- SEXP [R\\_NewHashedEnv](#) (SEXP, SEXP)
- [Rcpp::RCPP\\_API\\_CLASS](#) (Environment\_Impl)
- [Rcpp::Environment\\_Impl](#) (SEXP x)
- [Rcpp::Environment\\_Impl](#) (const std::string &name)
- [Rcpp::Environment\\_Impl](#) (int pos)
- SEXP [Rcpp::ls](#) (bool all) const
- SEXP [Rcpp::get](#) (const std::string &name) const
- SEXP [Rcpp::get](#) (Symbol name) const
- SEXP [Rcpp::find](#) (const std::string &name) const
- SEXP [Rcpp::find](#) (Symbol name) const
- bool [Rcpp::exists](#) (const std::string &name) const
- bool [Rcpp::assign](#) (const std::string &name, SEXP x) const
- template<typename WRAPPABLE >  
bool [Rcpp::assign](#) (const std::string &name, const WRAPPABLE &x) const
- bool [Rcpp::isLocked](#) () const
- bool [Rcpp::remove](#) (const std::string &name)
- void [Rcpp::lock](#) (bool bindings=false)
- void [Rcpp::lockBinding](#) (const std::string &name)
- void [Rcpp::unlockBinding](#) (const std::string &name)
- bool [Rcpp::bindingsIsLocked](#) (const std::string &name) const
- bool [Rcpp::bindingsIsActive](#) (const std::string &name) const
- bool [Rcpp::is\\_user\\_database](#) () const
- static Environment\_Impl [Rcpp::global\\_env](#) ()
- static Environment\_Impl [Rcpp::empty\\_env](#) ()
- static Environment\_Impl [Rcpp::base\\_env](#) ()
- static Environment\_Impl [Rcpp::base\\_namespace](#) ()
- static Environment\_Impl [Rcpp::Rcpp\\_namespace](#) ()
- static Environment\_Impl [Rcpp::namespace\\_env](#) (const std::string &package)
- Environment\_Impl [Rcpp::parent](#) () const
- Environment\_Impl [Rcpp::new\\_child](#) (bool hashed)
- void [Rcpp::update](#) (SEXP)
- Environment [Rcpp::new\\_env](#) (int size=29)
- Environment [Rcpp::new\\_env](#) (SEXP parent, int size=29)

## Variables

- public [Rcpp::BindingPolicy](#)< Environment\_Impl< StoragePolicy > >

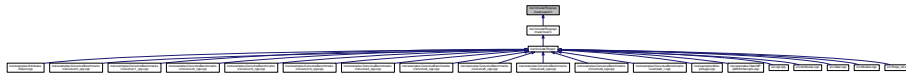
### 7.71.1 Function Documentation

#### 7.71.1.1 SEXP R\_NewHashedEnv ( SEXP , SEXP )

Referenced by `Rcpp::new_env()`.

## 7.72 inst/include/Rcpp/api/meat/export.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class `Rcpp::traits::ContainerExporter< ContainerTemplate, T >`
- struct `Rcpp::traits::container_exporter< Container, int >`
- struct `Rcpp::traits::container_exporter< Container, double >`

### Namespaces

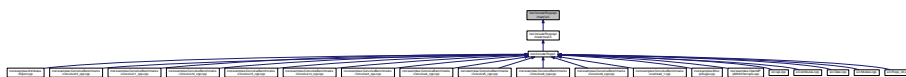
- `Rcpp`  
*Rcpp API.*
- `Rcpp::internal`  
*internal implementation details*
- `Rcpp::traits`  
*traits used to dispatch wrap*

### Functions

- `template<typename InputIterator , typename value_type >`  
void `Rcpp::internal::export_range__dispatch` (SEXP x, InputIterator first, `Rcpp::traits::r_type_generic_tag`)

## 7.73 inst/include/Rcpp/api/meat/is.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)
  - Rcpp API.*
- [Rcpp::internal](#)
  - internal implementation details*

## Functions

- `bool Rcpp::internal::is_atomic` (SEXP x)
- `bool Rcpp::internal::is_matrix` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< int >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< double >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< bool >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< std::string >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< String >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< Rcomplex >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< CharacterVector >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< CharacterMatrix >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< RObject >` (SEXP)
- `template<>`  
`bool Rcpp::internal::is__simple< IntegerVector >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< ComplexVector >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< RawVector >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< NumericVector >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< LogicalVector >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< Language >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< DottedPair >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< List >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< IntegerMatrix >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< ComplexMatrix >` (SEXP x)
- `template<>`  
`bool Rcpp::internal::is__simple< RawMatrix >` (SEXP x)

- `template<>`  
`bool Rcpp::internal::is__simple< NumericMatrix > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< LogicalMatrix > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< GenericMatrix > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< DataFrame > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< WeakReference > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< Symbol > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< S4 > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< Reference > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< Promise > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< Pairlist > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< Function > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< Environment > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< Formula > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< Date > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< Datetime > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< DateVector > (SEXP x)`
- `template<>`  
`bool Rcpp::internal::is__simple< DatetimeVector > (SEXP x)`
- `bool Rcpp::internal::is_module_object_internal (SEXP obj, const char *clazz)`
- `template<typename T >`  
`bool Rcpp::internal::is__module__object (SEXP x)`

## 7.74 inst/include/Rcpp/is.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

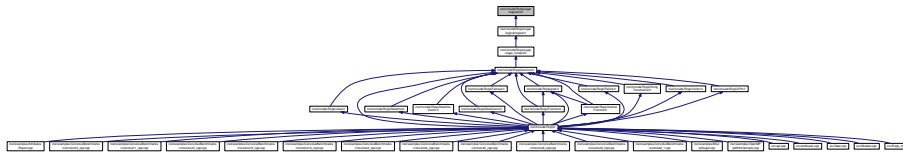
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

- `template<typename T >`  
`bool Rcpp::internal::is\_\_simple (SEXP x)`
- `template<typename T >`  
`bool Rcpp::internal::is\_\_module\_\_object (SEXP x)`
- `template<typename T >`  
`bool Rcpp::internal::is\_\_dispatch (SEXP x, Rcpp::traits::false\_type)`
- `template<typename T >`  
`bool Rcpp::internal::is\_\_dispatch (SEXP x, Rcpp::traits::true\_type)`
- `template<typename T >`  
`bool Rcpp::is (SEXP x)`

## 7.75 inst/include/Rcpp/sugar/logical/is.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Functions

- `template<bool NA, typename T >`  
`bool Rcpp::is\_true (const Rcpp::sugar::SingleLogicalResult< NA, T > &x)`
- `template<bool NA, typename T >`  
`bool Rcpp::is\_false (const Rcpp::sugar::SingleLogicalResult< NA, T > &x)`
- `template<bool NA, typename T >`  
`bool Rcpp::is\_na (const Rcpp::sugar::SingleLogicalResult< NA, T > &x)`



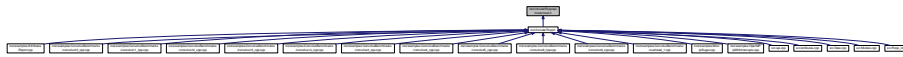
## 7.76 inst/include/Rcpp/api/meat/meat.h File Reference

```
#include <Rcpp/api/meat/Rcpp_eval.h>
#include <Rcpp/api/meat/Dimension.h>
#include <Rcpp/api/meat/Date.h>
#include <Rcpp/api/meat/Datetime.h>
#include <Rcpp/api/meat/DataFrame.h>
#include <Rcpp/api/meat/S4.h>
#include <Rcpp/api/meat/Environment.h>
#include <Rcpp/api/meat/proxy.h>
#include <Rcpp/api/meat/DottedPairImpl.h>
#include <Rcpp/api/meat/StretchyList.h>
#include <Rcpp/api/meat/Vector.h>
#include <Rcpp/api/meat/is.h>
#include <Rcpp/api/meat/as.h>
#include <Rcpp/api/meat/export.h>
#include <Rcpp/api/meat/protection.h>
#include <Rcpp/api/meat/wrap.h>
#include <Rcpp/api/meat/module/Module.h>
```

Include dependency graph for meat.h:

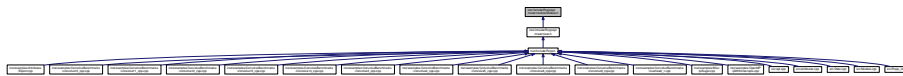


This graph shows which files directly or indirectly include this file:



## 7.77 inst/include/Rcpp/api/meat/module/Module.h File Reference

This graph shows which files directly or indirectly include this file:

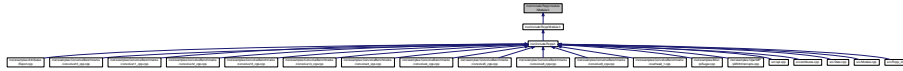


### Namespaces

- [Rcpp](#)  
Rcpp API.

## 7.78 inst/include/Rcpp/module/Module.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::Module](#)

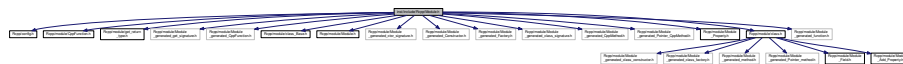
### Namespaces

- [Rcpp](#)  
*Rcpp API.*

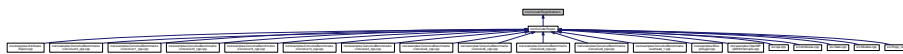
## 7.79 inst/include/Rcpp/Module.h File Reference

```
#include <Rcpp/config.h>
#include <Rcpp/module/CppFunction.h>
#include <Rcpp/module/get_return_type.h>
#include <Rcpp/module/Module_generated_get_signature.h>
#include <Rcpp/module/Module_generated_CppFunction.h>
#include <Rcpp/module/class_Base.h>
#include <Rcpp/module/Module.h>
#include <Rcpp/module/Module_generated_ctor_signature.h>
#include <Rcpp/module/Module_generated_Constructor.h>
#include <Rcpp/module/Module_generated_Factory.h>
#include <Rcpp/module/Module_generated_class_signature.h>
#include <Rcpp/module/Module_generated_CppMethod.h>
#include <Rcpp/module/Module_generated_Pointer_CppMethod.h>
#include <Rcpp/module/Module_Property.h>
#include <Rcpp/module/class.h>
#include <Rcpp/module/Module_generated_function.h>
```

Include dependency graph for Module.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::result< T >](#)
- class [Rcpp::object< T >](#)
- class [Rcpp::CppMethod< Class >](#)
- class [Rcpp::CppMethod< Class, Parent >](#)
- class [Rcpp::SignedConstructor< Class >](#)
- class [Rcpp::SignedFactory< Class >](#)
- class [Rcpp::SignedMethod< Class >](#)
- class [Rcpp::S4\\_CppConstructor< Class >](#)
- class [Rcpp::S4\\_CppOverloadedMethods< Class >](#)
- class [Rcpp::CppMethodProperty< Class >](#)
- class [Rcpp::CppMethodProperty< Class, Parent >](#)
- class [Rcpp::CppMethodFinalizer< Class >](#)
- class [Rcpp::FunctionFinalizer< Class >](#)
- class [Rcpp::S4\\_field< Class >](#)
- class [Rcpp::enum\\_< Enum, Parent >](#)
- class [Rcpp::CppClass](#)
- class [Rcpp::CppObject](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Macros

- `#define RCPP_MODULE_BOOT(name) _rcpp_module_boot_##name`
- `#define RCPP_MODULE(name)`
- `#define VARIABLE_IS_NOT_USED`
- `#define GET_MODULE_SYM ( moduleSym == NULL ? moduleSym = Rf_install("Module") : moduleSym )`
- `#define LOAD_RCPP_MODULE(NAME)`

## Typedefs

- `typedef bool(* Rcpp::ValidConstructor) (SEXP *, int)`
- `typedef bool(* Rcpp::ValidMethod) (SEXP *, int)`

## Functions

- `template<typename FROM , typename TO >`  
`std::string Rcpp::internal::get\_converter\_name (const char *from, const char *to)`
- `template<typename Class >`  
`SEXP Rcpp::internal::make\_new\_object (Class *ptr)`
- `template<typename FROM , typename TO >`  
`void Rcpp::converter (const char *from, const char *to, TO(*fun)(FROM), const char *docstring=0)`

## Variables

- static `VARIABLE_IS_NOT_USED` SEXP `moduleSym` = NULL

### 7.79.1 Macro Definition Documentation

#### 7.79.1.1 `#define GET_MODULE_SYM ( moduleSym == NULL ? moduleSym = Rf_install("Module") : moduleSym )`

Definition at line 452 of file Module.h.

#### 7.79.1.2 `#define LOAD_RCPP_MODULE( NAME )`

##### Value:

```
Shield<SEXP> __load_module_call__( Rf_lang2( GET_MODULE_SYM, _rcpp_module_boot_##NAME() );
  \
  Rcpp_eval(__load_module_call__), R_GlobalEnv );
```

Definition at line 455 of file Module.h.

#### 7.79.1.3 `#define RCPP_MODULE( name )`

##### Value:

```
void _rcpp_module_##name##_init() ;
static Rcpp::Module _rcpp_module_##name( # name ) ;
extern "C" SEXP _rcpp_module_boot_##name(){
  ::setCurrentScope( & _rcpp_module_##name ) ;
  _rcpp_module_##name##_init( ) ;
  Rcpp::XPtr<Rcpp::Module> mod_xp( & _rcpp_module_##name , false);
  ::setCurrentScope( 0 ) ;
  return mod_xp ;
}
void _rcpp_module_##name##_init()
```

Definition at line 428 of file Module.h.

#### 7.79.1.4 `#define RCPP_MODULE_BOOT( name ) _rcpp_module_boot_##name`

Definition at line 426 of file Module.h.

#### 7.79.1.5 `#define VARIABLE_IS_NOT_USED`

Definition at line 444 of file Module.h.

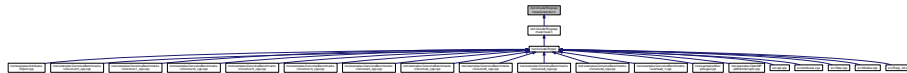
## 7.79.2 Variable Documentation

### 7.79.2.1 VARIABLE\_IS\_NOT\_USED SEXP moduleSym = NULL [static]

Definition at line 448 of file Module.h.

## 7.80 inst/include/Rcpp/api/meat/protection.h File Reference

This graph shows which files directly or indirectly include this file:



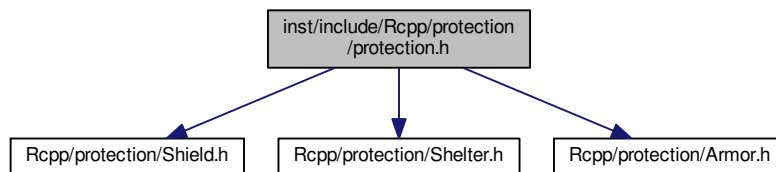
### Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.81 inst/include/Rcpp/protection/protection.h File Reference

```
#include <Rcpp/protection/Shield.h>
#include <Rcpp/protection/Shelter.h>
#include <Rcpp/protection/Armor.h>
```

Include dependency graph for protection.h:

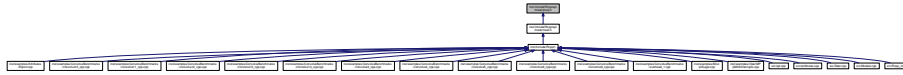


This graph shows which files directly or indirectly include this file:



## 7.82 inst/include/Rcpp/api/meat/proxy.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
     *Rcpp API.*

## 7.83 inst/include/Rcpp/proxy/proxy.h File Reference

```
#include <Rcpp/proxy/GenericProxy.h>
#include <Rcpp/proxy/NamesProxy.h>
#include <Rcpp/proxy/RObjectMethods.h>
#include <Rcpp/proxy/AttributeProxy.h>
#include <Rcpp/proxy/TagProxy.h>
#include <Rcpp/proxy/ProtectedProxy.h>
#include <Rcpp/proxy/SlotProxy.h>
#include <Rcpp/proxy/Binding.h>
#include <Rcpp/proxy/FieldProxy.h>
#include <Rcpp/proxy/DottedPairProxy.h>
```

Include dependency graph for proxy.h:

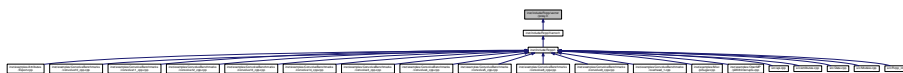


This graph shows which files directly or indirectly include this file:



## 7.84 inst/include/Rcpp/vector/proxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::internal::simple\\_name\\_proxy< RTYPE >](#)
- class [Rcpp::internal::string\\_name\\_proxy< RTYPE >](#)
- class [Rcpp::internal::generic\\_name\\_proxy< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_name\\_proxy< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_name\\_proxy< STRSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_name\\_proxy< VECSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_name\\_proxy< EXPRSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_proxy< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_proxy< STRSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_proxy< EXPRSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_proxy< VECSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_const\\_proxy< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_const\\_proxy< STRSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_const\\_proxy< VECSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_const\\_proxy< EXPRSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_iterator< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_const\\_iterator< RTYPE >](#)
- struct [Rcpp::traits::proxy\\_based\\_iterator< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_iterator< VECSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_iterator< EXPRSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_iterator< STRSXP >](#)
- struct [Rcpp::traits::proxy\\_based\\_const\\_iterator< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_const\\_iterator< VECSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_const\\_iterator< EXPRSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_const\\_iterator< STRSXP >](#)

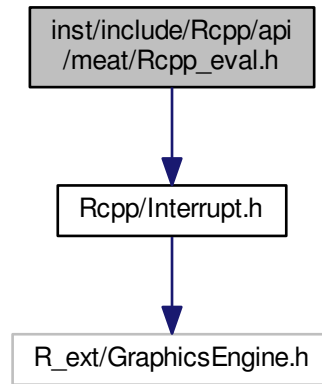
## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

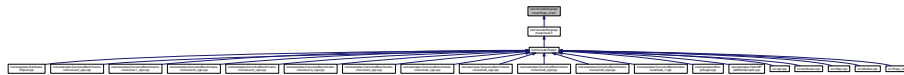
## 7.85 inst/include/Rcpp/api/meat/Rcpp\_eval.h File Reference

```
#include <Rcpp/Interrupt.h>
```

Include dependency graph for Rcpp\_eval.h:



This graph shows which files directly or indirectly include this file:



## Namespaces

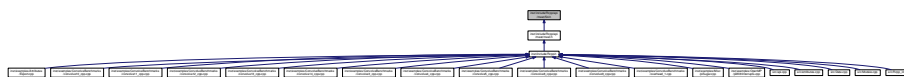
- [Rcpp](#)  
*Rcpp API.*

## Functions

- SEXP [Rcpp::Rcpp\\_eval](#) (SEXP expr, SEXP env)

## 7.86 inst/include/Rcpp/api/meat/S4.h File Reference

This graph shows which files directly or indirectly include this file:





## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.87 inst/include/Rcpp/S4.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Typedefs

- typedef S4\_Impl< PreserveStorage > [Rcpp::S4](#)

## Functions

- [Rcpp::RCPP\\_API\\_CLASS](#) (S4\_Impl)

## 7.88 inst/include/Rcpp/api/meat/StretchyList.h File Reference

This graph shows which files directly or indirectly include this file:

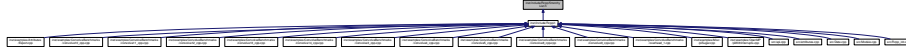


## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.89 inst/include/Rcpp/StretchyList.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*

### Typedefs

- typedef [StretchyList\\_Impl](#)< [PreserveStorage](#) > [Rcpp::StretchyList](#)

### Functions

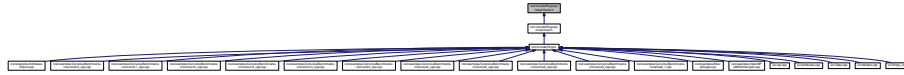
- [Rcpp::RCPP\\_API\\_CLASS](#) ([StretchyList\\_Impl](#))
- [Rcpp::StretchyList\\_Impl](#) ()
- [Rcpp::StretchyList\\_Impl](#) (SEXP x)
- void [Rcpp::update](#) (SEXP)
- [Rcpp::operator SEXP](#) () const
- template<typename T >  
[StretchyList\\_Impl](#) & [Rcpp::push\\_back](#) (const T &obj)
- template<typename T >  
[StretchyList\\_Impl](#) & [Rcpp::push\\_front](#) (const T &obj)
- template<typename T >  
[StretchyList\\_Impl](#) & [Rcpp::push\\_back\\_\\_impl](#) (const T &obj, traits::true\_type)
- template<typename T >  
[StretchyList\\_Impl](#) & [Rcpp::push\\_back\\_\\_impl](#) (const T &obj, traits::false\_type)
- template<typename T >  
[StretchyList\\_Impl](#) & [Rcpp::push\\_front\\_\\_impl](#) (const T &obj, traits::true\_type)
- template<typename T >  
[StretchyList\\_Impl](#) & [Rcpp::push\\_front\\_\\_impl](#) (const T &obj, traits::false\_type)

### Variables

- public [Rcpp::DottedPairProxyPolicy](#)< [StretchyList\\_Impl](#)< [StoragePolicy](#) > >

## 7.90 inst/include/Rcpp/api/meat/Vector.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

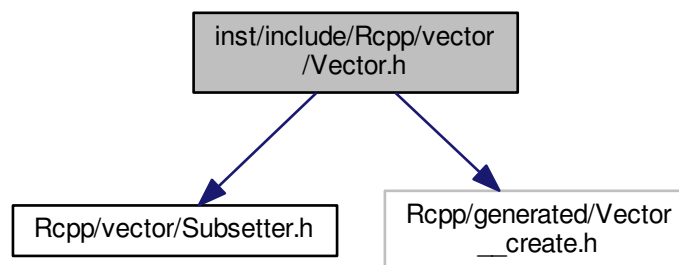
### Functions

- `template<typename T >`  
SEXP [Rcpp::internal::wrap\\_range\\_sugar\\_expression](#) (const T &object, [Rcpp::traits::true\\_type](#))

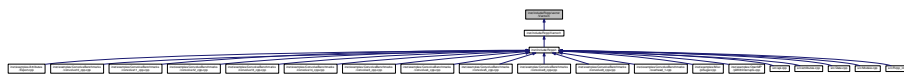
## 7.91 inst/include/Rcpp/vector/Vector.h File Reference

```
#include <Rcpp/vector/Subsetter.h>
#include <Rcpp/generated/Vector__create.h>
```

Include dependency graph for Vector.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Vector< RTYPE, StoragePolicy >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Functions

- `template<int RTYPE, template< class > class StoragePolicy>`  
`std::ostream & Rcpp::operator<< (std::ostream &s, const Vector< RTYPE, StoragePolicy > &rhs)`
- `template<template< class > class StoragePolicy>`  
`std::ostream & Rcpp::operator<< (std::ostream &s, const Vector< STRSXP, StoragePolicy > &rhs)`

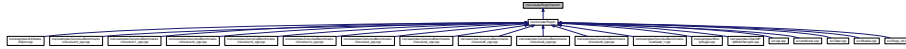
## 7.92 inst/include/Rcpp/Vector.h File Reference

```
#include <RcppCommon.h>
#include <Rcpp/exceptions.h>
#include <Rcpp/r_cast.h>
#include <Rcpp/vector/00_forward_Vector.h>
#include <Rcpp/vector/no_init.h>
#include <Rcpp/vector/00_forward_proxy.h>
#include <Rcpp/vector/vector_from_string.h>
#include <Rcpp/vector/converter.h>
#include <Rcpp/vector/RangeIndexer.h>
#include <Rcpp/vector/Vector.h>
#include <Rcpp/vector/proxy.h>
#include <Rcpp/vector/traits.h>
#include <Rcpp/vector/DimNameProxy.h>
#include <Rcpp/vector/Matrix.h>
#include <Rcpp/vector/SubMatrix.h>
#include <Rcpp/vector/MatrixRow.h>
#include <Rcpp/vector/MatrixColumn.h>
#include <Rcpp/vector/instantiation.h>
#include <Rcpp/vector/string_proxy.h>
#include <Rcpp/vector/const_string_proxy.h>
#include <Rcpp/vector/generic_proxy.h>
#include <Rcpp/vector/const_generic_proxy.h>
#include <Rcpp/String.h>
#include <Rcpp/vector/LazyVector.h>
#include <Rcpp/vector/swap.h>
#include <Rcpp/vector/ChildVector.h>
#include <Rcpp/vector/ListOf.h>
```

Include dependency graph for Vector.h:



This graph shows which files directly or indirectly include this file:



## Classes

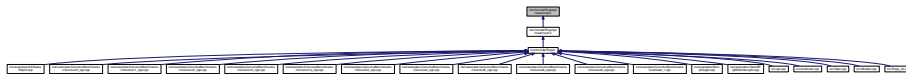
- struct [Rcpp::traits::Extractor< RTYPE, NA, VECTOR >](#)
- class [Rcpp::MatrixRow< RTYPE >](#)
- class [Rcpp::ConstMatrixRow< RTYPE >](#)
- class [Rcpp::MatrixColumn< RTYPE >](#)
- class [Rcpp::ConstMatrixColumn< RTYPE >](#)
- class [Rcpp::SubMatrix< RTYPE >](#)
- class [Rcpp::SingleLogicalResult< NA, T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.93 inst/include/Rcpp/api/meat/wrap.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

- template<typename InputIterator , typename KEY , typename VALUE , int RTYPE>  
SEXP [Rcpp::internal::range\\_wrap\\_dispatch\\_\\_impl\\_\\_pair](#) (InputIterator first, InputIterator last, [Rcpp::traits::true\\_type](#))
- template<typename InputIterator , typename KEY , typename VALUE , int RTYPE>  
SEXP [Rcpp::internal::range\\_wrap\\_dispatch\\_\\_impl\\_\\_pair](#) (InputIterator first, InputIterator last, [Rcpp::traits::false\\_type](#))

## 7.94 inst/include/Rcpp/barrier.h File Reference

This graph shows which files directly or indirectly include this file:



### Functions

- SEXP [get\\_string\\_elt](#) (SEXP, int)
- const char \* [char\\_get\\_string\\_elt](#) (SEXP, int)
- void [set\\_string\\_elt](#) (SEXP, int, SEXP)
- void [char\\_set\\_string\\_elt](#) (SEXP, int, const char \*)
- SEXP \* [get\\_string\\_ptr](#) (SEXP)
- SEXP [get\\_vector\\_elt](#) (SEXP, int)
- void [set\\_vector\\_elt](#) (SEXP, int, SEXP)
- SEXP \* [get\\_vector\\_ptr](#) (SEXP)
- const char \* [char\\_nocheck](#) (SEXP)
- void \* [dataptr](#) (SEXP)

### 7.94.1 Function Documentation

7.94.1.1 `const char* char_get_string_elt ( SEXP , int )` `[inline]`

Definition at line 158 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

7.94.1.2 `const char* char_nocheck ( SEXP )` `[inline]`

Definition at line 200 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`, and `Rcpp::String::setBuffer()`.

7.94.1.3 `void char_set_string_elt ( SEXP , int , const char * )` `[inline]`

Definition at line 170 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

7.94.1.4 `void* dataptr ( SEXP ) [inline]`

Definition at line 206 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

7.94.1.5 `SEXP get_string_elt ( SEXP, int ) [inline]`

Definition at line 152 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

7.94.1.6 `SEXP* get_string_ptr ( SEXP ) [inline]`

Definition at line 176 of file routines.h.

References `GET_CALLABLE`.

Referenced by `Rcpp::sugar::get_const_begin()`, and `registerFunctions()`.

7.94.1.7 `SEXP get_vector_elt ( SEXP, int ) [inline]`

Definition at line 182 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

7.94.1.8 `SEXP* get_vector_ptr ( SEXP ) [inline]`

Definition at line 194 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

7.94.1.9 `void set_string_elt ( SEXP, int, SEXP ) [inline]`

Definition at line 164 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

7.94.1.10 void set\_vector\_elt ( SEXP , int , SEXP ) [inline]

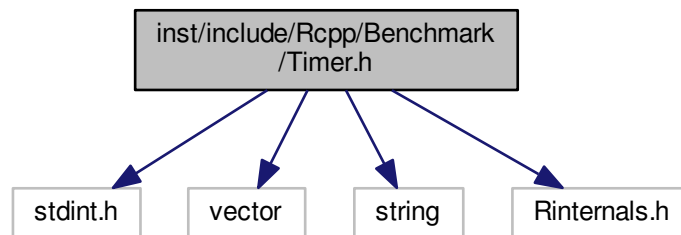
Definition at line 188 of file routines.h.

References GET\_CALLABLE.

Referenced by registerFunctions().

## 7.95 inst/include/Rcpp/Benchmark/Timer.h File Reference

```
#include <stdint.h>
#include <vector>
#include <string>
#include <Rinternals.h>
Include dependency graph for Timer.h:
```



### Classes

- class [Rcpp::Timer](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*

### Macros

- #define [R\\_NO\\_REMAP](#)



## Typedefs

- typedef uint64\_t [Rcpp::nanotime\\_t](#)

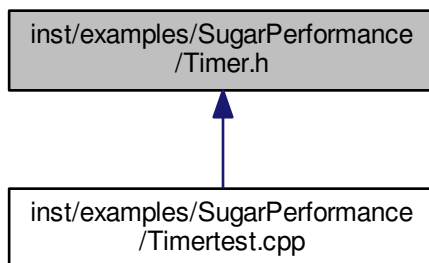
### 7.95.1 Macro Definition Documentation

#### 7.95.1.1 #define R\_NO\_REMAP

Definition at line 29 of file Timer.h.

## 7.96 inst/examples/SugarPerformance/Timer.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Timer](#)

## 7.97 inst/include/Rcpp/clone.h File Reference

```
#include <RcppCommon.h>
```

Include dependency graph for clone.h:



This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Functions

- `template<typename T >`  
`T Rcpp::clone (const T &object)`

## 7.98 inst/include/Rcpp/complex.h File Reference

This graph shows which files directly or indirectly include this file:



## Macros

- `#define dplyr\_tools\_complex\_H`

## Functions

- `Rcomplex operator\* (const Rcomplex &lhs, const Rcomplex &rhs)`
- `Rcomplex operator+ (const Rcomplex &lhs, const Rcomplex &rhs)`
- `Rcomplex operator- (const Rcomplex &lhs, const Rcomplex &rhs)`
- `Rcomplex operator/ (const Rcomplex &a, const Rcomplex &b)`
- `bool operator== (const Rcomplex &a, const Rcomplex &b)`
- `std::ostream & operator<< (std::ostream &os, const Rcomplex &cplx)`

### 7.98.1 Macro Definition Documentation

#### 7.98.1.1 `#define dplyr_tools_complex_H`

Definition at line 74 of file complex.h.

### 7.98.2 Function Documentation

#### 7.98.2.1 `Rcomplex operator* ( const Rcomplex & lhs, const Rcomplex & rhs ) [inline]`

Definition at line 25 of file complex.h.

7.98.2.2 `Rcomplex operator+ ( const Rcomplex & lhs, const Rcomplex & rhs )` [inline]

Definition at line 32 of file complex.h.

7.98.2.3 `Rcomplex operator- ( const Rcomplex & lhs, const Rcomplex & rhs )` [inline]

Definition at line 39 of file complex.h.

7.98.2.4 `Rcomplex operator/ ( const Rcomplex & a, const Rcomplex & b )` [inline]

Definition at line 46 of file complex.h.

7.98.2.5 `std::ostream& operator<<< ( std::ostream & os, const Rcomplex & cplx )` [inline]

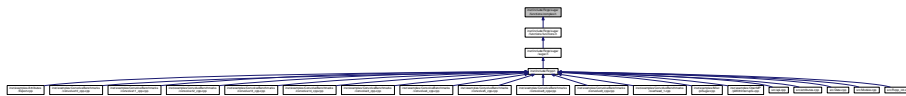
Definition at line 76 of file complex.h.

7.98.2.6 `bool operator== ( const Rcomplex & a, const Rcomplex & b )` [inline]

Definition at line 68 of file complex.h.

## 7.99 inst/include/Rcpp/sugar/functions/complex.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::SugarComplex< NA, RESULT\\_TYPE, T, FunPtr >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)
- [Rcpp::internal](#)  
*internal implementation details*

## Macros

- #define [RCPP\\_HYPOT](#) ::Rf\_pythag
- #define [RCPP\\_SUGAR\\_COMPLEX](#)(\_\_NAME\_\_, \_\_OUT\_\_)

## Functions

- double [Rcpp::internal::complex\\_\\_Re](#) (Rcomplex x)
- double [Rcpp::internal::complex\\_\\_Im](#) (Rcomplex x)
- double [Rcpp::internal::complex\\_\\_Mod](#) (Rcomplex x)
- Rcomplex [Rcpp::internal::complex\\_\\_Conj](#) (Rcomplex x)
- Rcomplex [Rcpp::internal::complex\\_\\_exp](#) (Rcomplex x)
- Rcomplex [Rcpp::internal::complex\\_\\_log](#) (Rcomplex x)
- Rcomplex [Rcpp::internal::complex\\_\\_sqrt](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_cos](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_cosh](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_sin](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_tan](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_asin](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_acos](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_atan](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_acosh](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_asinh](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_atanh](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_sinh](#) (Rcomplex z)
- Rcomplex [Rcpp::internal::complex\\_\\_tanh](#) (Rcomplex z)

### 7.99.1 Macro Definition Documentation

#### 7.99.1.1 #define RCPP\_HYPOT ::Rf\_pythag

Definition at line 28 of file complex.h.

Referenced by [Rcpp::internal::complex\\_\\_asin\(\)](#), [Rcpp::internal::complex\\_\\_log\(\)](#), and [Rcpp::internal::complex\\_\\_sqrt\(\)](#).

#### 7.99.1.2 #define RCPP\_SUGAR\_COMPLEX( \_\_NAME\_\_, \_\_OUT\_\_ )

#### Value:

```
template <bool NA, typename T>
  inline sugar::SugarComplex<NA,__OUT__,T, __OUT__ (*) (Rcomplex) >
  __NAME__(
    const VectorBase<CPLXSCP,NA,T>& t
  ){
    return sugar::SugarComplex<NA,__OUT__,T, __OUT__ (*) (Rcomplex) >(
      internal::complex_##__NAME__, t
    );
  }
```

Definition at line 238 of file complex.h.

## 7.100 inst/include/Rcpp/config.h File Reference

This graph shows which files directly or indirectly include this file:



### Macros

- `#define Rcpp_Version(v, p, s) (((v) * 65536) + ((p) * 256) + (s))`
- `#define RcppDevVersion(maj, min, rev, dev) (((maj)*1000000) + ((min)*10000) + ((rev)*100) + (dev))`
- `#define RCPP_VERSION Rcpp_Version(0,12,7)`
- `#define RCPP_DEV_VERSION RcppDevVersion(0,12,7,0)`

### 7.100.1 Macro Definition Documentation

#### 7.100.1.1 `#define RCPP_DEV_VERSION RcppDevVersion(0,12,7,0)`

Definition at line 33 of file config.h.

#### 7.100.1.2 `#define Rcpp_Version( v, p, s )(((v) * 65536) + ((p) * 256) + (s))`

Definition at line 25 of file config.h.

#### 7.100.1.3 `#define RCPP_VERSION Rcpp_Version(0,12,7)`

Definition at line 30 of file config.h.

#### 7.100.1.4 `#define RcppDevVersion( maj, min, rev, dev )(((maj)*1000000) + ((min)*10000) + ((rev)*100) + (dev))`

Definition at line 27 of file config.h.

## 7.101 inst/include/Rcpp/DatetimeVector.h File Reference

```
#include <RcppCommon.h>
#include <Rcpp/internal/GreedyVector.h>
```

Include dependency graph for DatetimeVector.h:



This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::DatetimeVector](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.102 inst/include/Rcpp/DateVector.h File Reference

```
#include <RcppCommon.h>
#include <Rcpp/internal/GreedyVector.h>
```

Include dependency graph for DateVector.h:



This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::DateVector](#)

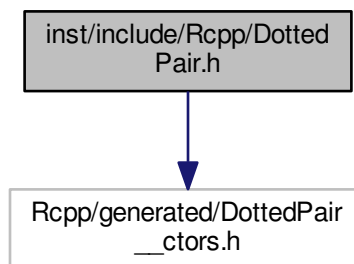
## Namespaces

- [Rcpp](#)  
*Rcpp API.*

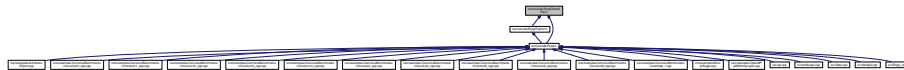
## 7.103 inst/include/Rcpp/DottedPair.h File Reference

```
#include <Rcpp/generated/DottedPair__ctors.h>
```

Include dependency graph for DottedPair.h:



This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Typedefs

- typedef DottedPair\_Impl< PreserveStorage > [Rcpp::DottedPair](#)

## Functions

- [Rcpp::RCPP\\_API\\_CLASS](#) (DottedPair\_Impl)

## Variables

- public [Rcpp::DottedPairProxyPolicy< DottedPair\\_Impl< StoragePolicy > >](#)
- public public [Rcpp::DottedPairImpl< DottedPair\\_Impl< StoragePolicy > >](#)

## 7.104 inst/include/Rcpp/exceptions.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::exception](#)
- class [Rcpp::no\\_such\\_env](#)
- class [Rcpp::file\\_io\\_error](#)
- class [Rcpp::file\\_not\\_found](#)
- class [Rcpp::file\\_exists](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Macros

- #define [GET\\_STACKTRACE\(\)](#) [stack\\_trace\( \\_\\_FILE\\_\\_, \\_\\_LINE\\_\\_ \)](#)
- #define [RCPP\\_EXCEPTION\\_CLASS\( \\_\\_CLASS\\_\\_, \\_\\_WHAT\\_\\_ \)](#)
- #define [RCPP\\_SIMPLE\\_EXCEPTION\\_CLASS\( \\_\\_CLASS\\_\\_, \\_\\_MESSAGE\\_\\_ \)](#)
- #define [DEMANGLE\( \\_\\_TYPE\\_\\_ \)](#) [demangle\( typeid\( \\_\\_TYPE\\_\\_ \).name\(\) \).c\\_str\(\)](#)



## Functions

- static std::string [Rcpp::toString](#) (const int i)
- SEXP [get\\_last\\_call](#) ()
- SEXP [get\\_exception\\_classes](#) (const std::string &ex\_class)
- SEXP [make\\_condition](#) (const std::string &ex\_msg, SEXP call, SEXP cppstack, SEXP classes)
- SEXP [exception\\_to\\_r\\_condition](#) (const std::exception &ex)
- SEXP [string\\_to\\_try\\_error](#) (const std::string &str)
- SEXP [exception\\_to\\_try\\_error](#) (const std::exception &ex)
- std::string [demangle](#) (const std::string &name)
- void [Rcpp::warning](#) (const std::string &message)
- template<typename T1 >  
void [Rcpp::warning](#) (const char \*fmt, const T1 &arg1)
- template<typename T1 , typename T2 >  
void [Rcpp::warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2)
- template<typename T1 , typename T2 , typename T3 >  
void [Rcpp::warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3)
- template<typename T1 , typename T2 , typename T3 , typename T4 >  
void [Rcpp::warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 >  
void [Rcpp::warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 >  
void [Rcpp::warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 >  
void [Rcpp::warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 >  
void [Rcpp::warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 >  
void [Rcpp::warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8, const T9 &arg9)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 , typename T10 >  
void [Rcpp::warning](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8, const T9 &arg9, const T10 &arg10)
- void [NORET Rcpp::stop](#) (const std::string &message)
- template<typename T1 >  
void [NORET Rcpp::stop](#) (const char \*fmt, const T1 &arg1)
- template<typename T1 , typename T2 >  
void [NORET Rcpp::stop](#) (const char \*fmt, const T1 &arg1, const T2 &arg2)
- template<typename T1 , typename T2 , typename T3 >  
void [NORET Rcpp::stop](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3)
- template<typename T1 , typename T2 , typename T3 , typename T4 >  
void [NORET Rcpp::stop](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4)
- template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 >  
void [NORET Rcpp::stop](#) (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5)

- `template<typename T1, typename T2, typename T3, typename T4, typename T5, typename T6 >`  
void `NORET Rcpp::stop` (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6)
- `template<typename T1, typename T2, typename T3, typename T4, typename T5, typename T6, typename T7 >`  
void `NORET Rcpp::stop` (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7)
- `template<typename T1, typename T2, typename T3, typename T4, typename T5, typename T6, typename T7, typename T8 >`  
void `NORET Rcpp::stop` (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8)
- `template<typename T1, typename T2, typename T3, typename T4, typename T5, typename T6, typename T7, typename T8, typename T9 >`  
void `NORET Rcpp::stop` (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8, const T9 &arg9)
- `template<typename T1, typename T2, typename T3, typename T4, typename T5, typename T6, typename T7, typename T8, typename T9, typename T10 >`  
void `NORET Rcpp::stop` (const char \*fmt, const T1 &arg1, const T2 &arg2, const T3 &arg3, const T4 &arg4, const T5 &arg5, const T6 &arg6, const T7 &arg7, const T8 &arg8, const T9 &arg9, const T10 &arg10)
- void `forward_exception_to_r` (const std::exception &ex)

## 7.104.1 Macro Definition Documentation

### 7.104.1.1 `#define DEMANGLE( __TYPE__ ) demangle( typeid(__TYPE__).name() ).c_str()`

Definition at line 209 of file exceptions.h.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::add_value()`, `Rcpp::String::append_wide_string()`, `Rcpp::internal::as()`, `Rcpp::finalizer_wrapper()`, `Rcpp::internal::string_element_converter< RTYPE >::get()`, `class< Class >::get_instance()`, `Rcpp::sugar::IfElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::IfElse()`, `Rcpp::Vector< INTSXP >::import_sugar_expression()`, `Rcpp::internal::range_wrap_dispatch__impl__pair()`, `Rcpp::Vector< INTSXP >::replace_element__dispatch__isArgument()`, `Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::Sapply()`, `Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >::Sapply()`, `Rcpp::Vector< INTSXP >::Vector()`, and `Rcpp::internal::wrap_range_sugar_expression()`.

### 7.104.1.2 `#define GET_STACKTRACE( ) stack_trace(__FILE__, __LINE__)`

Definition at line 25 of file exceptions.h.

### 7.104.1.3 `#define RCPP_EXCEPTION_CLASS( __CLASS__, __WHAT__ )`

**Value:**

```
class __CLASS__ : public std::exception{
public:
    __CLASS__( const std::string& message ) throw() : message( __WHAT__ ){} ;
    virtual ~__CLASS__() throw(){} ;
    virtual const char* what() const throw() { return message.c_str() ; }
private:
    std::string message ;
};
```

Definition at line 83 of file exceptions.h.

7.104.1.4 `#define RCPP_SIMPLE_EXCEPTION_CLASS( __CLASS__, __MESSAGE__ )`**Value:**

```
class __CLASS__ : public std::exception{
public:
    __CLASS__() throw() {} ;
    virtual ~__CLASS__() throw(){} ;
    virtual const char* what() const throw() { return __MESSAGE__ ; }
};
```

Definition at line 93 of file exceptions.h.

## 7.104.2 Function Documentation

7.104.2.1 `std::string demangle ( const std::string & name )` [inline]

Definition at line 134 of file routines.h.

References GET\_CALLABLE.

Referenced by `exception_to_r_condition()`, `exception_to_try_error()`, `Rcpp::get_return_type_dispatch()`, and `register←Functions()`.

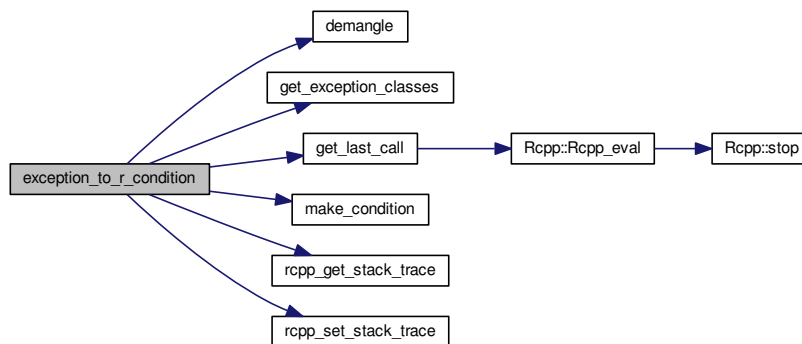
7.104.2.2 `SEXP exception_to_r_condition ( const std::exception & ex )` [inline]

Definition at line 173 of file exceptions.h.

References `demangle()`, `get_exception_classes()`, `get_last_call()`, `make_condition()`, `rcpp_get_stack_trace()`, and `rcpp_set_stack_trace()`.

Referenced by `forward_exception_to_r()`.

Here is the call graph for this function:

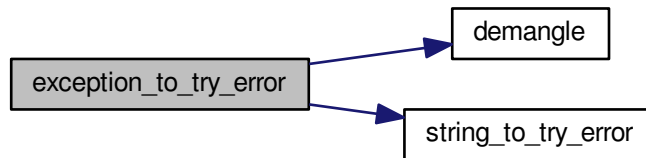


### 7.104.2.3 SEXP `exception_to_try_error ( const std::exception & ex ) [inline]`

Definition at line 204 of file exceptions.h.

References `demangle()`, and `string_to_try_error()`.

Here is the call graph for this function:

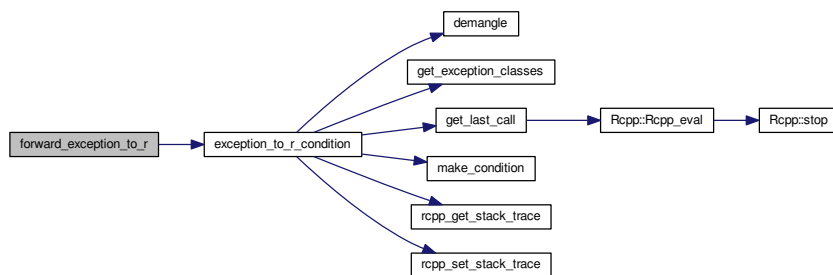


### 7.104.2.4 void `forward_exception_to_r ( const std::exception & ex ) [inline]`

Definition at line 322 of file exceptions.h.

References `exception_to_r_condition()`.

Here is the call graph for this function:



### 7.104.2.5 SEXP `get_exception_classes ( const std::string & ex_class ) [inline]`

Definition at line 138 of file exceptions.h.

Referenced by `exception_to_r_condition()`.

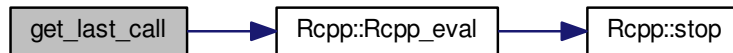
7.104.2.6 SEXP `get_last_call`( ) `[inline]`

Definition at line 129 of file exceptions.h.

References `Rcpp::Rcpp_eval()`.

Referenced by `exception_to_r_condition()`.

Here is the call graph for this function:

7.104.2.7 SEXP `make_condition`( `const std::string & ex_msg`, `SEXP call`, `SEXP cppstack`, `SEXP classes` ) `[inline]`

Definition at line 152 of file exceptions.h.

Referenced by `exception_to_r_condition()`.

7.104.2.8 SEXP `string_to_try_error`( `const std::string & str` ) `[inline]`

Definition at line 185 of file exceptions.h.

Referenced by `exception_to_try_error()`.

## 7.105 inst/include/Rcpp/Extractor.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

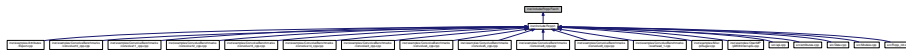
- struct [Rcpp::traits::Extractor< RTYPE, NA, VECTOR >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.106 inst/include/Rcpp/Fast.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Fast< VECTOR >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.107 inst/include/Rcpp/Formula.h File Reference

```
#include <RcppCommon.h>
#include <Rcpp/Language.h>
```

Include dependency graph for Formula.h:



This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Typedefs

- typedef Formula\_Impl< PreserveStorage > [Rcpp::Formula](#)

## Functions

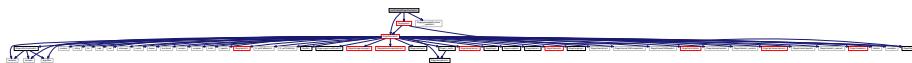
- [Rcpp::RCPP\\_API\\_CLASS](#) (Formula\_Impl)
- [Rcpp::Formula\\_Impl](#) (SEXP x)
- [Rcpp::Formula\\_Impl](#) (const std::string &code)
- void [Rcpp::update](#) (SEXP)

## Variables

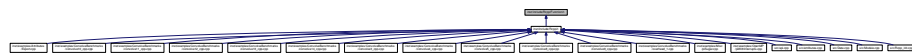
- public [Rcpp::DottedPairProxyPolicy< Formula\\_Impl< StoragePolicy > >](#)
- public public [Rcpp::DottedPairImpl< Formula\\_Impl< StoragePolicy > >](#)

## 7.108 inst/include/Rcpp/Function.h File Reference

```
#include <RcppCommon.h>
#include <Rcpp/grow.h>
#include <Rcpp/generated/Function__operator.h>
Include dependency graph for Function.h:
```



This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Typedefs

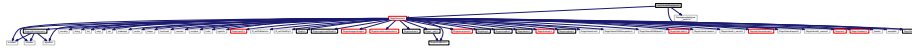
- typedef Function\_Impl< PreserveStorage > [Rcpp::Function](#)

## Functions

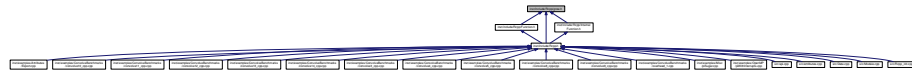
- [Rcpp::RCPP\\_API\\_CLASS](#) (Function\_Impl)

## 7.109 inst/include/Rcpp/grow.h File Reference

```
#include <RcppCommon.h>
#include <Rcpp/Named.h>
#include <Rcpp/generated/grow__pairlist.h>
Include dependency graph for grow.h:
```



This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

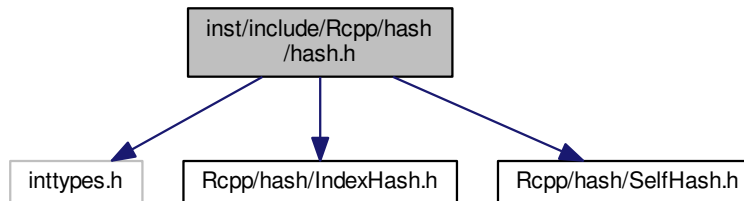
- SEXP [Rcpp::pairlist](#) ()
- SEXP [Rcpp::grow](#) (SEXP head, SEXP tail)
- template<typename T >  
SEXP [Rcpp::internal::grow\\_\\_dispatch](#) (::Rcpp::traits::false\_type, const T &head, SEXP tail)
- template<typename T >  
SEXP [Rcpp::internal::grow\\_\\_dispatch](#) (::Rcpp::traits::true\_type, const T &head, SEXP tail)
- template<typename T >  
SEXP [Rcpp::grow](#) (const T &head, SEXP tail)
- SEXP [Rcpp::grow](#) (const char \*head, SEXP tail)



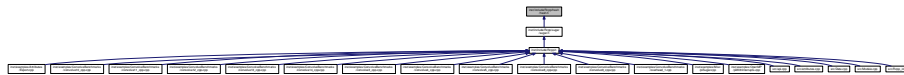
## 7.110 inst/include/Rcpp/hash/hash.h File Reference

```
#include <inttypes.h>
#include <Rcpp/hash/IndexHash.h>
#include <Rcpp/hash/SelfHash.h>
```

Include dependency graph for hash.h:



This graph shows which files directly or indirectly include this file:



## 7.111 inst/include/Rcpp/hash/IndexHash.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::IndexHash< RTYPE >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Macros

- `#define RCPP_PROFILE_TIC`
- `#define RCPP_PROFILE_TOC`
- `#define RCPP_PROFILE_RECORD(name)`
- `#define RCPP_USE_CACHE_HASH`
- `#define RCPP_HASH(X) (3141592653U * ((unsigned int)(X)) >> (32 - k))`

### 7.111.1 Macro Definition Documentation

#### 7.111.1.1 `#define RCPP_HASH( X ) (3141592653U * ((unsigned int)(X)) >> (32 - k))`

Definition at line 46 of file IndexHash.h.

Referenced by `Rcpp::sugar::SelfHash< RTYPE >::get_addr()`, and `Rcpp::sugar::IndexHash< RTYPE >::get_addr()`.

#### 7.111.1.2 `#define RCPP_PROFILE_RECORD( name )`

Definition at line 38 of file IndexHash.h.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::fill()`, `Rcpp::sugar::IndexHash< RTYPE >::IndexHash()`, and `Rcpp::sugar::IndexHash< RTYPE >::lookup__impl()`.

#### 7.111.1.3 `#define RCPP_PROFILE_TIC`

Definition at line 36 of file IndexHash.h.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::fill()`, `Rcpp::sugar::IndexHash< RTYPE >::IndexHash()`, and `Rcpp::sugar::IndexHash< RTYPE >::lookup__impl()`.

#### 7.111.1.4 `#define RCPP_PROFILE_TOC`

Definition at line 37 of file IndexHash.h.

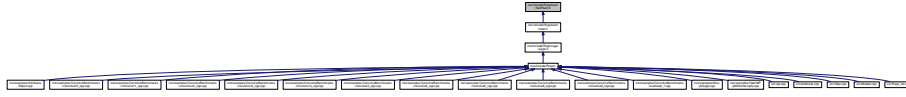
Referenced by `Rcpp::sugar::IndexHash< RTYPE >::fill()`, `Rcpp::sugar::IndexHash< RTYPE >::IndexHash()`, and `Rcpp::sugar::IndexHash< RTYPE >::lookup__impl()`.

#### 7.111.1.5 `#define RCPP_USE_CACHE_HASH`

Definition at line 40 of file IndexHash.h.

## 7.112 inst/include/Rcpp/hash/SelfHash.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::SelfHash< RTYPE >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## 7.113 inst/include/Rcpp/InputParameter.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::InputParameter< T >](#)
- class [Rcpp::ReferenceInputParameter< T >](#)
- class [Rcpp::ConstInputParameter< T >](#)
- class [Rcpp::ConstReferenceInputParameter< T >](#)
- struct [Rcpp::traits::input\\_parameter< T >](#)
- struct [Rcpp::traits::input\\_parameter< T & >](#)
- struct [Rcpp::traits::input\\_parameter< const T >](#)
- struct [Rcpp::traits::input\\_parameter< const T & >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

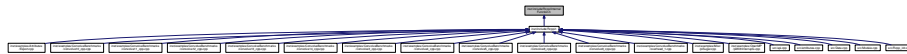
## 7.114 inst/include/Rcpp/InternalFunction.h File Reference

```
#include <RcppCommon.h>
#include <Rcpp/grow.h>
#include <Rcpp/generated/InternalFunction__ctors.h>
```

Include dependency graph for InternalFunction.h:



This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*

### Typedefs

- typedef InternalFunction\_Impl< PreserveStorage > [Rcpp::InternalFunction](#)

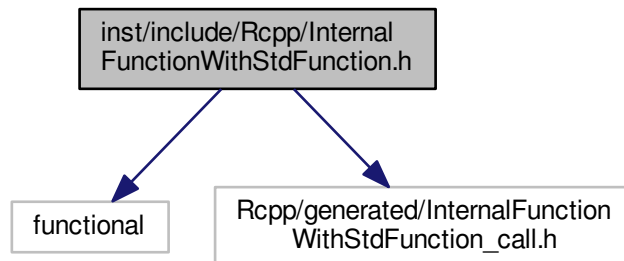
### Functions

- [Rcpp::RCPP\\_API\\_CLASS](#) (InternalFunction\_Impl)

## 7.115 inst/include/Rcpp/InternalFunctionWithStdFunction.h File Reference

```
#include <functional>
#include <Rcpp/generated/InternalFunctionWithStdFunction_call.h>
```

Include dependency graph for InternalFunctionWithStdFunction.h:



## Classes

- class [Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< RESULT\\_TYPE, Args >](#)
- class [Rcpp::InternalFunctionWithStdFunction::CppFunctionBaseFromStdFunction< void, Args... >](#)

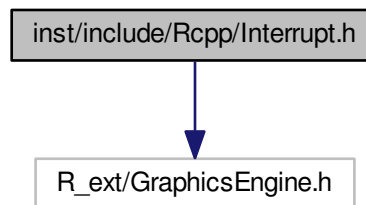
## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::InternalFunctionWithStdFunction](#)

## 7.116 inst/include/Rcpp/Interrupt.h File Reference

```
#include <R_ext/GraphicsEngine.h>
```

Include dependency graph for Interrupt.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::internal::InterruptedException](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

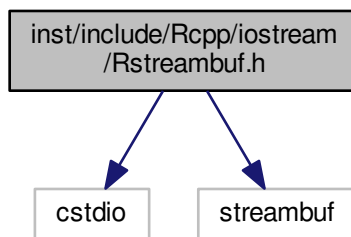
- SEXP [Rcpp::internal::interruptedError \(\)](#)
- void [Rcpp::checkUserInterrupt \(\)](#)

## 7.117 inst/include/Rcpp/iostream/Rstreambuf.h File Reference

```
#include <cstdio>
```

```
#include <streambuf>
```

Include dependency graph for Rstreambuf.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Rstreambuf< OUTPUT >](#)
- class [Rcpp::Rostream< OUTPUT >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Variables

- static Rostream< true > [Rcpp::Rcout](#)
- static Rostream< false > [Rcpp::Rcerr](#)

## 7.118 inst/include/Rcpp/lang.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Macros

- `#define Rcpp\_list1 Rf_list1`
- `#define Rcpp\_lang1 Rf_lang1`

## Functions

- SEXP [Rcpp::Rcpp\\_icons](#) (SEXP car, SEXP cdr)
- SEXP [Rcpp::Rcpp\\_list2](#) (SEXP x0, SEXP x1)
- SEXP [Rcpp::Rcpp\\_lang2](#) (SEXP x0, SEXP x1)
- SEXP [Rcpp::Rcpp\\_list3](#) (SEXP x0, SEXP x1, SEXP x2)
- SEXP [Rcpp::Rcpp\\_lang3](#) (SEXP x0, SEXP x1, SEXP x2)
- SEXP [Rcpp::Rcpp\\_list4](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3)
- SEXP [Rcpp::Rcpp\\_lang4](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3)
- SEXP [Rcpp::Rcpp\\_list5](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4)
- SEXP [Rcpp::Rcpp\\_lang5](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4)
- SEXP [Rcpp::Rcpp\\_list6](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5)
- SEXP [Rcpp::Rcpp\\_lang6](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5)
- SEXP [Rcpp::Rcpp\\_list7](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6)
- SEXP [Rcpp::Rcpp\\_lang7](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6)
- SEXP [Rcpp::Rcpp\\_list8](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7)
- SEXP [Rcpp::Rcpp\\_lang8](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7)
- SEXP [Rcpp::Rcpp\\_list9](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8)
- SEXP [Rcpp::Rcpp\\_lang9](#) (SEXP x0, SEXP x1, SEXP x2, SEXP x3, SEXP x4, SEXP x5, SEXP x6, SEXP x7, SEXP x8)





### 7.118.1 Macro Definition Documentation

#### 7.118.1.1 `#define Rcpp_lang1 Rf_lang1`

Definition at line 26 of file lang.h.

#### 7.118.1.2 `#define Rcpp_list1 Rf_list1`

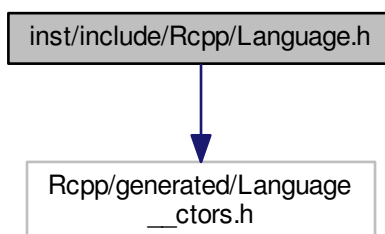
Definition at line 25 of file lang.h.

Referenced by `Rcpp::Rcpp_lang2()`, and `Rcpp::Rcpp_list2()`.

## 7.119 inst/include/Rcpp/Language.h File Reference

```
#include <Rcpp/generated/Language__ctors.h>
```

Include dependency graph for Language.h:



This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::fixed\\_call< RESULT\\_TYPE >](#)
- class [Rcpp::unary\\_call< T, RESULT\\_TYPE >](#)
- class [Rcpp::binary\\_call< T1, T2, RESULT\\_TYPE >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Typedefs

- typedef DottedPairProxyPolicy< Language\_Impl >::const\_DottedPairProxy [Rcpp::const\\_Proxy](#)
- typedef Language\_Impl< PreserveStorage > [Rcpp::Language](#)

## Functions

- [Rcpp::RCPP\\_API\\_CLASS](#) (Language\_Impl)
- [Rcpp::Language\\_Impl](#) ()
- [Rcpp::Language\\_Impl](#) (SEXP x)
- [Rcpp::Language\\_Impl](#) (const std::string &symbol)
- [Rcpp::Language\\_Impl](#) (const Symbol &symbol)
- [Rcpp::Language\\_Impl](#) (const Function &function)
- void [Rcpp::setSymbol](#) (const std::string &symbol)
- void [Rcpp::setSymbol](#) (const Symbol &symbol)
- void [Rcpp::setFunction](#) (const Function &function)
- SEXP [Rcpp::eval](#) () const
- SEXP [Rcpp::eval](#) (SEXP env) const
- SEXP [Rcpp::fast\\_eval](#) () const
- SEXP [Rcpp::fast\\_eval](#) (SEXP env) const
- void [Rcpp::update](#) (SEXP)

## Variables

- public [Rcpp::DottedPairProxyPolicy< Language\\_Impl< StoragePolicy > >](#)
- public public [Rcpp::DottedPairImpl< Language\\_Impl< StoragePolicy > >](#)

## 7.120 inst/include/Rcpp/longlong.h File Reference

This graph shows which files directly or indirectly include this file:



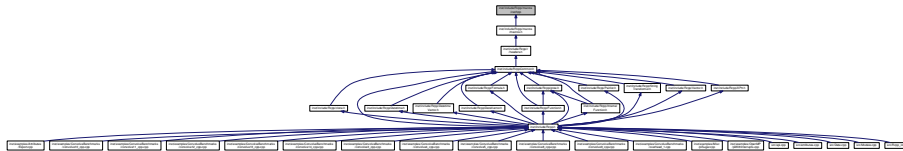
## 7.121 inst/include/Rcpp/traits/longlong.h File Reference

This graph shows which files directly or indirectly include this file:



## 7.122 inst/include/Rcpp/macros/cat.hpp File Reference

This graph shows which files directly or indirectly include this file:



### Macros

- `#define RCPP_PP_CAT(a, b) RCPP_PP_CAT_OO((a, b))`
- `#define RCPP_PP_CAT_OO(par) RCPP_PP_CAT_I ## par`
- `#define RCPP_PP_CAT_I(a, b) RCPP_PP_CAT_II(a ## b)`
- `#define RCPP_PP_CAT_II(res) res`

### 7.122.1 Macro Definition Documentation

7.122.1.1 `#define RCPP_PP_CAT( a, b ) RCPP_PP_CAT_OO((a, b))`

Definition at line 22 of file cat.hpp.

7.122.1.2 `#define RCPP_PP_CAT_I( a, b ) RCPP_PP_CAT_II(a ## b)`

Definition at line 29 of file cat.hpp.

7.122.1.3 `#define RCPP_PP_CAT_II( res ) res`

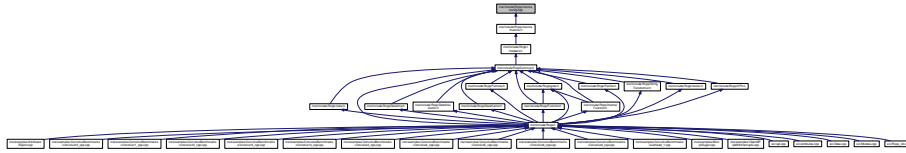
Definition at line 30 of file cat.hpp.

7.122.1.4 `#define RCPP_PP_CAT_OO( par ) RCPP_PP_CAT_I ## par`

Definition at line 23 of file `cat.hpp`.

## 7.123 `inst/include/Rcpp/macros/config.hpp` File Reference

This graph shows which files directly or indirectly include this file:



### Macros

- `#define RCPP_PP_CONFIG_STRICT() 0x0001`
- `#define RCPP_PP_CONFIG_IDEAL() 0x0002`
- `#define RCPP_PP_CONFIG_MSVC() 0x0004`
- `#define RCPP_PP_CONFIG_MWCC() 0x0008`
- `#define RCPP_PP_CONFIG_BCC() 0x0010`
- `#define RCPP_PP_CONFIG_EDG() 0x0020`
- `#define RCPP_PP_CONFIG_DMC() 0x0040`
- `#define RCPP_PP_CONFIG_FLAGS() (RCPP_PP_CONFIG_STRICT())`
- `#define RCPP_PP_CONFIG_EXTENDED_LINE_INFO 0`
- `#define RCPP_PP_CONFIG_ERRORS 1`

### 7.123.1 Macro Definition Documentation

7.123.1.1 `#define RCPP_PP_CONFIG_BCC( ) 0x0010`

Definition at line 22 of file `config.hpp`.

7.123.1.2 `#define RCPP_PP_CONFIG_DMC( ) 0x0040`

Definition at line 24 of file `config.hpp`.

7.123.1.3 `#define RCPP_PP_CONFIG_EDG( ) 0x0020`

Definition at line 23 of file `config.hpp`.

#### 7.123.1.4 `#define RCPP_PP_CONFIG_ERRORS 1`

Definition at line 66 of file config.hpp.

#### 7.123.1.5 `#define RCPP_PP_CONFIG_EXTENDED_LINE_INFO 0`

Definition at line 57 of file config.hpp.

#### 7.123.1.6 `#define RCPP_PP_CONFIG_FLAGS( ) (RCPP_PP_CONFIG_STRICT())`

Definition at line 50 of file config.hpp.

#### 7.123.1.7 `#define RCPP_PP_CONFIG_IDEAL( ) 0x0002`

Definition at line 18 of file config.hpp.

#### 7.123.1.8 `#define RCPP_PP_CONFIG_MSVC( ) 0x0004`

Definition at line 20 of file config.hpp.

#### 7.123.1.9 `#define RCPP_PP_CONFIG_MWCC( ) 0x0008`

Definition at line 21 of file config.hpp.

#### 7.123.1.10 `#define RCPP_PP_CONFIG_STRICT( ) 0x0001`

Definition at line 17 of file config.hpp.

## 7.124 inst/include/Rcpp/macros/debug.h File Reference

This graph shows which files directly or indirectly include this file:



## Macros

- #define [RCPP\\_DEBUG\\_LEVEL](#) 0
- #define [RCPP\\_DEBUG\\_MODULE\\_LEVEL](#) [RCPP\\_DEBUG\\_LEVEL](#)
- #define [RCPP\\_DEBUG](#)(MSG)
- #define [RCPP\\_DEBUG\\_1](#)(fmt, MSG)
- #define [RCPP\\_DEBUG\\_2](#)(fmt, M1, M2)
- #define [RCPP\\_DEBUG\\_3](#)(fmt, M1, M2, M3)
- #define [RCPP\\_DEBUG\\_4](#)(fmt, M1, M2, M3, M4)
- #define [RCPP\\_DEBUG\\_5](#)(fmt, M1, M2, M3, M4, M5)
- #define [RCPP\\_DEBUG\\_MODULE](#)(MSG)
- #define [RCPP\\_DEBUG\\_MODULE\\_1](#)(fmt, MSG)
- #define [RCPP\\_DEBUG\\_MODULE\\_2](#)(fmt, M1, M2)
- #define [RCPP\\_DEBUG\\_MODULE\\_3](#)(fmt, M1, M2, M3)
- #define [RCPP\\_DEBUG\\_MODULE\\_4](#)(fmt, M1, M2, M3, M4)
- #define [RCPP\\_DEBUG\\_MODULE\\_5](#)(fmt, M1, M2, M3, M4, M5)

### 7.124.1 Macro Definition Documentation

#### 7.124.1.1 #define [RCPP\\_DEBUG](#)( *MSG* )

Definition at line 43 of file debug.h.

Referenced by `Rcpp::internal::string_element_converter< RTYPE >::get()`, `Rcpp::sugar::ifElse< RTYPE, COND_NA, COND_T, LHS_NA, LHS_T, RHS_NA, RHS_T >::ifElse()`, `Rcpp::S4_CppConstructor< Class >::S4_CppConstructor()`, and `Rcpp::S4_field< Class >::S4_field()`.

#### 7.124.1.2 #define [RCPP\\_DEBUG\\_1](#)( *fmt*, *MSG* )

Definition at line 44 of file debug.h.

Referenced by `Rcpp::internal::as()`, `Rcpp::internal::string_element_converter< RTYPE >::get()`, `Rcpp::internal::generic_name_proxy< RTYPE >::operator T()`, `Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >::Sapply()`, `Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >::Sapply()`, `Rcpp::Vector< INTSXP >::Vector()`, and `Rcpp::internal::wrap_range_sugar_expression()`.

#### 7.124.1.3 #define [RCPP\\_DEBUG\\_2](#)( *fmt*, *M1*, *M2* )

Definition at line 45 of file debug.h.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::add_value()`, `Rcpp::Vector< INTSXP >::init()`, `Rcpp::Vector< INTSXP >::replace_element_dispatch__isArgument()`, `Rcpp::Vector< INTSXP >::Vector()`, and `Rcpp::XPtr< T, StoragePolicy, Finalizer >::XPtr()`.

#### 7.124.1.4 `#define RCPP_DEBUG_3( fmt, M1, M2, M3 )`

Definition at line 46 of file debug.h.

Referenced by `Rcpp::finalizer_wrapper()`, and `Rcpp::internal::range_wrap_dispatch___impl__pair()`.

#### 7.124.1.5 `#define RCPP_DEBUG_4( fmt, M1, M2, M3, M4 )`

Definition at line 47 of file debug.h.

Referenced by `Rcpp::MatrixRow< RTYPE >::get_parent_index()`, `Rcpp::ConstMatrixRow< RTYPE >::get_parent_index()`, and `Rcpp::Vector< INTSXP >::import_sugar_expression()`.

#### 7.124.1.6 `#define RCPP_DEBUG_5( fmt, M1, M2, M3, M4, M5 )`

Definition at line 48 of file debug.h.

#### 7.124.1.7 `#define RCPP_DEBUG_LEVEL 0`

Definition at line 27 of file debug.h.

#### 7.124.1.8 `#define RCPP_DEBUG_MODULE( MSG )`

Definition at line 101 of file debug.h.

Referenced by `class_< Class >::getMethods()`.

#### 7.124.1.9 `#define RCPP_DEBUG_MODULE_1( fmt, MSG )`

Definition at line 102 of file debug.h.

Referenced by `class_< Class >::AddMethod()`.

#### 7.124.1.10 `#define RCPP_DEBUG_MODULE_2( fmt, M1, M2 )`

Definition at line 103 of file debug.h.

Referenced by `class_< Class >::get_instance()`.

#### 7.124.1.11 `#define RCPP_DEBUG_MODULE_3( fmt, M1, M2, M3 )`

Definition at line 104 of file debug.h.

7.124.1.12 `#define RCPP_DEBUG_MODULE_4( fmt, M1, M2, M3, M4 )`

Definition at line 105 of file debug.h.

7.124.1.13 `#define RCPP_DEBUG_MODULE_5( fmt, M1, M2, M3, M4, M5 )`

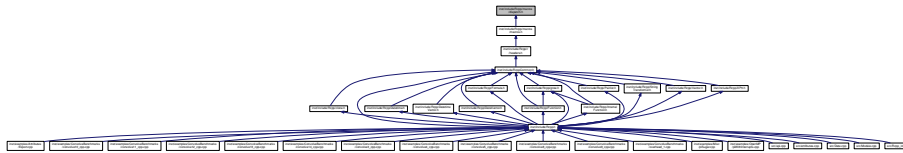
Definition at line 106 of file debug.h.

7.124.1.14 `#define RCPP_DEBUG_MODULE_LEVEL RCPP_DEBUG_LEVEL`

Definition at line 31 of file debug.h.

## 7.125 inst/include/Rcpp/macros/dispatch.h File Reference

This graph shows which files directly or indirectly include this file:



### Macros

- `#define __RCPP_HANDLE_CASE__( __RTYPE__, __FUN__, __OBJECT__, __RCPPTYPE__ )`
- `#define __RCPP_RETURN__( __FUN__, __SEXP__, __RCPPTYPE__ )`
- `#define RCPP_RETURN_VECTOR( _FUN_, _SEXP_ ) __RCPP_RETURN__( _FUN_, _SEXP_, Vector )`
- `#define RCPP_RETURN_MATRIX( _FUN_, _SEXP_ ) __RCPP_RETURN__( _FUN_, _SEXP_, Matrix )`

### 7.125.1 Macro Definition Documentation

7.125.1.1 `#define __RCPP_HANDLE_CASE__( __RTYPE__, __FUN__, __OBJECT__, __RCPPTYPE__ )`

#### Value:

```
case __RTYPE__:
    return __FUN__(::Rcpp::__RCPPTYPE__<__RTYPE__>(__OBJECT__));
```

Definition at line 60 of file dispatch.h.



7.125.1.2 `#define __RCPP_RETURN__( _FUN_, _SEXP_, __RCPPTYPE__ )`**Value:**

```
SEXP __TMP__ = __SEXP__;
switch (TYPEOF(__TMP__)) {
  \_\_RCPP\_HANDLE\_CASE\_\_\(INTSXP, \_\_FUN\_\_, \_\_TMP\_\_, \_\_RCPPTYPE\_\_\)
  \_\_RCPP\_HANDLE\_CASE\_\_\(REALSXP, \_\_FUN\_\_, \_\_TMP\_\_, \_\_RCPPTYPE\_\_\)
  \_\_RCPP\_HANDLE\_CASE\_\_\(RAWSXP, \_\_FUN\_\_, \_\_TMP\_\_, \_\_RCPPTYPE\_\_\)
  \_\_RCPP\_HANDLE\_CASE\_\_\(LGLSXP, \_\_FUN\_\_, \_\_TMP\_\_, \_\_RCPPTYPE\_\_\)
  \_\_RCPP\_HANDLE\_CASE\_\_\(CPLXSXP, \_\_FUN\_\_, \_\_TMP\_\_, \_\_RCPPTYPE\_\_\)
  \_\_RCPP\_HANDLE\_CASE\_\_\(STRSXP, \_\_FUN\_\_, \_\_TMP\_\_, \_\_RCPPTYPE\_\_\)
  \_\_RCPP\_HANDLE\_CASE\_\_\(VECSXP, \_\_FUN\_\_, \_\_TMP\_\_, \_\_RCPPTYPE\_\_\)
  \_\_RCPP\_HANDLE\_CASE\_\_\(EXPRSXP, \_\_FUN\_\_, \_\_TMP\_\_, \_\_RCPPTYPE\_\_\)
  default:
    throw std::range_error("Not a vector");
}
```

Definition at line 65 of file dispatch.h.

7.125.1.3 `#define RCPP_RETURN_MATRIX( _FUN_, _SEXP_ ) __RCPP_RETURN__( _FUN_, _SEXP_, Matrix)`

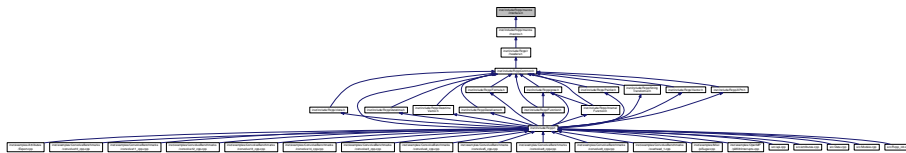
Definition at line 82 of file dispatch.h.

7.125.1.4 `#define RCPP_RETURN_VECTOR( _FUN_, _SEXP_ ) __RCPP_RETURN__( _FUN_, _SEXP_, Vector)`

Definition at line 80 of file dispatch.h.

## 7.126 inst/include/Rcpp/macros/interface.h File Reference

This graph shows which files directly or indirectly include this file:

**Macros**

- `#define RCPP_GENERATE_CTOR_ASSIGN(__CLASS__)`
- `#define RCPP_CTOR_ASSIGN(__CLASS__)`
- `#define RCPP_CTOR_ASSIGN_WITH_BASE(__CLASS__)`
- `#define RCPP_API_CLASS(__CLASS__)`

## 7.126.1 Macro Definition Documentation

### 7.126.1.1 #define RCPP\_API\_CLASS( \_\_CLASS\_\_ )

#### Value:

```
template < template <class> class StoragePolicy > class __CLASS__ :
public StoragePolicy<__CLASS__<StoragePolicy> >,
public SlotProxyPolicy<__CLASS__<StoragePolicy> >,
public AttributeProxyPolicy<__CLASS__<StoragePolicy> >,
public RObjectMethods< __CLASS__<StoragePolicy> >
```

Definition at line 49 of file interface.h.

### 7.126.1.2 #define RCPP\_CTOR\_ASSIGN( \_\_CLASS\_\_ )

#### Value:

```
__CLASS__( const __CLASS__& other ){
Storage::copy__(other) ;
}
__CLASS__& operator=(const __CLASS__& rhs) {
return Storage::copy__(rhs) ;
}
template <typename Proxy>
__CLASS__( const GenericProxy<Proxy>& proxy ){
Storage::set__( proxy.get() ) ;
}
```

Definition at line 26 of file interface.h.

### 7.126.1.3 #define RCPP\_CTOR\_ASSIGN\_WITH\_BASE( \_\_CLASS\_\_ )

#### Value:

```
__CLASS__( const __CLASS__& other ) : Base(other) {
}
__CLASS__& operator=(const __CLASS__& rhs) {
return Storage::copy__(rhs) ;
}
template <typename Proxy>
__CLASS__( const GenericProxy<Proxy>& proxy ){
Storage::set__( proxy.get() ) ;
}
```

Definition at line 38 of file interface.h.

Referenced by Rcpp::CppClass::CppClass(), Rcpp::CppObject::CppObject(), Rcpp::S4\_CppConstructor< Class >::S4\_CppConstructor(), Rcpp::S4\_CppOverloadedMethods< Class >::S4\_CppOverloadedMethods(), and Rcpp::S4\_CppField< Class >::S4\_field().

## 7.126.1.4 #define RCPP\_GENERATE\_CTOR\_ASSIGN( \_\_CLASS\_\_ )

## Value:

```
typedef StoragePolicy<__CLASS__> Storage ;
typedef AttributeProxyPolicy<__CLASS__> AttributePolicy ;
RCPP_CTOR_ASSIGN(__CLASS__)
```

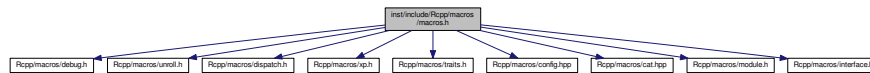
Definition at line 21 of file interface.h.

Referenced by Rcpp::RCPP\_API\_CLASS().

## 7.127 inst/include/Rcpp/macros/macros.h File Reference

```
#include <Rcpp/macros/debug.h>
#include <Rcpp/macros/unroll.h>
#include <Rcpp/macros/dispatch.h>
#include <Rcpp/macros/xp.h>
#include <Rcpp/macros/traits.h>
#include <Rcpp/macros/config.hpp>
#include <Rcpp/macros/cat.hpp>
#include <Rcpp/macros/module.h>
#include <Rcpp/macros/interface.h>
```

Include dependency graph for macros.h:



This graph shows which files directly or indirectly include this file:



## Macros

- #define [RCPP\\_DECORATE](#)(\_\_FUN\_\_) \_\_FUN\_\_ ## \_\_rcpp\_wrapper\_\_
- #define [RCPP\\_GET\\_NAMES](#)(x) Rf\_getAttrib(x, R\_NamesSymbol)
- #define [RCPP\\_GET\\_CLASS](#)(x) Rf\_getAttrib(x, R\_ClassSymbol)
- #define [BEGIN\\_RCPP](#)
- #define [VOID\\_END\\_RCPP](#)
- #define [END\\_RCPP](#) [VOID\\_END\\_RCPP](#) return R\_NilValue;
- #define [END\\_RCPP\\_RETURN\\_ERROR](#)
- #define [Rcpp\\_error](#)(MESSAGE) throw [Rcpp::exception](#)(MESSAGE, \_\_FILE\_\_, \_\_LINE\_\_)

## 7.127.1 Macro Definition Documentation

### 7.127.1.1 #define BEGIN\_RCPP

#### Value:

```
int rcpp_output_type = 0 ;
    SEXP rcpp_output_condition = R_NilValue ;
    try {
```

Definition at line 30 of file macros.h.

Referenced by `compileAttributes()`, `Rcpp::Module::get_class()`, `class_< Class >::getProperty()`, `InternalFunction_↔ invoke()`, `class_< Class >::invoke()`, `class_< Class >::invoke_notvoid()`, `class_< Class >::invoke_void()`, `Module_↔ __invoke()`, `class_< Class >::newInstance()`, `Rcpp::InternalFunctionWithStdFunction::CppMethodBaseFromStd_↔ Function< RESULT_TYPE, Args >::operator()`, `Rcpp::InternalFunctionWithStdFunction::CppMethodBaseFrom_↔ StdFunction< void, Args... >::operator()`, `PiLeibniz()`, `class_< Class >::setProperty()`, and `sourceCppContext()`.

### 7.127.1.2 #define END\_RCPP VOID\_END\_RCPP return R\_NilValue;

Definition at line 60 of file macros.h.

Referenced by `compileAttributes()`, `Rcpp::Module::get_class()`, `class_< Class >::getProperty()`, `InternalFunction_↔ invoke()`, `class_< Class >::invoke()`, `class_< Class >::invoke_notvoid()`, `class_< Class >::invoke_void()`, `Module_↔ __invoke()`, `class_< Class >::newInstance()`, `Rcpp::InternalFunctionWithStdFunction::CppMethodBaseFromStd_↔ Function< RESULT_TYPE, Args >::operator()`, `Rcpp::InternalFunctionWithStdFunction::CppMethodBaseFrom_↔ StdFunction< void, Args... >::operator()`, `PiLeibniz()`, and `sourceCppContext()`.

### 7.127.1.3 #define END\_RCPP\_RETURN\_ERROR

#### Value:

```
}
    catch (Rcpp::internal::InterruptedException &__ex__) {
        return Rcpp::internal::interruptedError();
    }
    catch (std::exception &__ex__) {
        return exception_to_try_error(__ex__);
    }
    catch (...) {
        return string_to_try_error("c++ exception (unknown reason)");
    }
    return R_NilValue;
```

Definition at line 64 of file macros.h.

### 7.127.1.4 #define RCPP\_DECORATE( \_\_FUN\_\_ )\_FUN\_##\_rcpp\_wrapper\_\_

Definition at line 25 of file macros.h.

7.127.1.5 `#define Rcpp_error( MESSAGE ) throw Rcpp::exception(MESSAGE, __FILE__, __LINE__)`

Definition at line 78 of file macros.h.

7.127.1.6 `#define RCPP_GET_CLASS( x ) Rf_getAttrib(x, R_ClassSymbol)`

Definition at line 27 of file macros.h.

7.127.1.7 `#define RCPP_GET_NAMES( x ) Rf_getAttrib(x, R_NamesSymbol)`

Definition at line 26 of file macros.h.

Referenced by `Rcpp::Vector< INTSXP >::containsElementNamed()`, `Rcpp::Vector< INTSXP >::erase_range__impl()`, `Rcpp::Vector< INTSXP >::erase_single__impl()`, `Rcpp::Vector< INTSXP >::findName()`, `Rcpp::NamesProxyPolicy< CLASS >::NamesProxy::get()`, `Rcpp::NamesProxyPolicy< CLASS >::const_NamesProxy::get()`, `Rcpp::Vector< INTSXP >::insert__impl()`, `Rcpp::Vector< INTSXP >::offset()`, `Rcpp::Vector< INTSXP >::push_back__impl()`, `Rcpp::Vector< INTSXP >::push_back_name__impl()`, `Rcpp::Vector< INTSXP >::push_front__impl()`, and `Rcpp::Vector< INTSXP >::push_front_name__impl()`.

7.127.1.8 `#define VOID_END_RCPP`**Value:**

```

}
  catch( Rcpp::internal::InterruptedException &__ex__ ) {
    rcpp_output_type = 1 ;
  }
  catch( std::exception& __ex__ ){
    rcpp_output_type = 2 ;
    rcpp_output_condition = PROTECT(exception_to_r_condition(__ex__)) ;
  } catch( ... ){
    rcpp_output_type = 2 ;
    rcpp_output_condition = PROTECT(string_to_try_error("c++ exception (unknown
    reason)"));
  }
  if( rcpp_output_type == 1 ){
    Rf_onintr() ;
  }
  if( rcpp_output_type == 2 ){
    SEXP stop_sym = Rf_install( "stop" ) ;
    SEXP expr = PROTECT( Rf_lang2( stop_sym , rcpp_output_condition ) ) ;
    Rf_eval( expr, R_GlobalEnv ) ;
  }
}

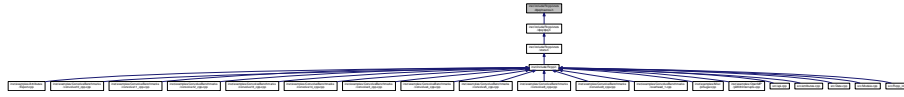
```

Definition at line 37 of file macros.h.

Referenced by `class_< Class >::setProperty()`.

## 7.128 inst/include/Rcpp/stats/dpq/macros.h File Reference

This graph shows which files directly or indirectly include this file:



### Macros

- #define `give_log` `log_p`
- #define `R_D__0` `(log_p ? ML_NEGINF : 0.) /* 0 */`
- #define `R_D__1` `(log_p ? 0. : 1.) /* 1 */`
- #define `R_DT_0` `(lower_tail ? R_D__0 : R_D__1) /* 0 */`
- #define `R_DT_1` `(lower_tail ? R_D__1 : R_D__0) /* 1 */`
- #define `R_D_Lval`(`p`) `(lower_tail ? (p) : (0.5 - (p) + 0.5)) /* p */`
- #define `R_D_Cval`(`p`) `(lower_tail ? (0.5 - (p) + 0.5) : (p)) /* 1 - p */`
- #define `R_D_val`(`x`) `(log_p ? ::log(x) : (x)) /* x in pF(x,..) */`
- #define `R_D_qlv`(`p`) `(log_p ? ::exp(p) : (p)) /* p in qF(p,..) */`
- #define `R_D_exp`(`x`) `(log_p ? (x) : ::exp(x)) /* exp(x) */`
- #define `R_D_log`(`p`) `(log_p ? (p) : ::log(p)) /* log(p) */`
- #define `R_D_Clog`(`p`) `(log_p ? ::log1p(-(p)) : (0.5 - (p) + 0.5)) /* [log](1-p) */`
- #define `R_Log1_Exp`(`x`) `((x) > -M_LN2 ? ::log(-::expm1(x)) : ::log1p(-::exp(x)))`
- #define `R_D_LExp`(`x`) `(log_p ? R_Log1_Exp(x) : ::log1p(-x))`
- #define `R_DT_val`(`x`) `(lower_tail ? R_D_val(x) : R_D_Clog(x))`
- #define `R_DT_Cval`(`x`) `(lower_tail ? R_D_Clog(x) : R_D_val(x))`
- #define `R_DT_qlv`(`p`)
- #define `R_DT_Clv`(`p`)
- #define `R_DT_exp`(`x`) `R_D_exp(R_D_Lval(x)) /* exp(x) */`
- #define `R_DT_Cexp`(`x`) `R_D_exp(R_D_Cval(x)) /* exp(1 - x) */`
- #define `R_DT_log`(`p`) `(lower_tail? R_D_log(p) : R_D_LExp(p))/* log(p) in qF */`
- #define `R_DT_Clog`(`p`) `(lower_tail? R_D_LExp(p) : R_D_log(p))/* log(1-p) in qF*/`
- #define `R_DT_Log`(`p`) `(lower_tail? (p) : R_Log1_Exp(p))`
- #define `R_Q_P01_check`(`p`)
- #define `R_Q_P01_boundaries`(`p`, `_LEFT_`, `_RIGHT_`)
- #define `R_P_bounds_01`(`x`, `x_min`, `x_max`)
- #define `R_P_bounds_Inf_01`(`x`)
- #define `R_D_fexp`(`f`, `x`) `(give_log ? -0.5*log(f)+(x) : exp(x)/sqrt(f))`
- #define `R_D_forceint`(`x`) `floor((x) + 0.5)`
- #define `R_D_nonint`(`x`) `(fabs((x) - floor((x)+0.5)) > 1e-7)`
- #define `R_D_neglnonint`(`x`) `(x < 0. || R_D_nonint(x))`
- #define `R_D_nonint_check`(`x`)

### 7.128.1 Macro Definition Documentation

#### 7.128.1.1 #define `give_log` `log_p`

Definition at line 24 of file `macros.h`.

```
7.128.1.2 #define R_D_0 (log_p ? ML_NEGINF : 0.) /* 0 */
```

Definition at line 27 of file macros.h.

Referenced by Rcpp::stats::d\_exp\_0(), Rcpp::stats::dgamma\_1(), Rcpp::stats::dlnorm\_0(), Rcpp::stats::dlnorm\_1(), Rcpp::stats::dnorm\_0(), Rcpp::stats::dnorm\_1(), Rcpp::stats::dunif\_0(), and Rcpp::stats::dweibull\_1().

```
7.128.1.3 #define R_D_1 (log_p ? 0. : 1.) /* 1 */
```

Definition at line 28 of file macros.h.

```
7.128.1.4 #define R_D_Clog( p ) (log_p ? ::log1p(-(p)) : (0.5 - (p) + 0.5)) /* [log](1-p) */
```

Definition at line 40 of file macros.h.

```
7.128.1.5 #define R_D_Cval( p ) (lower_tail ? (0.5 - (p) + 0.5) : (p)) /* 1 - p */
```

Definition at line 34 of file macros.h.

```
7.128.1.6 #define R_D_exp( x ) (log_p ? (x) : ::exp(x)) /* exp(x) */
```

Definition at line 38 of file macros.h.

Referenced by Rcpp::stats::p\_exp\_0(), and Rcpp::stats::pweibull\_1().

```
7.128.1.7 #define R_D_fexp( f, x ) (give_log ? -0.5*log(f)+(x) : exp(x)/sqrt(f))
```

Definition at line 116 of file macros.h.

```
7.128.1.8 #define R_D_forceint( x ) floor((x) + 0.5)
```

Definition at line 117 of file macros.h.

```
7.128.1.9 #define R_D_LExp( x ) (log_p ? R_Log1_Exp(x) : ::log1p(-x))
```

Definition at line 46 of file macros.h.

```
7.128.1.10 #define R_D_log( p ) (log_p ? (p) : ::log(p)) /* log(p) */
```

Definition at line 39 of file macros.h.

7.128.1.11 `#define R_D_Lval( p ) (lower_tail ? (p) : (0.5 - (p) + 0.5)) /* p */`

Definition at line 33 of file macros.h.

7.128.1.12 `#define R_D_neglnonint( x ) (x < 0. || R_D_nonint(x))`

Definition at line 120 of file macros.h.

7.128.1.13 `#define R_D_nonint( x ) (fabs((x) - floor((x)+0.5)) > 1e-7)`

Definition at line 118 of file macros.h.

7.128.1.14 `#define R_D_nonint_check( x )`

#### Value:

```
if(R_D_nonint(x)) {
    MATHLIB_WARNING("non-integer x = %f", x);
    return R_D_0;
}
```

Definition at line 122 of file macros.h.

7.128.1.15 `#define R_D_qlv( p ) (log_p ? ::exp(p) : (p)) /* p in qF(p,..) */`

Definition at line 37 of file macros.h.

7.128.1.16 `#define R_D_val( x ) (log_p ? ::log(x) : (x)) /* x in pF(x,..) */`

Definition at line 36 of file macros.h.

Referenced by `Rcpp::stats::punif_0()`.

7.128.1.17 `#define R_DT_0 (lower_tail ? R_D__0 : R_D__1) /* 0 */`

Definition at line 29 of file macros.h.

Referenced by `Rcpp::stats::p_exp_0()`, `Rcpp::stats::plnorm_0()`, `Rcpp::stats::plnorm_1()`, `Rcpp::stats::pnorm_0()`, `Rcpp::stats::pnorm_1()`, `Rcpp::stats::punif_0()`, `Rcpp::stats::pweibull_1()`, and `Rcpp::stats::q_exp_0()`.



7.128.1.18 `#define R_DT_1 (lower_tail ? R_D__1 : R_D__0) /* 1 */`

Definition at line 30 of file macros.h.

Referenced by `Rcpp::stats::pnorm_0()`, `Rcpp::stats::pnorm_1()`, and `Rcpp::stats::punif_0()`.

7.128.1.19 `#define R_DT_Cexp( x ) R_D_exp(R_D_Cval(x)) /* exp(1 - x) */`

Definition at line 60 of file macros.h.

7.128.1.20 `#define R_DT_Clv( p )`

**Value:**

```
(log_p ? (lower_tail ? -expm1(p) : ::exp(p)) \
          : R_D_Cval(p))
```

Definition at line 56 of file macros.h.

7.128.1.21 `#define R_DT_Clog( p ) (lower_tail ? R_D_LExp(p) : R_D_log(p)) /* log(1-p) in qF */`

Definition at line 63 of file macros.h.

Referenced by `Rcpp::stats::q_exp_0()`, and `Rcpp::stats::qweibull_1()`.

7.128.1.22 `#define R_DT_Cval( x ) (lower_tail ? R_D_Clog(x) : R_D_val(x))`

Definition at line 49 of file macros.h.

7.128.1.23 `#define R_DT_exp( x ) R_D_exp(R_D_Lval(x)) /* exp(x) */`

Definition at line 59 of file macros.h.

7.128.1.24 `#define R_DT_log( p ) (lower_tail ? R_D_log(p) : R_D_LExp(p)) /* log(p) in qF */`

Definition at line 62 of file macros.h.

7.128.1.25 `#define R_DT_Log( p ) (lower_tail ? (p) : R_Log1_Exp(p))`

Definition at line 64 of file macros.h.

7.128.1.26 `#define R_DT_qlv( p )`

**Value:**

```
(log_p ? (lower_tail ? ::exp(p) : - ::expm1(p)) \
          : R_D_Lval(p))
```

Definition at line 52 of file macros.h.

Referenced by `Rcpp::stats::qunif_0()`, and `Rcpp::stats::qunif_1()`.

7.128.1.27 `#define R_DT_val( x )(lower_tail ? R_D_val(x) : R_D_Clog(x))`

Definition at line 48 of file macros.h.

7.128.1.28 `#define R_Log1_Exp( x )((x) > -M_LN2 ? ::log(-::expm1(x)) : ::log1p(-::exp(x)))`

Definition at line 43 of file macros.h.

7.128.1.29 `#define R_P_bounds_01( x, x_min, x_max )`

**Value:**

```
if(x <= x_min) return R_DT_0; \
  if(x >= x_max) return R_DT_1
```

Definition at line 102 of file macros.h.

7.128.1.30 `#define R_P_bounds_Inf_01( x )`

**Value:**

```
if(!R_FINITE(x)) { \
  if (x > 0) return R_DT_1; \
  /* x < 0 */return R_DT_0; \
}
```

Definition at line 107 of file macros.h.

Referenced by `Rcpp::stats::plogis_0()`, and `Rcpp::stats::plogis_1()`.

7.128.1.31 `#define R_Q_P01_boundaries( p, _LEFT_, _RIGHT_ )`**Value:**

```

if (log_p) {
    if(p > 0)
        return R_NaN ;
    if(p == 0) /* upper bound*/
        return lower_tail ? _RIGHT_ : _LEFT_;
    if(p == ML_NEGINF)
        return lower_tail ? _LEFT_ : _RIGHT_;
}
else { /* !log_p */
    if(p < 0 || p > 1)
        return R_NaN ;
    if(p == 0)
        return lower_tail ? _LEFT_ : _RIGHT_;
    if(p == 1)
        return lower_tail ? _RIGHT_ : _LEFT_;
}

```

Definition at line 84 of file macros.h.

Referenced by `Rcpp::stats::qlnorm_0()`, `Rcpp::stats::qlnorm_1()`, `Rcpp::stats::qlogis_0()`, `Rcpp::stats::qlogis_1()`, and `Rcpp::stats::qweibull_1()`.

7.128.1.32 `#define R_Q_P01_check( p )`**Value:**

```

if ((log_p      && p > 0) ||
    (!log_p && (p < 0 || p > 1)) )
    return R_NaN

```

Definition at line 68 of file macros.h.

Referenced by `Rcpp::stats::qunif_0()`, and `Rcpp::stats::qunif_1()`.

## 7.129 inst/include/Rcpp/macros/module.h File Reference

This graph shows which files directly or indirectly include this file:



## Macros

- #define [RCPP\\_EXPOSED\\_AS](#)(CLASS)
- #define [RCPP\\_EXPOSED\\_WRAP](#)(CLASS) namespace Rcpp{ namespace traits{ template<> struct wrap\_↔ type\_traits< CLASS >{typedef wrap\_type\_module\_object\_tag wrap\_category ; } ;}}
- #define [RCPP\\_EXPOSED\\_CLASS\\_NODECL](#)(CLASS)
- #define [RCPP\\_EXPOSED\\_CLASS](#)(CLASS)
- #define [RCPP\\_EXPOSED\\_ENUM\\_AS](#)(CLASS) namespace Rcpp{ namespace traits{ template<> struct r\_↔ type\_traits< CLASS >{ typedef r\_type\_enum\_tag r\_category ; } ;}}
- #define [RCPP\\_EXPOSED\\_ENUM\\_WRAP](#)(CLASS) namespace Rcpp{ namespace traits{ template<> struct wrap\_type\_traits< CLASS >{typedef wrap\_type\_enum\_tag wrap\_category ; } ;}}
- #define [RCPP\\_EXPOSED\\_ENUM\\_NODECL](#)(CLASS)
- #define [RCPP\\_EXPOSED\\_ENUM](#)(CLASS)

### 7.129.1 Macro Definition Documentation

#### 7.129.1.1 #define RCPP\_EXPOSED\_AS( CLASS )

This macros should be used by packages using modules when a type is used as a parameter of a function or method exposed by modules. This defines the necessary trait that makes the class as<>'able

Definition at line 29 of file module.h.

#### 7.129.1.2 #define RCPP\_EXPOSED\_CLASS( CLASS )

##### Value:

```
class CLASS;
    RCPP_EXPOSED_CLASS_NODECL( CLASS )
```

Definition at line 69 of file module.h.

#### 7.129.1.3 #define RCPP\_EXPOSED\_CLASS\_NODECL( CLASS )

##### Value:

```
RCPP_EXPOSED_AS( CLASS )
    RCPP_EXPOSED_WRAP( CLASS )
```

Definition at line 65 of file module.h.

## 7.129.1.4 #define RCPP\_EXPOSED\_ENUM( CLASS )

**Value:**

```
class CLASS;
    RCPP_EXPOSED_ENUM_NODECL( CLASS )
```

Definition at line 83 of file module.h.

## 7.129.1.5 #define RCPP\_EXPOSED\_ENUM\_AS( CLASS ) namespace Rcpp{ namespace traits{ template&lt;&gt; struct r\_type\_traits&lt; CLASS &gt;{ typedef r\_type\_enum\_tag r\_category ; ; }}

handling enums: TODO use is\_enum from C++11 or boost to have those automatic

Definition at line 76 of file module.h.

## 7.129.1.6 #define RCPP\_EXPOSED\_ENUM\_NODECL( CLASS )

**Value:**

```
RCPP_EXPOSED_ENUM_AS( CLASS )
    RCPP_EXPOSED_ENUM_WRAP( CLASS )
```

Definition at line 79 of file module.h.

## 7.129.1.7 #define RCPP\_EXPOSED\_ENUM\_WRAP( CLASS ) namespace Rcpp{ namespace traits{ template&lt;&gt; struct wrap\_type\_traits&lt; CLASS &gt;{ typedef wrap\_type\_enum\_tag wrap\_category ; ; }}

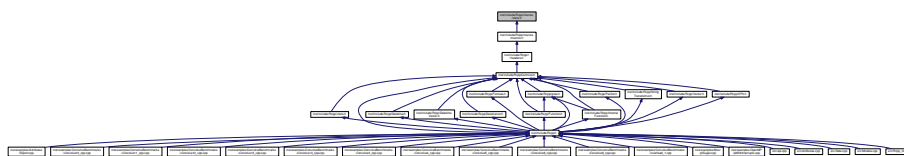
Definition at line 77 of file module.h.

## 7.129.1.8 #define RCPP\_EXPOSED\_WRAP( CLASS ) namespace Rcpp{ namespace traits{ template&lt;&gt; struct wrap\_type\_traits&lt; CLASS &gt;{ typedef wrap\_type\_module\_object\_tag wrap\_category ; ; }}

Definition at line 63 of file module.h.

## 7.130 inst/include/Rcpp/macros/traits.h File Reference

This graph shows which files directly or indirectly include this file:



## Macros

- #define `RCPP_TRAITS`(`__CLASS__`, `__SEXPTYPE__`)
- #define `RCPP_ENUM_TRAITS`(`__ENUM__`) `RCPP_TRAITS`(`__ENUM__`,INTSXP)

### 7.130.1 Macro Definition Documentation

#### 7.130.1.1 #define `RCPP_ENUM_TRAITS`( `__ENUM__` ) `RCPP_TRAITS`(`__ENUM__`,INTSXP)

Definition at line 40 of file traits.h.

#### 7.130.1.2 #define `RCPP_TRAITS`( `__CLASS__`, `__SEXPTYPE__` )

#### Value:

```

namespace Rcpp{ namespace traits {
template<> struct r_type_traits< __CLASS__ >{
    typedef r_type_primitive_tag r_category ;
};
template<> struct r_type_traits< std::pair< std::string , __CLASS__ > >{
    typedef r_type_pairstring_primitive_tag r_category ;
};
template<> struct wrap_type_traits< __CLASS__ >{
    typedef wrap_type_primitive_tag wrap_category ;
};
template<> struct r_sexptype_traits< __CLASS__ >{
    enum{ rtype = __SEXPTYPE__ } ;
};
} }

```

Definition at line 25 of file traits.h.

## 7.131 inst/include/Rcpp/traits/traits.h File Reference

```
#include <Rcpp/traits/integral_constant.h>
```

```

#include <Rcpp/traits/same_type.h>
#include <Rcpp/traits/enable_if.h>
#include <Rcpp/traits/is_wide_string.h>
#include <Rcpp/traits/is_arithmetic.h>
#include <Rcpp/traits/char_type.h>
#include <Rcpp/traits/named_object.h>
#include <Rcpp/traits/is_convertible.h>
#include <Rcpp/traits/has_iterator.h>
#include <Rcpp/traits/expands_to_logical.h>
#include <Rcpp/traits/matrix_interface.h>
#include <Rcpp/traits/is_sugar_expression.h>
#include <Rcpp/traits/is_eigen_base.h>
#include <Rcpp/traits/has_na.h>
#include <Rcpp/traits/storage_type.h>
#include <Rcpp/traits/r_sexptype_traits.h>
#include <Rcpp/traits/r_type_traits.h>
#include <Rcpp/traits/un_pointer.h>
#include <Rcpp/traits/is_pointer.h>
#include <Rcpp/traits/wrap_type_traits.h>
#include <Rcpp/traits/longlong.h>
#include <Rcpp/traits/module_wrap_traits.h>
#include <Rcpp/traits/is_na.h>
#include <Rcpp/traits/is_finite.h>
#include <Rcpp/traits/is_infinite.h>
#include <Rcpp/traits/is_nan.h>
#include <Rcpp/traits/is_bool.h>
#include <Rcpp/traits/if_.h>
#include <Rcpp/traits/get_na.h>
#include <Rcpp/traits/is_trivial.h>
#include <Rcpp/traits/init_type.h>
#include <Rcpp/traits/is_const.h>
#include <Rcpp/traits/is_reference.h>
#include <Rcpp/traits/remove_const.h>
#include <Rcpp/traits/remove_reference.h>
#include <Rcpp/traits/remove_const_and_reference.h>
#include <Rcpp/traits/result_of.h>
#include <Rcpp/traits/is_module_object.h>
#include <Rcpp/traits/is_primitive.h>

```

Include dependency graph for traits.h:



This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::identity< T >](#)

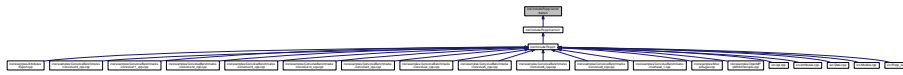
- struct [Rcpp::traits::int2type< I >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.132 inst/include/Rcpp/vector/traits.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

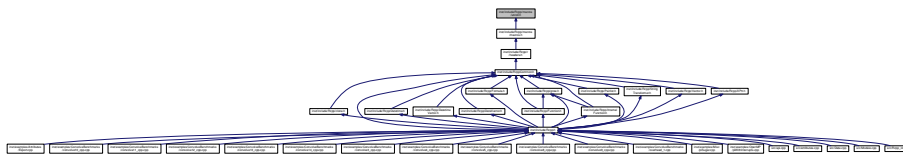
- class [Rcpp::traits::r\\_vector\\_cache< RTYPE, StoragePolicy >](#)
- class [Rcpp::traits::proxy\\_cache< RTYPE, StoragePolicy >](#)
- struct [Rcpp::traits::r\\_vector\\_cache\\_type< RTYPE, StoragePolicy >](#)
- struct [Rcpp::traits::r\\_vector\\_cache\\_type< VECSXP, StoragePolicy >](#)
- struct [Rcpp::traits::r\\_vector\\_cache\\_type< EXPRSXP, StoragePolicy >](#)
- struct [Rcpp::traits::r\\_vector\\_cache\\_type< STRSXP, StoragePolicy >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.133 inst/include/Rcpp/macros/unroll.h File Reference

This graph shows which files directly or indirectly include this file:





## Macros

- #define [RCPP\\_LOOP\\_UNROLL\\_PTR](#)(TARGET, SOURCE)
- #define [RCPP\\_LOOP\\_UNROLL](#)(TARGET, SOURCE)
- #define [RCPP\\_LOOP\\_UNROLL\\_LHSFUN](#)(TARGET, FUN, SOURCE)

### 7.133.1 Macro Definition Documentation

#### 7.133.1.1 #define RCPP\_LOOP\_UNROLL( TARGET, SOURCE )

##### Value:

```

int __trip_count = n >> 2 ;
int i = 0 ;
for ( ; __trip_count > 0 ; --__trip_count) {
    TARGET[i] = SOURCE[i] ; i++ ;
    TARGET[i] = SOURCE[i] ; i++ ;
    TARGET[i] = SOURCE[i] ; i++ ;
    TARGET[i] = SOURCE[i] ; i++ ;
}
switch (n - i){
  case 3:
    TARGET[i] = SOURCE[i] ; i++ ;
  case 2:
    TARGET[i] = SOURCE[i] ; i++ ;
  case 1:
    TARGET[i] = SOURCE[i] ; i++ ;
  case 0:
  default:
    {}
}

```

Definition at line 47 of file unroll.h.

Referenced by `Rcpp::Vector< INTSXP >::import_expression()`, and `Rcpp::MatrixColumn< RTYPE >::operator=()`.

#### 7.133.1.2 #define RCPP\_LOOP\_UNROLL\_LHSFUN( TARGET, FUN, SOURCE )

##### Value:

```

int __trip_count = n >> 2 ;
int i = 0 ;
for ( ; __trip_count > 0 ; --__trip_count){
    TARGET[FUN(i)] = SOURCE[i] ; i++ ;
    TARGET[FUN(i)] = SOURCE[i] ; i++ ;
    TARGET[FUN(i)] = SOURCE[i] ; i++ ;
    TARGET[FUN(i)] = SOURCE[i] ; i++ ;
}
switch (n - i){
  case 3:
    TARGET[FUN(i)] = SOURCE[i] ; i++ ;
  case 2:
    TARGET[FUN(i)] = SOURCE[i] ; i++ ;
  case 1:
    TARGET[FUN(i)] = SOURCE[i] ; i++ ;
  case 0:
  default:
    {}
}

```

Definition at line 68 of file unroll.h.

Referenced by `Rcpp::MatrixRow< RTYPE >::operator=()`.

### 7.133.1.3 #define RCPP\_LOOP\_UNROLL\_PTR( TARGET, SOURCE )

#### Value:

```

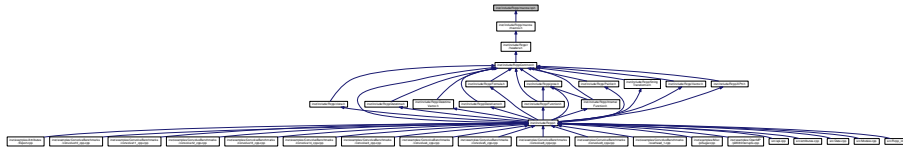
int __trip_count = n >> 2 ;
int i = 0 ;
for ( ; __trip_count > 0 ; --__trip_count) {
    *TARGET++ = SOURCE[i++] ;
    *TARGET++ = SOURCE[i++] ;
    *TARGET++ = SOURCE[i++] ;
    *TARGET++ = SOURCE[i++] ;
}
switch (n - i){
case 3:
    *TARGET++ = SOURCE[i++] ;
case 2:
    *TARGET++ = SOURCE[i++] ;
case 1:
    *TARGET++ = SOURCE[i++] ;
case 0:
default:
    {}
}

```

Definition at line 25 of file unroll.h.

## 7.134 inst/include/Rcpp/macros/xp.h File Reference

This graph shows which files directly or indirectly include this file:



### Macros

- #define [RCPP\\_XP\\_FIELD\\_GET](#)(\_\_NAME\_\_, \_\_CLASS\_\_, \_\_FIELD\_\_)
- #define [RCPP\\_XP\\_FIELD\\_SET](#)(\_\_NAME\_\_, \_\_CLASS\_\_, \_\_FIELD\_\_)
- #define [RCPP\\_XP\\_FIELD](#)(\_\_PREFIX\_\_, \_\_CLASS\_\_, \_\_FIELD\_\_)

### 7.134.1 Macro Definition Documentation

#### 7.134.1.1 #define RCPP\_XP\_FIELD( \_\_PREFIX\_\_, \_\_CLASS\_\_, \_\_FIELD\_\_ )

#### Value:

```

RCPP_XP_FIELD_GET( RCPP_PP_CAT(__PREFIX__,_get), __CLASS__, __FIELD__ )
RCPP_XP_FIELD_SET( RCPP_PP_CAT(__PREFIX__,_set), __CLASS__, __FIELD__ )

```

Definition at line 61 of file xp.h.

## 7.134.1.2 #define RCPP\_XP\_FIELD\_GET( \_\_NAME\_\_, \_\_CLASS\_\_, \_\_FIELD\_\_ )

## Value:

```
extern "C" SEXP RCPP_PP_CAT(__NAME__,__rcpp_info__){
  using Rcpp::_;
  Rcpp::List info = Rcpp::List::create(
    _["class"] = #__CLASS__ ,
    _["field"] = #__FIELD__
  );
  info.attr( "class" ) = "rcppxpfieldgetinfo" ;
  return info ;
}
extern "C" SEXP __NAME__( SEXP xp ){
  BEGIN_RCPP
  SEXP res = R_NilValue ;
  ::Rcpp::XPtr< __CLASS__ > ptr(xp) ;
  res = ::Rcpp::wrap( ptr->__FIELD__ ) ;
  return res ;
  END_RCPP
}
```

Definition at line 25 of file xp.h.

## 7.134.1.3 #define RCPP\_XP\_FIELD\_SET( \_\_NAME\_\_, \_\_CLASS\_\_, \_\_FIELD\_\_ )

## Value:

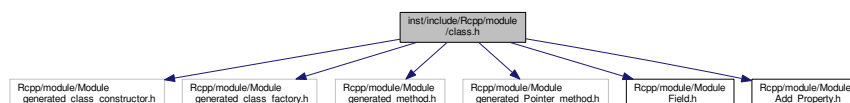
```
extern "C" SEXP RCPP_PP_CAT(__NAME__,__rcpp_info__){
  using Rcpp::_;
  Rcpp::List info = Rcpp::List::create(
    _["class"] = #__CLASS__ ,
    _["field"] = #__FIELD__
  );
  info.attr( "class" ) = "rcppxpfieldsetinfo" ;
  return info ;
}
extern "C" SEXP __NAME__( SEXP xp, SEXP value ){
  BEGIN_RCPP
  ::Rcpp::XPtr< __CLASS__ > ptr(xp) ;
  ptr->__FIELD__ = ::Rcpp::internal::converter( value) ;
  END_RCPP
}
```

Definition at line 44 of file xp.h.

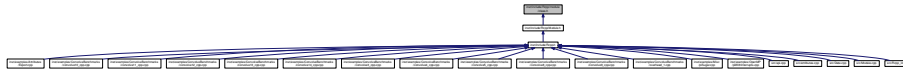
## 7.135 inst/include/Rcpp/module/class.h File Reference

```
#include <Rcpp/module/Module_generated_class_constructor.h>
#include <Rcpp/module/Module_generated_class_factory.h>
#include <Rcpp/module/Module_generated_method.h>
#include <Rcpp/module/Module_generated_Pointer_method.h>
#include <Rcpp/module/Module_Field.h>
#include <Rcpp/module/Module_Add_Property.h>
```

Include dependency graph for class.h:



This graph shows which files directly or indirectly include this file:

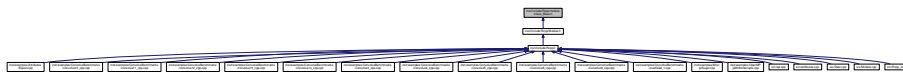


### Classes

- class [class\\_< Class >](#)

## 7.136 inst/include/Rcpp/module/class\_Base.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

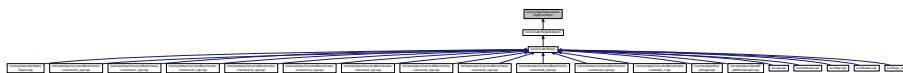
- class [Rcpp::class\\_Base](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.137 inst/include/Rcpp/module/CppFunction.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

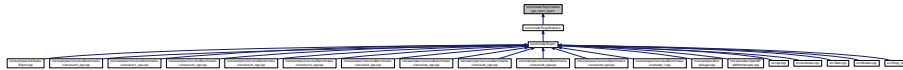
- class [Rcpp::CppFunctionBase](#)
- class [Rcpp::CppFunction](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.138 inst/include/Rcpp/module/get\_return\_type.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::void\\_type](#)

## Namespaces

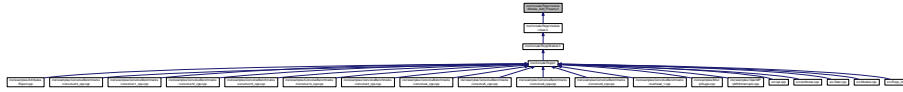
- [Rcpp](#)  
*Rcpp API.*

## Functions

- `template<typename RESULT_TYPE >`  
`std::string Rcpp::get\_return\_type\_dispatch (Rcpp::traits::false\_type)`
- `template<typename RESULT_TYPE >`  
`std::string Rcpp::get\_return\_type\_dispatch (Rcpp::traits::true\_type)`
- `template<typename RESULT_TYPE >`  
`std::string Rcpp::get\_return\_type ()`
- `template<>`  
`std::string Rcpp::get\_return\_type< void\_type > ()`
- `template<>`  
`std::string Rcpp::get\_return\_type< SEXP > ()`
- `template<>`  
`std::string Rcpp::get\_return\_type< Rcpp::IntegerVector > ()`
- `template<>`  
`std::string Rcpp::get\_return\_type< Rcpp::NumericVector > ()`
- `template<>`  
`std::string Rcpp::get\_return\_type< Rcpp::RawVector > ()`
- `template<>`  
`std::string Rcpp::get\_return\_type< Rcpp::ExpressionVector > ()`
- `template<>`  
`std::string Rcpp::get\_return\_type< Rcpp::List > ()`
- `template<>`  
`std::string Rcpp::get\_return\_type< Rcpp::CharacterVector > ()`

## 7.139 inst/include/Rcpp/module/Module\_Add\_Property.h File Reference

This graph shows which files directly or indirectly include this file:



### Functions

- `template<typename PROP >`  
`self & property (const char *name_, PROP(Class::*GetMethod)(void), const char *docstring=0)`
- `template<typename PROP >`  
`self & property (const char *name_, PROP(*GetMethod)(Class *), const char *docstring)`
- `template<typename PROP >`  
`self & property (const char *name_, PROP(Class::*GetMethod)(void), void(Class::*SetMethod)(PROP), const char *docstring=0)`
- `template<typename PROP >`  
`self & property (const char *name_, PROP(Class::*GetMethod)(void), void(*SetMethod)(Class *, PROP), const char *docstring=0)`
- `template<typename PROP >`  
`self & property (const char *name_, PROP(*GetMethod)(Class *), void(Class::*SetMethod)(PROP), const char *docstring=0)`
- `template<typename PROP >`  
`self & property (const char *name_, PROP(*GetMethod)(Class *), void(*SetMethod)(Class *, PROP), const char *docstring=0)`

### 7.139.1 Function Documentation

7.139.1.1 `template<typename PROP > self & property ( const char * name_, PROP(Class::*)(void) GetMethod, const char * docstring = 0 )`

Definition at line 26 of file `Module_Add_Property.h`.

Referenced by `property()`.

7.139.1.2 `template<typename PROP > self& property ( const char * name_, PROP(*) (Class *) GetMethod, const char * docstring )`

Definition at line 38 of file `Module_Add_Property.h`.

7.139.1.3 `template<typename PROP > self & property ( const char * name_, PROP(Class::*)(void) GetMethod, void(Class::*)(PROP) SetMethod, const char * docstring = 0 )`

Definition at line 45 of file `Module_Add_Property.h`.

References `property()`.

Here is the call graph for this function:



7.139.1.4 `template<typename PROP > self & property ( const char * name_, PROP(Class::*)(void) GetMethod, void(*) (Class *, PROP) SetMethod, const char * docstring = 0 )`

Definition at line 63 of file `Module_Add_Property.h`.

References `property()`.

Here is the call graph for this function:



7.139.1.5 `template<typename PROP > self& property ( const char * name_, PROP(*) (Class *) GetMethod, void(Class::*)(PROP) SetMethod, const char * docstring = 0 )`

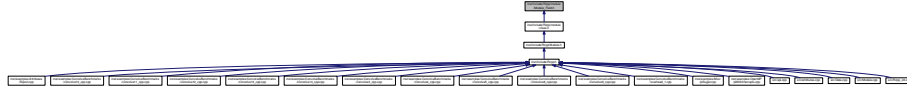
Definition at line 81 of file `Module_Add_Property.h`.

7.139.1.6 `template<typename PROP > self& property ( const char * name_, PROP(*) (Class *) GetMethod, void(*) (Class *, PROP) SetMethod, const char * docstring = 0 )`

Definition at line 89 of file `Module_Add_Property.h`.

## 7.140 inst/include/Rcpp/module/Module\_Field.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [CppProperty\\_Getter\\_Setter< PROP >](#)
- class [CppProperty\\_Getter< PROP >](#)

### Functions

- `template<typename T >`  
`self & field (const char *name_, T Class::*ptr, const char *docstring=0)`
- `template<typename T >`  
`self & field\_readonly (const char *name_, T Class::*ptr, const char *docstring=0)`

### 7.140.1 Function Documentation

7.140.1.1 `template<typename T > self& field ( const char * name_, T Class::* ptr, const char * docstring = 0 )`

Definition at line 68 of file `Module_Field.h`.

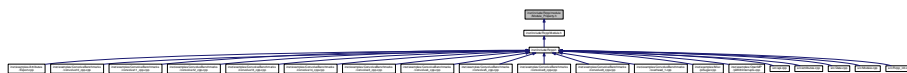
Referenced by `Rcpp::S4_CppConstructor< Class >::S4_CppConstructor()`, `Rcpp::S4_CppOverloadedMethods< Class >::S4_CppOverloadedMethods()`, and `Rcpp::S4_field< Class >::S4_field()`.

7.140.1.2 `template<typename T > self& field\_readonly ( const char * name_, T Class::* ptr, const char * docstring = 0 )`

Definition at line 76 of file `Module_Field.h`.

## 7.141 inst/include/Rcpp/module/Module\_Property.h File Reference

This graph shows which files directly or indirectly include this file:



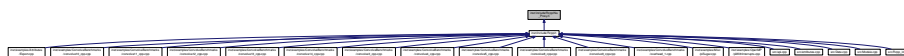


## Classes

- class [CppClassProperty\\_GetMethod< Class, PROP >](#)
- class [CppClassProperty\\_GetConstMethod< Class, PROP >](#)
- class [CppClassProperty\\_GetPointerMethod< Class, PROP >](#)
- class [CppClassProperty\\_GetMethod\\_SetMethod< Class, PROP >](#)
- class [CppClassProperty\\_GetConstMethod\\_SetMethod< Class, PROP >](#)
- class [CppClassProperty\\_GetMethod\\_SetPointer< Class, PROP >](#)
- class [CppClassProperty\\_GetConstMethod\\_SetPointer< Class, PROP >](#)
- class [CppClassProperty\\_GetPointer\\_SetMethod< Class, PROP >](#)
- class [CppClassProperty\\_GetPointer\\_SetPointer< Class, PROP >](#)

## 7.142 inst/include/Rcpp/Na\_Proxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Na\\_Proxy](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Functions

- LogicalVector [Rcpp::shush\\_about\\_NA \(\)](#)

## Variables

- static Na\_Proxy [Rcpp::NA](#)

## 7.143 inst/include/Rcpp/Named.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Argument](#)
- class [Rcpp::internal::NamedPlaceHolder](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

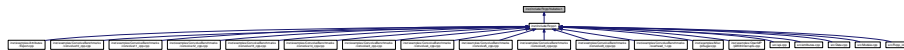
- Argument [Rcpp::Named](#) (const std::string &name)
- template<typename T >  
traits::named\_object< T > [Rcpp::Named](#) (const std::string &name, const T &o)

## Variables

- static internal::NamedPlaceHolder [Rcpp::\\_](#)

## 7.144 inst/include/Rcpp/Nullable.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Nullable< T >](#)

## Namespaces

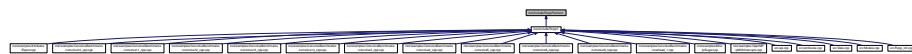
- [Rcpp](#)  
*Rcpp API.*

## 7.145 inst/include/Rcpp/Pairlist.h File Reference

```
#include <RcppCommon.h>
#include <Rcpp/DottedPair.h>
#include <Rcpp/r_cast.h>
#include <Rcpp/generated/Pairlist__ctors.h>
Include dependency graph for Pairlist.h:
```



This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*

### Typedefs

- typedef Pairlist\_Impl< PreserveStorage > [Rcpp::Pairlist](#)

### Functions

- [Rcpp::RCPP\\_API\\_CLASS](#) (Pairlist\_Impl)
- [Rcpp::Pairlist\\_Impl](#) ()
- [Rcpp::Pairlist\\_Impl](#) (SEXP x)
- void [Rcpp::update](#) (SEXP)

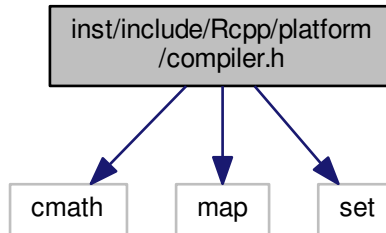
### Variables

- public [Rcpp::DottedPairProxyPolicy](#)< [Pairlist\\_Impl](#)< [StoragePolicy](#) > >
- public public [Rcpp::DottedPairImpl](#)< [Pairlist\\_Impl](#)< [StoragePolicy](#) > >

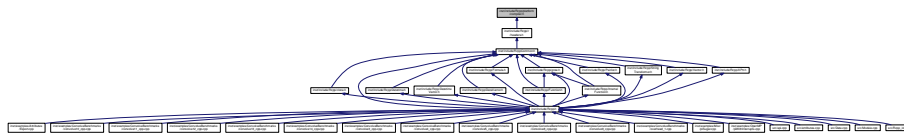
## 7.146 inst/include/Rcpp/platform/compiler.h File Reference

```
#include <cmath>
#include <map>
#include <set>
```

Include dependency graph for compiler.h:



This graph shows which files directly or indirectly include this file:



### Macros

- `#define RCPP_USING_MAP`
- `#define RCPP_UNORDERED_MAP std::map`
- `#define RCPP_USING_SET`
- `#define RCPP_UNORDERED_SET std::set`

#### 7.146.1 Macro Definition Documentation

##### 7.146.1.1 `#define RCPP_UNORDERED_MAP std::map`

Definition at line 178 of file compiler.h.

##### 7.146.1.2 `#define RCPP_UNORDERED_SET std::set`

Definition at line 187 of file compiler.h.

7.146.1.3 `#define RCPP_USING_MAP`

Definition at line 177 of file compiler.h.

7.146.1.4 `#define RCPP_USING_SET`

Definition at line 186 of file compiler.h.

7.147 `inst/include/Rcpp/platform/solaris.h` File Reference

This graph shows which files directly or indirectly include this file:

7.148 `inst/include/Rcpp/print.h` File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Functions

- void [Rcpp::print](#) (SEXP s)
- void [Rcpp::warningcall](#) (SEXP call, const std::string &s)

7.149 `inst/include/Rcpp/Promise.h` File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Typedefs

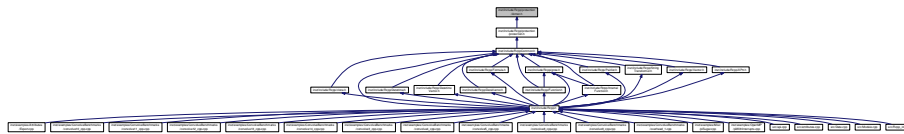
- typedef Promise\_Impl< PreserveStorage > [Rcpp::Promise](#)

## Functions

- [Rcpp::RCPP\\_API\\_CLASS](#) (Promise\_Impl)

## 7.150 inst/include/Rcpp/protection/Armor.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Armor< T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.151 inst/include/Rcpp/protection/Shelter.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Shelter< T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.152 inst/include/Rcpp/protection/Shield.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Shield< T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Functions

- SEXP [Rcpp::Rcpp\\_protect](#) (SEXP x)

## 7.153 inst/include/Rcpp/proxy/AttributeProxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

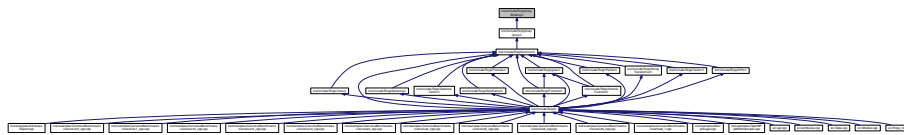
- class [Rcpp::AttributeProxyPolicy< CLASS >](#)
- class [Rcpp::AttributeProxyPolicy< CLASS >::AttributeProxy](#)
- class [Rcpp::AttributeProxyPolicy< CLASS >::const\\_AttributeProxy](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

### 7.154 inst/include/Rcpp/proxy/Binding.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::BindingPolicy< EnvironmentClass >](#)
- class [Rcpp::BindingPolicy< EnvironmentClass >::Binding](#)
- class [Rcpp::BindingPolicy< EnvironmentClass >::const\\_Binding](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

### 7.155 inst/include/Rcpp/proxy/DottedPairProxy.h File Reference

This graph shows which files directly or indirectly include this file:





## Classes

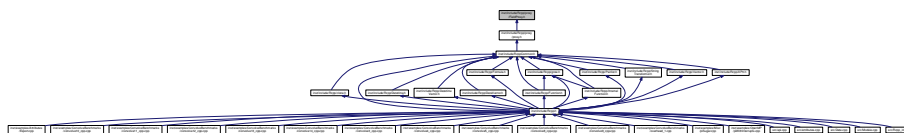
- class [Rcpp::DottedPairProxyPolicy< CLASS >](#)
- class [Rcpp::DottedPairProxyPolicy< CLASS >::DottedPairProxy](#)
- class [Rcpp::DottedPairProxyPolicy< CLASS >::const\\_DottedPairProxy](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.156 inst/include/Rcpp/proxy/FieldProxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::FieldProxyPolicy< CLASS >](#)
- class [Rcpp::FieldProxyPolicy< CLASS >::FieldProxy](#)
- class [Rcpp::FieldProxyPolicy< CLASS >::const\\_FieldProxy](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.157 inst/include/Rcpp/proxy/GenericProxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::GenericProxy< Proxy >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.158 inst/include/Rcpp/proxy/NamesProxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

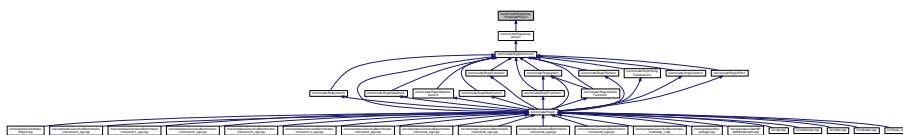
- class [Rcpp::NamesProxyPolicy< CLASS >](#)
- class [Rcpp::NamesProxyPolicy< CLASS >::NamesProxy](#)
- class [Rcpp::NamesProxyPolicy< CLASS >::const\\_NamesProxy](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.159 inst/include/Rcpp/proxy/ProtectedProxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::ProtectedProxyPolicy< XPtrClass >](#)
- class [Rcpp::ProtectedProxyPolicy< XPtrClass >::ProtectedProxy](#)
- class [Rcpp::ProtectedProxyPolicy< XPtrClass >::const\\_ProtectedProxy](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Functions

- `template<typename T >`  
`T Rcpp::as (SEXP x)`

## 7.160 inst/include/Rcpp/proxy/RObjectMethods.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::RObjectMethods< Class >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.161 inst/include/Rcpp/proxy/SlotProxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::SlotProxyPolicy< CLASS >](#)
- class [Rcpp::SlotProxyPolicy< CLASS >::SlotProxy](#)
- class [Rcpp::SlotProxyPolicy< CLASS >::const\\_SlotProxy](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.162 inst/include/Rcpp/proxy/TagProxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::TagProxyPolicy< XPtrClass >](#)
- class [Rcpp::TagProxyPolicy< XPtrClass >::TagProxy](#)
- class [Rcpp::TagProxyPolicy< XPtrClass >::const\\_TagProxy](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.163 inst/include/Rcpp/r/headers.h File Reference

```
#include <Rcpp/platform/compiler.h>
#include <Rcpp/config.h>
#include <Rcpp/macros/macros.h>
#include <R.h>
#include <Rinternals.h>
#include <R_ext/Complex.h>
#include <R_ext/Parse.h>
#include <R_ext/Rdynload.h>
#include <Rversion.h>
```

Include dependency graph for headers.h:



This graph shows which files directly or indirectly include this file:



### Macros

- `#define MAXELTSIZE 8192`
- `#define R_NO_REMAP`
- `#define NORET`

#### 7.163.1 Macro Definition Documentation

##### 7.163.1.1 `#define MAXELTSIZE 8192`

Definition at line 25 of file headers.h.

##### 7.163.1.2 `#define NORET`

Definition at line 64 of file headers.h.

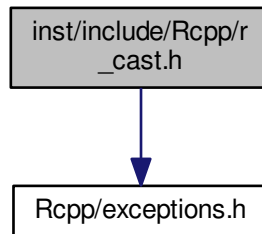
##### 7.163.1.3 `#define R_NO_REMAP`

Definition at line 26 of file headers.h.

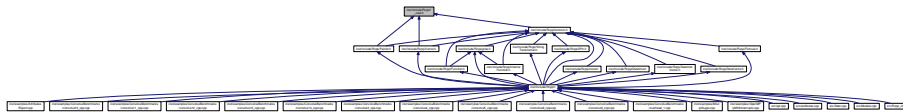
## 7.164 inst/include/Rcpp/r\_cast.h File Reference

```
#include <Rcpp/exceptions.h>
```

Include dependency graph for r\_cast.h:



This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

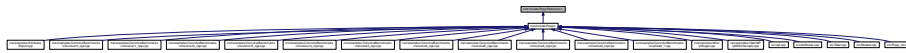
### Functions

- [SEXP Rcpp::internal::convert\\_using\\_rfunction](#) (SEXP x, const char \*const fun)
- [template<int TARGET>](#)  
[SEXP Rcpp::internal::r\\_true\\_cast](#) (SEXP x)
- [template<int RTYPE>](#)  
[SEXP Rcpp::internal::basic\\_cast](#) (SEXP x)
- [template<>](#)  
[SEXP Rcpp::internal::r\\_true\\_cast< INTSXP >](#) (SEXP x)
- [template<>](#)  
[SEXP Rcpp::internal::r\\_true\\_cast< REALSXP >](#) (SEXP x)
- [template<>](#)  
[SEXP Rcpp::internal::r\\_true\\_cast< RAWSXP >](#) (SEXP x)

- `template<>`  
SEXP `Rcpp::internal::r_true_cast< CPLXSXP >` (SEXP x)
- `template<>`  
SEXP `Rcpp::internal::r_true_cast< LGLSXP >` (SEXP x)
- `template<>`  
SEXP `Rcpp::internal::r_true_cast< STRSXP >` (SEXP x)
- `template<>`  
SEXP `Rcpp::internal::r_true_cast< VECSXP >` (SEXP x)
- `template<>`  
SEXP `Rcpp::internal::r_true_cast< EXPRSXP >` (SEXP x)
- `template<>`  
SEXP `Rcpp::internal::r_true_cast< LISTSXP >` (SEXP x)
- `template<>`  
SEXP `Rcpp::internal::r_true_cast< LANGSXP >` (SEXP x)
- `template<int TARGET>`  
SEXP `Rcpp::r_cast` (SEXP x)

## 7.165 inst/include/Rcpp/Reference.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*

### Typedefs

- typedef `Reference_Impl< PreserveStorage >` [Rcpp::Reference](#)

### Functions

- [Rcpp::RCPP\\_API\\_CLASS](#) (`Reference_Impl`)

### Variables

- public [Rcpp::FieldProxyPolicy](#)< `Reference_Impl`< `StoragePolicy` > >

## 7.166 inst/include/Rcpp/Rmath.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [R](#)

### Functions

- double [R::norm\\_rand](#) (void)
- double [R::unif\\_rand](#) (void)
- double [R::exp\\_rand](#) (void)
- double [R::dnorm](#) (double x, double mu, double sigma, int lg)
- double [R::pnorm](#) (double x, double mu, double sigma, int lt, int lg)
- double [R::qnorm](#) (double p, double mu, double sigma, int lt, int lg)
- double [R::rnorm](#) (double mu, double sigma)
- void [R::pnorm\\_both](#) (double x, double \*cum, double \*ccum, int lt, int lg)
- double [R::dunif](#) (double x, double a, double b, int lg)
- double [R::punif](#) (double x, double a, double b, int lt, int lg)
- double [R::qunif](#) (double p, double a, double b, int lt, int lg)
- double [R::runif](#) (double a, double b)
- double [R::dgamma](#) (double x, double shp, double scl, int lg)
- double [R::pgamma](#) (double x, double alp, double scl, int lt, int lg)
- double [R::qgamma](#) (double p, double alp, double scl, int lt, int lg)
- double [R::rgamma](#) (double a, double scl)
- double [R::log1pmx](#) (double x)
- double [R::log1pexp](#) (double x)
- double [R::lgamma1p](#) (double a)
- double [R::logspace\\_add](#) (double lx, double ly)
- double [R::logspace\\_sub](#) (double lx, double ly)
- double [R::dbeta](#) (double x, double a, double b, int lg)
- double [R::pbeta](#) (double x, double p, double q, int lt, int lg)
- double [R::qbeta](#) (double a, double p, double q, int lt, int lg)
- double [R::rbeta](#) (double a, double b)
- double [R::dlnorm](#) (double x, double ml, double sl, int lg)
- double [R::plnorm](#) (double x, double ml, double sl, int lt, int lg)
- double [R::qlnorm](#) (double p, double ml, double sl, int lt, int lg)
- double [R::rlnorm](#) (double ml, double sl)
- double [R::dchisq](#) (double x, double df, int lg)
- double [R::pchisq](#) (double x, double df, int lt, int lg)
- double [R::qchisq](#) (double p, double df, int lt, int lg)



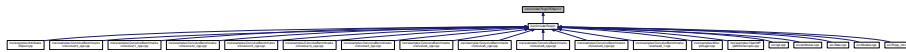
- double [R::rchisq](#) (double df)
- double [R::dnchisq](#) (double x, double df, double ncp, int lg)
- double [R::pnchisq](#) (double x, double df, double ncp, int lt, int lg)
- double [R::qnchisq](#) (double p, double df, double ncp, int lt, int lg)
- double [R::rchisq](#) (double df, double lb)
- double [R::df](#) (double x, double df1, double df2, int lg)
- double [R::pf](#) (double x, double df1, double df2, int lt, int lg)
- double [R::qf](#) (double p, double df1, double df2, int lt, int lg)
- double [R::rf](#) (double df1, double df2)
- double [R::dt](#) (double x, double n, int lg)
- double [R::pt](#) (double x, double n, int lt, int lg)
- double [R::qt](#) (double p, double n, int lt, int lg)
- double [R::rt](#) (double n)
- double [R::dbinom](#) (double x, double n, double p, int lg)
- double [R::pbinom](#) (double x, double n, double p, int lt, int lg)
- double [R::qbinom](#) (double p, double n, double m, int lt, int lg)
- double [R::rbinom](#) (double n, double p)
- void [R::rmultinom](#) (int n, double \*prob, int k, int \*rn)
- double [R::dcauchy](#) (double x, double lc, double sl, int lg)
- double [R::pcauchy](#) (double x, double lc, double sl, int lt, int lg)
- double [R::qcauchy](#) (double p, double lc, double sl, int lt, int lg)
- double [R::rcauchy](#) (double lc, double sl)
- double [R::dexp](#) (double x, double sl, int lg)
- double [R::pexp](#) (double x, double sl, int lt, int lg)
- double [R::qexp](#) (double p, double sl, int lt, int lg)
- double [R::rexp](#) (double sl)
- double [R::dgeom](#) (double x, double p, int lg)
- double [R::pgeom](#) (double x, double p, int lt, int lg)
- double [R::qgeom](#) (double p, double pb, int lt, int lg)
- double [R::rgeom](#) (double p)
- double [R::dhyper](#) (double x, double r, double b, double n, int lg)
- double [R::phyper](#) (double x, double r, double b, double n, int lt, int lg)
- double [R::qhyper](#) (double p, double r, double b, double n, int lt, int lg)
- double [R::rhyper](#) (double r, double b, double n)
- double [R::dnbinom](#) (double x, double sz, double pb, int lg)
- double [R::pnbinom](#) (double x, double sz, double pb, int lt, int lg)
- double [R::qnbinom](#) (double p, double sz, double pb, int lt, int lg)
- double [R::rnbinom](#) (double sz, double pb)
- double [R::dnbinom\\_mu](#) (double x, double sz, double mu, int lg)
- double [R::pnbinom\\_mu](#) (double x, double sz, double mu, int lt, int lg)
- double [R::qnbinom\\_mu](#) (double x, double sz, double mu, int lt, int lg)
- double [R::dpois](#) (double x, double lb, int lg)
- double [R::ppois](#) (double x, double lb, int lt, int lg)
- double [R::qpois](#) (double p, double lb, int lt, int lg)
- double [R::rpois](#) (double mu)
- double [R::dweibull](#) (double x, double sh, double sl, int lg)
- double [R::pweibull](#) (double x, double sh, double sl, int lt, int lg)
- double [R::qweibull](#) (double p, double sh, double sl, int lt, int lg)
- double [R::rweibull](#) (double sh, double sl)
- double [R::dlogis](#) (double x, double lc, double sl, int lg)
- double [R::plogis](#) (double x, double lc, double sl, int lt, int lg)

- double [R::qlogis](#) (double p, double lc, double sl, int lt, int lg)
- double [R::rlogis](#) (double lc, double sl)
- double [R::dnbeta](#) (double x, double a, double b, double ncp, int lg)
- double [R::pnbeta](#) (double x, double a, double b, double ncp, int lt, int lg)
- double [R::qnbeta](#) (double p, double a, double b, double ncp, int lt, int lg)
- double [R::rnbeta](#) (double a, double b, double np)
- double [R::dnf](#) (double x, double df1, double df2, double ncp, int lg)
- double [R::pnf](#) (double x, double df1, double df2, double ncp, int lt, int lg)
- double [R::qnf](#) (double p, double df1, double df2, double ncp, int lt, int lg)
- double [R::dnt](#) (double x, double df, double ncp, int lg)
- double [R::pnt](#) (double x, double df, double ncp, int lt, int lg)
- double [R::qnt](#) (double p, double df, double ncp, int lt, int lg)
- double [R::ptukey](#) (double q, double rr, double cc, double df, int lt, int lg)
- double [R::qtukey](#) (double p, double rr, double cc, double df, int lt, int lg)
- double [R::dwilcox](#) (double x, double m, double n, int lg)
- double [R::pwilcox](#) (double q, double m, double n, int lt, int lg)
- double [R::qwilcox](#) (double x, double m, double n, int lt, int lg)
- double [R::rwilcox](#) (double m, double n)
- double [R::dsignrank](#) (double x, double n, int lg)
- double [R::psignrank](#) (double x, double n, int lt, int lg)
- double [R::qsignrank](#) (double x, double n, int lt, int lg)
- double [R::rsignrank](#) (double n)
- double [R::gammafn](#) (double x)
- double [R::lgammafn](#) (double x)
- double [R::lgammafn\\_sign](#) (double x, int \*sgn)
- void [R::dpsifn](#) (double x, int n, int kode, int m, double \*ans, int \*nz, int \*ierr)
- double [R::psigamma](#) (double x, double deriv)
- double [R::digamma](#) (double x)
- double [R::trigamma](#) (double x)
- double [R::tetragamma](#) (double x)
- double [R::pentagamma](#) (double x)
- double [R::beta](#) (double a, double b)
- double [R::lbeta](#) (double a, double b)
- double [R::choose](#) (double n, double k)
- double [R::lchoose](#) (double n, double k)
- double [R::bessel\\_i](#) (double x, double al, double ex)
- double [R::bessel\\_j](#) (double x, double al)
- double [R::bessel\\_k](#) (double x, double al, double ex)
- double [R::bessel\\_y](#) (double x, double al)
- double [R::bessel\\_i\\_ex](#) (double x, double al, double ex, double \*bi)
- double [R::bessel\\_j\\_ex](#) (double x, double al, double \*bj)
- double [R::bessel\\_k\\_ex](#) (double x, double al, double ex, double \*bk)
- double [R::bessel\\_y\\_ex](#) (double x, double al, double \*by)
- double [R::hypot](#) (double a, double b)
- double [R::pythag](#) (double a, double b)
- double [R::expm1](#) (double x)
- double [R::log1p](#) (double x)
- int [R::imax2](#) (int x, int y)
- int [R::imin2](#) (int x, int y)
- double [R::fmax2](#) (double x, double y)
- double [R::fmin2](#) (double x, double y)

- double [R::sign](#) (double x)
- double [R::fprec](#) (double x, double dg)
- double [R::fround](#) (double x, double dg)
- double [R::fsign](#) (double x, double y)
- double [R::ftrunc](#) (double x)

## 7.167 inst/include/Rcpp/RObject.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*

### Typedefs

- typedef `RObject_Impl< PreserveStorage >` [Rcpp::RObject](#)

### Functions

- [Rcpp::RCPP\\_API\\_CLASS](#) (`RObject_Impl`)

## 7.168 inst/include/Rcpp/routines.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Macros

- `#define GET_CALLABLE(__FUN__)` (Fun) R\_GetCCallable( "Rcpp", \_\_FUN\_\_ )

## Functions

- `attribute_hidden const char *` `Rcpp::type2name` (SEXP x)
- `attribute_hidden unsigned long` `Rcpp::internal::enterRNGScope` ()
- `attribute_hidden unsigned long` `Rcpp::internal::exitRNGScope` ()
- `attribute_hidden char *` `Rcpp::internal::get_string_buffer` ()
- `attribute_hidden SEXP` `Rcpp::internal::get_Rcpp_namespace` ()
- `attribute_hidden double` `Rcpp::mktime00` (struct tm &tm)
- `attribute_hidden struct tm *` `Rcpp::gmtime_` (const time\_t \*const x)
- `attribute_hidden SEXP` `rcpp_get_stack_trace` ()
- `attribute_hidden SEXP` `rcpp_set_stack_trace` (SEXP e)
- `attribute_hidden std::string` `demangle` (const std::string &name)
- `attribute_hidden const char *` `short_file_name` (const char \*file)
- `attribute_hidden SEXP` `stack_trace` (const char \*file, int line)
- `attribute_hidden SEXP` `get_string_elt` (SEXP s, int i)
- `attribute_hidden const char *` `char_get_string_elt` (SEXP s, int i)
- `attribute_hidden void` `set_string_elt` (SEXP s, int i, SEXP v)
- `attribute_hidden void` `char_set_string_elt` (SEXP s, int i, const char \*v)
- `attribute_hidden SEXP *` `get_string_ptr` (SEXP s)
- `attribute_hidden SEXP` `get_vector_elt` (SEXP v, int i)
- `attribute_hidden void` `set_vector_elt` (SEXP v, int i, SEXP x)
- `attribute_hidden SEXP *` `get_vector_ptr` (SEXP v)
- `attribute_hidden const char *` `char_nocheck` (SEXP x)
- `attribute_hidden void *` `dataptr` (SEXP x)
- `attribute_hidden Rcpp::Module *` `getCurrentScope` ()
- `attribute_hidden void` `setCurrentScope` (Rcpp::Module \*mod)
- `attribute_hidden int *` `get_cache` (int n)
- `attribute_hidden SEXP` `reset_current_error` ()
- `attribute_hidden int` `error_occured` ()
- `attribute_hidden SEXP` `rcpp_get_current_error` ()

### 7.168.1 Macro Definition Documentation

#### 7.168.1.1 `#define GET_CALLABLE( __FUN__ )` (Fun) R\_GetCCallable( "Rcpp", \_\_FUN\_\_ )

Definition at line 68 of file routines.h.

Referenced by `char_get_string_elt()`, `char_nocheck()`, `char_set_string_elt()`, `dataptr()`, `demangle()`, `Rcpp::internal::enterRNGScope()`, `error_occured()`, `Rcpp::internal::exitRNGScope()`, `get_cache()`, `Rcpp::internal::get_Rcpp_namespace()`, `Rcpp::internal::get_string_buffer()`, `get_string_elt()`, `get_string_ptr()`, `get_vector_elt()`, `get_vector_ptr()`, `getCurrentScope()`, `Rcpp::gmtime_()`, `Rcpp::mktime00()`, `rcpp_get_current_error()`, `rcpp_get_stack_trace()`, `rcpp_set_stack_trace()`, `reset_current_error()`, `set_string_elt()`, `set_vector_elt()`, `setCurrentScope()`, `short_file_name()`, `stack_trace()`, and `Rcpp::type2name()`.

## 7.168.2 Function Documentation

7.168.2.1 `attribute_hidden const char* char_get_string_elt ( SEXP s, int i ) [inline]`

Definition at line 158 of file routines.h.

References `GET_CALLABLE`.

7.168.2.2 `attribute_hidden const char* char_nocheck ( SEXP x ) [inline]`

Definition at line 200 of file routines.h.

References `GET_CALLABLE`.

7.168.2.3 `attribute_hidden void char_set_string_elt ( SEXP s, int i, const char * v ) [inline]`

Definition at line 170 of file routines.h.

References `GET_CALLABLE`.

7.168.2.4 `attribute_hidden void* dataptr ( SEXP x ) [inline]`

Definition at line 206 of file routines.h.

References `GET_CALLABLE`.

7.168.2.5 `attribute_hidden std::string demangle ( const std::string & name ) [inline]`

Definition at line 134 of file routines.h.

References `GET_CALLABLE`.

7.168.2.6 `attribute_hidden int error_occured ( ) [inline]`

Definition at line 236 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

7.168.2.7 `attribute_hidden int* get_cache ( int n ) [inline]`

Definition at line 224 of file routines.h.

References GET\_CALLABLE.

Referenced by `Rcpp::sugar::IndexHash< RTYPE >::IndexHash()`, and `registerFunctions()`.

7.168.2.8 `attribute_hidden SEXP get_string_elt ( SEXP s, int i ) [inline]`

Definition at line 152 of file routines.h.

References GET\_CALLABLE.

7.168.2.9 `attribute_hidden SEXP* get_string_ptr ( SEXP s ) [inline]`

Definition at line 176 of file routines.h.

References GET\_CALLABLE.

7.168.2.10 `attribute_hidden SEXP get_vector_elt ( SEXP v, int i ) [inline]`

Definition at line 182 of file routines.h.

References GET\_CALLABLE.

7.168.2.11 `attribute_hidden SEXP* get_vector_ptr ( SEXP v ) [inline]`

Definition at line 194 of file routines.h.

References GET\_CALLABLE.

7.168.2.12 `attribute_hidden Rcpp::Module* getCurrentScope ( ) [inline]`

Definition at line 212 of file routines.h.

References GET\_CALLABLE.

Referenced by `class_< Class >::derives()`, `class_< Class >::get_instance()`, `registerFunctions()`, and `Rcpp::enum_< Enum, Parent >::~~enum_()`.

7.168.2.13 `attribute_hidden SEXP rcpp_get_current_error ( ) [inline]`

Definition at line 242 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

7.168.2.14 `attribute_hidden SEXP rcpp_get_stack_trace ( ) [inline]`

Definition at line 122 of file routines.h.

References `GET_CALLABLE`.

Referenced by `exception_to_r_condition()`, and `registerFunctions()`.

7.168.2.15 `attribute_hidden SEXP rcpp_set_stack_trace ( SEXP e ) [inline]`

Definition at line 128 of file routines.h.

References `GET_CALLABLE`.

Referenced by `Rcpp::exception::exception()`, `exception_to_r_condition()`, and `registerFunctions()`.

7.168.2.16 `attribute_hidden SEXP reset_current_error ( ) [inline]`

Definition at line 230 of file routines.h.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

7.168.2.17 `attribute_hidden void set_string_elt ( SEXP s, int i, SEXP v ) [inline]`

Definition at line 164 of file routines.h.

References `GET_CALLABLE`.

7.168.2.18 `attribute_hidden void set_vector_elt ( SEXP v, int i, SEXP x ) [inline]`

Definition at line 188 of file routines.h.

References `GET_CALLABLE`.

7.168.2.19 `attribute_hidden` void `setCurrentScope ( Rcpp::Module * mod )` `[inline]`

Definition at line 218 of file `routines.h`.

References `GET_CALLABLE`.

Referenced by `R_init_Rcpp()`, and `registerFunctions()`.

7.168.2.20 `attribute_hidden` const char\* `short_file_name ( const char * file )` `[inline]`

Definition at line 140 of file `routines.h`.

References `GET_CALLABLE`.

Referenced by `registerFunctions()`.

7.168.2.21 `attribute_hidden` SEXP `stack_trace ( const char * file, int line )` `[inline]`

Definition at line 146 of file `routines.h`.

References `GET_CALLABLE`.

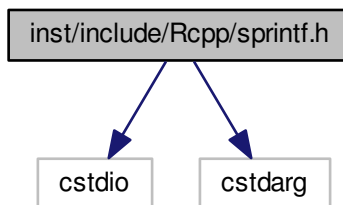
Referenced by `Rcpp::exception::exception()`, and `registerFunctions()`.

## 7.169 `inst/include/Rcpp/sprintf.h` File Reference

```
#include <stdio>
```

```
#include <stdarg>
```

Include dependency graph for `sprintf.h`:



This graph shows which files directly or indirectly include this file:





## Namespaces

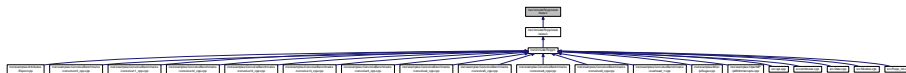
- [Rcpp](#)  
*Rcpp API.*

## Functions

- `template<int MAX_SIZE>`  
`std::string Rcpp::sprintf (const char *format,...)`

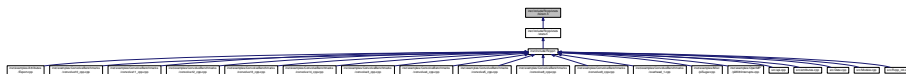
## 7.170 inst/include/Rcpp/stats/beta.h File Reference

This graph shows which files directly or indirectly include this file:



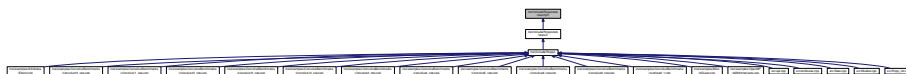
## 7.171 inst/include/Rcpp/stats/binom.h File Reference

This graph shows which files directly or indirectly include this file:



## 7.172 inst/include/Rcpp/stats/cauchy.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

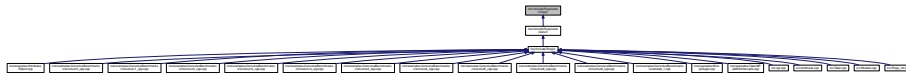
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## Functions

- double `Rcpp::stats::dcauchy_0` (double x, int `give_log`)
- double `Rcpp::stats::dcauchy_1` (double x, double location, int `give_log`)
- double `Rcpp::stats::pcauchy_0` (double x, int `lower_tail`, int `log_p`)
- double `Rcpp::stats::pcauchy_1` (double x, double location, int `lower_tail`, int `log_p`)
- double `Rcpp::stats::qcauchy_0` (double p, int `lower_tail`, int `log_p`)
- double `Rcpp::stats::qcauchy_1` (double p, double location, int `lower_tail`, int `log_p`)

### 7.173 `inst/include/Rcpp/stats/chisq.h` File Reference

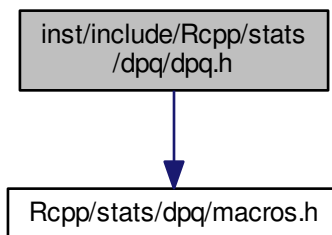
This graph shows which files directly or indirectly include this file:



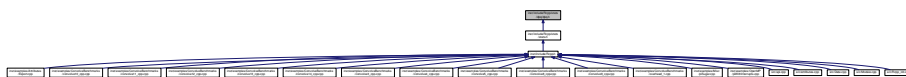
### 7.174 `inst/include/Rcpp/stats/dpq/dpq.h` File Reference

```
#include <Rcpp/stats/dpq/macros.h>
```

Include dependency graph for dpq.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::stats::D0](#)< RTYPE, NA, T >
- class [Rcpp::stats::D1](#)< RTYPE, NA, T >
- class [Rcpp::stats::D2](#)< RTYPE, NA, T >
- class [Rcpp::stats::D3](#)< RTYPE, NA, T >
- class [Rcpp::stats::P0](#)< RTYPE, NA, T >
- class [Rcpp::stats::P1](#)< RTYPE, NA, T >
- class [Rcpp::stats::P2](#)< RTYPE, NA, T >
- class [Rcpp::stats::P3](#)< RTYPE, NA, T >
- class [Rcpp::stats::Q0](#)< RTYPE, NA, T >
- class [Rcpp::stats::Q1](#)< RTYPE, NA, T >
- class [Rcpp::stats::Q2](#)< RTYPE, NA, T >
- class [Rcpp::stats::Q3](#)< RTYPE, NA, T >

## Namespaces

- [Rcpp](#)
  - *Rcpp API.*
- [Rcpp::stats](#)

## Macros

- #define [RCPP\\_DPQ\\_0](#)( \_\_NAME\_\_, \_\_D\_\_, \_\_P\_\_, \_\_Q\_\_ )
- #define [RCPP\\_DPQ\\_1](#)( \_\_NAME\_\_, \_\_D\_\_, \_\_P\_\_, \_\_Q\_\_ )
- #define [RCPP\\_DPQ\\_2](#)( \_\_NAME\_\_, \_\_D\_\_, \_\_P\_\_, \_\_Q\_\_ )
- #define [RCPP\\_DPQ\\_3](#)( \_\_NAME\_\_, \_\_D\_\_, \_\_P\_\_, \_\_Q\_\_ )

## 7.174.1 Macro Definition Documentation

### 7.174.1.1 #define RCPP\_DPQ\_0( \_\_NAME\_\_, \_\_D\_\_, \_\_P\_\_, \_\_Q\_\_ )

#### Value:

```

namespace Rcpp {
template <int RTYPE, bool NA, typename T>
inline stats::D0<RTYPE,NA,T> d##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, bool log = false
) {
    \
    return stats::D0<RTYPE,NA,T>( __D__, x, log );
}
template <int RTYPE, bool NA, typename T>
inline stats::P0<RTYPE,NA,T> p##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, bool lower = true, bool
    log = false
) {
    \
    return stats::P0<RTYPE,NA,T>( __P__, x, lower, log );
}
template <int RTYPE, bool NA, typename T>
inline stats::Q0<RTYPE,NA,T> q##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, bool lower = true, bool
    log = false
) {
    \
    return stats::Q0<RTYPE,NA,T>( __Q__, x, lower, log );
} }

```

Definition at line 318 of file dpq.h.

Referenced by [Rcpp::stats::p\\_exp\\_0\(\)](#), [Rcpp::stats::qcauchy\\_1\(\)](#), [Rcpp::stats::qlnorm\\_1\(\)](#), [Rcpp::stats::qlogis\\_1\(\)](#), [Rcpp::stats::qnorm\\_0\(\)](#), and [Rcpp::stats::qunif\\_0\(\)](#).

## 7.174.1.2 #define RCPP\_DPQ\_1( \_\_NAME\_\_, \_\_D\_\_, \_\_P\_\_, \_\_Q\_\_ )

**Value:**

```

namespace Rcpp {
template <int RTYPE, bool NA, typename T>
inline stats::D1<RTYPE,NA,T> d##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, double p0, bool
        log = false
) {
    return stats::D1<RTYPE,NA,T>( __D__, x, p0, log );
}
template <int RTYPE, bool NA, typename T>
inline stats::P1<RTYPE,NA,T> p##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, double p0, bool lower = true, bool
        log = false
) {
    return stats::P1<RTYPE,NA,T>( __P__, x, p0, lower, log );
}
template <int RTYPE, bool NA, typename T>
inline stats::Q1<RTYPE,NA,T> q##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, double p0, bool lower = true, bool
        log = false
) {
    return stats::Q1<RTYPE,NA,T>( __Q__, x, p0, lower, log );
}
}

```

Definition at line 340 of file dpq.h.

Referenced by Rcpp::stats::qcauchy\_1(), Rcpp::stats::qgamma\_1(), Rcpp::stats::qlnorm\_1(), Rcpp::stats::qlogis\_1(), Rcpp::stats::qnorm\_0(), Rcpp::stats::qunif\_0(), and Rcpp::stats::qweibull\_1().

## 7.174.1.3 #define RCPP\_DPQ\_2( \_\_NAME\_\_, \_\_D\_\_, \_\_P\_\_, \_\_Q\_\_ )

**Value:**

```

namespace Rcpp {
template <int RTYPE, bool NA, typename T>
inline stats::D2<RTYPE,NA,T> d##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, double p0, double p1, bool
        log = false
) {
    return stats::D2<RTYPE,NA,T>( __D__, x, p0, p1, log );
}
template <int RTYPE, bool NA, typename T>
inline stats::P2<RTYPE,NA,T> p##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, double p0, double p1, bool lower =
        true, bool log = false
) {
    return stats::P2<RTYPE,NA,T>( __P__, x, p0, p1, lower, log );
}
template <int RTYPE, bool NA, typename T>
inline stats::Q2<RTYPE,NA,T> q##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, double p0, double p1, bool lower =
        true, bool log = false
) {
    return stats::Q2<RTYPE,NA,T>( __Q__, x, p0, p1, lower, log );
}
}

```

Definition at line 363 of file dpq.h.

Referenced by Rcpp::stats::qcauchy\_1(), Rcpp::stats::qgamma\_1(), Rcpp::stats::qlnorm\_1(), Rcpp::stats::qlogis\_1(), Rcpp::stats::qnorm\_0(), Rcpp::stats::qunif\_0(), and Rcpp::stats::qweibull\_1().

7.174.1.4 `#define RCPP_DPQ_3( __NAME__, __D__, __P__, __Q__ )`**Value:**

```

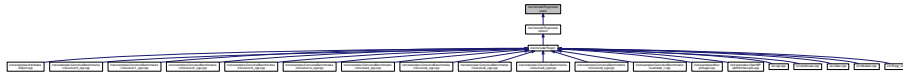
namespace Rcpp {
template <int RTYPE, bool NA, typename T>
inline stats::D3<RTYPE,NA,T> d##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, double p0, double p1, double p2,
    bool log = false
) {
    return stats::D3<RTYPE,NA,T>( __D__, x, p0, p1, p2, log );
}
template <int RTYPE, bool NA, typename T>
inline stats::P3<RTYPE,NA,T> p##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, double p0, double p1, double p2,
    bool lower = true, bool log = false
) {
    return stats::P3<RTYPE,NA,T>( __P__, x, p0, p1, p2, lower, log );
}
template <int RTYPE, bool NA, typename T>
inline stats::Q3<RTYPE,NA,T> q##__NAME__(
    const Rcpp::VectorBase<RTYPE,NA,T>& x, double p0, double p1, double p2,
    bool lower = true, bool log = false
) {
    return stats::Q3<RTYPE,NA,T>( __Q__, x, p0, p1, p2, lower, log );
} }

```

Definition at line 386 of file dpq.h.

## 7.175 inst/include/Rcpp/stats/exp.h File Reference

This graph shows which files directly or indirectly include this file:

**Namespaces**

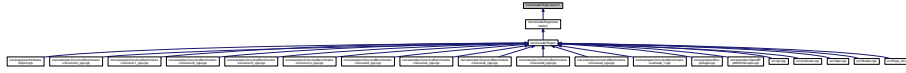
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

**Functions**

- double [Rcpp::stats::d\\_exp\\_0](#) (double x, int give\_log)
- double [Rcpp::stats::q\\_exp\\_0](#) (double p, int lower\_tail, int log\_p)
- double [Rcpp::stats::p\\_exp\\_0](#) (double x, int lower\_tail, int log\_p)
- template<bool NA, typename T >  
stats::D1< REALSXP, NA, T > [Rcpp::dexp](#) (const [Rcpp::VectorBase](#)< REALSXP, NA, T > &x, double shape, bool log=false)
- template<bool NA, typename T >  
stats::P1< REALSXP, NA, T > [Rcpp::pexp](#) (const [Rcpp::VectorBase](#)< REALSXP, NA, T > &x, double shape, bool lower=true, bool log=false)
- template<bool NA, typename T >  
stats::Q1< REALSXP, NA, T > [Rcpp::qexp](#) (const [Rcpp::VectorBase](#)< REALSXP, NA, T > &x, double shape, bool lower=true, bool log=false)

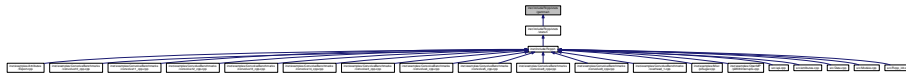
### 7.176 `inst/include/Rcpp/stats/f.h` File Reference

This graph shows which files directly or indirectly include this file:



### 7.177 `inst/include/Rcpp/stats/gamma.h` File Reference

This graph shows which files directly or indirectly include this file:



#### Namespaces

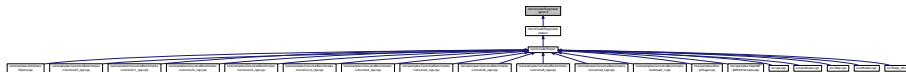
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

#### Functions

- double [Rcpp::stats::dgamma\\_1](#) (double x, double shape, int log\_p)
- double [Rcpp::stats::pgamma\\_1](#) (double x, double alpha, int lower\_tail, int log\_p)
- double [Rcpp::stats::qgamma\\_1](#) (double p, double alpha, int lower\_tail, int log\_p)

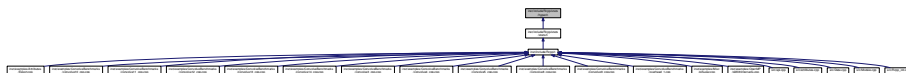
### 7.178 `inst/include/Rcpp/stats/geom.h` File Reference

This graph shows which files directly or indirectly include this file:



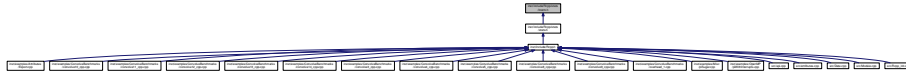
### 7.179 `inst/include/Rcpp/stats/hyper.h` File Reference

This graph shows which files directly or indirectly include this file:



## 7.180 inst/include/Rcpp/stats/lnorm.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

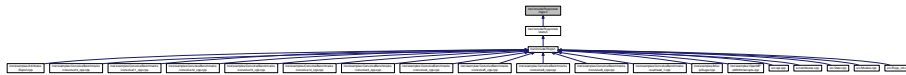
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

### Functions

- double [Rcpp::stats::dlnorm\\_0](#) (double x, int log\_p)
- double [Rcpp::stats::dlnorm\\_1](#) (double x, double meanlog, int log\_p)
- double [Rcpp::stats::plnorm\\_0](#) (double x, int lower\_tail, int log\_p)
- double [Rcpp::stats::plnorm\\_1](#) (double x, double meanlog, int lower\_tail, int log\_p)
- double [Rcpp::stats::qlnorm\\_0](#) (double p, int lower\_tail, int log\_p)
- double [Rcpp::stats::qlnorm\\_1](#) (double p, double meanlog, int lower\_tail, int log\_p)

## 7.181 inst/include/Rcpp/stats/logis.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

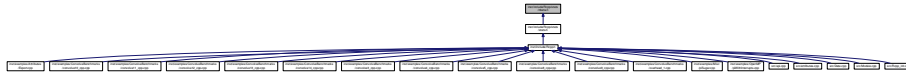
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

### Functions

- double [Rcpp::stats::dlogis\\_0](#) (double x, int [give\\_log](#))
- double [Rcpp::stats::dlogis\\_1](#) (double x, double location, int [give\\_log](#))
- double [Rcpp::stats::plogis\\_0](#) (double x, int lower\_tail, int log\_p)
- double [Rcpp::stats::plogis\\_1](#) (double x, double location, int lower\_tail, int log\_p)
- double [Rcpp::stats::qlogis\\_0](#) (double p, int lower\_tail, int log\_p)
- double [Rcpp::stats::qlogis\\_1](#) (double p, double location, int lower\_tail, int log\_p)

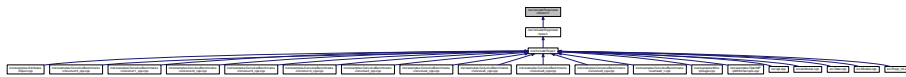
### 7.182 `inst/include/Rcpp/stats/nbeta.h` File Reference

This graph shows which files directly or indirectly include this file:



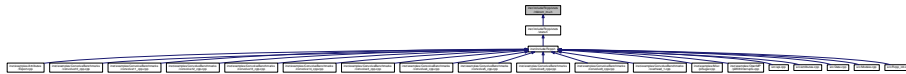
### 7.183 `inst/include/Rcpp/stats/nbinom.h` File Reference

This graph shows which files directly or indirectly include this file:



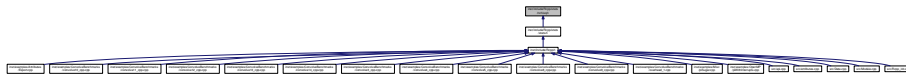
### 7.184 `inst/include/Rcpp/stats/nbinom_mu.h` File Reference

This graph shows which files directly or indirectly include this file:



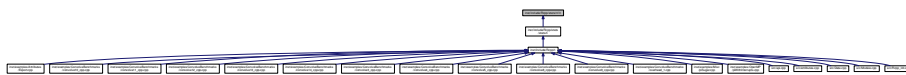
### 7.185 `inst/include/Rcpp/stats/nchisq.h` File Reference

This graph shows which files directly or indirectly include this file:



### 7.186 `inst/include/Rcpp/stats/nf.h` File Reference

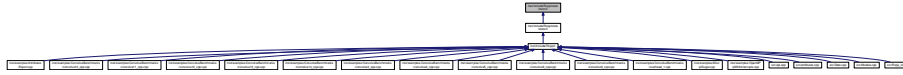
This graph shows which files directly or indirectly include this file:





## 7.187 inst/include/Rcpp/stats/norm.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

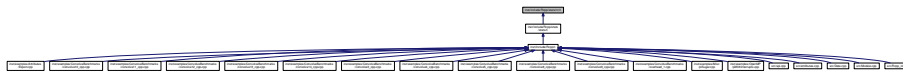
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

### Functions

- double [Rcpp::stats::dnorm\\_1](#) (double x, double mu, int [give\\_log](#))
- double [Rcpp::stats::dnorm\\_0](#) (double x, int [give\\_log](#))
- double [Rcpp::stats::pnorm\\_1](#) (double x, double mu, int lower\_tail, int log\_p)
- double [Rcpp::stats::pnorm\\_0](#) (double x, int lower\_tail, int log\_p)
- double [Rcpp::stats::qnorm\\_1](#) (double p, double mu, int lower\_tail, int log\_p)
- double [Rcpp::stats::qnorm\\_0](#) (double p, int lower\_tail, int log\_p)

## 7.188 inst/include/Rcpp/stats/nt.h File Reference

This graph shows which files directly or indirectly include this file:



## 7.189 inst/include/Rcpp/stats/pois.h File Reference

This graph shows which files directly or indirectly include this file:



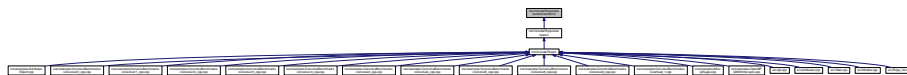
## 7.190 inst/include/Rcpp/stats/random/random.h File Reference

```
#include <Rcpp/stats/random/rnorm.h>
#include <Rcpp/stats/random/runif.h>
#include <Rcpp/stats/random/rgamma.h>
#include <Rcpp/stats/random/rbeta.h>
#include <Rcpp/stats/random/rlnorm.h>
#include <Rcpp/stats/random/rchisq.h>
#include <Rcpp/stats/random/rnchisq.h>
#include <Rcpp/stats/random/rf.h>
#include <Rcpp/stats/random/rt.h>
#include <Rcpp/stats/random/rbinom.h>
#include <Rcpp/stats/random/rcauchy.h>
#include <Rcpp/stats/random/rexp.h>
#include <Rcpp/stats/random/rgeom.h>
#include <Rcpp/stats/random/rnbinom.h>
#include <Rcpp/stats/random/rnbinom_mu.h>
#include <Rcpp/stats/random/rpois.h>
#include <Rcpp/stats/random/rweibull.h>
#include <Rcpp/stats/random/rlogis.h>
#include <Rcpp/stats/random/rwilcox.h>
#include <Rcpp/stats/random/rsignrank.h>
#include <Rcpp/stats/random/rhyper.h>
```

Include dependency graph for random.h:



This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::RNGScope](#)
- class [Rcpp::Generator< T >](#)

### Namespaces

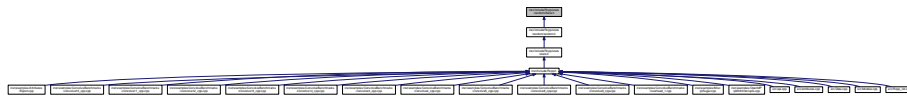
- [Rcpp](#)  
*Rcpp API.*

## Functions

- NumericVector [Rcpp::rnorm](#) (int n, double mean, double sd)
- NumericVector [Rcpp::rnorm](#) (int n, double mean)
- NumericVector [Rcpp::rnorm](#) (int n)
- NumericVector [Rcpp::rbeta](#) (int n, double a, double b)
- NumericVector [Rcpp::rbinom](#) (int n, double nin, double pp)
- NumericVector [Rcpp::rcauchy](#) (int n, double location, double scale)
- NumericVector [Rcpp::rcauchy](#) (int n, double location)
- NumericVector [Rcpp::rcauchy](#) (int n)
- NumericVector [Rcpp::rchisq](#) (int n, double df)
- NumericVector [Rcpp::rexp](#) (int n, double rate)
- NumericVector [Rcpp::rexp](#) (int n)
- NumericVector [Rcpp::rf](#) (int n, double n1, double n2)
- NumericVector [Rcpp::rgamma](#) (int n, double a, double scale)
- NumericVector [Rcpp::rgamma](#) (int n, double a)
- NumericVector [Rcpp::rgeom](#) (int n, double p)
- NumericVector [Rcpp::rhyper](#) (int n, double nn1, double nn2, double kk)
- NumericVector [Rcpp::rlnorm](#) (int n, double meanlog, double sdlog)
- NumericVector [Rcpp::rlnorm](#) (int n, double meanlog)
- NumericVector [Rcpp::rlnorm](#) (int n)
- NumericVector [Rcpp::rlogis](#) (int n, double location, double scale)
- NumericVector [Rcpp::rlogis](#) (int n, double location)
- NumericVector [Rcpp::rlogis](#) (int n)
- NumericVector [Rcpp::rbinom](#) (int n, double siz, double prob)
- NumericVector [Rcpp::rbinom\\_mu](#) (int n, double siz, double mu)
- NumericVector [Rcpp::rnchisq](#) (int n, double df, double lambda)
- NumericVector [Rcpp::rnchisq](#) (int n, double df)
- NumericVector [Rcpp::rpois](#) (int n, double mu)
- NumericVector [Rcpp::rsignrank](#) (int n, double nn)
- NumericVector [Rcpp::rt](#) (int n, double df)
- NumericVector [Rcpp::runif](#) (int n, double min, double max)
- NumericVector [Rcpp::runif](#) (int n, double min)
- NumericVector [Rcpp::runif](#) (int n)
- NumericVector [Rcpp::rweibull](#) (int n, double shape, double scale)
- NumericVector [Rcpp::rweibull](#) (int n, double shape)
- NumericVector [Rcpp::rwilcox](#) (int n, double mm, double nn)

## 7.191 inst/include/Rcpp/stats/random/rbeta.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

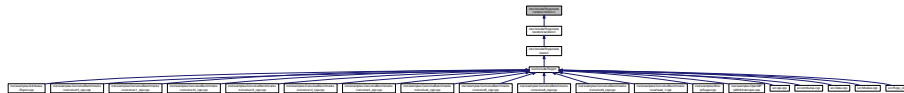
- class [Rcpp::stats::BetaGenerator](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.192 inst/include/Rcpp/stats/random/rbinom.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

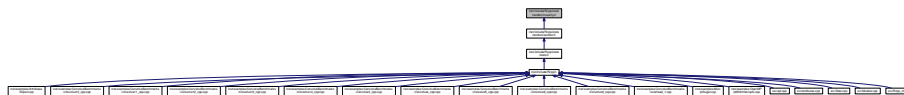
- class [Rcpp::stats::BinomGenerator](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.193 inst/include/Rcpp/stats/random/rcauchy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::stats::CauchyGenerator](#)
- class [Rcpp::stats::CauchyGenerator\\_1](#)
- class [Rcpp::stats::CauchyGenerator\\_0](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.194 inst/include/Rcpp/stats/random/rchisq.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

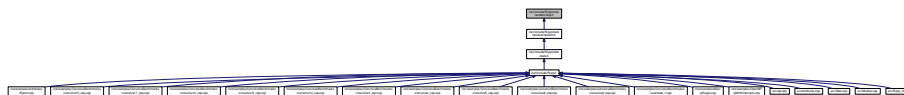
- class [Rcpp::stats::ChisqGenerator](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.195 inst/include/Rcpp/stats/random/rexp.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

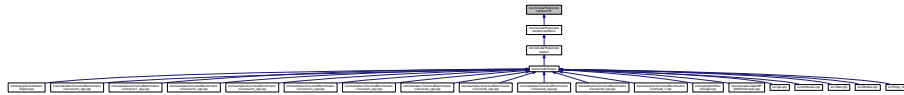
- class [Rcpp::stats::ExpGenerator](#)
- class [Rcpp::stats::ExpGenerator\\_\\_rate1](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.196 inst/include/Rcpp/stats/random/rf.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::stats::FGenerator\\_Finite\\_Finite](#)
- class [Rcpp::stats::FGenerator\\_NotFinite\\_Finite](#)
- class [Rcpp::stats::FGenerator\\_Finite\\_NotFinite](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.197 inst/include/Rcpp/stats/random/rgamma.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

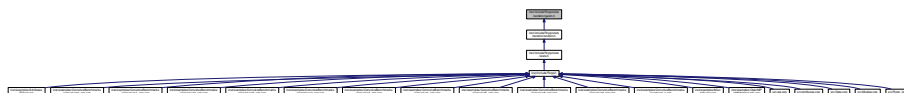
- class [Rcpp::stats::GammaGenerator](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.198 inst/include/Rcpp/stats/random/rgeom.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

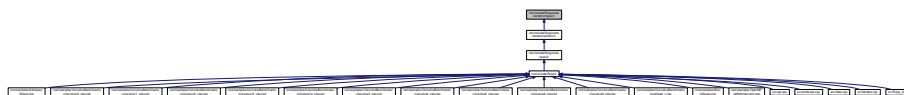
- class [Rcpp::stats::GeomGenerator](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.199 inst/include/Rcpp/stats/random/rhyper.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

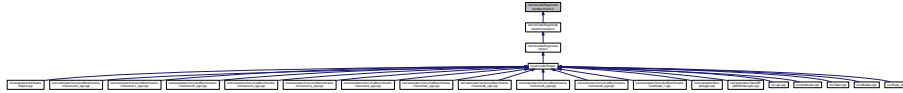
- class [Rcpp::stats::HyperGenerator](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.200 inst/include/Rcpp/stats/random/rlnorm.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

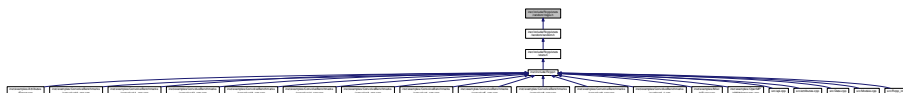
- class [Rcpp::stats::LNormGenerator](#)
- class [Rcpp::stats::LNormGenerator\\_1](#)
- class [Rcpp::stats::LNormGenerator\\_0](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.201 inst/include/Rcpp/stats/random/rlogis.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::stats::LogisGenerator](#)
- class [Rcpp::stats::LogisGenerator\\_1](#)
- class [Rcpp::stats::LogisGenerator\\_0](#)

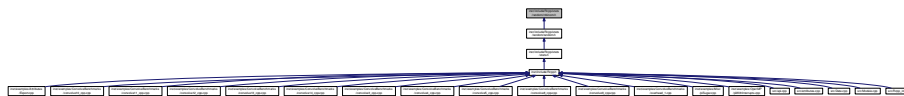
### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)



## 7.202 inst/include/Rcpp/stats/random/rnbinom.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::stats::NBinomGenerator](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.203 inst/include/Rcpp/stats/random/rnbinom\_mu.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

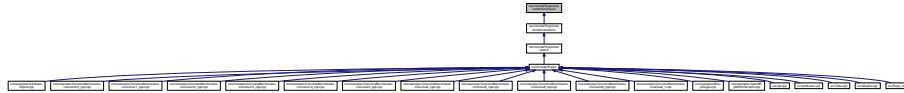
- class [Rcpp::stats::NBinomGenerator\\_Mu](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.204 inst/include/Rcpp/stats/random/rnchisq.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::stats::NChisqGenerator](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.205 inst/include/Rcpp/stats/random/rnorm.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::stats::NormGenerator](#)
- class [Rcpp::stats::NormGenerator\\_\\_sd1](#)
- class [Rcpp::stats::NormGenerator\\_\\_mean0](#)
- class [Rcpp::stats::NormGenerator\\_\\_mean0\\_\\_sd1](#)

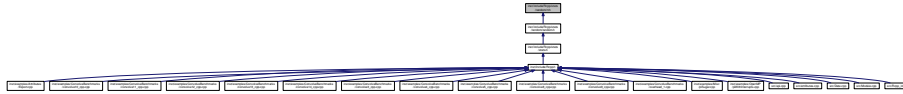
### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)



## 7.208 inst/include/Rcpp/stats/random/rt.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

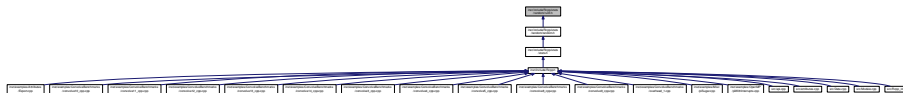
- class [Rcpp::stats::TGenerator](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.209 inst/include/Rcpp/stats/random/runif.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

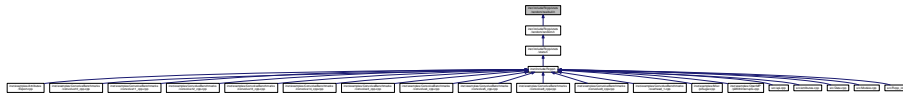
- class [Rcpp::stats::UnifGenerator](#)
- class [Rcpp::stats::UnifGenerator\\_\\_0\\_\\_1](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.210 inst/include/Rcpp/stats/random/rweibull.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

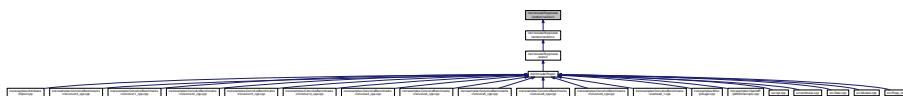
- class [Rcpp::stats::WeibullGenerator](#)
- class [Rcpp::stats::WeibullGenerator\\_\\_scale1](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.211 inst/include/Rcpp/stats/random/rwilcox.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::stats::WilcoxGenerator](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## 7.212 inst/include/Rcpp/stats/stats.h File Reference

```

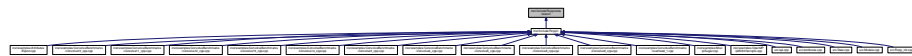
#include <Rcpp/stats/dpq/dpq.h>
#include <Rcpp/stats/unif.h>
#include <Rcpp/stats/norm.h>
#include <Rcpp/stats/gamma.h>
#include <Rcpp/stats/chisq.h>
#include <Rcpp/stats/beta.h>
#include <Rcpp/stats/t.h>
#include <Rcpp/stats/lnorm.h>
#include <Rcpp/stats/weibull.h>
#include <Rcpp/stats/logis.h>
#include <Rcpp/stats/f.h>
#include <Rcpp/stats/exp.h>
#include <Rcpp/stats/cauchy.h>
#include <Rcpp/stats/geom.h>
#include <Rcpp/stats/hyper.h>
#include <Rcpp/stats/nt.h>
#include <Rcpp/stats/nchisq.h>
#include <Rcpp/stats/nbeta.h>
#include <Rcpp/stats/nf.h>
#include <Rcpp/stats/nbinom.h>
#include <Rcpp/stats/nbinom_mu.h>
#include <Rcpp/stats/binom.h>
#include <Rcpp/stats/pois.h>
#include <Rcpp/stats/random/random.h>

```

Include dependency graph for stats.h:



This graph shows which files directly or indirectly include this file:



### Macros

- #define [ML\\_POSINF](#) R\_PosInf
- #define [ML\\_NEGINF](#) R\_NegInf
- #define [ML\\_NAN](#) R\_NaN

### 7.212.1 Macro Definition Documentation

#### 7.212.1.1 #define ML\_NAN R\_NaN

Definition at line 29 of file stats.h.

Referenced by `Rcpp::stats::dnorm_1()`, and `Rcpp::stats::pnorm_1()`.

7.212.1.2 `#define ML_NEGINF R_NegInf`

Definition at line 28 of file stats.h.

Referenced by `Rcpp::stats::qlogis_0()`, and `Rcpp::stats::qlogis_1()`.

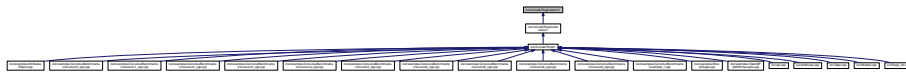
7.212.1.3 `#define ML_POSINF R_PosInf`

Definition at line 27 of file stats.h.

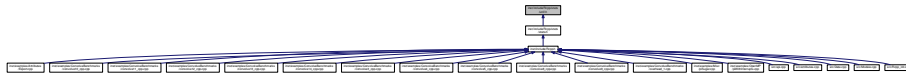
Referenced by `Rcpp::stats::dgamma_1()`, `Rcpp::stats::dweibull_1()`, `Rcpp::stats::qlnorm_0()`, `Rcpp::stats::qlnorm_1()`, `Rcpp::stats::qlogis_0()`, `Rcpp::stats::qlogis_1()`, and `Rcpp::stats::qweibull_1()`.

7.213 `inst/include/Rcpp/stats/t.h` File Reference

This graph shows which files directly or indirectly include this file:

7.214 `inst/include/Rcpp/stats/unif.h` File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

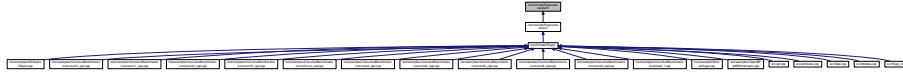
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

## Functions

- double [Rcpp::stats::dunif\\_1](#) (double x, double a, int give\_log)
- double [Rcpp::stats::dunif\\_0](#) (double x, int give\_log)
- double [Rcpp::stats::punif\\_1](#) (double x, double a, int lower\_tail, int log\_p)
- double [Rcpp::stats::punif\\_0](#) (double x, int lower\_tail, int log\_p)
- double [Rcpp::stats::qunif\\_1](#) (double p, double a, int lower\_tail, int log\_p)
- double [Rcpp::stats::qunif\\_0](#) (double p, int lower\_tail, int log\_p)

## 7.215 inst/include/Rcpp/stats/weibull.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::stats](#)

### Functions

- double [Rcpp::stats::dweibull\\_1](#) (double x, double shape, int [give\\_log](#))
- double [Rcpp::stats::pweibull\\_1](#) (double x, double shape, int lower\_tail, int log\_p)
- double [Rcpp::stats::qweibull\\_1](#) (double p, double shape, int lower\_tail, int log\_p)

## 7.216 inst/include/Rcpp/storage/NoProtectStorage.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::NoProtectStorage< CLASS >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*



## 7.217 inst/include/Rcpp/storage/PreserveStorage.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

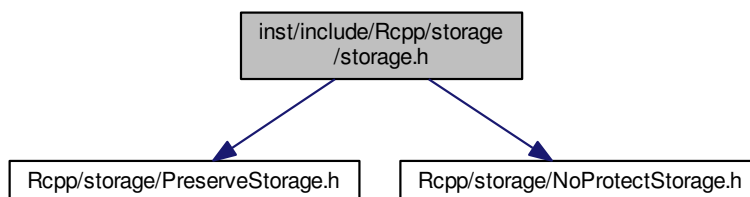
- class [Rcpp::PreserveStorage< CLASS >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.218 inst/include/Rcpp/storage/storage.h File Reference

```
#include <Rcpp/storage/PreserveStorage.h>
#include <Rcpp/storage/NoProtectStorage.h>
Include dependency graph for storage.h:
```

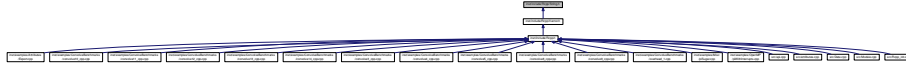


This graph shows which files directly or indirectly include this file:



## 7.219 inst/include/Rcpp/String.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::String](#)
- struct [Rcpp::traits::r\\_type\\_traits< Rcpp::String >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< Rcpp::String >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*
- [Rcpp::internal](#)  
*internal implementation details*

### Macros

- `#define RCPP_STRING_DEBUG_LEVEL 0`
- `#define RCPP_STRING_DEBUG(MSG)`
- `#define RCPP_STRING_DEBUG_1(fmt, MSG)`
- `#define RCPP_STRING_DEBUG_2(fmt, M1, M2)`
- `#define RCPP_STRING_DEBUG_3(fmt, M1, M2, M3)`

### Functions

- `template<>`  
`SEXP Rcpp::internal::make_charsexp< Rcpp::String > (const Rcpp::String &s)`
- `template<>`  
`SEXP Rcpp::wrap< Rcpp::String > (const Rcpp::String &object)`
- `bool Rcpp::operator== (const String::StringProxy &lhs, const String &rhs)`
- `bool Rcpp::operator!= (const String::StringProxy &lhs, const String &rhs)`
- `bool Rcpp::operator== (const String::const_StringProxy &lhs, const String &rhs)`
- `bool Rcpp::operator!= (const String::const_StringProxy &lhs, const String &rhs)`

### 7.219.1 Macro Definition Documentation

#### 7.219.1.1 `#define RCPP_STRING_DEBUG( MSG )`

Definition at line 37 of file String.h.

Referenced by `Rcpp::String::operator+=()`, `Rcpp::String::setData()`, `Rcpp::String::String()`, and `Rcpp::wrap< Rcpp::String >()`.

#### 7.219.1.2 `#define RCPP_STRING_DEBUG_1( fmt, MSG )`

Definition at line 38 of file String.h.

Referenced by `Rcpp::String::append_wide_string()`, and `Rcpp::String::get_sexp()`.

#### 7.219.1.3 `#define RCPP_STRING_DEBUG_2( fmt, M1, M2 )`

Definition at line 39 of file String.h.

Referenced by `Rcpp::String::replace_all()`, `Rcpp::String::replace_first()`, and `Rcpp::String::replace_last()`.

#### 7.219.1.4 `#define RCPP_STRING_DEBUG_3( fmt, M1, M2, M3 )`

Definition at line 40 of file String.h.

#### 7.219.1.5 `#define RCPP_STRING_DEBUG_LEVEL 0`

Definition at line 26 of file String.h.

## 7.220 inst/include/Rcpp/StringTransformer.h File Reference

```
#include <RcppCommon.h>
```

Include dependency graph for StringTransformer.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::StringTransformer< UnaryOperator >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

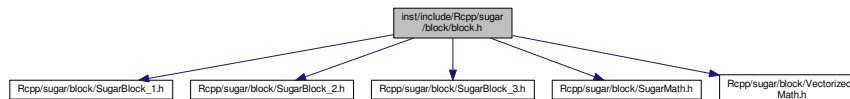
## Functions

- `template<typename UnaryOperator >`  
`StringTransformer< UnaryOperator >` [Rcpp::make\\_string\\_transformer](#) (const UnaryOperator &fun)

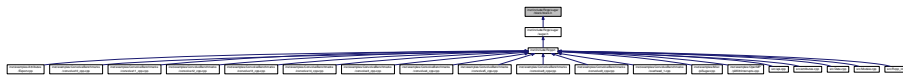
## 7.221 inst/include/Rcpp/sugar/block/block.h File Reference

```
#include <Rcpp/sugar/block/SugarBlock_1.h>
#include <Rcpp/sugar/block/SugarBlock_2.h>
#include <Rcpp/sugar/block/SugarBlock_3.h>
#include <Rcpp/sugar/block/SugarMath.h>
#include <Rcpp/sugar/block/Vectorized_Math.h>
```

Include dependency graph for block.h:



This graph shows which files directly or indirectly include this file:



## 7.222 inst/include/Rcpp/sugar/block/SugarBlock\_1.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::SugarBlock\\_1<NA, RESULT\\_TYPE, U1, T1 >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Macros

- #define [SB1\\_T](#) VectorBase<REALSXP,NA,T>
- #define [SUGAR\\_BLOCK\\_1](#)(\_\_NAME\_\_, \_\_SYMBOL\_\_)

### 7.222.1 Macro Definition Documentation

#### 7.222.1.1 #define SB1\_T VectorBase<REALSXP,NA,T>

Definition at line 47 of file SugarBlock\_1.h.

#### 7.222.1.2 #define SUGAR\_BLOCK\_1( \_\_NAME\_\_, \_\_SYMBOL\_\_ )

### Value:

```
namespace Rcpp{
  template <bool NA, typename T>
  inline sugar::SugarBlock_1<NA, double, double, SB1_T >
  __NAME__(
    const SB1_T& t
  ){
    return sugar::SugarBlock_1<NA, double, double, SB1_T >(
      __SYMBOL__ , t
    ) ;
  }
}
```

Definition at line 49 of file SugarBlock\_1.h.

## 7.223 inst/include/Rcpp/sugar/block/SugarBlock\_2.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::SugarBlock\\_2< NA, RESULT\\_TYPE, U1, T1, U2, T2 >](#)
- class [Rcpp::sugar::SugarBlock\\_2\\_\\_VP< NA, RESULT\\_TYPE, U1, T1, U2 >](#)
- class [Rcpp::sugar::SugarBlock\\_2\\_\\_PV< NA, RESULT\\_TYPE, U1, U2, T2 >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Macros

- `#define SB2\_LHT VectorBase<REALSXP,LHS_NA,LHS_T>`
- `#define SB2\_RHT VectorBase<REALSXP,RHS_NA,RHS_T>`
- `#define SUGAR\_BLOCK\_2(__NAME__, __SYMBOL__)`
- `#define SUGAR\_BLOCK\_2\_NA(__NAME__, __SYMBOL__, __NA__)`

### 7.223.1 Macro Definition Documentation

7.223.1.1 `#define SB2\_LHT VectorBase<REALSXP,LHS_NA,LHS_T>`

Definition at line 89 of file `SugarBlock_2.h`.

7.223.1.2 `#define SB2\_RHT VectorBase<REALSXP,RHS_NA,RHS_T>`

Definition at line 90 of file `SugarBlock_2.h`.

7.223.1.3 `#define SUGAR\_BLOCK\_2( \_\_NAME\_\_, \_\_SYMBOL\_\_ )`

Definition at line 92 of file `SugarBlock_2.h`.

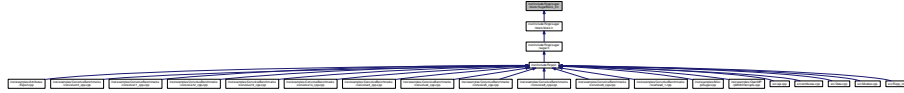
Referenced by `Rcpp::internal::lfactorial()`.

7.223.1.4 `#define SUGAR\_BLOCK\_2\_NA( \_\_NAME\_\_, \_\_SYMBOL\_\_, \_\_NA\_\_ )`

Definition at line 127 of file `SugarBlock_2.h`.

## 7.224 inst/include/Rcpp/sugar/block/SugarBlock\_3.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::SugarBlock\\_3\\_VVV< NA, RESULT\\_TYPE, U1, T1, U2, T2, U3, T3 >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Macros

- `#define SB3\_T1 VectorBase<REALSXP,T1_NA,T1>`
- `#define SB3\_T2 VectorBase<REALSXP,T2_NA,T2>`
- `#define SB3\_T3 VectorBase<REALSXP,T3_NA,T3>`
- `#define SUGAR\_BLOCK\_3(__NAME__, __SYMBOL__)`

#### 7.224.1 Macro Definition Documentation

##### 7.224.1.1 `#define SB3_T1 VectorBase<REALSXP,T1_NA,T1>`

Definition at line 97 of file SugarBlock\_3.h.

##### 7.224.1.2 `#define SB3_T2 VectorBase<REALSXP,T2_NA,T2>`

Definition at line 98 of file SugarBlock\_3.h.

##### 7.224.1.3 `#define SB3_T3 VectorBase<REALSXP,T3_NA,T3>`

Definition at line 99 of file SugarBlock\_3.h.

#### 7.224.1.4 #define SUGAR\_BLOCK\_3( \_\_NAME\_\_, \_\_SYMBOL\_\_ )

##### Value:

```

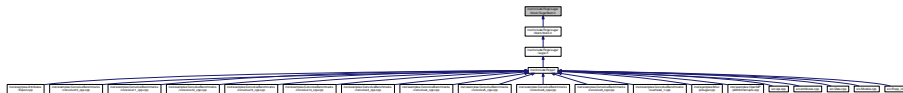
namespace Rcpp{
  template <bool T1_NA, typename T1, bool T2_NA, typename T2, bool T3_NA, typename T3>
  inline sugar::SugarBlock_3_VVV<
    (T1_NA||T2_NA||T3_NA) ,double,
    double,SB3_T1,
    double,SB3_T2,
    double,SB3_T3
  >
  __NAME__(
    const SB3_T1& x1,
    const SB3_T2& x2,
    const SB3_T3& x3
  ){
    return sugar::SugarBlock_3_VVV<
      (T1_NA||T2_NA||T3_NA) , double,
      double,SB3_T1,
      double,SB3_T2,
      double,SB3_T3
    >(
      __SYMBOL__ , x1, x2, x3
    ) ;
  }
}

```

Definition at line 101 of file SugarBlock\_3.h.

## 7.225 inst/include/Rcpp/sugar/block/SugarMath.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::SugarMath\\_1](#) < NA, RESULT\_TYPE, U1, T1, FunPtr >
- class [Rcpp::sugar::SugarMath\\_1](#) < NA, RESULT\_TYPE, int, T1, FunPtr >
- class [Rcpp::sugar::SugarMath\\_1](#) < false, RESULT\_TYPE, int, T1, FunPtr >

### Namespaces

- [Rcpp](#)
  - *Rcpp API.*
- [Rcpp::sugar](#)



## Macros

- #define [SUGAR\\_MATH\\_1](#)(\_\_NAME\_\_, \_\_SYMBOL\_\_)

### 7.225.1 Macro Definition Documentation

#### 7.225.1.1 #define SUGAR\_MATH\_1( \_\_NAME\_\_, \_\_SYMBOL\_\_ )

#### Value:

```

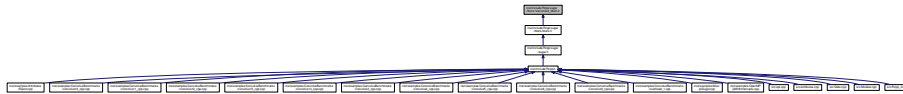
namespace Rcpp{
template <bool NA, typename T>
inline sugar::SugarMath_1<NA,double,double,T, double (*) (double) >
__NAME__(
    const VectorBase<REALSXP,NA,T>& t
){
    return sugar::SugarMath_1<NA,double,double,T, double (*) (double)>(
        &__SYMBOL__ , t
    ) ;
}
inline sugar::SugarMath_1<true,double,double,NumericVector,double(*) (double)>
__NAME__( SEXP x){ return __NAME__( NumericVector( x ) ) ; }
template <bool NA, typename T>
inline sugar::SugarMath_1<NA,double,int,T, double (*) (double) >
__NAME__(
    const VectorBase<INTSXP,NA,T>& t
){
    return sugar::SugarMath_1<NA,double,int,T, double (*) (double)>(
        &__SYMBOL__ , t
    ) ;
}
}
}

```

Definition at line 100 of file SugarMath.h.

## 7.226 inst/include/Rcpp/sugar/block/Vectorized\_Math.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Vectorized](#)< Func, NA, VEC >
- class [Rcpp::sugar::Vectorized\\_INTSXP](#)< Func, NA, VEC >
- class [Rcpp::sugar::Vectorized\\_INTSXP](#)< Func, false, VEC >

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Macros

- `#define VECTORIZED_MATH_1(__NAME__, __SYMBOL__)`

## Typedefs

- typedef double(\* [Rcpp::sugar::DDFun](#)) (double)

### 7.226.1 Macro Definition Documentation

#### 7.226.1.1 #define VECTORIZED\_MATH\_1( \_\_NAME\_\_, \_\_SYMBOL\_\_ )

#### Value:

```
namespace Rcpp{
  template <bool NA, typename T>
  inline sugar::Vectorized<__SYMBOL__,NA,T>
  __NAME__( const VectorBase<REALSXP,NA,T>& t ){
    return sugar::Vectorized<__SYMBOL__,NA,T>( t ) ;
  }
  inline sugar::Vectorized<__SYMBOL__,true,NumericVector>
  __NAME__( SEXP x){ return __NAME__( NumericVector( x ) ) ; }
  template <bool NA, typename T>
  inline sugar::Vectorized<__SYMBOL__,NA,T>
  __NAME__( const VectorBase<INTSXP,NA,T>& t ){
    return sugar::Vectorized<__SYMBOL__,NA,T>( t ) ;
  }
}
```

Definition at line 83 of file Vectorized\_Math.h.

### 7.227 inst/include/Rcpp/sugar/functions/all.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::All< NA, T >](#)
- class [Rcpp::sugar::All< false, T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<bool NA, typename T >`  
`sugar::All< NA, T >` [Rcpp::all](#) (const [Rcpp::VectorBase< LGLSXP, NA, T >](#) &t)

## 7.228 inst/include/Rcpp/sugar/functions/any.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Any< NA, T >](#)
- class [Rcpp::sugar::Any< false, T >](#)

## Namespaces

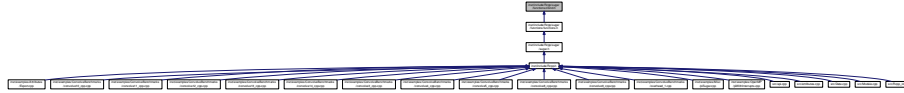
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<bool NA, typename T >`  
`sugar::Any< NA, T >` [Rcpp::any](#) (const [Rcpp::VectorBase< LGLSXP, NA, T >](#) &t)

## 7.229 inst/include/Rcpp/sugar/functions/cbind.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::sugar::cbind\\_impl::cbind\\_sexptype\\_traits< T >](#)
- struct [Rcpp::sugar::cbind\\_impl::cbind\\_sexptype\\_traits< SEXP >](#)
- struct [Rcpp::sugar::cbind\\_impl::cbind\\_storage\\_type< RTYPE >](#)
- struct [Rcpp::sugar::cbind\\_impl::cbind\\_storage\\_type< LGLSXP >](#)
- class [Rcpp::sugar::cbind\\_impl::BindableExpression< RTYPE, E >](#)
- class [Rcpp::sugar::cbind\\_impl::ContainerBindable< RTYPE, T >](#)
- struct [Rcpp::sugar::cbind\\_impl::scalar< RTYPE >](#)
- class [Rcpp::sugar::cbind\\_impl::ScalarBindable< T >](#)
- class [Rcpp::sugar::cbind\\_impl::JoinOp< RTYPE, E1, E2 >](#)
- class [Rcpp::sugar::cbind\\_impl::JoinOp< RTYPE, E1, ScalarBindable< typename scalar< RTYPE >::type > >](#)
- class [Rcpp::sugar::cbind\\_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, E2 >](#)
- class [Rcpp::sugar::cbind\\_impl::JoinOp< RTYPE, ScalarBindable< typename scalar< RTYPE >::type >, ScalarBindable< typename scalar< RTYPE >::type > >](#)
- class [Rcpp::sugar::cbind\\_impl::detail::has\\_stored\\_type< T >](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::has\\_stored\\_type< T >::no](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::MakeBindableCall< T, is\\_container >](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::MakeBindableCall< T, true >](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::MakeBindableCall< Rcpp::Matrix< LGLSXP >, true >](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::MakeBindableCall< Rcpp::Vector< LGLSXP >, true >](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::MakeBindableCall< T, false >](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::matrix\\_return< T, is\\_container >](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::matrix\\_return< T, true >](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::matrix\\_return< Rcpp::Matrix< LGLSXP >, true >](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::matrix\\_return< Rcpp::Vector< LGLSXP >, true >](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::matrix\\_return< bool, false >](#)
- struct [Rcpp::sugar::cbind\\_impl::detail::matrix\\_return< T, false >](#)
- struct [Rcpp::sugar::cbind\\_impl::matrix\\_return< T, B >](#)
- struct [Rcpp::sugar::cbind\\_impl::matrix\\_return< T, false >](#)

### Namespaces

- [Rcpp](#)
  - *Rcpp API.*
- [Rcpp::sugar](#)
- [Rcpp::sugar::cbind\\_impl](#)
- [Rcpp::sugar::cbind\\_impl::detail](#)

## Macros

- #define [MakeBindable\(x\)](#) (cbind\_impl::detail::MakeBindable(x)(x))

## Functions

- `template<int RTYPE>`  
ContainerBindable< RTYPE, [Rcpp::Matrix](#)< RTYPE > > [Rcpp::sugar::cbind\\_impl::MakeContainerBindable](#) (const [Rcpp::Matrix](#)< RTYPE > &x)
- `template<int RTYPE>`  
ContainerBindable< RTYPE, [Rcpp::Vector](#)< RTYPE > > [Rcpp::sugar::cbind\\_impl::MakeContainerBindable](#) (const [Rcpp::Vector](#)< RTYPE > &x)
- `template<>`  
ContainerBindable< LGLSXP, [Rcpp::Matrix](#)< LGLSXP > > [Rcpp::sugar::cbind\\_impl::MakeContainerBindable](#) (const [Rcpp::Matrix](#)< LGLSXP > &x)
- `template<>`  
ContainerBindable< LGLSXP, [Rcpp::Vector](#)< LGLSXP > > [Rcpp::sugar::cbind\\_impl::MakeContainerBindable](#) (const [Rcpp::Vector](#)< LGLSXP > &x)
- `template<typename T >`  
ScalarBindable< T > [Rcpp::sugar::cbind\\_impl::MakeScalarBindable](#) (const T &t)
- `template<int RTYPE, typename E1 , typename E2 >`  
JoinOp< RTYPE, E1, E2 > [Rcpp::sugar::cbind\\_impl::operator](#), (const BindableExpression< RTYPE, E1 > &e1, const BindableExpression< RTYPE, E2 > &e2)
- `template<typename T >`  
[Rcpp::traits::enable\\_if](#)< has\_stored\_type< T >::value, MakeBindableCall< T, true > >::type [Rcpp::sugar::cbind\\_impl::detail::MakeBindable](#) (const T &t)
- `template<typename T >`  
[Rcpp::traits::enable\\_if](#)< !has\_stored\_type< T >::value, MakeBindableCall< T, false > >::type [Rcpp::sugar::cbind\\_impl::detail::MakeBindable](#) (const T &t)
- `template<typename T1 , typename T2 >`  
[cbind\\_impl::matrix\\_return](#)< T1 >::type [Rcpp::sugar::cbind](#) (const T1 &t1, const T2 &t2)
- `template<typename T1 , typename T2 , typename T3 >`  
[cbind\\_impl::matrix\\_return](#)< T1 >::type [Rcpp::sugar::cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3)
- `template<typename T1 , typename T2 , typename T3 , typename T4 >`  
[cbind\\_impl::matrix\\_return](#)< T1 >::type [Rcpp::sugar::cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4)
- `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 >`  
[cbind\\_impl::matrix\\_return](#)< T1 >::type [Rcpp::sugar::cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4, const T5 &t5)
- `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 >`  
[cbind\\_impl::matrix\\_return](#)< T1 >::type [Rcpp::sugar::cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4, const T5 &t5, const T6 &t6)
- `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 >`  
[cbind\\_impl::matrix\\_return](#)< T1 >::type [Rcpp::sugar::cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4, const T5 &t5, const T6 &t6, const T7 &t7)
- `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 >`  
[cbind\\_impl::matrix\\_return](#)< T1 >::type [Rcpp::sugar::cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4, const T5 &t5, const T6 &t6, const T7 &t7, const T8 &t8)
- `template<typename T1 , typename T2 , typename T3 , typename T4 , typename T5 , typename T6 , typename T7 , typename T8 , typename T9 >`  
[cbind\\_impl::matrix\\_return](#)< T1 >::type [Rcpp::sugar::cbind](#) (const T1 &t1, const T2 &t2, const T3 &t3, const T4 &t4, const T5 &t5, const T6 &t6, const T7 &t7, const T8 &t8, const T9 &t9)

















const T39 &t39, const T40 &t40, const T41 &t41, const T42 &t42, const T43 &t43, const T44 &t44, const T45 &t45, const T46 &t46, const T47 &t47, const T48 &t48, const T49 &t49, const T50 &t50)

### 7.229.1 Macro Definition Documentation

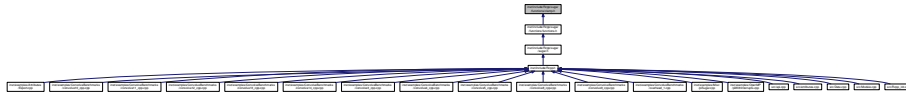
#### 7.229.1.1 #define MakeBindable( x ) (cbind\_impl::detail::MakeBindable(x)(x))

Definition at line 510 of file cbind.h.

Referenced by Rcpp::sugar::cbind().

## 7.230 inst/include/Rcpp/sugar/functions/clamp.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::sugar::clamp\\_operator< RTYPE, NA >](#)
- struct [Rcpp::sugar::clamp\\_operator<REALSXP, true >](#)
- class [Rcpp::sugar::Clamp\\_Primitive\\_Vector\\_Primitive< RTYPE, NA, T >](#)

### Namespaces

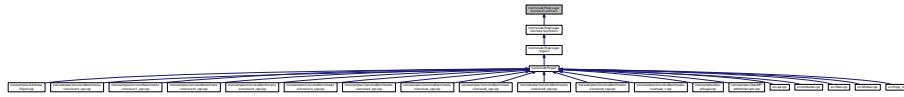
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- [template<int RTYPE, bool NA, typename T > sugar::Clamp\\_Primitive\\_Vector\\_Primitive< RTYPE, NA, T > Rcpp::clamp](#) (typename [Rcpp::traits::storage\\_type< RTYPE >::type](#) lhs, const [Rcpp::VectorBase< RTYPE, NA, T >](#) &vec, typename [Rcpp::traits::storage\\_type< RTYPE >::type](#) rhs)

## 7.231 inst/include/Rcpp/sugar/functions/cummax.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Cummax](#)< RTYPE, NA, T >

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- template<bool NA, typename T >  
[sugar::Cummax](#)< INTSXP, NA, T > [Rcpp::cummax](#) (const [VectorBase](#)< INTSXP, NA, T > &t)
- template<bool NA, typename T >  
[sugar::Cummax](#)< REALSXP, NA, T > [Rcpp::cummax](#) (const [VectorBase](#)< REALSXP, NA, T > &t)

## 7.232 inst/include/Rcpp/sugar/functions/cummin.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Cummin](#)< RTYPE, NA, T >

### Namespaces

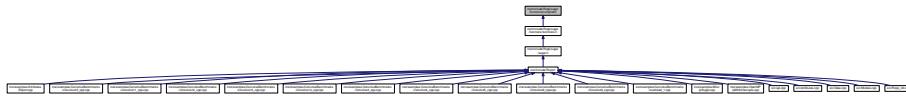
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<bool NA, typename T >`  
`sugar::Cummin< INTSXP, NA, T >` [Rcpp::cummin](#) (const VectorBase< INTSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Cummin< REALSXP, NA, T >` [Rcpp::cummin](#) (const VectorBase< REALSXP, NA, T > &t)

## 7.233 inst/include/Rcpp/sugar/functions/cumprod.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Cumprod< RTYPE, NA, T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<bool NA, typename T >`  
`sugar::Cumprod< INTSXP, NA, T >` [Rcpp::cumprod](#) (const VectorBase< INTSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Cumprod< REALSXP, NA, T >` [Rcpp::cumprod](#) (const VectorBase< REALSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Cumprod< CPLXSXP, NA, T >` [Rcpp::cumprod](#) (const VectorBase< CPLXSXP, NA, T > &t)

## 7.234 inst/include/Rcpp/sugar/functions/cumsum.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Cumsum< RTYPE, NA, T >](#)

## Namespaces

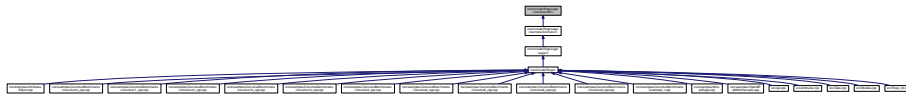
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<bool NA, typename T >`  
`sugar::Cumsum< INTSXP, NA, T >` [Rcpp::cumsum](#) (`const VectorBase< INTSXP, NA, T > &t`)
- `template<bool NA, typename T >`  
`sugar::Cumsum< REALSXP, NA, T >` [Rcpp::cumsum](#) (`const VectorBase< REALSXP, NA, T > &t`)

## 7.235 inst/include/Rcpp/sugar/functions/diff.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Diff< RTYPE, LHS\\_NA, LHS\\_T >](#)
- class [Rcpp::sugar::Diff< REALSXP, LHS\\_NA, LHS\\_T >](#)
- class [Rcpp::sugar::Diff< RTYPE, false, LHS\\_T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

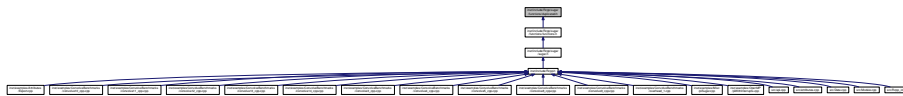
## Functions

- `template<bool LHS_NA, typename LHS_T >`  
`sugar::Diff< INTSXP, LHS_NA, LHS_T >` [Rcpp::diff](#) (`const VectorBase< INTSXP, LHS_NA, LHS_T > &lhs`)
- `template<bool LHS_NA, typename LHS_T >`  
`sugar::Diff< REALSXP, LHS_NA, LHS_T >` [Rcpp::diff](#) (`const VectorBase< REALSXP, LHS_NA, LHS_T > &lhs`)



## 7.236 inst/include/Rcpp/sugar/functions/duplicated.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)

*Rcpp API.*

### Functions

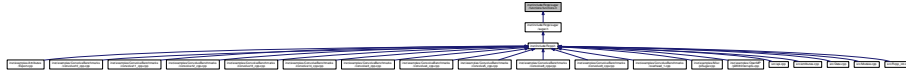
- `template<int RTYPE, bool NA, typename T >`  
`LogicalVector Rcpp::duplicated (const VectorBase< RTYPE, NA, T > &x)`

## 7.237 inst/include/Rcpp/sugar/functions/functions.h File Reference

```
#include <cmath>
```

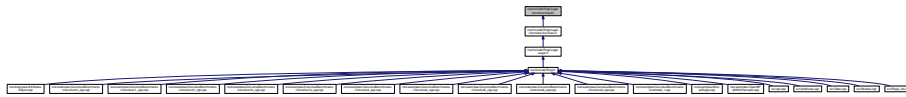
```
#include <Rcpp/sugar/functions/Lazy.h>
#include <Rcpp/sugar/functions/math.h>
#include <Rcpp/sugar/functions/complex.h>
#include <Rcpp/sugar/functions/any.h>
#include <Rcpp/sugar/functions/all.h>
#include <Rcpp/sugar/functions/is_na.h>
#include <Rcpp/sugar/functions/is_finite.h>
#include <Rcpp/sugar/functions/is_infinite.h>
#include <Rcpp/sugar/functions/is_nan.h>
#include <Rcpp/sugar/functions/na_omit.h>
#include <Rcpp/sugar/functions/seq_along.h>
#include <Rcpp/sugar/functions/sapply.h>
#include <Rcpp/sugar/functions/mapply.h>
#include <Rcpp/sugar/functions/lapply.h>
#include <Rcpp/sugar/functions/ifelse.h>
#include <Rcpp/sugar/functions/pmin.h>
#include <Rcpp/sugar/functions/pmax.h>
#include <Rcpp/sugar/functions/clamp.h>
#include <Rcpp/sugar/functions/min.h>
#include <Rcpp/sugar/functions/max.h>
#include <Rcpp/sugar/functions/range.h>
#include <Rcpp/sugar/functions/sign.h>
#include <Rcpp/sugar/functions/diff.h>
#include <Rcpp/sugar/functions/pow.h>
#include <Rcpp/sugar/functions/rep.h>
#include <Rcpp/sugar/functions/rep_len.h>
#include <Rcpp/sugar/functions/rep_each.h>
#include <Rcpp/sugar/functions/rev.h>
#include <Rcpp/sugar/functions/head.h>
#include <Rcpp/sugar/functions/tail.h>
#include <Rcpp/sugar/functions/sum.h>
#include <Rcpp/sugar/functions/mean.h>
#include <Rcpp/sugar/functions/var.h>
#include <Rcpp/sugar/functions/sd.h>
#include <Rcpp/sugar/functions/cumsum.h>
#include <Rcpp/sugar/functions/which_min.h>
#include <Rcpp/sugar/functions/which_max.h>
#include <Rcpp/sugar/functions/unique.h>
#include <Rcpp/sugar/functions/match.h>
#include <Rcpp/sugar/functions/table.h>
#include <Rcpp/sugar/functions/duplicated.h>
#include <Rcpp/sugar/functions/self_match.h>
#include <Rcpp/sugar/functions/setdiff.h>
#include <Rcpp/sugar/functions/strings/strings.h>
#include <Rcpp/sugar/functions/cumprod.h>
#include <Rcpp/sugar/functions/cummin.h>
#include <Rcpp/sugar/functions/cummax.h>
#include <Rcpp/sugar/functions/median.h>
#include <Rcpp/sugar/functions/cbind.h>
#include <Rcpp/sugar/functions/rowSums.h>
```

This graph shows which files directly or indirectly include this file:



## 7.238 inst/include/Rcpp/sugar/functions/head.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Head< RTYPE, NA, T >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::Head< RTYPE, NA, T >` [Rcpp::head](#) (const VectorBase< RTYPE, NA, T > &t, R\_xlen\_t n)

## 7.239 inst/include/Rcpp/sugar/functions/ifelse.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::IfElse< RTYPE, COND\\_NA, COND\\_T, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::IfElse< RTYPE, false, COND\\_T, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::IfElse\\_Primitive\\_Vector< RTYPE, COND\\_NA, COND\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::IfElse\\_Primitive\\_Vector< RTYPE, false, COND\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::IfElse\\_Vector\\_Primitive< RTYPE, COND\\_NA, COND\\_T, LHS\\_NA, LHS\\_T >](#)
- class [Rcpp::sugar::IfElse\\_Vector\\_Primitive< RTYPE, false, COND\\_T, LHS\\_NA, LHS\\_T >](#)
- class [Rcpp::sugar::IfElse\\_Primitive\\_Primitive< RTYPE, COND\\_NA, COND\\_T >](#)
- class [Rcpp::sugar::IfElse\\_Primitive\\_Primitive< RTYPE, false, COND\\_T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- [template<int RTYPE, bool COND\\_NA, typename COND\\_T, bool LHS\\_NA, typename LHS\\_T, bool RHS\\_NA, typename RHS\\_T > sugar::IfElse< RTYPE, COND\\_NA, COND\\_T, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T > Rcpp::ifelse \(const Rcpp::VectorBase< LGLSXP, COND\\_NA, COND\\_T > &cond, const Rcpp::VectorBase< RTYPE, LHS\\_NA, LHS\\_T > &lhs, const Rcpp::VectorBase< RTYPE, RHS\\_NA, RHS\\_T > &rhs\)](#)
- [template<int RTYPE, bool COND\\_NA, typename COND\\_T, bool RHS\\_NA, typename RHS\\_T > sugar::IfElse\\_Primitive\\_Vector< RTYPE, COND\\_NA, COND\\_T, RHS\\_NA, RHS\\_T > Rcpp::ifelse \(const Rcpp::VectorBase< LGLSXP, COND\\_NA, COND\\_T > &cond, typename traits::storage\\_type< RTYPE >::type lhs, const Rcpp::VectorBase< RTYPE, RHS\\_NA, RHS\\_T > &rhs\)](#)
- [template<int RTYPE, bool COND\\_NA, typename COND\\_T, bool RHS\\_NA, typename RHS\\_T > sugar::IfElse\\_Vector\\_Primitive< RTYPE, COND\\_NA, COND\\_T, RHS\\_NA, RHS\\_T > Rcpp::ifelse \(const Rcpp::VectorBase< LGLSXP, COND\\_NA, COND\\_T > &cond, const Rcpp::VectorBase< RTYPE, RHS\\_NA, RHS\\_T > &lhs, typename traits::storage\\_type< RTYPE >::type rhs\)](#)
- [template<bool COND\\_NA, typename COND\\_T > sugar::IfElse\\_Primitive\\_Primitive< REALSXP, COND\\_NA, COND\\_T > Rcpp::ifelse \(const Rcpp::VectorBase< LGLSXP, COND\\_NA, COND\\_T > &cond, double lhs, double rhs\)](#)
- [template<bool COND\\_NA, typename COND\\_T > sugar::IfElse\\_Primitive\\_Primitive< INTSXP, COND\\_NA, COND\\_T > Rcpp::ifelse \(const Rcpp::VectorBase< LGLSXP, COND\\_NA, COND\\_T > &cond, int lhs, int rhs\)](#)
- [template<bool COND\\_NA, typename COND\\_T > sugar::IfElse\\_Primitive\\_Primitive< CPLXSXP, COND\\_NA, COND\\_T > Rcpp::ifelse \(const Rcpp::VectorBase< LGLSXP, COND\\_NA, COND\\_T > &cond, Rcomplex lhs, Rcomplex rhs\)](#)
- [template<bool COND\\_NA, typename COND\\_T > sugar::IfElse\\_Primitive\\_Primitive< LGLSXP, COND\\_NA, COND\\_T > Rcpp::ifelse \(const Rcpp::VectorBase< LGLSXP, COND\\_NA, COND\\_T > &cond, bool lhs, bool rhs\)](#)

## 7.240 inst/include/Rcpp/sugar/functions/is\_finite.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::IsFinite< RTYPE, NA, VEC\\_TYPE >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::IsFinite< RTYPE, NA, T >` [Rcpp::is\\_finite](#) (const [Rcpp::VectorBase< RTYPE, NA, T >](#) &t)

## 7.241 inst/include/Rcpp/traits/is\_finite.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

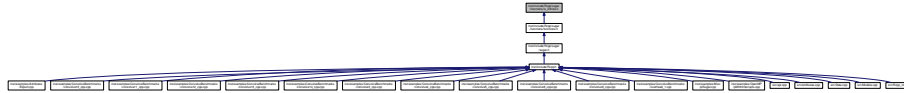
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## Functions

- `template<int RTYPE>`  
`bool Rcpp::traits::is\_finite (typename storage_type< RTYPE >::type)`
- `template<>`  
`bool Rcpp::traits::is\_finite< INTSXP > (int x)`
- `template<>`  
`bool Rcpp::traits::is\_finite< REALSXP > (double x)`
- `template<>`  
`bool Rcpp::traits::is\_finite< CPLXSXP > (Rcomplex x)`
- `template<>`  
`bool Rcpp::traits::is\_finite< STRSXP > (SEXP)`
- `template<>`  
`bool Rcpp::traits::is\_finite< LGLSXP > (int x)`

## 7.242 inst/include/Rcpp/sugar/functions/is\_infinite.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::IsInfinite< RTYPE, NA, VEC\\_TYPE >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::IsInfinite< RTYPE, NA, T >` [Rcpp::is\\_infinite](#) (const [Rcpp::VectorBase< RTYPE, NA, T >](#) &t)

## 7.243 inst/include/Rcpp/traits/is\_infinite.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

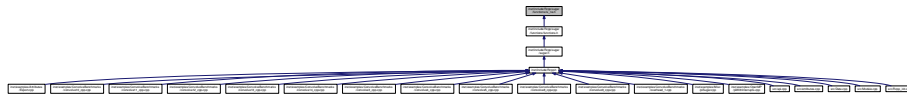
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## Functions

- `template<int RTYPE>`  
`bool Rcpp::traits::is_infinite` (typename storage\_type< RTYPE >::type)
- `template<>`  
`bool Rcpp::traits::is_infinite< REALSXP >` (double x)
- `template<>`  
`bool Rcpp::traits::is_infinite< CPLXSXP >` (Rcomplex x)

## 7.244 inst/include/Rcpp/sugar/functions/is\_na.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class `Rcpp::sugar::IsNa< RTYPE, NA, VEC_TYPE >`
- class `Rcpp::sugar::IsNa< RTYPE, false, VEC_TYPE >`
- class `Rcpp::sugar::IsNa_Vector_is_na< T >`

## Namespaces

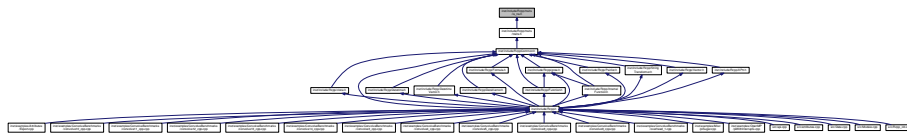
- `Rcpp`  
*Rcpp API.*
- `Rcpp::sugar`

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::IsNa< RTYPE, NA, T >` `Rcpp::is_na` (const `Rcpp::VectorBase< RTYPE, NA, T >` &t)
- `sugar::IsNa_Vector_is_na< DatetimeVector >` `Rcpp::is_na` (const `DatetimeVector` &x)
- `sugar::IsNa_Vector_is_na< DateVector >` `Rcpp::is_na` (const `DateVector` &x)

## 7.245 inst/include/Rcpp/traits/is\_na.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

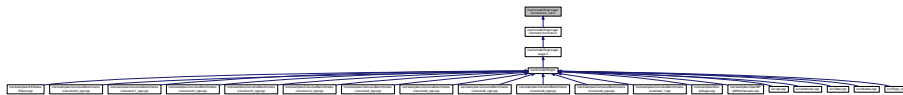
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## Functions

- `template<int RTYPE>`  
`bool Rcpp::traits::is\_na (typename storage_type< RTYPE >::type)`
- `template<>`  
`bool Rcpp::traits::is\_na< INTSXP > (int x)`
- `template<>`  
`bool Rcpp::traits::is\_na< REALSXP > (double x)`
- `template<>`  
`bool Rcpp::traits::is\_na< CPLXSXP > (Rcomplex x)`
- `template<>`  
`bool Rcpp::traits::is\_na< STRSXP > (SEXP x)`
- `template<>`  
`bool Rcpp::traits::is\_na< LGLSXP > (int x)`

## 7.246 inst/include/Rcpp/sugar/functions/is\_nan.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::IsNaN](#)< RTYPE, NA, VEC\_TYPE >

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::IsNaN< RTYPE, NA, T > Rcpp::is\_nan (const Rcpp::VectorBase< RTYPE, NA, T > &t)`



## 7.247 inst/include/Rcpp/traits/is\_nan.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

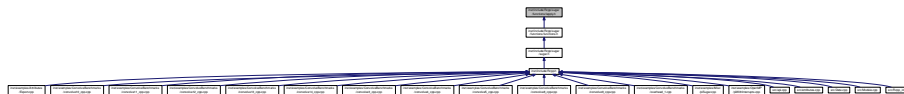
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

### Functions

- `template<int RTYPE>`  
`bool Rcpp::traits::is\_nan (typename storage_type< RTYPE >::type)`
- `template<>`  
`bool Rcpp::traits::is\_nan< REALSXP > (double x)`
- `template<>`  
`bool Rcpp::traits::is\_nan< CPLXSXP > (Rcomplex x)`

## 7.248 inst/include/Rcpp/sugar/functions/lapply.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Lapply](#)< RTYPE, NA, T, Function >

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T, typename Function >`  
`sugar::Lapply< RTYPE, NA, T, Function >` [Rcpp::lapply](#) (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &t, Function fun)

### 7.249 inst/include/Rcpp/sugar/functions/Lazy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Lazy](#)< T, EXPR >

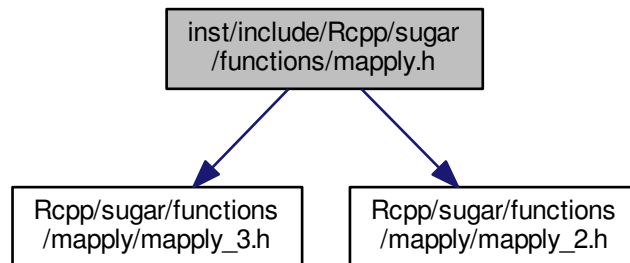
## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

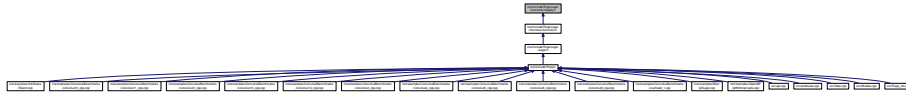
### 7.250 inst/include/Rcpp/sugar/functions/mapply.h File Reference

```
#include <Rcpp/sugar/functions/mapply/mapply_3.h>
#include <Rcpp/sugar/functions/mapply/mapply_2.h>
```

Include dependency graph for mapply.h:

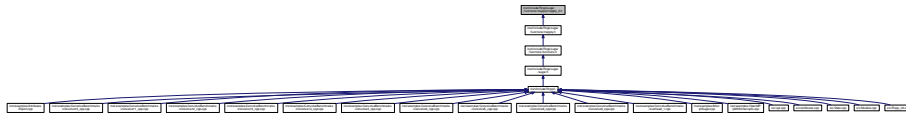


This graph shows which files directly or indirectly include this file:



## 7.251 inst/include/Rcpp/sugar/functions/mapply/mapply\_2.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Mapply\\_2< RTYPE, NA\\_1, T\\_1, NA\\_2, T\\_2, Function >](#)
- class [Rcpp::sugar::Mapply\\_2\\_Vector\\_Primitive< RTYPE, NA\\_1, T\\_1, PRIM\\_2, Function >](#)
- class [Rcpp::sugar::Mapply\\_2\\_Primitive\\_Vector< RTYPE, PRIM\\_1, NA\\_2, T\\_2, Function >](#)

### Namespaces

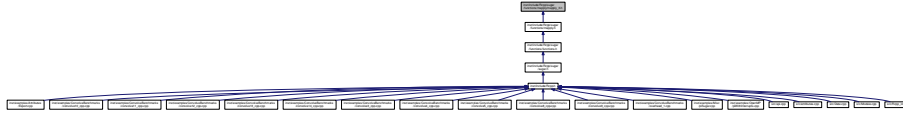
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- `template<int RTYPE, bool NA_1, typename T_1, bool NA_2, typename T_2, typename Function >`  
[sugar::Mapply\\_2< RTYPE, NA\\_1, T\\_1, NA\\_2, T\\_2, Function >](#) [Rcpp::mapply](#) (const [Rcpp::VectorBase](#)< RTYPE, NA\_1, T\_1 > &t1, const [Rcpp::VectorBase](#)< RTYPE, NA\_2, T\_2 > &t2, Function fun)
- `template<int RTYPE, bool NA_1, typename T_1, typename Function >`  
[sugar::Mapply\\_2\\_Vector\\_Primitive< RTYPE, NA\\_1, T\\_1, double, Function >](#) [Rcpp::mapply](#) (const [Rcpp::VectorBase](#)< RTYPE, NA\_1, T\_1 > &t1, double t2, Function fun)
- `template<int RTYPE, bool NA_2, typename T_2, typename Function >`  
[sugar::Mapply\\_2\\_Primitive\\_Vector< RTYPE, double, NA\\_2, T\\_2, Function >](#) [Rcpp::mapply](#) (double t1, const [Rcpp::VectorBase](#)< RTYPE, NA\_2, T\_2 > &t2, Function fun)

## 7.252 inst/include/Rcpp/sugar/functions/mapply/mapply\_3.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Mapply\\_3](#)< RTYPE\_1, NA\_1, T\_1, RTYPE\_2, NA\_2, T\_2, RTYPE\_3, NA\_3, T\_3, Function >

### Namespaces

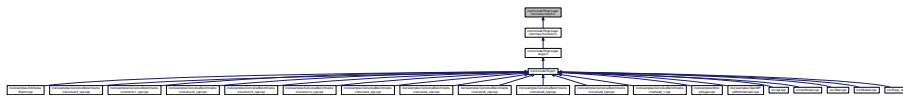
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- `template<int RTYPE_1, bool NA_1, typename T_1, int RTYPE_2, bool NA_2, typename T_2, int RTYPE_3, bool NA_3, typename T_3, typename Function >`  
`sugar::Mapply_3< RTYPE_1, NA_1, T_1, RTYPE_2, NA_2, T_2, RTYPE_3, NA_3, T_3, Function >` [Rcpp::mapply](#) (const [Rcpp::VectorBase](#)< RTYPE\_1, NA\_1, T\_1 > &t1, const [Rcpp::VectorBase](#)< RTYPE\_2, NA\_2, T\_2 > &t2, const [Rcpp::VectorBase](#)< RTYPE\_3, NA\_3, T\_3 > &t3, Function fun)

## 7.253 inst/include/Rcpp/sugar/functions/match.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

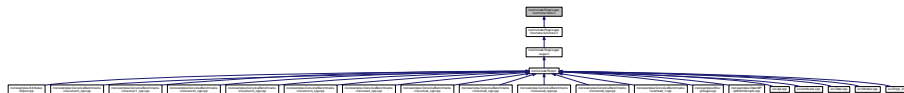
- [Rcpp](#)  
*Rcpp API.*

## Functions

- `template<int RTYPE, bool NA, typename T, bool RHS_NA, typename RHS_T >`  
IntegerVector [Rcpp::match](#) (const VectorBase< RTYPE, NA, T > &x, const VectorBase< RTYPE, RHS\_NA, RHS\_T > &table\_)

## 7.254 inst/include/Rcpp/sugar/functions/math.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

- double [Rcpp::internal::factorial](#) (double x)
- double [Rcpp::internal::lfactorial](#) (double x)
- [VECTORIZED\\_MATH\\_1](#) (trunc, ::Rf\_ftrunc) [SUGAR\\_BLOCK\\_2](#)(round

### 7.254.1 Function Documentation

#### 7.254.1.1 [VECTORIZED\\_MATH\\_1](#) ( trunc , ::Rf\_ftrunc )

Referenced by [Rcpp::internal::lfactorial](#)().

## 7.255 inst/include/Rcpp/sugar/functions/max.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Max< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Max< RTYPE, false, T >](#)

## Namespaces

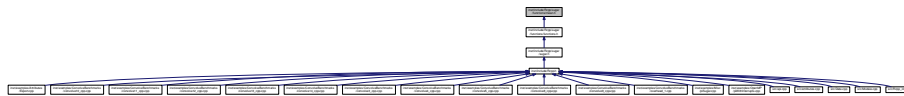
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::Max< RTYPE, NA, T >` [Rcpp::max](#) (const VectorBase< RTYPE, NA, T > &x)

## 7.256 inst/include/Rcpp/sugar/functions/mean.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Mean< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Mean< CPLXSXP, NA, T >](#)
- class [Rcpp::sugar::Mean< LGLSXP, NA, T >](#)
- class [Rcpp::sugar::Mean< INTSXP, NA, T >](#)

## Namespaces

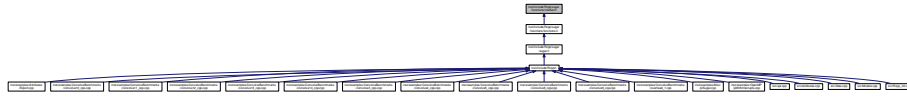
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<bool NA, typename T >`  
`sugar::Mean< REALSXP, NA, T >` [Rcpp::mean](#) (const VectorBase< REALSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Mean< INTSXP, NA, T >` [Rcpp::mean](#) (const VectorBase< INTSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Mean< CPLXSXP, NA, T >` [Rcpp::mean](#) (const VectorBase< CPLXSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Mean< LGLSXP, NA, T >` [Rcpp::mean](#) (const VectorBase< LGLSXP, NA, T > &t)

## 7.257 inst/include/Rcpp/sugar/functions/median.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::sugar::median\\_detail::result< RTYPE >](#)
- struct [Rcpp::sugar::median\\_detail::result< INTSXP >](#)
- struct [Rcpp::sugar::median\\_detail::result< STRSXP >](#)
- class [Rcpp::sugar::Median< RTYPE, NA, T, NA\\_RM >](#)
- class [Rcpp::sugar::Median< RTYPE, NA, T, true >](#)
- class [Rcpp::sugar::Median< RTYPE, false, T, NA\\_RM >](#)
- class [Rcpp::sugar::Median< STRSXP, NA, T, NA\\_RM >](#)
- class [Rcpp::sugar::Median< STRSXP, NA, T, true >](#)
- class [Rcpp::sugar::Median< STRSXP, false, T, true >](#)

### Namespaces

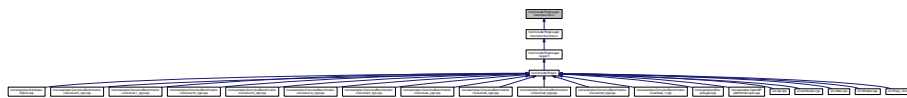
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)
- [Rcpp::sugar::median\\_detail](#)

### Functions

- `template<typename T >`  
`bool Rcpp::sugar::median\_detail::less (T lhs, T rhs)`
- `template<>`  
`bool Rcpp::sugar::median\_detail::less< Rcomplex > (Rcomplex lhs, Rcomplex rhs)`
- `double Rcpp::sugar::median\_detail::half (double lhs)`
- `double Rcpp::sugar::median\_detail::half (int lhs)`
- `Rcomplex Rcpp::sugar::median\_detail::half (Rcomplex lhs)`
- `template<int RTYPE, bool NA, typename T >`  
`sugar::median_detail::result< RTYPE >::type Rcpp::median (const Rcpp::VectorBase< RTYPE, NA, T > &x,  
bool na_rm=false)`

## 7.258 inst/include/Rcpp/sugar/functions/min.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Min< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Min< RTYPE, false, T >](#)

## Namespaces

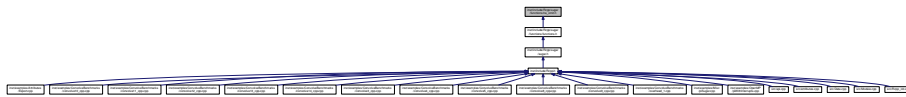
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::Min< RTYPE, NA, T >` [Rcpp::min](#) (const VectorBase< RTYPE, NA, T > &x)

## 7.259 inst/include/Rcpp/sugar/functions/na\_omit.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

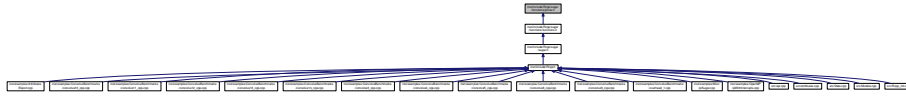
## Functions

- `template<int RTYPE, bool NA, typename T >`  
`Vector< RTYPE >` [Rcpp::sugar::na\\_omit\\_impl](#) (const T &x, [Rcpp::traits::false\\_type](#))
- `template<int RTYPE, bool NA, typename T >`  
`Vector< RTYPE >` [Rcpp::sugar::na\\_omit\\_impl](#) (const T &x, [Rcpp::traits::true\\_type](#))
- `template<int RTYPE, bool NA, typename T >`  
`Vector< RTYPE >` [Rcpp::na\\_omit](#) (const VectorBase< RTYPE, NA, T > &t)



## 7.260 inst/include/Rcpp/sugar/functions/pmax.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::sugar::pmax\\_op< RTYPE, LHS\\_NA, RHS\\_NA >](#)
- struct [Rcpp::sugar::pmax\\_op< REALSXP, true, true >](#)
- struct [Rcpp::sugar::pmax\\_op< REALSXP, true, false >](#)
- struct [Rcpp::sugar::pmax\\_op< REALSXP, false, true >](#)
- struct [Rcpp::sugar::pmax\\_op< REALSXP, false, false >](#)
- struct [Rcpp::sugar::pmax\\_op< INTSXP, LHS\\_NA, RHS\\_NA >](#)
- class [Rcpp::sugar::pmax\\_op\\_Vector\\_Primitive< RTYPE, NA >](#)
- class [Rcpp::sugar::pmax\\_op\\_Vector\\_Primitive< REALSXP, true >](#)
- class [Rcpp::sugar::Pmax\\_Vector\\_Vector< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Pmax\\_Vector\\_Primitive< RTYPE, LHS\\_NA, LHS\\_T >](#)

### Namespaces

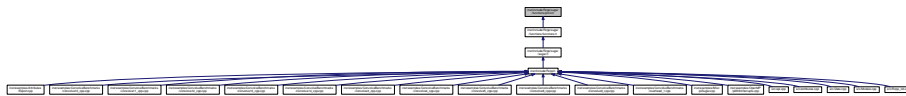
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- [template<int RTYPE, bool LHS\\_NA, typename LHS\\_T, bool RHS\\_NA, typename RHS\\_T > sugar::Pmax\\_Vector\\_Vector< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T > Rcpp::pmax \(const Rcpp::VectorBase< RTYPE, LHS\\_NA, LHS\\_T > &lhs, const Rcpp::VectorBase< RTYPE, RHS\\_NA, RHS\\_T > &rhs\)](#)
- [template<int RTYPE, bool LHS\\_NA, typename LHS\\_T > sugar::Pmax\\_Vector\\_Primitive< RTYPE, LHS\\_NA, LHS\\_T > Rcpp::pmax \(const Rcpp::VectorBase< RTYPE, LHS\\_NA, LHS\\_T > &lhs, typename Rcpp::traits::storage\\_type< RTYPE >::type rhs\)](#)
- [template<int RTYPE, bool RHS\\_NA, typename RHS\\_T > sugar::Pmax\\_Vector\\_Primitive< RTYPE, RHS\\_NA, RHS\\_T > Rcpp::pmax \(typename Rcpp::traits::storage\\_type< RTYPE >::type lhs, const Rcpp::VectorBase< RTYPE, RHS\\_NA, RHS\\_T > &rhs\)](#)

## 7.261 inst/include/Rcpp/sugar/functions/pmin.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::sugar::pmin\\_op](#)< RTYPE, LHS\_NA, RHS\_NA >
- struct [Rcpp::sugar::pmin\\_op](#)< REALSXP, true, true >
- struct [Rcpp::sugar::pmin\\_op](#)< REALSXP, true, false >
- struct [Rcpp::sugar::pmin\\_op](#)< REALSXP, false, true >
- struct [Rcpp::sugar::pmin\\_op](#)< REALSXP, false, false >
- struct [Rcpp::sugar::pmin\\_op](#)< INTSXP, LHS\_NA, RHS\_NA >
- class [Rcpp::sugar::pmin\\_op\\_Vector\\_Primitive](#)< RTYPE, NA >
- class [Rcpp::sugar::pmin\\_op\\_Vector\\_Primitive](#)< REALSXP, true >
- class [Rcpp::sugar::Pmin\\_Vector\\_Vector](#)< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >
- class [Rcpp::sugar::Pmin\\_Vector\\_Primitive](#)< RTYPE, LHS\_NA, LHS\_T >

## Namespaces

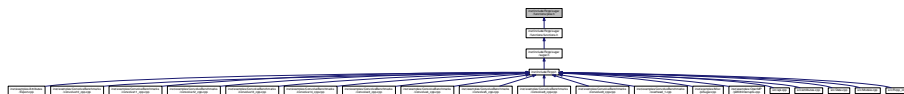
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- [template](#)<int RTYPE, bool LHS\_NA, typename LHS\_T, bool RHS\_NA, typename RHS\_T >  
[sugar::Pmin\\_Vector\\_Vector](#)< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T > [Rcpp::pmin](#) (const [Rcpp::VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > &lhs, const [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > &rhs)
- [template](#)<int RTYPE, bool LHS\_NA, typename LHS\_T >  
[sugar::Pmin\\_Vector\\_Primitive](#)< RTYPE, LHS\_NA, LHS\_T > [Rcpp::pmin](#) (const [Rcpp::VectorBase](#)< RTYPE, LHS\_NA, LHS\_T > &lhs, typename [Rcpp::traits::storage\\_type](#)< RTYPE >::type rhs)
- [template](#)<int RTYPE, bool RHS\_NA, typename RHS\_T >  
[sugar::Pmin\\_Vector\\_Primitive](#)< RTYPE, RHS\_NA, RHS\_T > [Rcpp::pmin](#) (typename [Rcpp::traits::storage\\_type](#)< RTYPE >::type lhs, const [Rcpp::VectorBase](#)< RTYPE, RHS\_NA, RHS\_T > &rhs)

## 7.262 inst/include/Rcpp/sugar/functions/pow.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Pow](#)< RTYPE, NA, T, EXPONENT\_TYPE >
- class [Rcpp::sugar::Pow](#)< INTSXP, NA, T, EXPONENT\_TYPE >
- class [Rcpp::sugar::Pow](#)< INTSXP, false, T, EXPONENT\_TYPE >

## Namespaces

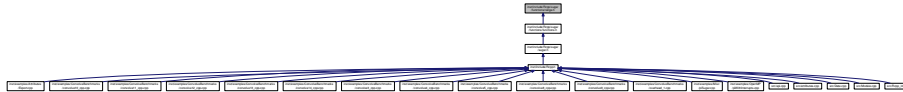
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T, typename EXPONENT_TYPE >`  
`sugar::Pow< RTYPE, NA, T, EXPONENT_TYPE >` [Rcpp::pow](#) (const VectorBase< RTYPE, NA, T > &t, EXPONENT\_TYPE exponent)

## 7.263 inst/include/Rcpp/sugar/functions/range.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Range< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Range< RTYPE, false, T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::Range< RTYPE, NA, T >` [Rcpp::range](#) (const VectorBase< RTYPE, NA, T > &x)

## 7.264 inst/include/Rcpp/sugar/functions/rep.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Rep< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Rep\\_Single< T >](#)

## Namespaces

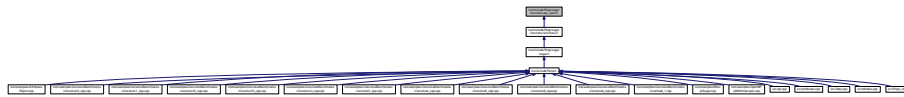
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::Rep< RTYPE, NA, T >` [Rcpp::rep](#) (const VectorBase< RTYPE, NA, T > &t, R\_xlen\_t n)
- `sugar::Rep_Single< double >` [Rcpp::rep](#) (const double &x, R\_xlen\_t n)
- `sugar::Rep_Single< int >` [Rcpp::rep](#) (const int &x, R\_xlen\_t n)
- `sugar::Rep_Single< Rbyte >` [Rcpp::rep](#) (const Rbyte &x, R\_xlen\_t n)
- `sugar::Rep_Single< Rcomplex >` [Rcpp::rep](#) (const Rcomplex &x, R\_xlen\_t n)
- `sugar::Rep_Single< bool >` [Rcpp::rep](#) (const bool &x, R\_xlen\_t n)

## 7.265 inst/include/Rcpp/sugar/functions/rep\_each.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Rep\\_each< RTYPE, NA, T >](#)

## Namespaces

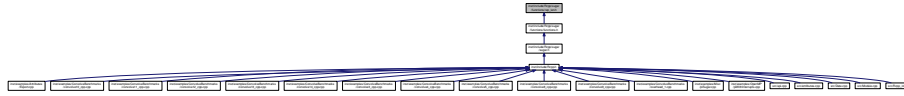
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::Rep_each< RTYPE, NA, T >` [Rcpp::rep\\_each](#) (const VectorBase< RTYPE, NA, T > &t, R\_xlen\_t times)

## 7.266 inst/include/Rcpp/sugar/functions/rep\_len.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Rep\\_len< RTYPE, NA, T >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::Rep_len< RTYPE, NA, T >` [Rcpp::rep\\_len](#) (const VectorBase< RTYPE, NA, T > &t, R\_xlen\_t len)

## 7.267 inst/include/Rcpp/sugar/functions/rev.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Rev< RTYPE, NA, T >](#)

### Namespaces

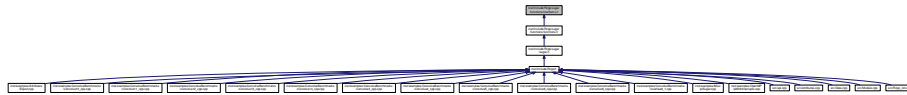
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`sugar::Rev< RTYPE, NA, T >` [Rcpp::rev](#) (`const VectorBase< RTYPE, NA, T > &t`)

## 7.268 inst/include/Rcpp/sugar/functions/rowSums.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::sugar::detail::RowSumsReturn< RTYPE >](#)
- struct [Rcpp::sugar::detail::RowSumsReturn< LGLSXP >](#)
- struct [Rcpp::sugar::detail::ColSumsReturn< RTYPE >](#)
- struct [Rcpp::sugar::detail::RowMeansReturn< RTYPE >](#)
- struct [Rcpp::sugar::detail::RowMeansReturn< CPLXSXP >](#)
- struct [Rcpp::sugar::detail::ColMeansReturn< RTYPE >](#)
- class [Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, NA\\_RM >](#)
- class [Rcpp::sugar::RowSumsImpl< RTYPE, NA, T, true >](#)
- class [Rcpp::sugar::RowSumsImpl< RTYPE, false, T, NA\\_RM >](#)
- class [Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, NA\\_RM >](#)
- class [Rcpp::sugar::ColSumsImpl< RTYPE, NA, T, true >](#)
- class [Rcpp::sugar::ColSumsImpl< RTYPE, false, T, NA\\_RM >](#)
- class [Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, NA\\_RM >](#)
- class [Rcpp::sugar::RowMeansImpl< RTYPE, NA, T, true >](#)
- class [Rcpp::sugar::RowMeansImpl< RTYPE, false, T, NA\\_RM >](#)
- class [Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, NA\\_RM >](#)
- class [Rcpp::sugar::ColMeansImpl< RTYPE, NA, T, true >](#)
- class [Rcpp::sugar::ColMeansImpl< RTYPE, false, T, NA\\_RM >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)
- [Rcpp::sugar::detail](#)

## Macros

- `#define ROW_SUMS_IMPL_KEEPNA(__RTYPE__)`
- `#define ROW_SUMS_IMPL_RMNA(__RTYPE__)`
- `#define COL_SUMS_IMPL_KEEPNA(__RTYPE__)`
- `#define COL_SUMS_IMPL_RMNA(__RTYPE__)`
- `#define ROW_MEANS_IMPL_KEEPNA(__RTYPE__)`
- `#define ROW_MEANS_IMPL_RMNA(__RTYPE__)`
- `#define COL_MEANS_IMPL_KEEPNA(__RTYPE__)`
- `#define COL_MEANS_IMPL_RMNA(__RTYPE__)`

## Functions

- `bool Rcpp::sugar::detail::check_na (double x)`
- `bool Rcpp::sugar::detail::check_na (int x)`
- `bool Rcpp::sugar::detail::check_na (Rboolean x)`
- `bool Rcpp::sugar::detail::check_na (SEXP x)`
- `bool Rcpp::sugar::detail::check_na (Rcomplex x)`
- `void Rcpp::sugar::detail::incr (double *lhs, double rhs)`
- `void Rcpp::sugar::detail::incr (int *lhs, int rhs)`
- `void Rcpp::sugar::detail::incr (Rcomplex *lhs, const Rcomplex &rhs)`
- `void Rcpp::sugar::detail::div (double *lhs, R_xlen_t rhs)`
- `void Rcpp::sugar::detail::div (Rcomplex *lhs, R_xlen_t rhs)`
- `void Rcpp::sugar::detail::set_nan (double *x)`
- `void Rcpp::sugar::detail::set_nan (Rcomplex *x)`
- `template<int RTYPE, bool NA, typename T >`  
`sugar::detail::RowSumsReturn< RTYPE >::type Rcpp::rowSums (const MatrixBase< RTYPE, NA, T > &x, bool na_rm=false)`
- `template<int RTYPE, bool NA, typename T >`  
`sugar::detail::ColSumsReturn< RTYPE >::type Rcpp::colSums (const MatrixBase< RTYPE, NA, T > &x, bool na_rm=false)`
- `template<int RTYPE, bool NA, typename T >`  
`sugar::detail::RowMeansReturn< RTYPE >::type Rcpp::rowMeans (const MatrixBase< RTYPE, NA, T > &x, bool na_rm=false)`
- `template<int RTYPE, bool NA, typename T >`  
`sugar::detail::ColMeansReturn< RTYPE >::type Rcpp::colMeans (const MatrixBase< RTYPE, NA, T > &x, bool na_rm=false)`

### 7.268.1 Macro Definition Documentation

#### 7.268.1.1 `#define COL_MEANS_IMPL_KEEPNA( __RTYPE__ )`

Definition at line 753 of file rowSums.h.

#### 7.268.1.2 `#define COL_MEANS_IMPL_RMNA( __RTYPE__ )`

Definition at line 861 of file rowSums.h.

7.268.1.3 `#define COL_SUMS_IMPL_KEEPNA( __RTYPE__ )`

Definition at line 353 of file rowSums.h.

7.268.1.4 `#define COL_SUMS_IMPL_RMNA( __RTYPE__ )`

Definition at line 448 of file rowSums.h.

7.268.1.5 `#define ROW_MEANS_IMPL_KEEPNA( __RTYPE__ )`

Definition at line 544 of file rowSums.h.

7.268.1.6 `#define ROW_MEANS_IMPL_RMNA( __RTYPE__ )`

Definition at line 652 of file rowSums.h.

7.268.1.7 `#define ROW_SUMS_IMPL_KEEPNA( __RTYPE__ )`

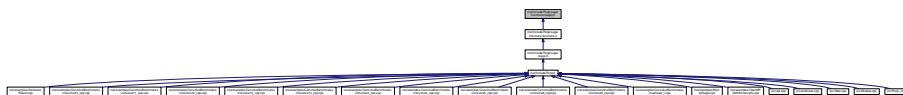
Definition at line 169 of file rowSums.h.

7.268.1.8 `#define ROW_SUMS_IMPL_RMNA( __RTYPE__ )`

Definition at line 264 of file rowSums.h.

## 7.269 `inst/include/Rcpp/sugar/functions/sapply.h` File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct `Rcpp::sugar::sapply_application_result_of< Function, SugarExpression >`
- class `Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO_CONVERSION >`
- class `Rcpp::sugar::Sapply< RTYPE, NA, T, Function, true >`



## Namespaces

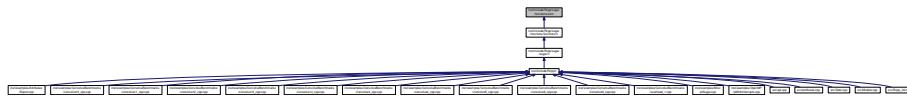
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T, typename Function >`  
`sugar::Sapply< RTYPE, NA, T, Function, traits::same_type< typename::Rcpp::sugar::sapply_application_↵`  
`result_of< Function, T >::type, typename Rcpp::traits::storage\_type< traits::r_sexptype_traits< typename::↵`  
`Rcpp::sugar::sapply_application_result_of< Function, T >::type >::rtype >::type >::value > Rcpp::sapply (const`  
`Rcpp::VectorBase< RTYPE, NA, T > &t, Function fun)`

## 7.270 inst/include/Rcpp/sugar/functions/sd.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Sd](#)< RTYPE, NA, T >

## Namespaces

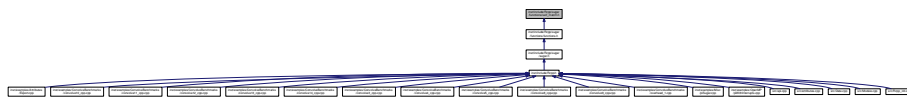
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<bool NA, typename T >`  
`sugar::Sd< REALXP, NA, T > Rcpp::sd (const VectorBase< REALXP, NA, T > &t)`

## 7.271 inst/include/Rcpp/sugar/functions/self\_match.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::SelfInserter< HASH, STORAGE >](#)
- class [Rcpp::sugar::SelfMatch< RTYPE, TABLE\\_T >](#)

## Namespaces

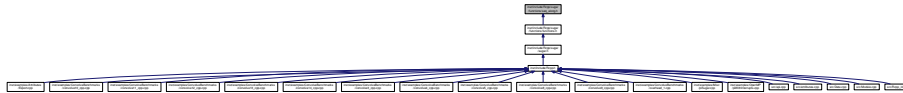
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
IntegerVector [Rcpp::self\\_match](#) (const VectorBase< RTYPE, NA, T > &x)

## 7.272 inst/include/Rcpp/sugar/functions/seq\_along.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::SeqLen](#)

## Namespaces

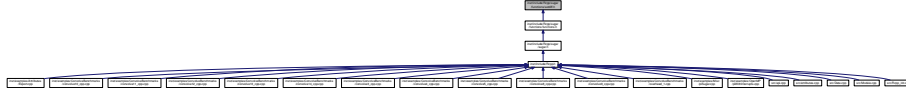
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
sugar::SeqLen [Rcpp::seq\\_along](#) (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &t)
- sugar::SeqLen [Rcpp::seq\\_len](#) (const size\_t &n)
- Range [Rcpp::seq](#) (R\_xlen\_t start, R\_xlen\_t end)

## 7.273 inst/include/Rcpp/sugar/functions/setdiff.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::RemoveFromSet< SET >](#)
- class [Rcpp::sugar::SetDiff< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::SetEqual< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Intersect< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Union< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)

### Namespaces

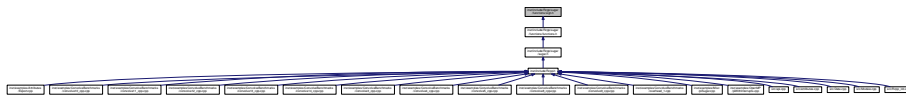
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`Vector< RTYPE > Rcpp::setdiff (const VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const VectorBase< RTYPE, RHS_NA, RHS_T > &rhs)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`bool Rcpp::setequal (const VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const VectorBase< RTYPE, RHS_NA, RHS_T > &rhs)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`Vector< RTYPE > Rcpp::intersect (const VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const VectorBase< RTYPE, RHS_NA, RHS_T > &rhs)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`Vector< RTYPE > Rcpp::union\_ (const VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const VectorBase< RTYPE, RHS_NA, RHS_T > &rhs)`

## 7.274 inst/include/Rcpp/sugar/functions/sign.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::sign\\_\\_impl< NA, RTYPE >](#)
- class [Rcpp::sugar::sign\\_\\_impl< false, RTYPE >](#)
- class [Rcpp::sugar::Sign< RTYPE, NA, T >](#)

## Namespaces

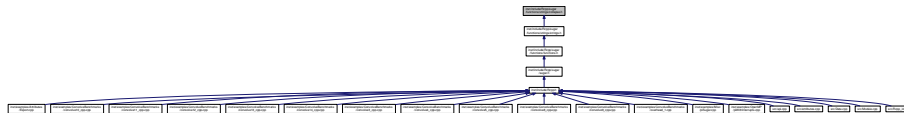
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<bool NA, typename T >`  
`sugar::Sign< INTSXP, NA, T >` [Rcpp::sign](#) (const VectorBase< INTSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Sign< REALSXP, NA, T >` [Rcpp::sign](#) (const VectorBase< REALSXP, NA, T > &t)

## 7.275 inst/include/Rcpp/sugar/functions/strings/collapse.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

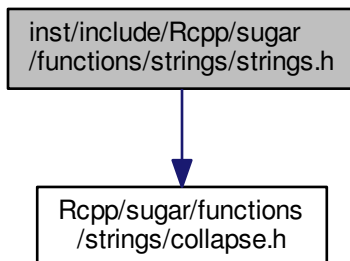
## Functions

- `template<typename Iterator >`  
String [Rcpp::sugar::collapse\\_\\_impl](#) (Iterator it, R\_xlen\_t n)
- `template<bool NA, typename T >`  
String [Rcpp::collapse](#) (const VectorBase< STRSXP, NA, T > &vec)

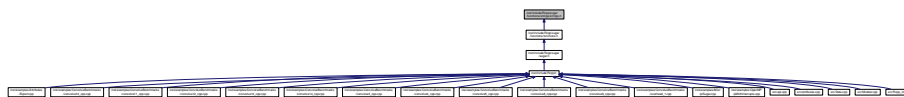
## 7.276 inst/include/Rcpp/sugar/functions/strings/strings.h File Reference

```
#include <Rcpp/sugar/functions/strings/collapse.h>
```

Include dependency graph for strings.h:



This graph shows which files directly or indirectly include this file:



## 7.277 inst/include/Rcpp/sugar/functions/sum.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Sum< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Sum< REALSXP, NA, T >](#)
- class [Rcpp::sugar::Sum< RTYPE, false, T >](#)

### Namespaces

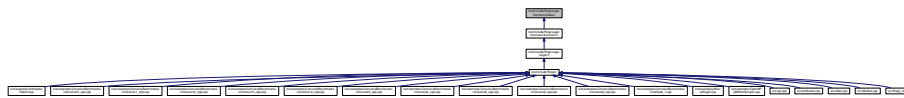
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<bool NA, typename T >`  
`sugar::Sum< INTSXP, NA, T >` [Rcpp::sum](#) (const VectorBase< INTSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Sum< REALSXP, NA, T >` [Rcpp::sum](#) (const VectorBase< REALSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Sum< LGLSXP, NA, T >` [Rcpp::sum](#) (const VectorBase< LGLSXP, NA, T > &t)

## 7.278 inst/include/Rcpp/sugar/functions/table.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::CountInserter< HASH, STORAGE >](#)
- class [Rcpp::sugar::Grabber< HASH, RTYPE >](#)
- class [Rcpp::sugar::Table< RTYPE, TABLE\\_T >](#)

## Namespaces

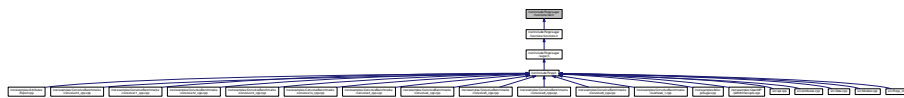
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`IntegerVector` [Rcpp::table](#) (const VectorBase< RTYPE, NA, T > &x)

## 7.279 inst/include/Rcpp/sugar/functions/tail.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Tail< RTYPE, NA, T >](#)

## Namespaces

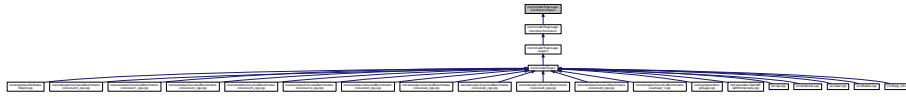
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- [template<int RTYPE, bool NA, typename T >](#)  
[sugar::Tail< RTYPE, NA, T >](#) [Rcpp::tail](#) (const [VectorBase< RTYPE, NA, T >](#) &t, R\_xlen\_t n)

## 7.280 inst/include/Rcpp/sugar/functions/unique.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::InSet< HASH >](#)
- class [Rcpp::sugar::In< RTYPE, TABLE\\_T >](#)

## Namespaces

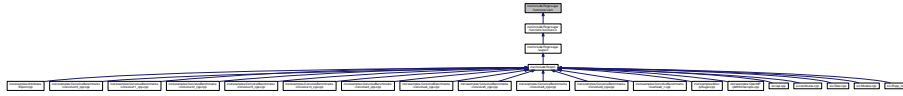
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- [template<int RTYPE, bool NA, typename T >](#)  
[Vector< RTYPE >](#) [Rcpp::unique](#) (const [VectorBase< RTYPE, NA, T >](#) &t)
- [template<int RTYPE, bool NA, typename T >](#)  
[Vector< RTYPE >](#) [Rcpp::sort\\_unique](#) (const [VectorBase< RTYPE, NA, T >](#) &t)
- [template<int RTYPE, bool NA, typename T, bool RHS\\_NA, typename RHS\\_T >](#)  
[LogicalVector](#) [Rcpp::in](#) (const [VectorBase< RTYPE, NA, T >](#) &x, const [VectorBase< RTYPE, RHS\\_NA, RHS\\_T >](#) &table)

## 7.281 inst/include/Rcpp/sugar/functions/var.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Var< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Var< CPLXSXP, NA, T >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- `template<bool NA, typename T >`  
`sugar::Var< REALSXP, NA, T >` [Rcpp::var](#) (const VectorBase< REALSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Var< INTSXP, NA, T >` [Rcpp::var](#) (const VectorBase< INTSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Var< LGLSXP, NA, T >` [Rcpp::var](#) (const VectorBase< LGLSXP, NA, T > &t)
- `template<bool NA, typename T >`  
`sugar::Var< CPLXSXP, NA, T >` [Rcpp::var](#) (const VectorBase< CPLXSXP, NA, T > &t)

## 7.282 inst/include/Rcpp/sugar/functions/which\_max.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::WhichMax< RTYPE, NA, T >](#)
- class [Rcpp::sugar::WhichMax< RTYPE, false, T >](#)



## Namespaces

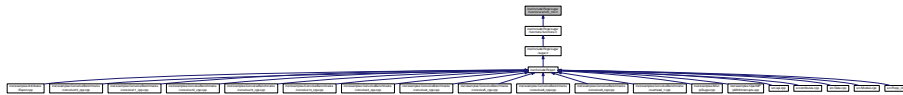
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`R_xlen_t Rcpp::which\_max (const VectorBase< RTYPE, NA, T > &t)`

## 7.283 inst/include/Rcpp/sugar/functions/which\_min.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::WhichMin< RTYPE, NA, T >](#)
- class [Rcpp::sugar::WhichMin< RTYPE, false, T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
`R_xlen_t Rcpp::which\_min (const VectorBase< RTYPE, NA, T > &t)`

## 7.284 inst/include/Rcpp/sugar/logical/and.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::And\\_SingleLogicalResult\\_SingleLogicalResult< LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::And\\_SingleLogicalResult\\_SingleLogicalResult< LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::And\\_SingleLogicalResult\\_SingleLogicalResult< false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::And\\_SingleLogicalResult\\_SingleLogicalResult< false, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::And\\_SingleLogicalResult\\_bool< LHS\\_NA, LHS\\_T >](#)
- class [Rcpp::sugar::And\\_LogicalExpression\\_LogicalExpression< LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::And\\_LogicalExpression\\_LogicalExpression< false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::And\\_LogicalExpression\\_LogicalExpression< LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::And\\_LogicalExpression\\_LogicalExpression< false, LHS\\_T, false, RHS\\_T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
[Rcpp::sugar::And\\_SingleLogicalResult\\_SingleLogicalResult< LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#) `operator&&`  
(const [Rcpp::sugar::SingleLogicalResult< LHS\\_NA, LHS\\_T >](#) &lhs, const [Rcpp::sugar::SingleLogicalResult< LHS\\_NA, LHS\\_T >](#) &rhs)
- `template<bool LHS_NA, typename LHS_T >`  
[Rcpp::sugar::And\\_SingleLogicalResult\\_bool< LHS\\_NA, LHS\\_T >](#) `operator&&` (const [Rcpp::sugar::SingleLogicalResult< LHS\\_NA, LHS\\_T >](#) &lhs, bool rhs)
- `template<bool LHS_NA, typename LHS_T >`  
[Rcpp::sugar::And\\_SingleLogicalResult\\_bool< LHS\\_NA, LHS\\_T >](#) `operator&&` (bool rhs, const [Rcpp::sugar::SingleLogicalResult< LHS\\_NA, LHS\\_T >](#) &lhs)
- `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
[Rcpp::sugar::And\\_LogicalExpression\\_LogicalExpression< LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#) `operator&`  
(const [Rcpp::VectorBase< LGLSXP, LHS\\_NA, LHS\\_T >](#) &lhs, const [Rcpp::VectorBase< LGLSXP, RHS\\_NA, RHS\\_T >](#) &rhs)

### 7.284.1 Function Documentation

- 7.284.1.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >` [Rcpp::sugar::And\\_LogicalExpression\\_LogicalExpression<LHS\\_NA,LHS\\_T,RHS\\_NA,RHS\\_T>](#) `operator&` ( const [Rcpp::VectorBase< LGLSXP, LHS\\_NA, LHS\\_T >](#) & lhs, const [Rcpp::VectorBase< LGLSXP, RHS\\_NA, RHS\\_T >](#) & rhs ) [inline]

Definition at line 316 of file and.h.

References [Rcpp::sugar::And\\_SingleLogicalResult\\_SingleLogicalResult< LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >::lhs](#), and [Rcpp::sugar::And\\_SingleLogicalResult\\_SingleLogicalResult< LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >::rhs](#).

```
7.284.1.2 template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::And_↵
SingleLogicalResult_SingleLogicalResult<LHS_NA,LHS_T,RHS_NA,RHS_T> operator&& ( const
Rcpp::sugar::SingleLogicalResult< LHS_NA, LHS_T > & lhs, const Rcpp::sugar::SingleLogicalResult<
LHS_NA, LHS_T > & rhs ) [inline]
```

Definition at line 288 of file and.h.

References Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

```
7.284.1.3 template<bool LHS_NA, typename LHS_T > Rcpp::sugar::And_SingleLogicalResult_bool<LHS_NA,LHS_T>
operator&& ( const Rcpp::sugar::SingleLogicalResult< LHS_NA, LHS_T > & lhs, bool rhs ) [inline]
```

Definition at line 297 of file and.h.

References Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

```
7.284.1.4 template<bool LHS_NA, typename LHS_T > Rcpp::sugar::And_SingleLogicalResult_bool<LHS_NA,LHS_T>
operator&& ( bool rhs, const Rcpp::sugar::SingleLogicalResult< LHS_NA, LHS_T > & lhs ) [inline]
```

Definition at line 306 of file and.h.

References Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::lhs, and Rcpp::sugar::And\_SingleLogicalResult\_SingleLogicalResult< LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >::rhs.

## 7.285 inst/include/Rcpp/sugar/logical/can\_have\_na.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::can\\_have\\_na< T >](#)

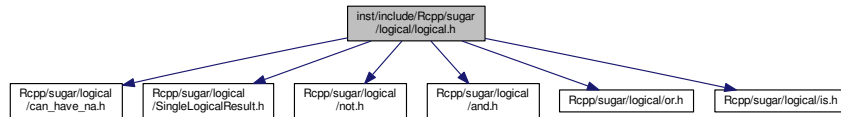
### Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.286 inst/include/Rcpp/sugar/logical/logical.h File Reference

```
#include <Rcpp/sugar/logical/can_have_na.h>
#include <Rcpp/sugar/logical/SingleLogicalResult.h>
#include <Rcpp/sugar/logical/not.h>
#include <Rcpp/sugar/logical/and.h>
#include <Rcpp/sugar/logical/or.h>
#include <Rcpp/sugar/logical/is.h>
```

Include dependency graph for logical.h:

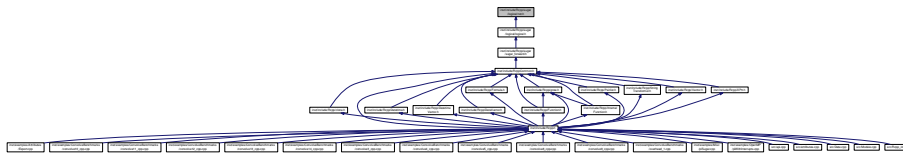


This graph shows which files directly or indirectly include this file:



## 7.287 inst/include/Rcpp/sugar/logical/not.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::sugar::negate< NA >](#)
- struct [Rcpp::sugar::negate< false >](#)
- class [Rcpp::sugar::Negate\\_SingleLogicalResult< NA, T >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<bool NA, typename T >`  
[Rcpp::sugar::Negate\\_SingleLogicalResult](#)< NA, T > `operator!` (const [Rcpp::sugar::SingleLogicalResult](#)< NA, T > &x)

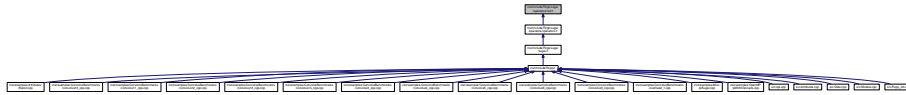
### 7.287.1 Function Documentation

- 7.287.1.1 `template<bool NA, typename T >` [Rcpp::sugar::Negate\\_SingleLogicalResult](#)<NA,T> `operator!` ( const [Rcpp::sugar::SingleLogicalResult](#)< NA, T > &x ) `[inline]`

Definition at line 62 of file not.h.

## 7.288 inst/include/Rcpp/sugar/operators/not.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::not\\_< RTYPE, NA >](#)
- class [Rcpp::sugar::not\\_< RTYPE, false >](#)
- class [Rcpp::sugar::not\\_< REALSXP, NA >](#)
- class [Rcpp::sugar::not\\_< REALSXP, false >](#)
- class [Rcpp::sugar::not\\_< CPLXSXP, NA >](#)
- class [Rcpp::sugar::not\\_< CPLXSXP, false >](#)
- class [Rcpp::sugar::Not\\_Vector](#)< RTYPE, NA, T >

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T >`  
[Rcpp::sugar::Not\\_Vector](#)< RTYPE, NA, T > `operator!` (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &x)

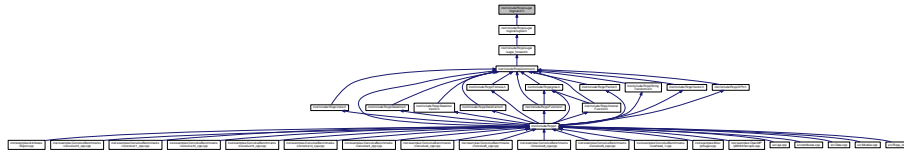
## 7.288.1 Function Documentation

7.288.1.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Not_Vector< RTYPE, NA, T > operator! ( const Rcpp::VectorBase< RTYPE, NA, T > & x ) [inline]`

Definition at line 101 of file not.h.

## 7.289 inst/include/Rcpp/sugar/logical/or.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >`
- class `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, false, RHS_T >`
- class `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, RHS_NA, RHS_T >`
- class `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< false, LHS_T, false, RHS_T >`
- class `Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T >`
- class `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T >`
- class `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, RHS_NA, RHS_T >`
- class `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, false, RHS_T >`
- class `Rcpp::sugar::Or_LogicalExpression_LogicalExpression< false, LHS_T, false, RHS_T >`

### Namespaces

- `Rcpp`  
    *Rcpp API.*
- `Rcpp::sugar`

### Functions

- `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T > operator|| (const Rcpp::sugar::SingleLogicalResult< LHS_NA, LHS_T > &lhs, const Rcpp::sugar::SingleLogicalResult< LHS_NA, LHS_T > &rhs)`
- `template<bool LHS_NA, typename LHS_T > Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T > operator|| (const Rcpp::sugar::SingleLogicalResult< LHS_NA, LHS_T > &lhs, bool rhs)`
- `template<bool LHS_NA, typename LHS_T > Rcpp::sugar::Or_SingleLogicalResult_bool< LHS_NA, LHS_T > operator|| (bool rhs, const Rcpp::sugar::SingleLogicalResult< LHS_NA, LHS_T > &lhs)`
- `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Or_LogicalExpression_LogicalExpression< LHS_NA, LHS_T, RHS_NA, RHS_T > operator| (const Rcpp::VectorBase< LGLSXP, LHS_NA, LHS_T > &lhs, const Rcpp::VectorBase< LGLSXP, RHS_NA, RHS_T > &rhs)`

### 7.289.1 Function Documentation

7.289.1.1 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Or_LogicalExpression_LogicalExpression<LHS_NA,LHS_T,RHS_NA,RHS_T> operator|( const Rcpp::VectorBase<LGLXP, LHS_NA, LHS_T > & lhs, const Rcpp::VectorBase<LGLXP, RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 315 of file or.h.

References `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

7.289.1.2 `template<bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T > Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult<LHS_NA,LHS_T,RHS_NA,RHS_T> operator|( ( const Rcpp::sugar::SingleLogicalResult< LHS_NA, LHS_T > & lhs, const Rcpp::sugar::SingleLogicalResult< LHS_NA, LHS_T > & rhs ) [inline]`

Definition at line 287 of file or.h.

References `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

7.289.1.3 `template<bool LHS_NA, typename LHS_T > Rcpp::sugar::Or_SingleLogicalResult_bool<LHS_NA,LHS_T> operator|( ( const Rcpp::sugar::SingleLogicalResult< LHS_NA, LHS_T > & lhs, bool rhs ) [inline]`

Definition at line 296 of file or.h.

References `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

7.289.1.4 `template<bool LHS_NA, typename LHS_T > Rcpp::sugar::Or_SingleLogicalResult_bool<LHS_NA,LHS_T> operator|( ( bool rhs, const Rcpp::sugar::SingleLogicalResult< LHS_NA, LHS_T > & lhs ) [inline]`

Definition at line 305 of file or.h.

References `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::lhs`, and `Rcpp::sugar::Or_SingleLogicalResult_SingleLogicalResult< LHS_NA, LHS_T, RHS_NA, RHS_T >::rhs`.

## 7.290 inst/include/Rcpp/sugar/logical/SingleLogicalResult.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

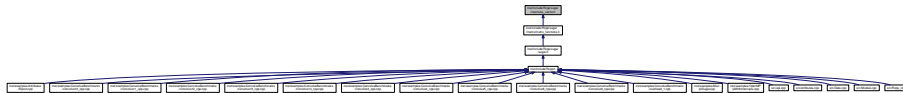
- class [Rcpp::sugar::forbidden\\_conversion< bool >](#)
- class [Rcpp::sugar::forbidden\\_conversion< true >](#)
- class [Rcpp::sugar::conversion\\_to\\_bool\\_is\\_forbidden< x >](#)
- class [Rcpp::sugar::SingleLogicalResult< NA, T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## 7.291 inst/include/Rcpp/sugar/matrix/as\_vector.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

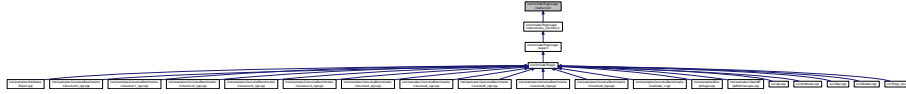
## Functions

- `template<int RTYPE, bool NA, typename T >`  
`Rcpp::Vector< RTYPE > Rcpp::internal::as_vector__impl (MatrixBase< RTYPE, NA, T > &t, Rcpp::traits::false_type)`
- `template<int RTYPE, bool NA, typename T >`  
`Rcpp::Vector< RTYPE > Rcpp::internal::as_vector__impl (MatrixBase< RTYPE, NA, T > &t, Rcpp::traits::true_type)`
- `template<int RTYPE, bool NA, typename T >`  
`Rcpp::Vector< RTYPE > Rcpp::as_vector (const MatrixBase< RTYPE, NA, T > &t)`



## 7.292 inst/include/Rcpp/sugar/matrix/col.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Col< RTYPE, LHS\\_NA, LHS\\_T >](#)

### Namespaces

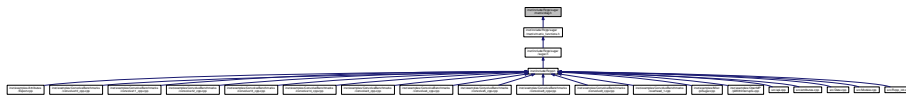
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- `template<int RTYPE, bool LHS_NA, typename LHS_T >`  
`sugar::Col< RTYPE, LHS_NA, LHS_T >` [Rcpp::col](#) (const [Rcpp::MatrixBase< RTYPE, LHS\\_NA, LHS\\_T >](#) &lhs)

## 7.293 inst/include/Rcpp/sugar/matrix/diag.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Diag\\_Extractor< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Diag\\_Maker< RTYPE, NA, T >](#)
- struct [Rcpp::sugar::diag\\_result\\_type\\_trait< T >](#)

### Namespaces

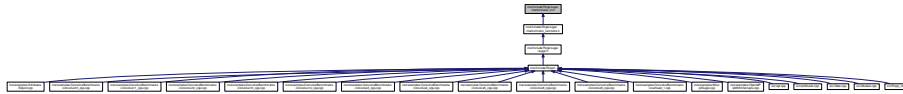
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<typename T >`  
`sugar::diag_result_type_trait< T >::type` [Rcpp::diag](#) (const T &t)

## 7.294 inst/include/Rcpp/sugar/matrix/lower\_tri.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::LowerTri< RTYPE, LHS\\_NA, LHS\\_T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

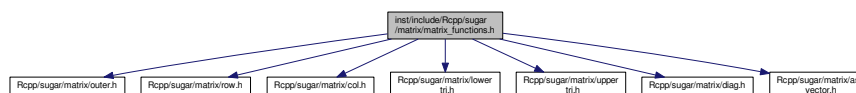
## Functions

- `template<int RTYPE, bool LHS_NA, typename LHS_T >`  
`sugar::LowerTri< RTYPE, LHS_NA, LHS_T >` [Rcpp::lower\\_tri](#) (const [Rcpp::MatrixBase](#)< RTYPE, LHS\_NA, LHS\_T > &lhs, bool diag=false)

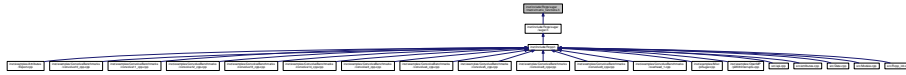
## 7.295 inst/include/Rcpp/sugar/matrix/matrix\_functions.h File Reference

```
#include <Rcpp/sugar/matrix/outer.h>
#include <Rcpp/sugar/matrix/row.h>
#include <Rcpp/sugar/matrix/col.h>
#include <Rcpp/sugar/matrix/lower_tri.h>
#include <Rcpp/sugar/matrix/upper_tri.h>
#include <Rcpp/sugar/matrix/diag.h>
#include <Rcpp/sugar/matrix/as_vector.h>
```

Include dependency graph for `matrix_functions.h`:

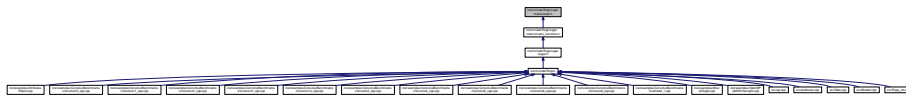


This graph shows which files directly or indirectly include this file:



## 7.296 inst/include/Rcpp/sugar/matrix/outer.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Outer< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T, Function >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T, typename Function >  
sugar::Outer< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T, Function > Rcpp::outer (const Rcpp::VectorBase<  
RTYPE, LHS_NA, LHS_T > &lhs, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T > &rhs, Function fun)`

## 7.297 inst/include/Rcpp/sugar/matrix/row.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Row](#)< RTYPE, LHS\_NA, LHS\_T >

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool LHS_NA, typename LHS_T >`  
`sugar::Row< RTYPE, LHS_NA, LHS_T >` [Rcpp::row](#) (const [Rcpp::MatrixBase](#)< RTYPE, LHS\_NA, LHS\_T > &lhs)

## 7.298 inst/include/Rcpp/sugar/matrix/tools.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

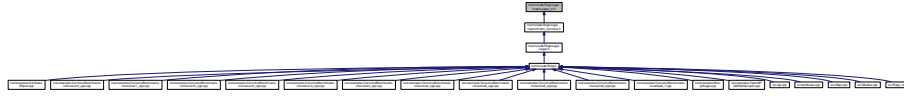
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

- int [Rcpp::internal::get\\_line](#) (int index, int nr)
- int [Rcpp::internal::get\\_column](#) (int index, int nr)
- int [Rcpp::internal::get\\_column](#) (int index, int nr, int i)

## 7.299 inst/include/Rcpp/sugar/matrix/upper\_tri.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::UpperTri< RTYPE, LHS\\_NA, LHS\\_T >](#)

### Namespaces

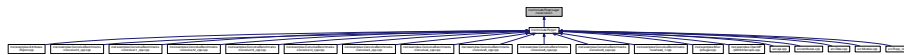
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- `template<int RTYPE, bool LHS_NA, typename LHS_T >`  
`sugar::UpperTri< RTYPE, LHS_NA, LHS_T >` [Rcpp::upper\\_tri](#) (const [Rcpp::MatrixBase< RTYPE, LHS\\_NA, LHS\\_T >](#) &lhs, bool diag=false)

## 7.300 inst/include/Rcpp/sugar/nona/nona.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Nona< RTYPE, NA, VECTOR >](#)
- class [Rcpp::sugar::Nona< RTYPE, NA, Rcpp::Vector< RTYPE > >](#)
- class [Rcpp::sugar::NonaPrimitive< T >](#)

### Namespaces

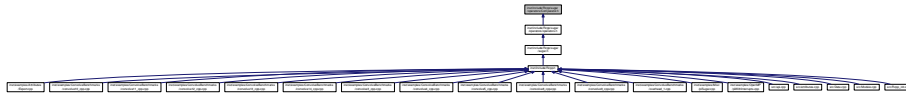
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename VECTOR >`  
`sugar::Nona< RTYPE, NA, VECTOR >` [Rcpp::noNA](#) (`const Rcpp::VectorBase< RTYPE, NA, VECTOR > &vec`)
- `sugar::NonaPrimitive< double >` [Rcpp::noNA](#) (`double x`)
- `sugar::NonaPrimitive< int >` [Rcpp::noNA](#) (`int x`)

## 7.301 inst/include/Rcpp/sugar/operators/Comparator.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

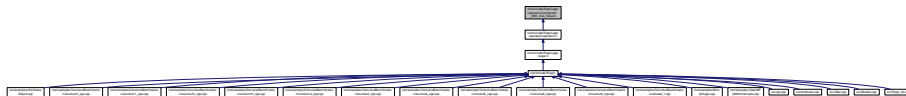
- class [Rcpp::sugar::Comparator< RTYPE, Operator, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Comparator< RTYPE, Operator, false, LHS\\_T, false, RHS\\_T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## 7.302 inst/include/Rcpp/sugar/operators/Comparator\_With\_One\_Value.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

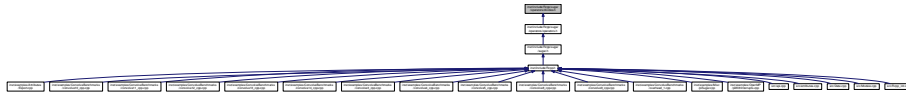
- class [Rcpp::sugar::Comparator\\_With\\_One\\_Value< RTYPE, Operator, NA, T >](#)
- class [Rcpp::sugar::Comparator\\_With\\_One\\_Value< RTYPE, Operator, false, T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## 7.303 inst/include/Rcpp/sugar/operators/divides.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Divides\\_Vector\\_Vector](#)< RTYPE, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >
- class [Rcpp::sugar::Divides\\_Vector\\_Vector](#)< REALSXP, LHS\_NA, LHS\_T, RHS\_NA, RHS\_T >
- class [Rcpp::sugar::Divides\\_Vector\\_Vector](#)< RTYPE, false, LHS\_T, RHS\_NA, RHS\_T >
- class [Rcpp::sugar::Divides\\_Vector\\_Vector](#)< REALSXP, false, LHS\_T, RHS\_NA, RHS\_T >
- class [Rcpp::sugar::Divides\\_Vector\\_Vector](#)< RTYPE, LHS\_NA, LHS\_T, false, RHS\_T >
- class [Rcpp::sugar::Divides\\_Vector\\_Vector](#)< REALSXP, LHS\_NA, LHS\_T, false, RHS\_T >
- class [Rcpp::sugar::Divides\\_Vector\\_Vector](#)< RTYPE, false, LHS\_T, false, RHS\_T >
- class [Rcpp::sugar::Divides\\_Vector\\_Vector](#)< REALSXP, false, LHS\_T, false, RHS\_T >
- class [Rcpp::sugar::Divides\\_Vector\\_Primitive](#)< RTYPE, NA, T >
- class [Rcpp::sugar::Divides\\_Vector\\_Primitive](#)< REALSXP, NA, T >
- class [Rcpp::sugar::Divides\\_Vector\\_Primitive](#)< RTYPE, false, T >
- class [Rcpp::sugar::Divides\\_Vector\\_Primitive](#)< REALSXP, false, T >
- class [Rcpp::sugar::Divides\\_Primitive\\_Vector](#)< RTYPE, NA, T >
- class [Rcpp::sugar::Divides\\_Primitive\\_Vector](#)< REALSXP, NA, T >
- class [Rcpp::sugar::Divides\\_Primitive\\_Vector](#)< RTYPE, false, T >
- class [Rcpp::sugar::Divides\\_Primitive\\_Vector](#)< REALSXP, false, T >

## Namespaces

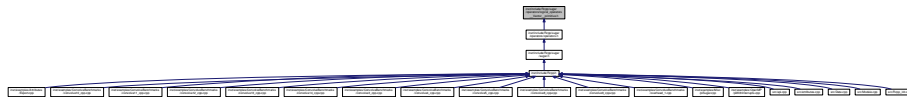
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, sugar::Divides_Vector_Primitive< RTYPE, NA, T > >::type`  
[Rcpp::operator/](#) (const VectorBase< RTYPE, NA, T > &lhs, const U &rhs)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename`  
`traits::storage_type< RTYPE >::type >::value, sugar::Divides_Primitive_Vector< RTYPE, NA, T > >::type`  
[Rcpp::operator/](#) (const U &lhs, const VectorBase< RTYPE, NA, T > &rhs)
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`sugar::Divides_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >` [Rcpp::operator/](#) (const VectorBase< RTYPE, LHS\_NA, LHS\_T > &lhs, const VectorBase< RTYPE, RHS\_NA, RHS\_T > &rhs)

## 7.304 inst/include/Rcpp/sugar/operators/logical\_operators\_\_Vector\_\_primitive.h File Reference

This graph shows which files directly or indirectly include this file:



## Functions

- `template<int RTYPE, bool NA, typename T >`  
[Rcpp::sugar::Comparator\\_With\\_One\\_Value](#)< RTYPE, Rcpp::sugar::less< RTYPE >, NA, T > [operator<](#) (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &lhs, typename [Rcpp::traits::storage\\_type](#)< RTYPE >::type rhs)
- `template<int RTYPE, bool NA, typename T >`  
[Rcpp::sugar::Comparator\\_With\\_One\\_Value](#)< RTYPE, Rcpp::sugar::less< RTYPE >, NA, T > [operator>](#) (typename [Rcpp::traits::storage\\_type](#)< RTYPE >::type rhs, const [Rcpp::VectorBase](#)< RTYPE, NA, T > &lhs)
- `template<int RTYPE, bool NA, typename T >`  
[Rcpp::sugar::Comparator\\_With\\_One\\_Value](#)< RTYPE, Rcpp::sugar::greater< RTYPE >, NA, T > [operator>](#) (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &lhs, typename [Rcpp::traits::storage\\_type](#)< RTYPE >::type rhs)
- `template<int RTYPE, bool NA, typename T >`  
[Rcpp::sugar::Comparator\\_With\\_One\\_Value](#)< RTYPE, Rcpp::sugar::greater< RTYPE >, NA, T > [operator<](#) (typename [Rcpp::traits::storage\\_type](#)< RTYPE >::type rhs, const [Rcpp::VectorBase](#)< RTYPE, NA, T > &lhs)
- `template<int RTYPE, bool NA, typename T >`  
[Rcpp::sugar::Comparator\\_With\\_One\\_Value](#)< RTYPE, Rcpp::sugar::less\_or\_equal< RTYPE >, NA, T > [operator<=](#) (const [Rcpp::VectorBase](#)< RTYPE, NA, T > &lhs, typename [Rcpp::traits::storage\\_type](#)< RTYPE >::type rhs)
- `template<int RTYPE, bool NA, typename T >`  
[Rcpp::sugar::Comparator\\_With\\_One\\_Value](#)< RTYPE, Rcpp::sugar::less\_or\_equal< RTYPE >, NA, T > [operator>=](#) (typename [Rcpp::traits::storage\\_type](#)< RTYPE >::type rhs, const [Rcpp::VectorBase](#)< RTYPE, NA, T > &lhs)



- `template<int RTYPE, bool NA, typename T >`  
`Rcpp::sugar::Comparator_With_One_Value< RTYPE, Rcpp::sugar::greater_or_equal< RTYPE >, NA, T >`  
`operator>=` (const `Rcpp::VectorBase< RTYPE, NA, T >` &lhs, typename `Rcpp::traits::storage_type< RTYPE >::type` rhs)
- `template<int RTYPE, bool NA, typename T >`  
`Rcpp::sugar::Comparator_With_One_Value< RTYPE, Rcpp::sugar::greater_or_equal< RTYPE >, NA, T >`  
`operator<=` (typename `Rcpp::traits::storage_type< RTYPE >::type` rhs, const `Rcpp::VectorBase< RTYPE, NA, T >` &lhs)
- `template<int RTYPE, bool NA, typename T >`  
`Rcpp::sugar::Comparator_With_One_Value< RTYPE, Rcpp::sugar::equal< RTYPE >, NA, T >`  
`operator==` (const `Rcpp::VectorBase< RTYPE, NA, T >` &lhs, typename `Rcpp::traits::storage_type< RTYPE >::type` rhs)
- `template<int RTYPE, bool NA, typename T >`  
`Rcpp::sugar::Comparator_With_One_Value< RTYPE, Rcpp::sugar::equal< RTYPE >, NA, T >`  
`operator==` (typename `Rcpp::traits::storage_type< RTYPE >::type` rhs, const `Rcpp::VectorBase< RTYPE, NA, T >` &lhs)
- `template<int RTYPE, bool NA, typename T >`  
`Rcpp::sugar::Comparator_With_One_Value< RTYPE, Rcpp::sugar::not_equal< RTYPE >, NA, T >`  
`operator!=` (const `Rcpp::VectorBase< RTYPE, NA, T >` &lhs, typename `Rcpp::traits::storage_type< RTYPE >::type` rhs)
- `template<int RTYPE, bool NA, typename T >`  
`Rcpp::sugar::Comparator_With_One_Value< RTYPE, Rcpp::sugar::not_equal< RTYPE >, NA, T >`  
`operator!=` (typename `Rcpp::traits::storage_type< RTYPE >::type` rhs, const `Rcpp::VectorBase< RTYPE, NA, T >` &lhs)

### 7.304.1 Function Documentation

7.304.1.1 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE , Rcpp::sugar::not_equal<RTYPE>, NA, T > operator!= ( const Rcpp::VectorBase< RTYPE, NA, T > & lhs, typename Rcpp::traits::storage_type< RTYPE >::type rhs ) [inline]`

Definition at line 255 of file `logical_operators__Vector__primitive.h`.

References `Rcpp::NA`.

7.304.1.2 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE , Rcpp::sugar::not_equal<RTYPE>, NA, T > operator!= ( typename Rcpp::traits::storage_type< RTYPE >::type rhs, const Rcpp::VectorBase< RTYPE, NA, T > & lhs ) [inline]`

Definition at line 275 of file `logical_operators__Vector__primitive.h`.

References `Rcpp::NA`.

7.304.1.3 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE , Rcpp::sugar::greater<RTYPE>, NA, T > operator< ( typename Rcpp::traits::storage_type< RTYPE >::type rhs, const Rcpp::VectorBase< RTYPE, NA, T > & lhs ) [inline]`

Definition at line 98 of file `logical_operators__Vector__primitive.h`.

References `Rcpp::NA`.

```
7.304.1.4 template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE ,
Rcpp::sugar::less<RTYPE>, NA, T > operator< ( const Rcpp::VectorBase< RTYPE, NA, T > & lhs, typename
Rcpp::traits::storage_type< RTYPE >::type rhs ) [inline]
```

Definition at line 34 of file logical\_operators\_\_Vector\_\_primitive.h.

References Rcpp::NA.

```
7.304.1.5 template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE ,
Rcpp::sugar::less_or_equal<RTYPE>, NA, T > operator<= ( const Rcpp::VectorBase< RTYPE, NA, T > & lhs,
typename Rcpp::traits::storage_type< RTYPE >::type rhs ) [inline]
```

Definition at line 122 of file logical\_operators\_\_Vector\_\_primitive.h.

References Rcpp::NA.

```
7.304.1.6 template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE ,
Rcpp::sugar::greater_or_equal<RTYPE>, NA, T > operator<= ( typename Rcpp::traits::storage_type< RTYPE
>::type rhs, const Rcpp::VectorBase< RTYPE, NA, T > & lhs ) [inline]
```

Definition at line 187 of file logical\_operators\_\_Vector\_\_primitive.h.

References Rcpp::NA.

```
7.304.1.7 template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE ,
Rcpp::sugar::equal<RTYPE>, NA, T > operator== ( const Rcpp::VectorBase< RTYPE, NA, T > & lhs, typename
Rcpp::traits::storage_type< RTYPE >::type rhs ) [inline]
```

Definition at line 211 of file logical\_operators\_\_Vector\_\_primitive.h.

References Rcpp::NA.

```
7.304.1.8 template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE ,
Rcpp::sugar::equal<RTYPE>, NA, T > operator== ( typename Rcpp::traits::storage_type< RTYPE >::type rhs,
const Rcpp::VectorBase< RTYPE, NA, T > & lhs ) [inline]
```

Definition at line 231 of file logical\_operators\_\_Vector\_\_primitive.h.

References Rcpp::NA.

```
7.304.1.9 template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE ,
Rcpp::sugar::less<RTYPE>, NA, T > operator> ( typename Rcpp::traits::storage_type< RTYPE >::type rhs,
const Rcpp::VectorBase< RTYPE, NA, T > & lhs ) [inline]
```

Definition at line 54 of file logical\_operators\_\_Vector\_\_primitive.h.

References Rcpp::NA.

7.304.1.10 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE , Rcpp::sugar::greater<RTYPE>, NA, T > operator> ( const Rcpp::VectorBase< RTYPE, NA, T > & lhs, typename Rcpp::traits::storage_type< RTYPE >::type rhs ) [inline]`

Definition at line 78 of file logical\_operators\_\_Vector\_\_primitive.h.

References Rcpp::NA.

7.304.1.11 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE , Rcpp::sugar::less_or_equal<RTYPE>, NA, T > operator>= ( typename Rcpp::traits::storage_type< RTYPE >::type rhs, const Rcpp::VectorBase< RTYPE, NA, T > & lhs ) [inline]`

Definition at line 142 of file logical\_operators\_\_Vector\_\_primitive.h.

References Rcpp::NA.

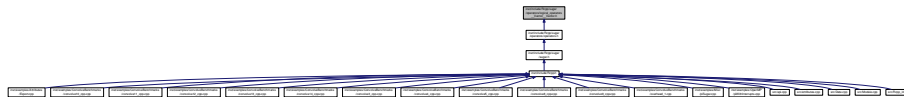
7.304.1.12 `template<int RTYPE, bool NA, typename T > Rcpp::sugar::Comparator_With_One_Value< RTYPE , Rcpp::sugar::greater_or_equal<RTYPE>, NA, T > operator>= ( const Rcpp::VectorBase< RTYPE, NA, T > & lhs, typename Rcpp::traits::storage_type< RTYPE >::type rhs ) [inline]`

Definition at line 167 of file logical\_operators\_\_Vector\_\_primitive.h.

References Rcpp::NA.

## 7.305 inst/include/Rcpp/sugar/operators/logical\_operators\_\_Vector\_\_Vector.h File Reference

This graph shows which files directly or indirectly include this file:



### Functions

- `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::less< RTYPE >, LHS_NA, LHS_T, RHS_NA, RHS_T > operator< (const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T > &rhs)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T > Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::greater< RTYPE >, LHS_NA, LHS_T, RHS_NA, RHS_T > operator> (const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T > &rhs)`

- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::less_or_equal< RTYPE >, LHS_NA, LHS_T, RHS_NA, R`  
`HS_T > operator<= (const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const Rcpp::VectorBase<`  
`RTYPE, RHS_NA, RHS_T > &rhs)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::greater_or_equal< RTYPE >, LHS_NA, LHS_T, RHS_NA,`  
`RHS_T > operator>= (const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const Rcpp::VectorBase<`  
`RTYPE, RHS_NA, RHS_T > &rhs)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::equal< RTYPE >, LHS_NA, LHS_T, RHS_NA, RHS_T > op-`  
`erator== (const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const Rcpp::VectorBase< RTYPE, RH`  
`S_NA, RHS_T > &rhs)`
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::not_equal< RTYPE >, LHS_NA, LHS_T, RHS_NA, RHS_`  
`T > operator!= (const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > &lhs, const Rcpp::VectorBase< RTYPE,`  
`RHS_NA, RHS_T > &rhs)`

### 7.305.1 Function Documentation

7.305.1.1 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::not_equal<RTYPE>, LHS_NA, LHS_T, RHS_NA, RHS_T >`  
`operator!= ( const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const Rcpp::VectorBase< RTYPE,`  
`RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 139 of file `logical_operators__Vector__Vector.h`.

7.305.1.2 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::less<RTYPE>, LHS_NA, LHS_T, RHS_NA, RHS_T > operator< (`  
`const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const Rcpp::VectorBase< RTYPE, RHS_NA, RHS_T`  
`> & rhs ) [inline]`

Definition at line 34 of file `logical_operators__Vector__Vector.h`.

7.305.1.3 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::less_or_equal<RTYPE>, LHS_NA, LHS_T, RHS_NA, RHS_T >`  
`operator<= ( const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const Rcpp::VectorBase< RTYPE,`  
`RHS_NA, RHS_T > & rhs ) [inline]`

Definition at line 76 of file `logical_operators__Vector__Vector.h`.

7.305.1.4 `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::equal<RTYPE>, LHS_NA, LHS_T, RHS_NA, RHS_T > operator==`  
`( const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const Rcpp::VectorBase< RTYPE, RHS_NA,`  
`RHS_T > & rhs ) [inline]`

Definition at line 118 of file `logical_operators__Vector__Vector.h`.

```
7.305.1.5 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T >
Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::greater<RTYPE>, LHS_NA, LHS_T, RHS_NA, RHS_T >
operator> ( const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const Rcpp::VectorBase< RTYPE,
RHS_NA, RHS_T > & rhs ) [inline]
```

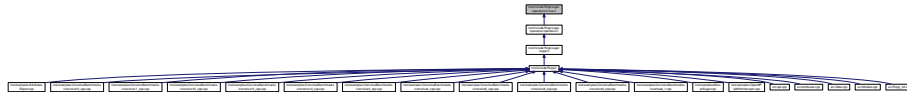
Definition at line 55 of file logical\_operators\_\_Vector\_\_Vector.h.

```
7.305.1.6 template<int RTYPE, bool LHS_NA, typename LHS_T , bool RHS_NA, typename RHS_T >
Rcpp::sugar::Comparator< RTYPE, Rcpp::sugar::greater_or_equal<RTYPE>, LHS_NA, LHS_T, RHS_NA, RHS_T >
operator>= ( const Rcpp::VectorBase< RTYPE, LHS_NA, LHS_T > & lhs, const Rcpp::VectorBase< RTYPE,
RHS_NA, RHS_T > & rhs ) [inline]
```

Definition at line 97 of file logical\_operators\_\_Vector\_\_Vector.h.

## 7.306 inst/include/Rcpp/sugar/operators/minus.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::sugar::Minus\\_Vector\\_Vector< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Minus\\_Vector\\_Vector< REALSXP, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Minus\\_Vector\\_Vector< RTYPE, false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Minus\\_Vector\\_Vector< REALSXP, false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Minus\\_Vector\\_Vector< RTYPE, LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Minus\\_Vector\\_Vector< REALSXP, LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Minus\\_Vector\\_Vector< RTYPE, false, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Minus\\_Vector\\_Vector< REALSXP, false, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Minus\\_Vector\\_Primitive< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Minus\\_Vector\\_Primitive< REALSXP, NA, T >](#)
- class [Rcpp::sugar::Minus\\_Vector\\_Primitive< RTYPE, false, T >](#)
- class [Rcpp::sugar::Minus\\_Vector\\_Primitive< REALSXP, false, T >](#)
- class [Rcpp::sugar::Minus\\_Primitive\\_Vector< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Minus\\_Primitive\\_Vector< REALSXP, NA, T >](#)
- class [Rcpp::sugar::Minus\\_Primitive\\_Vector< RTYPE, false, T >](#)
- class [Rcpp::sugar::Minus\\_Primitive\\_Vector< REALSXP, false, T >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

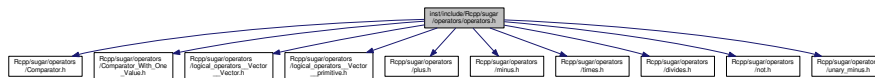
## Functions

- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename traits::storage_type< RTYPE >::type >::value, sugar::Minus_Vector_Primitive< RTYPE, NA, T > >::type`  
`Rcpp::operator-` (const VectorBase< RTYPE, NA, T > &lhs, const U &rhs)
- `template<int RTYPE, bool NA, typename T, typename U >`  
`traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference< U >::type, typename traits::storage_type< RTYPE >::type >::value, sugar::Minus_Primitive_Vector< RTYPE, NA, T > >::type`  
`Rcpp::operator-` (const U &lhs, const VectorBase< RTYPE, NA, T > &rhs)
- `template<int RTYPE, bool LHS_NA, typename LHS_T, bool RHS_NA, typename RHS_T >`  
`sugar::Minus_Vector_Vector< RTYPE, LHS_NA, LHS_T, RHS_NA, RHS_T >` `Rcpp::operator-` (const VectorBase< RTYPE, LHS\_NA, LHS\_T > &lhs, const VectorBase< RTYPE, RHS\_NA, RHS\_T > &rhs)

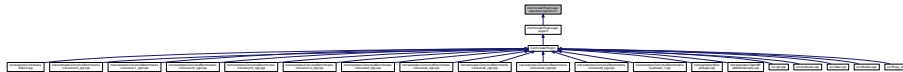
### 7.307 inst/include/Rcpp/sugar/operators/operators.h File Reference

```
#include <Rcpp/sugar/operators/Comparator.h>
#include <Rcpp/sugar/operators/Comparator_With_One_Value.h>
#include <Rcpp/sugar/operators/logical_operators__Vector__Vector.h>
#include <Rcpp/sugar/operators/logical_operators__Vector__primitive.h>
#include <Rcpp/sugar/operators/plus.h>
#include <Rcpp/sugar/operators/minus.h>
#include <Rcpp/sugar/operators/times.h>
#include <Rcpp/sugar/operators/divides.h>
#include <Rcpp/sugar/operators/not.h>
#include <Rcpp/sugar/operators/unary_minus.h>
```

Include dependency graph for operators.h:



This graph shows which files directly or indirectly include this file:



### 7.308 inst/include/Rcpp/sugar/operators/plus.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::sugar::Plus\\_Vector\\_Vector< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Vector< REALSXP, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Vector< RTYPE, false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Vector< REALSXP, false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Vector< RTYPE, LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Vector< REALSXP, LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Vector< RTYPE, false, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Vector< REALSXP, false, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Primitive< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Primitive< REALSXP, NA, T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Primitive< RTYPE, false, T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Primitive< REALSXP, false, T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Primitive\\_nona< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Primitive\\_nona< REALSXP, NA, T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Primitive\\_nona< RTYPE, false, T >](#)
- class [Rcpp::sugar::Plus\\_Vector\\_Primitive\\_nona< REALSXP, false, T >](#)

## Namespaces

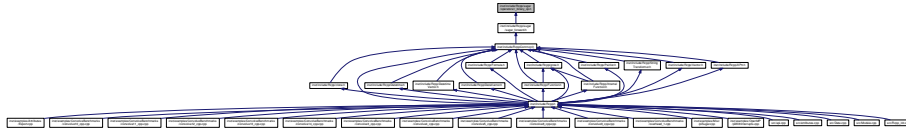
- [Rcpp](#)
  - *Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- [template<int RTYPE, bool NA, typename T, typename U >](#)  
[traits::enable\\_if< traits::is\\_convertible< typename traits::remove\\_const\\_and\\_reference< U >::type, typename traits::storage\\_type< RTYPE >::type >::value, typename sugar::Plus\\_Vector\\_Primitive< RTYPE, NA, T > >](#)  
[::type Rcpp::operator+](#) (const VectorBase< RTYPE, NA, T > &lhs, const U &rhs)
- [template<int RTYPE, bool NA, typename T, typename U >](#)  
[traits::enable\\_if< traits::is\\_convertible< typename traits::remove\\_const\\_and\\_reference< U >::type, typename traits::storage\\_type< RTYPE >::type >::value, typename sugar::Plus\\_Vector\\_Primitive< RTYPE, NA, T > >](#)  
[::type Rcpp::operator+](#) (const U &rhs, const VectorBase< RTYPE, NA, T > &lhs)
- [template<int RTYPE, bool NA, typename T, typename U >](#)  
[traits::enable\\_if< traits::is\\_convertible< typename traits::remove\\_const\\_and\\_reference< U >::type, typename traits::storage\\_type< RTYPE >::type >::value, sugar::Plus\\_Vector\\_Primitive\\_nona< RTYPE, NA, T > >](#)  
[::type Rcpp::operator+](#) (const VectorBase< RTYPE, NA, T > &lhs, const typename sugar::NonaPrimitive< U > &rhs)
- [template<int RTYPE, bool NA, typename T, typename U >](#)  
[traits::enable\\_if< traits::is\\_convertible< typename traits::remove\\_const\\_and\\_reference< U >::type, typename traits::storage\\_type< RTYPE >::type >::value, sugar::Plus\\_Vector\\_Primitive\\_nona< RTYPE, NA, T > >](#)  
[::type Rcpp::operator+](#) (const typename sugar::NonaPrimitive< U > &rhs, const VectorBase< RTYPE, NA, T > &lhs)
- [template<int RTYPE, bool LHS\\_NA, typename LHS\\_T, bool RHS\\_NA, typename RHS\\_T >](#)  
[sugar::Plus\\_Vector\\_Vector< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#) [Rcpp::operator+](#) (const VectorBase< RTYPE, LHS\_NA, LHS\_T > &lhs, const VectorBase< RTYPE, RHS\_NA, RHS\_T > &rhs)

## 7.309 inst/include/Rcpp/sugar/operators/r\_binary\_op.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Macros

- `#define RCPP\_OP(NAME, OP)`

### 7.309.1 Macro Definition Documentation

#### 7.309.1.1 `#define RCPP_OP( NAME, OP )`

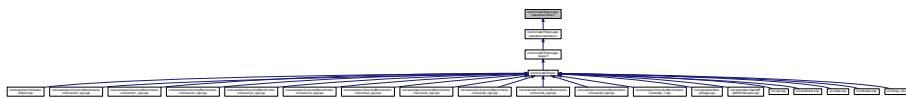
#### Value:

```
template <int RTYPE>
class NAME {
public:
    typedef typename traits::storage_type<RTYPE>::type STORAGE ;
    inline int operator()( STORAGE lhs, STORAGE rhs) const {
        return lhs OP rhs ;
    }
};
```

Definition at line 29 of file `r_binary_op.h`.

## 7.310 inst/include/Rcpp/sugar/operators/times.h File Reference

This graph shows which files directly or indirectly include this file:





## Classes

- class [Rcpp::sugar::Times\\_Vector\\_Vector< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Vector< REALSXP, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Vector< RTYPE, false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Vector< REALSXP, false, LHS\\_T, RHS\\_NA, RHS\\_T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Vector< RTYPE, LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Vector< REALSXP, LHS\\_NA, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Vector< RTYPE, false, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Vector< REALSXP, false, LHS\\_T, false, RHS\\_T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Primitive< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Primitive< REALSXP, NA, T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Primitive< RTYPE, false, T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Primitive< REALSXP, false, T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Primitive\\_nona< RTYPE, NA, T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Primitive\\_nona< REALSXP, NA, T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Primitive\\_nona< RTYPE, false, T >](#)
- class [Rcpp::sugar::Times\\_Vector\\_Primitive\\_nona< REALSXP, false, T >](#)

## Namespaces

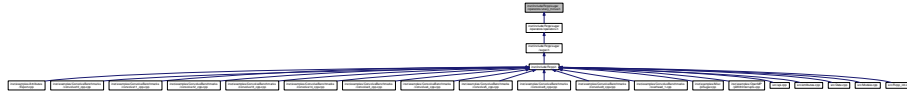
- [Rcpp](#)
  - *Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- [template<int RTYPE, bool NA, typename T, typename U >](#)  
[traits::enable\\_if< traits::is\\_convertible< typename traits::remove\\_const\\_and\\_reference< U >::type, typename traits::storage\\_type< RTYPE >::type >::value, sugar::Times\\_Vector\\_Primitive< RTYPE, NA, T > >::type](#)  
[Rcpp::operator\\*](#) (const VectorBase< RTYPE, NA, T > &lhs, const U &rhs)
- [template<int RTYPE, bool NA, typename T, typename U >](#)  
[traits::enable\\_if< traits::is\\_convertible< typename traits::remove\\_const\\_and\\_reference< U >::type, typename traits::storage\\_type< RTYPE >::type >::value, sugar::Times\\_Vector\\_Primitive< RTYPE, NA, T > >::type](#)  
[Rcpp::operator\\*](#) (const U &rhs, const VectorBase< RTYPE, NA, T > &lhs)
- [template<int RTYPE, bool NA, typename T, typename U >](#)  
[traits::enable\\_if< traits::is\\_convertible< typename traits::remove\\_const\\_and\\_reference< U >::type, typename traits::storage\\_type< RTYPE >::type >::value, sugar::Times\\_Vector\\_Primitive\\_nona< RTYPE, NA, T > >::type](#)  
[Rcpp::operator\\*](#) (const VectorBase< RTYPE, NA, T > &lhs, const typename sugar::NonaPrimitive< U > &rhs)
- [template<int RTYPE, bool NA, typename T, typename U >](#)  
[traits::enable\\_if< traits::is\\_convertible< typename traits::remove\\_const\\_and\\_reference< U >::type, typename traits::storage\\_type< RTYPE >::type >::value, sugar::Times\\_Vector\\_Primitive\\_nona< RTYPE, NA, T > >::type](#)  
[Rcpp::operator\\*](#) (const typename sugar::NonaPrimitive< U > &rhs, const VectorBase< RTYPE, NA, T > &lhs)
- [template<int RTYPE, bool LHS\\_NA, typename LHS\\_T, bool RHS\\_NA, typename RHS\\_T >](#)  
[sugar::Times\\_Vector\\_Vector< RTYPE, LHS\\_NA, LHS\\_T, RHS\\_NA, RHS\\_T >](#) [Rcpp::operator\\*](#) (const VectorBase< RTYPE, LHS\_NA, LHS\_T > &lhs, const VectorBase< RTYPE, RHS\_NA, RHS\_T > &rhs)

## 7.311 inst/include/Rcpp/sugar/operators/unary\_minus.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::sugar::unary\\_minus\\_result\\_type< RTYPE >](#)
- struct [Rcpp::sugar::unary\\_minus\\_result\\_type< LGLSXP >](#)
- class [Rcpp::sugar::unary\\_minus< RTYPE, NA >](#)
- class [Rcpp::sugar::unary\\_minus< RTYPE, false >](#)
- class [Rcpp::sugar::unary\\_minus< CPLXSXP, NA >](#)
- class [Rcpp::sugar::unary\\_minus< CPLXSXP, false >](#)
- class [Rcpp::sugar::UnaryMinus\\_Vector< RTYPE, NA, T >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

### Functions

- [template<int RTYPE, bool NA, typename T > Rcpp::sugar::UnaryMinus\\_Vector< RTYPE, NA, T > operator-](#) (const [Rcpp::VectorBase< RTYPE, NA, T >](#) &x)

### 7.311.1 Function Documentation

- 7.311.1.1 [template<int RTYPE, bool NA, typename T > Rcpp::sugar::UnaryMinus\\_Vector< RTYPE, NA, T > operator-](#) (const [Rcpp::VectorBase< RTYPE, NA, T >](#) &x) [*inline*]

Definition at line 113 of file unary\_minus.h.

## 7.312 inst/include/Rcpp/sugar/Range.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Range](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.313 inst/include/Rcpp/sugar/sets.h File Reference

### Macros

- `#define RCPP_UNORDERED_SET std::set`
- `#define RCPP_UNORDERED_MAP std::map`

### 7.313.1 Macro Definition Documentation

#### 7.313.1.1 `#define RCPP_UNORDERED_MAP std::map`

Definition at line 58 of file sets.h.

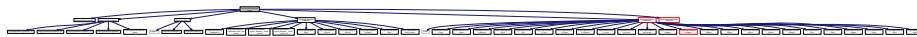
#### 7.313.1.2 `#define RCPP_UNORDERED_SET std::set`

Definition at line 57 of file sets.h.

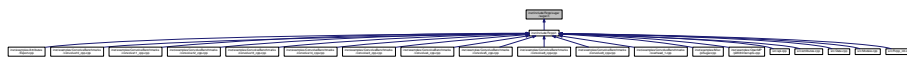
## 7.314 inst/include/Rcpp/sugar/sugar.h File Reference

```
#include <Rcpp/sugar/tools/iterator.h>
#include <Rcpp/sugar/block/block.h>
#include <Rcpp/hash/hash.h>
#include <Rcpp/sugar/operators/operators.h>
#include <Rcpp/sugar/functions/functions.h>
#include <Rcpp/sugar/matrix/matrix_functions.h>
```

Include dependency graph for sugar.h:



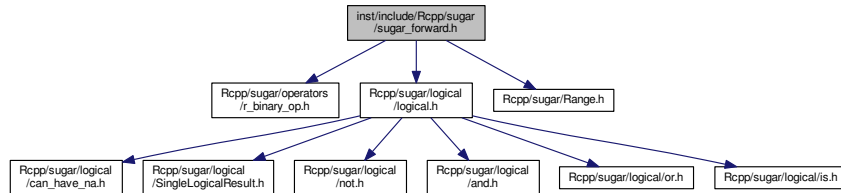
This graph shows which files directly or indirectly include this file:



### 7.315 inst/include/Rcpp/sugar/sugar\_forward.h File Reference

```
#include <Rcpp/sugar/operators/r_binary_op.h>
#include <Rcpp/sugar/logical/logical.h>
#include <Rcpp/sugar/Range.h>
```

Include dependency graph for sugar\_forward.h:

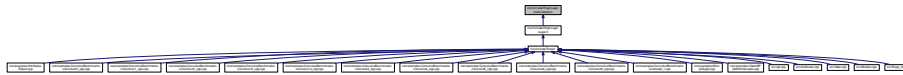


This graph shows which files directly or indirectly include this file:



### 7.316 inst/include/Rcpp/sugar/tools/iterator.h File Reference

This graph shows which files directly or indirectly include this file:



#### Classes

- class [Rcpp::sugar::SugarIterator< T >](#)
- struct [Rcpp::sugar::sugar\\_const\\_iterator\\_type< T >](#)
- struct [Rcpp::sugar::sugar\\_const\\_iterator\\_type< Rcpp::Vector< RTYPE > >](#)
- struct [Rcpp::sugar::sugar\\_const\\_iterator\\_type< CharacterVector >](#)
- struct [Rcpp::sugar::is\\_sugar\\_vector< T >](#)
- struct [Rcpp::sugar::is\\_sugar\\_vector< Rcpp::Vector< RTYPE > >](#)

#### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<typename T >`  
`sugar_const_iterator_type< T >::type` [Rcpp::sugar::get\\_const\\_begin\\_\\_impl](#) (const T &obj, [Rcpp::traits::true\\_↔](#)  
[type](#))
- `template<typename T >`  
`sugar_const_iterator_type< T >::type` [Rcpp::sugar::get\\_const\\_begin\\_\\_impl](#) (const T &obj, [Rcpp::traits::false\\_↔](#)  
[type](#))
- `template<typename T >`  
`sugar_const_iterator_type< T >::type` [Rcpp::sugar::get\\_const\\_begin](#) (const T &obj)
- `template<>`  
`SEXP *` [Rcpp::sugar::get\\_const\\_begin](#) (const CharacterVector &obj)
- `template<typename T >`  
`sugar_const_iterator_type< T >::type` [Rcpp::sugar::get\\_const\\_end](#) (const T &obj)

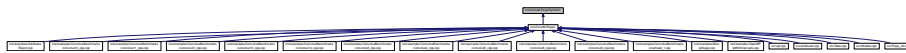
## 7.317 inst/include/Rcpp/sugar/undoRmath.h File Reference

This graph shows which files directly or indirectly include this file:



## 7.318 inst/include/Rcpp/Symbol.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Typedefs

- `typedef` `Symbol_Impl< NoProtectStorage >` [Rcpp::Symbol](#)

## Functions

- [Rcpp::RCPP\\_API\\_CLASS](#) (Symbol\_Impl)

### 7.319 inst/include/Rcpp/traits/char\_type.h File Reference

This graph shows which files directly or indirectly include this file:



#### Classes

- struct [Rcpp::traits::char\\_type< T >](#)
- struct [Rcpp::traits::char\\_type< const wchar\\_t \\* >](#)
- struct [Rcpp::traits::char\\_type< const char \\* >](#)

#### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

### 7.320 inst/include/Rcpp/traits/enable\_if.h File Reference

This graph shows which files directly or indirectly include this file:



#### Classes

- struct [Rcpp::traits::enable\\_if< B, T >](#)
- struct [Rcpp::traits::enable\\_if< true, T >](#)

#### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.321 inst/include/Rcpp/traits/expands\_to\_logical.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

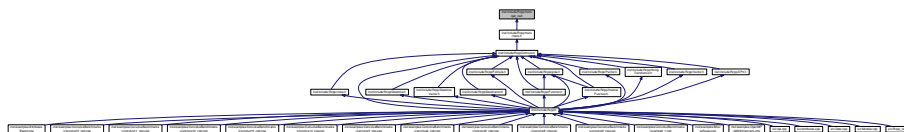
- struct [Rcpp::traits::expands\\_to\\_logical\\_\\_impl< RTYPE >](#)
- struct [Rcpp::traits::expands\\_to\\_logical\\_\\_impl< LGLSXP >](#)
- struct [Rcpp::traits::expands\\_to\\_logical\\_\\_impl< LGLSXP >::r\\_expands\\_to\\_logical](#)
- class [Rcpp::traits::\\_has\\_rtype\\_helper< T >](#)
- struct [Rcpp::traits::\\_has\\_rtype\\_helper< T >::\\_Wrap\\_type< U >](#)
- struct [Rcpp::traits::expands\\_to\\_logical< T >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.322 inst/include/Rcpp/traits/get\_na.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## Functions

- `template<int RTYPE>`  
`storage_type< RTYPE >::type Rcpp::traits::get_na ()`
- `template<>`  
`int Rcpp::traits::get_na< INTSXP > ()`
- `template<>`  
`int Rcpp::traits::get_na< LGLSXP > ()`
- `template<>`  
`double Rcpp::traits::get_na< REALSXP > ()`
- `template<>`  
`Rcomplex Rcpp::traits::get_na< CPLXSXP > ()`
- `template<>`  
`SEXP Rcpp::traits::get_na< STRSXP > ()`
- `template<>`  
`SEXP Rcpp::traits::get_na< VECSXP > ()`

## 7.323 inst/include/Rcpp/traits/has\_iterator.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct `Rcpp::traits::__sfnaf_types`
- struct `Rcpp::traits::__sfnaf_types::__two`
- class `Rcpp::traits::_has_iterator_helper< T >`
- struct `Rcpp::traits::_has_iterator_helper< T >::_Wrap_type< U >`
- class `Rcpp::traits::_is_importer_helper< T >`
- struct `Rcpp::traits::_is_importer_helper< T >::_Wrap_type< U >`
- class `Rcpp::traits::_is_generator_helper< T >`
- struct `Rcpp::traits::_is_generator_helper< T >::_Wrap_type< U >`
- class `Rcpp::traits::_is_exporter_helper< T >`
- struct `Rcpp::traits::_is_exporter_helper< T >::_Wrap_type< U >`
- struct `Rcpp::traits::has_iterator< T >`
- struct `Rcpp::traits::is_importer< T >`
- struct `Rcpp::traits::is_exporter< T >`
- struct `Rcpp::traits::is_generator< T >`



## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.324 inst/include/Rcpp/traits/has\_na.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

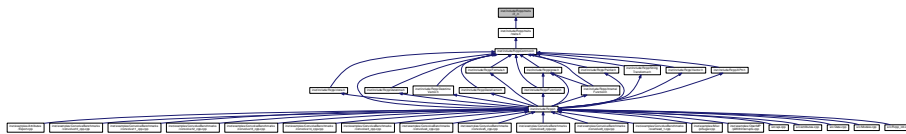
- struct [Rcpp::traits::has\\_na< RTYPE >](#)
- struct [Rcpp::traits::has\\_na< INTSXP >](#)
- struct [Rcpp::traits::has\\_na< REALSXP >](#)
- struct [Rcpp::traits::has\\_na< CPLXSXP >](#)
- struct [Rcpp::traits::has\\_na< STRSXP >](#)
- struct [Rcpp::traits::has\\_na< LGLSXP >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.325 inst/include/Rcpp/traits/if\_.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::if\\_< COND, LHS, RHS >](#)
- struct [Rcpp::traits::if\\_< false, LHS, RHS >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.326 inst/include/Rcpp/traits/init\_type.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::init\\_type< RTYPE >](#)
- struct [Rcpp::traits::init\\_type< STRSXP >](#)
- struct [Rcpp::traits::init\\_type< LGLSXP >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.327 inst/include/Rcpp/traits/integral\_constant.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::integral\\_constant< \\_T, \\_V >](#)
- struct [Rcpp::traits::both< T, U >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## Typedefs

- typedef `integral_constant< bool, true >` [Rcpp::traits::true\\_type](#)
- typedef `integral_constant< bool, false >` [Rcpp::traits::false\\_type](#)

## 7.328 inst/include/Rcpp/traits/is\_arithmetic.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::is\\_arithmetic< typename >](#)
- struct [Rcpp::traits::is\\_arithmetic< short >](#)
- struct [Rcpp::traits::is\\_arithmetic< const short >](#)
- struct [Rcpp::traits::is\\_arithmetic< unsigned short >](#)
- struct [Rcpp::traits::is\\_arithmetic< const unsigned short >](#)
- struct [Rcpp::traits::is\\_arithmetic< int >](#)
- struct [Rcpp::traits::is\\_arithmetic< const int >](#)
- struct [Rcpp::traits::is\\_arithmetic< unsigned int >](#)
- struct [Rcpp::traits::is\\_arithmetic< const unsigned int >](#)
- struct [Rcpp::traits::is\\_arithmetic< long >](#)
- struct [Rcpp::traits::is\\_arithmetic< const long >](#)
- struct [Rcpp::traits::is\\_arithmetic< unsigned long >](#)
- struct [Rcpp::traits::is\\_arithmetic< const unsigned long >](#)
- struct [Rcpp::traits::is\\_arithmetic< float >](#)
- struct [Rcpp::traits::is\\_arithmetic< const float >](#)
- struct [Rcpp::traits::is\\_arithmetic< double >](#)
- struct [Rcpp::traits::is\\_arithmetic< const double >](#)
- struct [Rcpp::traits::is\\_arithmetic< long double >](#)
- struct [Rcpp::traits::is\\_arithmetic< const long double >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

### 7.329 inst/include/Rcpp/traits/is\_bool.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

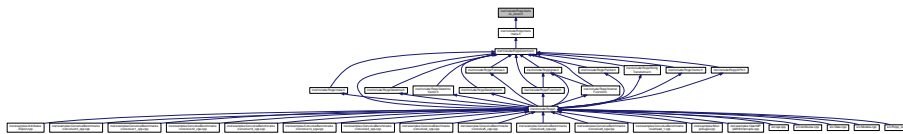
- struct [Rcpp::traits::is\\_bool< typename >](#)
- struct [Rcpp::traits::is\\_bool< bool >](#)
- struct [Rcpp::traits::is\\_bool< const bool >](#)
- struct [Rcpp::traits::is\\_bool< volatile bool >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

### 7.330 inst/include/Rcpp/traits/is\_const.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

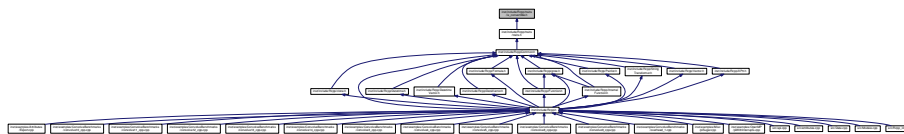
- struct [Rcpp::traits::is\\_const< typename >](#)  
*type properties [4.5.3].*
- struct [Rcpp::traits::is\\_const< \\_Tp const >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.331 inst/include/Rcpp/traits/is\_convertible.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::traits::is\\_convertible< T, U >](#)
- struct [Rcpp::traits::is\\_convertible< T, U >::Big](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.332 inst/include/Rcpp/traits/is\_eigen\_base.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

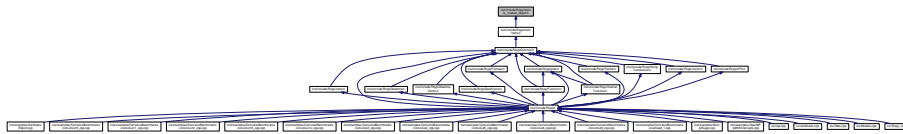
- class [Rcpp::traits::is\\_eigen\\_helper< T >](#)
- struct [Rcpp::traits::is\\_eigen\\_helper< T >::\\_Wrap\\_type< U >](#)
- struct [Rcpp::traits::is\\_eigen\\_base< T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

### 7.333 inst/include/Rcpp/traits/is\_module\_object.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

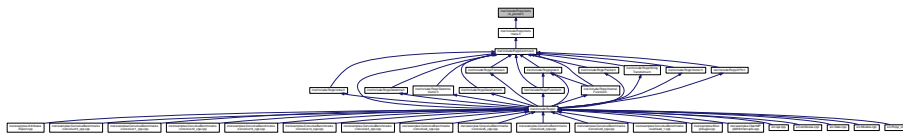
- struct [Rcpp::traits::is\\_module\\_object< T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

### 7.334 inst/include/Rcpp/traits/is\_pointer.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::is\\_pointer< T >](#)
- struct [Rcpp::traits::is\\_pointer< T \\* >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.335 inst/include/Rcpp/traits/is\_primitive.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::is\\_primitive< T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.336 inst/include/Rcpp/traits/is\_reference.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::is\\_reference< typename >](#)
- struct [Rcpp::traits::is\\_reference< \\_Tp & >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.337 inst/include/Rcpp/traits/is\_sugar\_expression.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::traits::\\_is\\_sugar\\_expression\\_helper< T >](#)
- struct [Rcpp::traits::\\_is\\_sugar\\_expression\\_helper< T >::\\_Wrap\\_type< U >](#)
- struct [Rcpp::traits::is\\_sugar\\_expression< T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.338 inst/include/Rcpp/traits/is\_trivial.h File Reference

This graph shows which files directly or indirectly include this file:





## Classes

- struct [Rcpp::traits::is\\_trivial< RTYPE >](#)
- struct [Rcpp::traits::is\\_trivial< VECSXP >](#)
- struct [Rcpp::traits::is\\_trivial< EXPRSXP >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.339 inst/include/Rcpp/traits/is\_wide\_string.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::is\\_wide\\_string< T >](#)
- struct [Rcpp::traits::is\\_wide\\_string< const wchar\\_t \\* >](#)
- struct [Rcpp::traits::is\\_wide\\_string< const char \\* >](#)
- struct [Rcpp::traits::is\\_wide\\_string< wchar\\_t >](#)
- struct [Rcpp::traits::is\\_wide\\_string< char >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.340 inst/include/Rcpp/traits/matrix\_interface.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::traits::\\_has\\_matrix\\_interface\\_helper< T >](#)
- struct [Rcpp::traits::\\_has\\_matrix\\_interface\\_helper< T >::\\_Wrap\\_type< U >](#)
- struct [Rcpp::traits::matrix\\_interface< T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.341 inst/include/Rcpp/traits/module\_wrap\_traits.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::normal\\_wrap\\_tag](#)
- struct [Rcpp::traits::void\\_wrap\\_tag](#)
- struct [Rcpp::traits::pointer\\_wrap\\_tag](#)
- struct [Rcpp::traits::module\\_wrap\\_traits< T >](#)
- struct [Rcpp::traits::module\\_wrap\\_traits< void >](#)
- struct [Rcpp::traits::module\\_wrap\\_traits< T \\* >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.342 inst/include/Rcpp/traits/named\_object.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::traits::needs\\_protection< T >](#)
- struct [Rcpp::traits::needs\\_protection< SEXP >](#)
- class [Rcpp::traits::named\\_object< T >](#)
- class [Rcpp::traits::named\\_object< SEXP >](#)
- struct [Rcpp::traits::is\\_named< T >](#)
- struct [Rcpp::traits::is\\_named< named\\_object< T > >](#)
- struct [Rcpp::traits::is\\_named< Rcpp::Argument >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.343 inst/include/Rcpp/traits/num2type.h File Reference

### Classes

- struct [Rcpp::traits::num2type< N >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.344 inst/include/Rcpp/traits/r\_sexptype\_traits.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::traits::r\\_sexptype\\_traits< T >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< int >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< const int >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< double >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< const double >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< bool >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< std::string >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< Rcomplex >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< Rbyte >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< unsigned int >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< float >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< long >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< unsigned long >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< long double >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< short >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< unsigned short >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< std::complex< double > >](#)
- struct [Rcpp::traits::r\\_sexptype\\_traits< std::complex< float > >](#)
- struct [Rcpp::traits::r\\_sexptype\\_needs cast< T >](#)
- struct [Rcpp::traits::r\\_sexptype\\_needs cast< int >](#)
- struct [Rcpp::traits::r\\_sexptype\\_needs cast< double >](#)
- struct [Rcpp::traits::r\\_sexptype\\_needs cast< Rcomplex >](#)
- struct [Rcpp::traits::r\\_sexptype\\_needs cast< Rbyte >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.345 inst/include/Rcpp/traits/r\_type\_traits.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- struct [Rcpp::traits::r\\_type\\_primitive\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_string\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_generic\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_pairstring\\_primitive\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_pairstring\\_string\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_pairstring\\_generic\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_pair\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_module\\_object\\_pointer\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_module\\_object\\_const\\_pointer\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_module\\_object\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_module\\_object\\_reference\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_module\\_object\\_const\\_reference\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_enum\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_RcppString\\_tag](#)
- struct [Rcpp::traits::r\\_type\\_traits< T >](#)
- struct [Rcpp::traits::r\\_type\\_traits< Rcpp::object< T > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const KEY, VALUE > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, T > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, int > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, const int > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, double > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, Rbyte > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, Rcomplex > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, bool > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, std::string > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, std::wstring > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, char > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, wchar\\_t > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, unsigned int > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, float > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< int >](#)
- struct [Rcpp::traits::r\\_type\\_traits< const int >](#)
- struct [Rcpp::traits::r\\_type\\_traits< double >](#)
- struct [Rcpp::traits::r\\_type\\_traits< const double >](#)
- struct [Rcpp::traits::r\\_type\\_traits< Rbyte >](#)
- struct [Rcpp::traits::r\\_type\\_traits< Rcomplex >](#)
- struct [Rcpp::traits::r\\_type\\_traits< bool >](#)

- struct [Rcpp::traits::r\\_type\\_traits< std::string >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::wstring >](#)
- struct [Rcpp::traits::r\\_type\\_traits< char >](#)
- struct [Rcpp::traits::r\\_type\\_traits< wchar\\_t >](#)
- struct [Rcpp::traits::r\\_type\\_traits< unsigned int >](#)
- struct [Rcpp::traits::r\\_type\\_traits< float >](#)
- struct [Rcpp::traits::r\\_type\\_traits< const char \\* >](#)
- struct [Rcpp::traits::r\\_type\\_traits< const wchar\\_t \\* >](#)
- struct [Rcpp::traits::r\\_type\\_traits< long >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, long > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< unsigned long >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, unsigned long > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< long double >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, long double > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< short >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, short > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< unsigned short >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, unsigned short > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::complex< double > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, std::complex< double > > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::complex< float > >](#)
- struct [Rcpp::traits::r\\_type\\_traits< std::pair< const std::string, std::complex< float > > >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.346 inst/include/Rcpp/traits/remove\_const.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::remove\\_const< \\_Tp >](#)  
*const-volatile modifications [4.7.1].*
- struct [Rcpp::traits::remove\\_const< \\_Tp const >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.347 inst/include/Rcpp/traits/remove\_const\_and\_reference.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

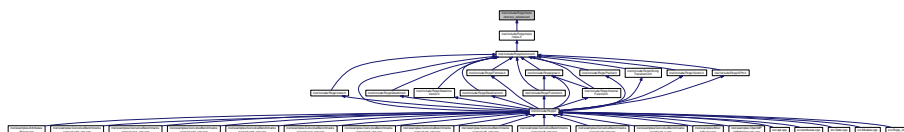
- struct [Rcpp::traits::remove\\_const\\_and\\_reference< T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.348 inst/include/Rcpp/traits/remove\_reference.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::remove\\_reference< \\_Tp >](#)  
*reference modifications [4.7.2].*
- struct [Rcpp::traits::remove\\_reference< \\_Tp & >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.349 inst/include/Rcpp/traits/result\_of.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

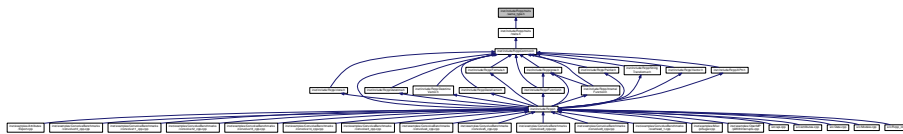
- struct [Rcpp::traits::result\\_of< T >](#)
- struct [Rcpp::traits::result\\_of< RESULT\\_TYPE\(\\*\) \(INPUT\\_TYPE\) >](#)
- struct [Rcpp::traits::result\\_of< RESULT\\_TYPE\(\\*\) \(U1, U2\) >](#)
- struct [Rcpp::traits::result\\_of< RESULT\\_TYPE\(\\*\) \(U1, U2, U3\) >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.350 inst/include/Rcpp/traits/same\_type.h File Reference

This graph shows which files directly or indirectly include this file:





## Classes

- struct [Rcpp::traits::same\\_type< T, U >](#)
- struct [Rcpp::traits::same\\_type< T, T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.351 inst/include/Rcpp/traits/storage\_type.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::storage\\_type< RTYPE >](#)
- struct [Rcpp::traits::storage\\_type< INTSXP >](#)
- struct [Rcpp::traits::storage\\_type< REALSXP >](#)
- struct [Rcpp::traits::storage\\_type< CPLXSXP >](#)
- struct [Rcpp::traits::storage\\_type< RAWSXP >](#)
- struct [Rcpp::traits::storage\\_type< LGLSXP >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.352 inst/include/Rcpp/traits/un\_pointer.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::un\\_pointer< T >](#)
- struct [Rcpp::traits::un\\_pointer< T \\* >](#)
- struct [Rcpp::traits::un\\_pointer< object< T > >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.353 inst/include/Rcpp/traits/wrap\_type\_traits.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- struct [Rcpp::traits::wrap\\_type\\_primitive\\_tag](#)
- struct [Rcpp::traits::wrap\\_type\\_unknown\\_tag](#)
- struct [Rcpp::traits::wrap\\_type\\_module\\_object\\_pointer\\_tag](#)
- struct [Rcpp::traits::wrap\\_type\\_module\\_object\\_tag](#)
- struct [Rcpp::traits::wrap\\_type\\_enum\\_tag](#)
- struct [Rcpp::traits::wrap\\_type\\_char\\_array](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< T >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< char\[N\]>](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< const char\[N\]>](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< int >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< const int >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< double >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< Rbyte >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< Rcomplex >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< unsigned int >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< bool >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< std::string >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< std::wstring >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< Rcpp::String >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< char >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< wchar\\_t >](#)

- struct [Rcpp::traits::wrap\\_type\\_traits< float >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< std::complex< float > >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< std::complex< double > >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< long >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< unsigned long >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< long double >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< short >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< unsigned short >](#)
- struct [Rcpp::traits::wrap\\_type\\_traits< Rcpp::object< T > >](#)

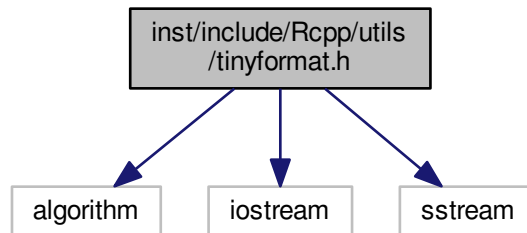
## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.354 inst/include/Rcpp/utis/tinyformat.h File Reference

```
#include <algorithm>
#include <iostream>
#include <sstream>
```

Include dependency graph for tinyformat.h:



This graph shows which files directly or indirectly include this file:



## Classes

- struct `tinyformat::detail::is_convertible< T1, T2 >`
- struct `tinyformat::detail::is_convertible< T1, T2 >::fail`
- struct `tinyformat::detail::is_convertible< T1, T2 >::succeed`
- struct `tinyformat::detail::is_wchar< T >`
- struct `tinyformat::detail::is_wchar< wchar_t * >`
- struct `tinyformat::detail::is_wchar< const wchar_t * >`
- struct `tinyformat::detail::is_wchar< const wchar_t[n]>`
- struct `tinyformat::detail::is_wchar< wchar_t[n]>`
- struct `tinyformat::detail::formatValueAsType< T, fmtT, convertible >`
- struct `tinyformat::detail::formatValueAsType< T, fmtT, true >`
- struct `tinyformat::detail::convertToInt< T, convertible >`
- struct `tinyformat::detail::convertToInt< T, true >`
- class `tinyformat::detail::FormatArg`
- class `tinyformat::FormatList`
- class `tinyformat::detail::FormatListN< N >`
- class `tinyformat::detail::FormatListN< 0 >`

## Namespaces

- `tinyformat`
- `Rcpp`
  - *Rcpp API.*
- `tinyformat::detail`

## Macros

- `#define TINYFORMAT_ERROR(REASON) ::Rcpp::stop(REASON)`
- `#define TINYFORMAT_NO_VARIADIC_TEMPLATES`
- `#define TINYFORMAT_HIDDEN`
- `#define TINYFORMAT_DEFINE_FORMAT_TRUNCATED_CSTR(type)`
- `#define TINYFORMAT_DEFINE_FORMATVALUE_CHAR(charType)`
- `#define TINYFORMAT_ARGTYPES(n) TINYFORMAT_ARGTYPES_ ## n`
- `#define TINYFORMAT_VARARGS(n) TINYFORMAT_VARARGS_ ## n`
- `#define TINYFORMAT_PASSARGS(n) TINYFORMAT_PASSARGS_ ## n`
- `#define TINYFORMAT_PASSARGS_TAIL(n) TINYFORMAT_PASSARGS_TAIL_ ## n`
- `#define TINYFORMAT_ARGTYPES_1 class T1`
- `#define TINYFORMAT_ARGTYPES_2 class T1, class T2`
- `#define TINYFORMAT_ARGTYPES_3 class T1, class T2, class T3`
- `#define TINYFORMAT_ARGTYPES_4 class T1, class T2, class T3, class T4`
- `#define TINYFORMAT_ARGTYPES_5 class T1, class T2, class T3, class T4, class T5`
- `#define TINYFORMAT_ARGTYPES_6 class T1, class T2, class T3, class T4, class T5, class T6`
- `#define TINYFORMAT_ARGTYPES_7 class T1, class T2, class T3, class T4, class T5, class T6, class T7`
- `#define TINYFORMAT_ARGTYPES_8 class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8`
- `#define TINYFORMAT_ARGTYPES_9 class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9`

- #define [TINYFORMAT\\_ARGTYPES\\_10](#) class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10
- #define [TINYFORMAT\\_ARGTYPES\\_11](#) class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11
- #define [TINYFORMAT\\_ARGTYPES\\_12](#) class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11, class T12
- #define [TINYFORMAT\\_ARGTYPES\\_13](#) class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11, class T12, class T13
- #define [TINYFORMAT\\_ARGTYPES\\_14](#) class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11, class T12, class T13, class T14
- #define [TINYFORMAT\\_ARGTYPES\\_15](#) class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11, class T12, class T13, class T14, class T15
- #define [TINYFORMAT\\_ARGTYPES\\_16](#) class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11, class T12, class T13, class T14, class T15, class T16
- #define [TINYFORMAT\\_VARARGS\\_1](#) const T1& v1
- #define [TINYFORMAT\\_VARARGS\\_2](#) const T1& v1, const T2& v2
- #define [TINYFORMAT\\_VARARGS\\_3](#) const T1& v1, const T2& v2, const T3& v3
- #define [TINYFORMAT\\_VARARGS\\_4](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4
- #define [TINYFORMAT\\_VARARGS\\_5](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5
- #define [TINYFORMAT\\_VARARGS\\_6](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6
- #define [TINYFORMAT\\_VARARGS\\_7](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7
- #define [TINYFORMAT\\_VARARGS\\_8](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8
- #define [TINYFORMAT\\_VARARGS\\_9](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9
- #define [TINYFORMAT\\_VARARGS\\_10](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10
- #define [TINYFORMAT\\_VARARGS\\_11](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11
- #define [TINYFORMAT\\_VARARGS\\_12](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11, const T12& v12
- #define [TINYFORMAT\\_VARARGS\\_13](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11, const T12& v12, const T13& v13
- #define [TINYFORMAT\\_VARARGS\\_14](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11, const T12& v12, const T13& v13, const T14& v14
- #define [TINYFORMAT\\_VARARGS\\_15](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11, const T12& v12, const T13& v13, const T14& v14, const T15& v15
- #define [TINYFORMAT\\_VARARGS\\_16](#) const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11, const T12& v12, const T13& v13, const T14& v14, const T15& v15, const T16& v16
- #define [TINYFORMAT\\_PASSARGS\\_1](#) v1
- #define [TINYFORMAT\\_PASSARGS\\_2](#) v1, v2
- #define [TINYFORMAT\\_PASSARGS\\_3](#) v1, v2, v3
- #define [TINYFORMAT\\_PASSARGS\\_4](#) v1, v2, v3, v4
- #define [TINYFORMAT\\_PASSARGS\\_5](#) v1, v2, v3, v4, v5
- #define [TINYFORMAT\\_PASSARGS\\_6](#) v1, v2, v3, v4, v5, v6
- #define [TINYFORMAT\\_PASSARGS\\_7](#) v1, v2, v3, v4, v5, v6, v7

- `#define TINYFORMAT_PASSARGS_8` v1, v2, v3, v4, v5, v6, v7, v8
- `#define TINYFORMAT_PASSARGS_9` v1, v2, v3, v4, v5, v6, v7, v8, v9
- `#define TINYFORMAT_PASSARGS_10` v1, v2, v3, v4, v5, v6, v7, v8, v9, v10
- `#define TINYFORMAT_PASSARGS_11` v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11
- `#define TINYFORMAT_PASSARGS_12` v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12
- `#define TINYFORMAT_PASSARGS_13` v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13
- `#define TINYFORMAT_PASSARGS_14` v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14
- `#define TINYFORMAT_PASSARGS_15` v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14, v15
- `#define TINYFORMAT_PASSARGS_16` v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14, v15, v16
- `#define TINYFORMAT_PASSARGS_TAIL_1`
- `#define TINYFORMAT_PASSARGS_TAIL_2` , v2
- `#define TINYFORMAT_PASSARGS_TAIL_3` , v2, v3
- `#define TINYFORMAT_PASSARGS_TAIL_4` , v2, v3, v4
- `#define TINYFORMAT_PASSARGS_TAIL_5` , v2, v3, v4, v5
- `#define TINYFORMAT_PASSARGS_TAIL_6` , v2, v3, v4, v5, v6
- `#define TINYFORMAT_PASSARGS_TAIL_7` , v2, v3, v4, v5, v6, v7
- `#define TINYFORMAT_PASSARGS_TAIL_8` , v2, v3, v4, v5, v6, v7, v8
- `#define TINYFORMAT_PASSARGS_TAIL_9` , v2, v3, v4, v5, v6, v7, v8, v9
- `#define TINYFORMAT_PASSARGS_TAIL_10` , v2, v3, v4, v5, v6, v7, v8, v9, v10
- `#define TINYFORMAT_PASSARGS_TAIL_11` , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11
- `#define TINYFORMAT_PASSARGS_TAIL_12` , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12
- `#define TINYFORMAT_PASSARGS_TAIL_13` , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13
- `#define TINYFORMAT_PASSARGS_TAIL_14` , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14
- `#define TINYFORMAT_PASSARGS_TAIL_15` , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14, v15
- `#define TINYFORMAT_PASSARGS_TAIL_16` , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14, v15, v16
- `#define TINYFORMAT_FOREACH_ARGNUM(m)` m(1) m(2) m(3) m(4) m(5) m(6) m(7) m(8) m(9) m(10) m(11) m(12) m(13) m(14) m(15) m(16)
- `#define TINYFORMAT_MAKE_FORMATLIST_CONSTRUCTOR(n)`
- `#define TINYFORMAT_MAKE_MAKEFORMATLIST(n)`
- `#define TINYFORMAT_MAKE_FORMAT_FUNCS(n)`

## Typedefs

- `typedef const FormatList & tinyformat::FormatListRef`  
*Reference to type-opaque format list for passing to [vformat\(\)](#)*

## Functions

- `void NORET Rcpp::stop` (const std::string &message)
- `template<typename T >`  
`void tinyformat::detail::formatTruncated` (std::ostream &out, const T &value, int ntrunc)
- `template<typename T >`  
`void tinyformat::formatValue` (std::ostream &out, const char \*, const char \*fmtEnd, int ntrunc, const T &value)
- `int tinyformat::detail::parseIntAndAdvance` (const char \*&c)
- `const char * tinyformat::detail::printFormatStringLiteral` (std::ostream &out, const char \*fmt)
- `const char * tinyformat::detail::streamStateFromFormat` (std::ostream &out, bool &spacePadPositive, int &ntrunc, const char \*fmtStart, const detail::FormatArg \*formatters, int &argIndex, int numFormatters)
- `void tinyformat::detail::formatImpl` (std::ostream &out, const char \*fmt, const detail::FormatArg \*formatters, int numFormatters)

- detail::FormatListN< 0 > [tinyformat::makeFormatList](#) ()
- void [tinyformat::vformat](#) (std::ostream &out, const char \*fmt, FormatListRef list)
- void [tinyformat::format](#) (std::ostream &out, const char \*fmt)
- std::string [tinyformat::format](#) (const char \*fmt)
- void [tinyformat::printf](#) (const char \*fmt)
- void [tinyformat::printfln](#) (const char \*fmt)

### 7.354.1 Macro Definition Documentation

7.354.1.1 `#define TINYFORMAT_ARGTYPES( n ) TINYFORMAT_ARGTYPES_ ## n`

Definition at line 380 of file tinyformat.h.

7.354.1.2 `#define TINYFORMAT_ARGTYPES_1 class T1`

Definition at line 421 of file tinyformat.h.

7.354.1.3 `#define TINYFORMAT_ARGTYPES_10 class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10`

Definition at line 430 of file tinyformat.h.

7.354.1.4 `#define TINYFORMAT_ARGTYPES_11 class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11`

Definition at line 431 of file tinyformat.h.

7.354.1.5 `#define TINYFORMAT_ARGTYPES_12 class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11, class T12`

Definition at line 432 of file tinyformat.h.

7.354.1.6 `#define TINYFORMAT_ARGTYPES_13 class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11, class T12, class T13`

Definition at line 433 of file tinyformat.h.

7.354.1.7 `#define TINYFORMAT_ARGTYPES_14 class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11, class T12, class T13, class T14`

Definition at line 434 of file tinyformat.h.

7.354.1.8 `#define TINYFORMAT_ARGTYPES_15 class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11, class T12, class T13, class T14, class T15`

Definition at line 435 of file tinyformat.h.

7.354.1.9 `#define TINYFORMAT_ARGTYPES_16 class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9, class T10, class T11, class T12, class T13, class T14, class T15, class T16`

Definition at line 436 of file tinyformat.h.

7.354.1.10 `#define TINYFORMAT_ARGTYPES_2 class T1, class T2`

Definition at line 422 of file tinyformat.h.

7.354.1.11 `#define TINYFORMAT_ARGTYPES_3 class T1, class T2, class T3`

Definition at line 423 of file tinyformat.h.

7.354.1.12 `#define TINYFORMAT_ARGTYPES_4 class T1, class T2, class T3, class T4`

Definition at line 424 of file tinyformat.h.

7.354.1.13 `#define TINYFORMAT_ARGTYPES_5 class T1, class T2, class T3, class T4, class T5`

Definition at line 425 of file tinyformat.h.

7.354.1.14 `#define TINYFORMAT_ARGTYPES_6 class T1, class T2, class T3, class T4, class T5, class T6`

Definition at line 426 of file tinyformat.h.

7.354.1.15 `#define TINYFORMAT_ARGTYPES_7 class T1, class T2, class T3, class T4, class T5, class T6, class T7`

Definition at line 427 of file tinyformat.h.

7.354.1.16 `#define TINYFORMAT_ARGTYPES_8 class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8`

Definition at line 428 of file tinyformat.h.



7.354.1.17 `#define TINYFORMAT_ARGTYPES_9 class T1, class T2, class T3, class T4, class T5, class T6, class T7, class T8, class T9`

Definition at line 429 of file tinyformat.h.

7.354.1.18 `#define TINYFORMAT_DEFINE_FORMAT_TRUNCATED_CSTR( type )`

**Value:**

```
inline void formatTruncated(std::ostream& out, type* value, int ntrunc) \
{
    std::streamsize len = 0;
    while(len < ntrunc && value[len] != 0)
        ++len;
    out.write(value, len);
}
```

Definition at line 287 of file tinyformat.h.

7.354.1.19 `#define TINYFORMAT_DEFINE_FORMATVALUE_CHAR( charType )`

**Value:**

```
inline void formatValue(std::ostream& out, const char* /*fmtBegin*/, \
                        const char* fmtEnd, int , charType value) \
{
    switch(*(fmtEnd-1))
    {
        case 'u': case 'd': case 'i': case 'o': case 'X': case 'x':
            out << static_cast<int>(value); break;
        default:
            out << value; break;
    }
}
```

Definition at line 356 of file tinyformat.h.

7.354.1.20 `#define TINYFORMAT_ERROR( REASON ) ::Rcpp::stop(REASON)`

Definition at line 129 of file tinyformat.h.

Referenced by `tinyformat::detail::formatImpl()`, `tinyformat::detail::convertToInt< T, convertible >::invoke()`, and `tinyformat::detail::streamStateFromFormat()`.

7.354.1.21 `#define TINYFORMAT_FOREACH_ARGNUM( m ) m(1) m(2) m(3) m(4) m(5) m(6) m(7) m(8) m(9) m(10) m(11) m(12) m(13) m(14) m(15) m(16)`

Definition at line 489 of file tinyformat.h.

## 7.354.1.22 #define TINYFORMAT\_HIDDEN

Definition at line 175 of file tinyformat.h.

## 7.354.1.23 #define TINYFORMAT\_MAKE\_FORMAT\_FUNCS( n )

**Value:**

```

\
template<TINYFORMAT_ARGTYPES(n)>
void format(std::ostream& out, const char* fmt, TINYFORMAT_VARARGS(n))
{
    vformat(out, fmt, makeFormatList(
        TINYFORMAT_PASSARGS(n));
}

template<TINYFORMAT_ARGTYPES(n)>
std::string format(const char* fmt, TINYFORMAT_VARARGS(n))
{
    std::ostringstream oss;
    format(oss, fmt, TINYFORMAT_PASSARGS(n));
    return oss.str();
}

template<TINYFORMAT_ARGTYPES(n)>
void printf(const char* fmt, TINYFORMAT_VARARGS(n))
{
    format(std::cout, fmt, TINYFORMAT_PASSARGS(n));
}

template<TINYFORMAT_ARGTYPES(n)>
void printfln(const char* fmt, TINYFORMAT_VARARGS(n))
{
    format(std::cout, fmt, TINYFORMAT_PASSARGS(n));
    std::cout << '\n';
}

```

Definition at line 1014 of file tinyformat.h.

## 7.354.1.24 #define TINYFORMAT\_MAKE\_FORMATLIST\_CONSTRUCTOR( n )

**Value:**

```

\
template<TINYFORMAT_ARGTYPES(n)>
FormatListN(TINYFORMAT_VARARGS(n))
    : FormatList(&m_formatterStore[0], n)
    { /*assert*n == N; */init(0, TINYFORMAT_PASSARGS(n)); }

template<TINYFORMAT_ARGTYPES(n)>
void init(int i, TINYFORMAT_VARARGS(n))
{
    m_formatterStore[i] = FormatArg(v1);
    init(i+1, TINYFORMAT_PASSARGS_TAIL(n));
}

```

Definition at line 876 of file tinyformat.h.

**7.354.1.25 #define TINYFORMAT\_MAKE\_MAKEFORMATLIST( n )****Value:**

```
template<TINYFORMAT_ARGTYPES(n)>
detail::FormatListN<n> makeFormatList(TINYFORMAT_VARARGS(n)) \
{
    return detail::FormatListN<n>(TINYFORMAT_PASSARGS(n)); \
}
```

Definition at line 934 of file tinyformat.h.

**7.354.1.26 #define TINYFORMAT\_NO\_VARIADIC\_TEMPLATES**

Definition at line 136 of file tinyformat.h.

**7.354.1.27 #define TINYFORMAT\_PASSARGS( n ) TINYFORMAT\_PASSARGS\_ ## n**

Definition at line 382 of file tinyformat.h.

**7.354.1.28 #define TINYFORMAT\_PASSARGS\_1 v1**

Definition at line 455 of file tinyformat.h.

**7.354.1.29 #define TINYFORMAT\_PASSARGS\_10 v1, v2, v3, v4, v5, v6, v7, v8, v9, v10**

Definition at line 464 of file tinyformat.h.

**7.354.1.30 #define TINYFORMAT\_PASSARGS\_11 v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11**

Definition at line 465 of file tinyformat.h.

**7.354.1.31 #define TINYFORMAT\_PASSARGS\_12 v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12**

Definition at line 466 of file tinyformat.h.

**7.354.1.32 #define TINYFORMAT\_PASSARGS\_13 v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13**

Definition at line 467 of file tinyformat.h.

7.354.1.33 `#define TINYFORMAT_PASSARGS_14 v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14`

Definition at line 468 of file tinyformat.h.

7.354.1.34 `#define TINYFORMAT_PASSARGS_15 v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14, v15`

Definition at line 469 of file tinyformat.h.

7.354.1.35 `#define TINYFORMAT_PASSARGS_16 v1, v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14, v15, v16`

Definition at line 470 of file tinyformat.h.

7.354.1.36 `#define TINYFORMAT_PASSARGS_2 v1, v2`

Definition at line 456 of file tinyformat.h.

7.354.1.37 `#define TINYFORMAT_PASSARGS_3 v1, v2, v3`

Definition at line 457 of file tinyformat.h.

7.354.1.38 `#define TINYFORMAT_PASSARGS_4 v1, v2, v3, v4`

Definition at line 458 of file tinyformat.h.

7.354.1.39 `#define TINYFORMAT_PASSARGS_5 v1, v2, v3, v4, v5`

Definition at line 459 of file tinyformat.h.

7.354.1.40 `#define TINYFORMAT_PASSARGS_6 v1, v2, v3, v4, v5, v6`

Definition at line 460 of file tinyformat.h.

7.354.1.41 `#define TINYFORMAT_PASSARGS_7 v1, v2, v3, v4, v5, v6, v7`

Definition at line 461 of file tinyformat.h.

7.354.1.42 `#define TINYFORMAT_PASSARGS_8 v1, v2, v3, v4, v5, v6, v7, v8`

Definition at line 462 of file tinyformat.h.

7.354.1.43 `#define TINYFORMAT_PASSARGS_9 v1, v2, v3, v4, v5, v6, v7, v8, v9`

Definition at line 463 of file tinyformat.h.

7.354.1.44 `#define TINYFORMAT_PASSARGS_TAIL( n ) TINYFORMAT_PASSARGS_TAIL_## n`

Definition at line 383 of file tinyformat.h.

7.354.1.45 `#define TINYFORMAT_PASSARGS_TAIL_1`

Definition at line 472 of file tinyformat.h.

7.354.1.46 `#define TINYFORMAT_PASSARGS_TAIL_10 , v2, v3, v4, v5, v6, v7, v8, v9, v10`

Definition at line 481 of file tinyformat.h.

7.354.1.47 `#define TINYFORMAT_PASSARGS_TAIL_11 , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11`

Definition at line 482 of file tinyformat.h.

7.354.1.48 `#define TINYFORMAT_PASSARGS_TAIL_12 , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12`

Definition at line 483 of file tinyformat.h.

7.354.1.49 `#define TINYFORMAT_PASSARGS_TAIL_13 , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13`

Definition at line 484 of file tinyformat.h.

7.354.1.50 `#define TINYFORMAT_PASSARGS_TAIL_14 , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14`

Definition at line 485 of file tinyformat.h.

7.354.1.51 `#define TINYFORMAT_PASSARGS_TAIL_15 , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14, v15`

Definition at line 486 of file tinyformat.h.

7.354.1.52 `#define TINYFORMAT_PASSARGS_TAIL_16 , v2, v3, v4, v5, v6, v7, v8, v9, v10, v11, v12, v13, v14, v15, v16`

Definition at line 487 of file tinyformat.h.

7.354.1.53 `#define TINYFORMAT_PASSARGS_TAIL_2 , v2`

Definition at line 473 of file tinyformat.h.

7.354.1.54 `#define TINYFORMAT_PASSARGS_TAIL_3 , v2, v3`

Definition at line 474 of file tinyformat.h.

7.354.1.55 `#define TINYFORMAT_PASSARGS_TAIL_4 , v2, v3, v4`

Definition at line 475 of file tinyformat.h.

7.354.1.56 `#define TINYFORMAT_PASSARGS_TAIL_5 , v2, v3, v4, v5`

Definition at line 476 of file tinyformat.h.

7.354.1.57 `#define TINYFORMAT_PASSARGS_TAIL_6 , v2, v3, v4, v5, v6`

Definition at line 477 of file tinyformat.h.

7.354.1.58 `#define TINYFORMAT_PASSARGS_TAIL_7 , v2, v3, v4, v5, v6, v7`

Definition at line 478 of file tinyformat.h.

7.354.1.59 `#define TINYFORMAT_PASSARGS_TAIL_8 , v2, v3, v4, v5, v6, v7, v8`

Definition at line 479 of file tinyformat.h.

7.354.1.60 `#define TINYFORMAT_PASSARGS_TAIL_9 , v2, v3, v4, v5, v6, v7, v8, v9`

Definition at line 480 of file tinyformat.h.

7.354.1.61 `#define TINYFORMAT_VARARGS( n ) TINYFORMAT_VARARGS_ ## n`

Definition at line 381 of file tinyformat.h.

7.354.1.62 `#define TINYFORMAT_VARARGS_1 const T1& v1`

Definition at line 438 of file tinyformat.h.

7.354.1.63 `#define TINYFORMAT_VARARGS_10 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10`

Definition at line 447 of file tinyformat.h.

7.354.1.64 `#define TINYFORMAT_VARARGS_11 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11`

Definition at line 448 of file tinyformat.h.

7.354.1.65 `#define TINYFORMAT_VARARGS_12 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11, const T12& v12`

Definition at line 449 of file tinyformat.h.

7.354.1.66 `#define TINYFORMAT_VARARGS_13 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11, const T12& v12, const T13& v13`

Definition at line 450 of file tinyformat.h.

7.354.1.67 `#define TINYFORMAT_VARARGS_14 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11, const T12& v12, const T13& v13, const T14& v14`

Definition at line 451 of file tinyformat.h.

7.354.1.68 `#define TINYFORMAT_VARARGS_15 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11, const T12& v12, const T13& v13, const T14& v14, const T15& v15`

Definition at line 452 of file tinyformat.h.

7.354.1.69 `#define TINYFORMAT_VARARGS_16 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9, const T10& v10, const T11& v11, const T12& v12, const T13& v13, const T14& v14, const T15& v15, const T16& v16`

Definition at line 453 of file tinyformat.h.

7.354.1.70 `#define TINYFORMAT_VARARGS_2 const T1& v1, const T2& v2`

Definition at line 439 of file tinyformat.h.

7.354.1.71 `#define TINYFORMAT_VARARGS_3 const T1& v1, const T2& v2, const T3& v3`

Definition at line 440 of file tinyformat.h.

7.354.1.72 `#define TINYFORMAT_VARARGS_4 const T1& v1, const T2& v2, const T3& v3, const T4& v4`

Definition at line 441 of file tinyformat.h.

7.354.1.73 `#define TINYFORMAT_VARARGS_5 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5`

Definition at line 442 of file tinyformat.h.

7.354.1.74 `#define TINYFORMAT_VARARGS_6 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6`

Definition at line 443 of file tinyformat.h.

7.354.1.75 `#define TINYFORMAT_VARARGS_7 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7`

Definition at line 444 of file tinyformat.h.

7.354.1.76 `#define TINYFORMAT_VARARGS_8 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8`

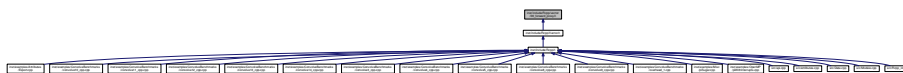
Definition at line 445 of file tinyformat.h.

7.354.1.77 `#define TINYFORMAT_VARARGS_9 const T1& v1, const T2& v2, const T3& v3, const T4& v4, const T5& v5, const T6& v6, const T7& v7, const T8& v8, const T9& v9`

Definition at line 446 of file tinyformat.h.

## 7.355 `inst/include/Rcpp/vector/00_forward_proxy.h` File Reference

This graph shows which files directly or indirectly include this file:





## Classes

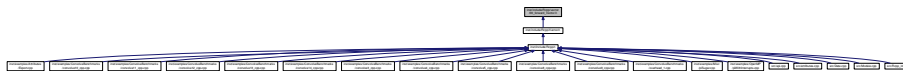
- class [Rcpp::internal::string\\_proxy< RTYPE >](#)
- class [Rcpp::internal::const\\_string\\_proxy< RTYPE >](#)
- class [Rcpp::internal::generic\\_proxy< RTYPE >](#)
- class [Rcpp::internal::const\\_generic\\_proxy< RTYPE >](#)
- class [Rcpp::internal::simple\\_name\\_proxy< RTYPE >](#)
- class [Rcpp::internal::string\\_name\\_proxy< RTYPE >](#)
- class [Rcpp::internal::generic\\_name\\_proxy< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_cache\\_type< RTYPE, StoragePolicy >](#)
- class [Rcpp::traits::r\\_vector\\_cache< RTYPE, StoragePolicy >](#)
- struct [Rcpp::traits::r\\_vector\\_name\\_proxy< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_proxy< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_const\\_proxy< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_iterator< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_const\\_iterator< RTYPE >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.356 inst/include/Rcpp/vector/00\_forward\_Vector.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

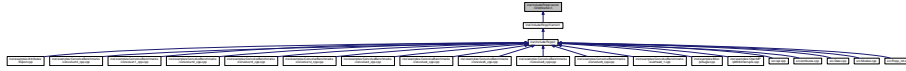
- class [Rcpp::Vector< RTYPE, StoragePolicy >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

### 7.357 inst/include/Rcpp/vector/ChildVector.h File Reference

This graph shows which files directly or indirectly include this file:



#### Classes

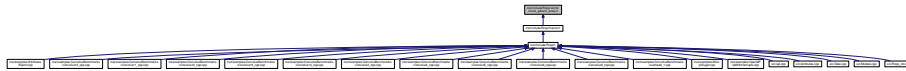
- class [Rcpp::ChildVector< T >](#)

#### Namespaces

- [Rcpp](#)  
*Rcpp API.*

### 7.358 inst/include/Rcpp/vector/const\_generic\_proxy.h File Reference

This graph shows which files directly or indirectly include this file:



#### Classes

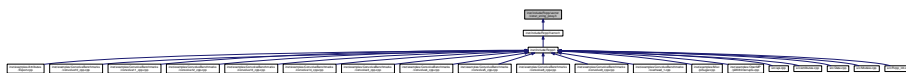
- class [Rcpp::internal::const\\_generic\\_proxy< RTYPE >](#)

#### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

### 7.359 inst/include/Rcpp/vector/const\_string\_proxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::internal::const\\_string\\_proxy< RTYPE >](#)

## Namespaces

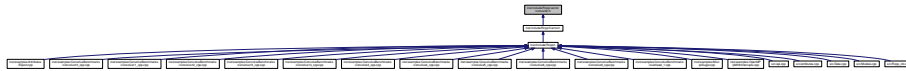
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

- [template<int RT>](#)  
bool [Rcpp::internal::operator<](#) (const [const\\_string\\_proxy< RT >](#) &lhs, const [const\\_string\\_proxy< RT >](#) &rhs)
- [template<int RT>](#)  
bool [Rcpp::internal::operator>](#) (const [const\\_string\\_proxy< RT >](#) &lhs, const [const\\_string\\_proxy< RT >](#) &rhs)
- [template<int RT>](#)  
bool [Rcpp::internal::operator>=](#) (const [const\\_string\\_proxy< RT >](#) &lhs, const [const\\_string\\_proxy< RT >](#) &rhs)
- [template<int RT>](#)  
bool [Rcpp::internal::operator<=](#) (const [const\\_string\\_proxy< RT >](#) &lhs, const [const\\_string\\_proxy< RT >](#) &rhs)
- [std::ostream & Rcpp::internal::operator<<](#) (std::ostream &os, const [const\\_string\\_proxy< STRSXP >](#) &proxy)
- [std::string Rcpp::internal::operator+](#) (const std::string &x, const [const\\_string\\_proxy< STRSXP >](#) &y)

## 7.360 inst/include/Rcpp/vector/converter.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

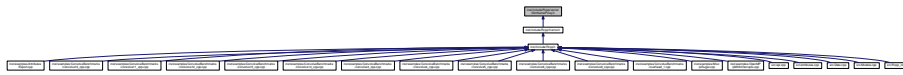
- class [Rcpp::internal::element\\_converter< RTYPE >](#)
- class [Rcpp::internal::string\\_element\\_converter< RTYPE >](#)
- class [Rcpp::internal::generic\\_element\\_converter< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_element\\_converter< RTYPE >](#)
- struct [Rcpp::traits::r\\_vector\\_element\\_converter< STRSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_element\\_converter< VECSXP >](#)
- struct [Rcpp::traits::r\\_vector\\_element\\_converter< EXPRSXP >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*

## 7.361 inst/include/Rcpp/vector/DimNameProxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

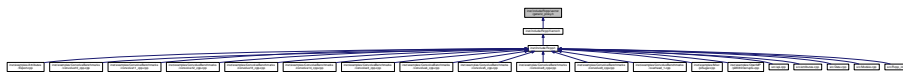
- class [Rcpp::internal::DimNameProxy](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## 7.362 inst/include/Rcpp/vector/generic\_proxy.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

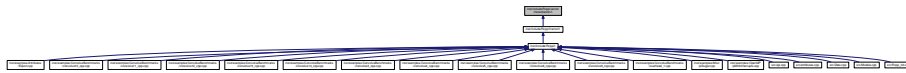
- class [Rcpp::internal::generic\\_proxy< RTYPE >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## 7.363 inst/include/Rcpp/vector/instantiation.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

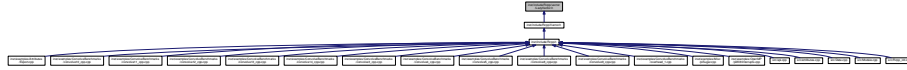
- [Rcpp](#)  
*Rcpp API.*

## Typedefs

- typedef Vector< CPLXSCP > [Rcpp::ComplexVector](#)
- typedef Vector< INTSCP > [Rcpp::IntegerVector](#)
- typedef Vector< LGLSCP > [Rcpp::LogicalVector](#)
- typedef Vector< REALSCP > [Rcpp::NumericVector](#)
- typedef Vector< REALSCP > [Rcpp::DoubleVector](#)
- typedef Vector< RAWSCP > [Rcpp::RawVector](#)
- typedef Vector< STRSCP > [Rcpp::CharacterVector](#)
- typedef Vector< STRSCP > [Rcpp::StringVector](#)
- typedef Vector< VECSXP > [Rcpp::GenericVector](#)
- typedef Vector< VECSXP > [Rcpp::List](#)
- typedef Vector< EXPRSCP > [Rcpp::ExpressionVector](#)
- typedef Matrix< CPLXSCP > [Rcpp::ComplexMatrix](#)
- typedef Matrix< INTSCP > [Rcpp::IntegerMatrix](#)
- typedef Matrix< LGLSCP > [Rcpp::LogicalMatrix](#)
- typedef Matrix< REALSCP > [Rcpp::NumericMatrix](#)
- typedef Matrix< RAWSCP > [Rcpp::RawMatrix](#)
- typedef Matrix< STRSCP > [Rcpp::CharacterMatrix](#)
- typedef Matrix< STRSCP > [Rcpp::StringMatrix](#)
- typedef Matrix< VECSXP > [Rcpp::GenericMatrix](#)
- typedef Matrix< VECSXP > [Rcpp::ListMatrix](#)
- typedef Matrix< EXPRSCP > [Rcpp::ExpressionMatrix](#)

## 7.364 inst/include/Rcpp/vector/LazyVector.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

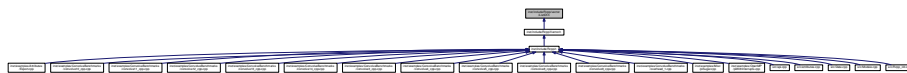
- class [Rcpp::internal::LazyVector< VECTOR >](#)
- class [Rcpp::internal::LazyVector< Rcpp::Vector< RTYPE > >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## 7.365 inst/include/Rcpp/vector/ListOf.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::ListOf< T >](#)
- class [Rcpp::sugar::Lapply< RTYPE, NA, T, Function >](#)
- class [Rcpp::sugar::Sapply< RTYPE, NA, T, Function, NO\\_CONVERSION >](#)

### Namespaces

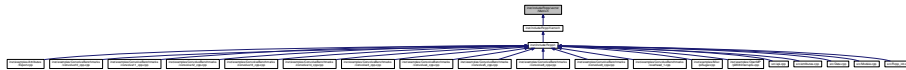
- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::sugar](#)

## Functions

- `template<typename T, typename Function >`  
List [Rcpp::lapply](#) (const ListOf< T > &t, Function fun)
- `template<typename T, typename Function >`  
T [Rcpp::sapply](#) (const ListOf< T > &t, Function fun)

## 7.366 inst/include/Rcpp/vector/Matrix.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Matrix< RTYPE, StoragePolicy >](#)
- struct [Rcpp::Matrix< RTYPE, StoragePolicy >::r\\_type](#)
- struct [Rcpp::Matrix< RTYPE, StoragePolicy >::can\\_have\\_na](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Macros

- `#define` [RCPP\\_GENERATE\\_MATRIX\\_SCALAR\\_OPERATOR\(\\_\\_OPERATOR\\_\\_\)](#)
- `#define` [RCPP\\_GENERATE\\_SCALAR\\_MATRIX\\_OPERATOR\(\\_\\_OPERATOR\\_\\_\)](#)

## Functions

- `internal::DimNameProxy` [Rcpp::rownames](#) (SEXP x)
- `internal::DimNameProxy` [Rcpp::colnames](#) (SEXP x)
- `template<template< class > class StoragePolicy>`  
`std::ostream & Rcpp::operator<< (std::ostream &s, const Matrix< REALSXP, StoragePolicy > &rhs)`
- `template<template< class > class StoragePolicy>`  
`std::ostream & Rcpp::operator<< (std::ostream &s, const Matrix< INTSXP, StoragePolicy > &rhs)`
- `template<template< class > class StoragePolicy>`  
`std::ostream & Rcpp::operator<< (std::ostream &s, const Matrix< STRSXP, StoragePolicy > &rhs)`
- `template<int RTYPE, template< class > class StoragePolicy>`  
`std::ostream & Rcpp::operator<< (std::ostream &s, const Matrix< RTYPE, StoragePolicy > &rhs)`
- `template<int RTYPE, template< class > class StoragePolicy>`  
`Matrix< RTYPE, StoragePolicy > Rcpp::transpose\_impl (const Matrix< RTYPE, StoragePolicy > &x)`
- `template<template< class > class StoragePolicy>`  
`Matrix< REALSXP, StoragePolicy > Rcpp::transpose (const Matrix< REALSXP, StoragePolicy > &x)`
- `template<template< class > class StoragePolicy>`  
`Matrix< INTSXP, StoragePolicy > Rcpp::transpose (const Matrix< INTSXP, StoragePolicy > &x)`
- `template<template< class > class StoragePolicy>`  
`Matrix< STRSXP, StoragePolicy > Rcpp::transpose (const Matrix< STRSXP, StoragePolicy > &x)`

## 7.366.1 Macro Definition Documentation

### 7.366.1.1 #define RCPP\_GENERATE\_MATRIX\_SCALAR\_OPERATOR( \_\_OPERATOR\_\_ )

#### Value:

```

template <int RTYPE, template <class> class StoragePolicy, typename T >
    inline typename traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference<
        T >::type,
        typename Matrix<RTYPE, StoragePolicy>::stored_type >::value, Matrix<RTYPE, StoragePolicy> >::type
        operator __OPERATOR__ (const Matrix<RTYPE, StoragePolicy> &lhs, const T &rhs) {
            Vector<RTYPE, StoragePolicy> v = static_cast<const Vector<RTYPE, StoragePolicy> &>(lhs)
            __OPERATOR__ rhs;
            v.attr("dim") = Vector<INTSXP>::create(lhs.nrow(), lhs.ncol());
            return as< Matrix<RTYPE, StoragePolicy> >(v);
        }

```

Definition at line 250 of file Matrix.h.

### 7.366.1.2 #define RCPP\_GENERATE\_SCALAR\_MATRIX\_OPERATOR( \_\_OPERATOR\_\_ )

#### Value:

```

template <int RTYPE, template <class> class StoragePolicy, typename T >
    inline typename traits::enable_if< traits::is_convertible< typename traits::remove_const_and_reference<
        T >::type,
        typename Matrix<RTYPE, StoragePolicy>::stored_type >::value, Matrix<RTYPE, StoragePolicy> >::type
        operator __OPERATOR__ (const T &lhs, const Matrix<RTYPE, StoragePolicy> &rhs) {
            Vector<RTYPE, StoragePolicy> v = static_cast<const Vector<RTYPE, StoragePolicy> &>(rhs);
            v = lhs __OPERATOR__ v;
            v.attr("dim") = Vector<INTSXP>::create(rhs.nrow(), rhs.ncol());
            return as< Matrix<RTYPE, StoragePolicy> >(v);
        }

```

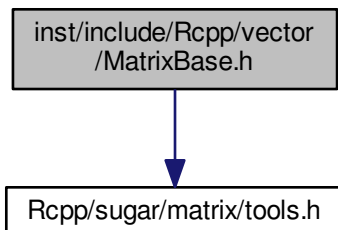
Definition at line 267 of file Matrix.h.



## 7.367 inst/include/Rcpp/vector/MatrixBase.h File Reference

```
#include <Rcpp/sugar/matrix/tools.h>
```

Include dependency graph for MatrixBase.h:



This graph shows which files directly or indirectly include this file:



### Classes

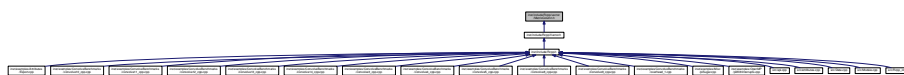
- class [Rcpp::MatrixBase< RTYPE, na, MATRIX >](#)
- struct [Rcpp::MatrixBase< RTYPE, na, MATRIX >::r\\_type](#)
- struct [Rcpp::MatrixBase< RTYPE, na, MATRIX >::r\\_matrix\\_interface](#)
- struct [Rcpp::MatrixBase< RTYPE, na, MATRIX >::can\\_have\\_na](#)
- class [Rcpp::MatrixBase< RTYPE, na, MATRIX >::iterator](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.368 inst/include/Rcpp/vector/MatrixColumn.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

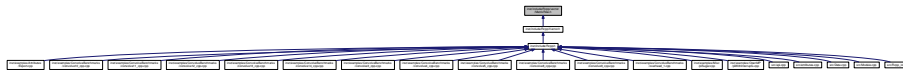
- class [Rcpp::MatrixColumn< RTYPE >](#)
- class [Rcpp::ConstMatrixColumn< RTYPE >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.369 inst/include/Rcpp/vector/MatrixRow.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

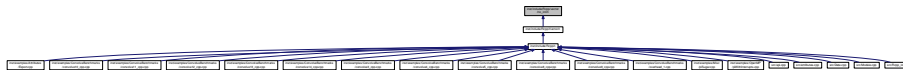
- class [Rcpp::MatrixRow< RTYPE >](#)
- class [Rcpp::MatrixRow< RTYPE >::iterator](#)
- class [Rcpp::ConstMatrixRow< RTYPE >](#)
- class [Rcpp::ConstMatrixRow< RTYPE >::const\\_iterator](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.370 inst/include/Rcpp/vector/no\_init.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::Matrix< RTYPE, StoragePolicy >](#)
- class [Rcpp::no\\_init\\_vector](#)
- class [Rcpp::no\\_init\\_matrix](#)

## Namespaces

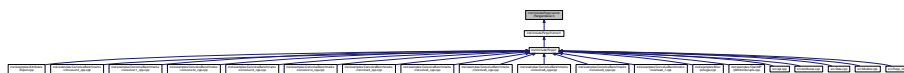
- [Rcpp](#)  
*Rcpp API.*

## Functions

- `no_init_vector` [Rcpp::no\\_init](#) (int size)
- `no_init_matrix` [Rcpp::no\\_init](#) (int nr, int nc)

## 7.371 inst/include/Rcpp/vector/RangeIndexer.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Macros

- `#define` [UNROLL\\_LOOP\(OP\)](#)

## 7.371.1 Macro Definition Documentation

### 7.371.1.1 #define UNROLL\_LOOP( OP )

#### Value:

```

typedef typename ::Rcpp::traits::Extractor<RTYPE,NA,T>::type EXT ; \
const EXT& input( x.get_ref() ) ;
int __trip_count = (size_ >> 2) ;
int i=0 ;
for ( ; __trip_count > 0 ; --__trip_count) {
    start[i] OP input[i] ; i++ ;
    start[i] OP input[i] ; i++ ;
    start[i] OP input[i] ; i++ ;
    start[i] OP input[i] ; i++ ;
}
switch (size_ - i){
case 3:
    start[i] OP input[i] ; i++ ;
case 2:
    start[i] OP input[i] ; i++ ;
case 1:
    start[i] OP input[i] ; i++ ;
case 0:
default:
    return *this ;
}

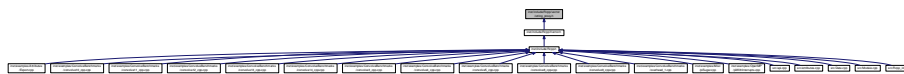
```

Definition at line 25 of file RangeIndexer.h.

Referenced by `Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >::operator*=( )`, `Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >::operator+=( )`, `Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >::operator=( )`, `Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >::operator/=( )`, and `Rcpp::internal::RangeIndexer< RTYPE, NA, VECTOR >::operator=( )`.

## 7.372 inst/include/Rcpp/vector/string\_proxy.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class `Rcpp::internal::string_proxy< RTYPE >`

### Namespaces

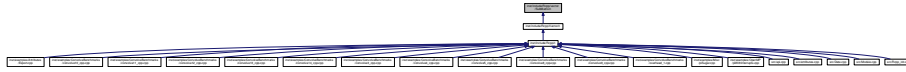
- `Rcpp`  
*Rcpp API.*
- `Rcpp::internal`  
*internal implementation details*

## Functions

- `template<int RT>`  
`bool Rcpp::internal::operator< (const string_proxy< RT > &lhs, const string_proxy< RT > &rhs)`
- `template<int RT>`  
`bool Rcpp::internal::operator> (const string_proxy< RT > &lhs, const string_proxy< RT > &rhs)`
- `template<int RT>`  
`bool Rcpp::internal::operator>= (const string_proxy< RT > &lhs, const string_proxy< RT > &rhs)`
- `template<int RT>`  
`bool Rcpp::internal::operator<= (const string_proxy< RT > &lhs, const string_proxy< RT > &rhs)`
- `std::ostream & Rcpp::internal::operator<< (std::ostream &os, const string_proxy< STRSXP > &proxy)`
- `std::string Rcpp::internal::operator+ (const std::string &x, const string_proxy< STRSXP > &y)`

## 7.373 inst/include/Rcpp/vector/SubMatrix.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class `Rcpp::SubMatrix< RTYPE >`

## Namespaces

- `Rcpp`  
*Rcpp API.*

## Macros

- `#define RCPP_WRAP_SUBMATRIX(RTYPE)`

### 7.373.1 Macro Definition Documentation

#### 7.373.1.1 #define RCPP\_WRAP\_SUBMATRIX( RTYPE )

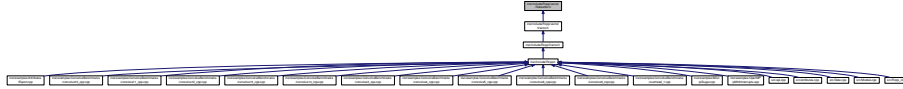
#### Value:

```
template<> inline SEXP wrap< SubMatrix<RTYPE> >( \
  const SubMatrix<RTYPE>& object \
) { \
  return Matrix<RTYPE>( object ) ; \
}
```

Definition at line 90 of file SubMatrix.h.

## 7.374 inst/include/Rcpp/vector/Subsetter.h File Reference

This graph shows which files directly or indirectly include this file:



### Classes

- class [Rcpp::SubsetProxy< RTYPE, StoragePolicy, RHS\\_RTYPE, RHS\\_NA, RHS\\_T >](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*

### Macros

- `#define RCPP\_GENERATE\_SUBSET\_PROXY\_OPERATOR\(\_\_OPERATOR\_\_\)`

### 7.374.1 Macro Definition Documentation

#### 7.374.1.1 `#define RCPP\_GENERATE\_SUBSET\_PROXY\_OPERATOR\( \_\_OPERATOR\_\_ \)`

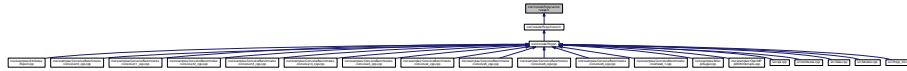
#### Value:

```
template <int RTYPE_OTHER, template <class> class StoragePolicyOther,
         int RHS_RTYPE_OTHER, bool RHS_NA_OTHER, typename RHS_T_OTHER>
Vector<RTYPE, StoragePolicy> operator __OPERATOR__ (
    const SubsetProxy<RTYPE_OTHER, StoragePolicyOther, RHS_RTYPE_OTHER,
                     RHS_NA_OTHER, RHS_T_OTHER>& other) {
    Vector<RTYPE, StoragePolicy> result(indices_n);
    if (other.indices_n == 1) {
        for (int i = 0; i < indices_n; ++i)
            result[i] = lhs[indices[i]] __OPERATOR__ other.lhs[other.indices[0]];
    } else if (indices_n == other.indices_n) {
        for (int i = 0; i < indices_n; ++i)
            result[i] = lhs[indices[i]] __OPERATOR__ other.lhs[other.indices[i]];
    } else {
        stop("index error");
    }
    return result;
}
```

Definition at line 229 of file Subsetter.h.

## 7.375 inst/include/Rcpp/vector/swap.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [std](#)

### Macros

- `#define RCPP\_GENERATE\_SWAP(TYPE, RTYPE)`

### 7.375.1 Macro Definition Documentation

#### 7.375.1.1 `#define RCPP_GENERATE_SWAP( TYPE, RTYPE )`

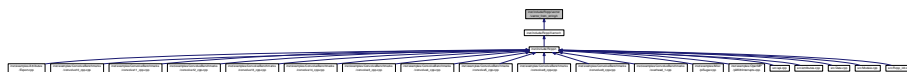
#### Value:

```
template<> inline void swap< Rcpp::internal::TYPE<RTYPE> >(
    Rcpp::internal::TYPE<RTYPE>& a ,
    Rcpp::internal::TYPE<RTYPE>& b) {
    a.swap(b) ;
}
```

Definition at line 28 of file swap.h.

## 7.376 inst/include/Rcpp/vector/vector\_from\_string.h File Reference

This graph shows which files directly or indirectly include this file:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Functions

- `template<int RTYPE>`  
SEXP [Rcpp::internal::vector\\_from\\_string](#) (const std::string &st)
- `template<int RTYPE>`  
SEXP [Rcpp::internal::vector\\_from\\_string\\_expr](#) (const std::string &code)
- `template<>`  
SEXP [Rcpp::internal::vector\\_from\\_string< EXPRXP >](#) (const std::string &st)

## 7.377 inst/include/Rcpp/vector/VectorBase.h File Reference

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::VectorBase< RTYPE, na, VECTOR >](#)
- struct [Rcpp::VectorBase< RTYPE, na, VECTOR >::rcpp\\_sugar\\_expression](#)
- struct [Rcpp::VectorBase< RTYPE, na, VECTOR >::r\\_type](#)
- struct [Rcpp::VectorBase< RTYPE, na, VECTOR >::can\\_have\\_na](#)
- class [Rcpp::VectorBase< RTYPE, na, VECTOR >::iterator](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## 7.378 inst/include/Rcpp/WeakReference.h File Reference

This graph shows which files directly or indirectly include this file:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*



## Typedefs

- typedef WeakReference\_Impl< PreserveStorage > [Rcpp::WeakReference](#)

## Functions

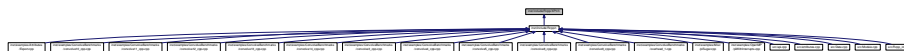
- [Rcpp::RCPP\\_API\\_CLASS](#) (WeakReference\_Impl)

## 7.379 inst/include/Rcpp/XPtr.h File Reference

```
#include <RcppCommon.h>
Include dependency graph for XPtr.h:
```



This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::XPtr](#)< T, StoragePolicy, Finalizer >

## Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Functions

- template<typename T >  
void [Rcpp::standard\\_delete\\_finalizer](#) (T \*obj)
- template<typename T, void Finalizer>  
void [Rcpp::finalizer\\_wrapper](#) (SEXP p)

## 7.380 inst/include/RcppCommon.h File Reference

```
#include <Rcpp/r/headers.h>
```

```
#include <iterator>
#include <exception>
#include <iostream>
#include <iomanip>
#include <sstream>
#include <string>
#include <list>
#include <map>
#include <set>
#include <stdexcept>
#include <vector>
#include <deque>
#include <functional>
#include <numeric>
#include <algorithm>
#include <complex>
#include <limits>
#include <typeinfo>
#include <Rcpp/sprintf.h>
#include <R_ext/Callbacks.h>
#include <R_ext/Visibility.h>
#include <Rcpp/utils/tinyformat.h>
#include <Rmath.h>
#include <Rcpp/sugar/undoRmath.h>
#include <Rcpp/storage/storage.h>
#include <Rcpp/protection/protection.h>
#include <Rcpp/routines.h>
#include <Rcpp/exceptions.h>
#include <Rcpp/proxy/proxy.h>
#include <Rcpp/lang.h>
#include <Rcpp/complex.h>
#include <Rcpp/barrier.h>
#include <Rcpp/Interrupt.h>
#include <Rcpp/longlong.h>
#include <Rcpp/internal/na.h>
#include <Rcpp/internal/NAComparator.h>
#include <Rcpp/internal/NAEquals.h>
#include <Rcpp/traits/traits.h>
#include <Rcpp/Named.h>
#include <Rcpp/internal/caster.h>
#include <Rcpp/internal/r_vector.h>
#include <Rcpp/r_cast.h>
#include <Rcpp/api/bones/bones.h>
#include <Rcpp/internal/export.h>
#include <Rcpp/internal/r_coerce.h>
#include <Rcpp/as.h>
#include <Rcpp/InputParameter.h>
#include <Rcpp/is.h>
#include <Rcpp/vector/VectorBase.h>
#include <Rcpp/vector/MatrixBase.h>
#include <Rcpp/internal/ListInitialization.h>
#include <Rcpp/internal/Proxy_Iterator.h>
#include <Rcpp/internal/SEXP_Iterator.h>
#include <Rcpp/internal/converter.h>
#include <Rcpp/print.h>
#include <Rcpp/algo.h>
Generated by Doxygen
#include <Rcpp/sugar/sugar_forward.h>
#include <Rcpp/iostream/Rstreambuf.h>
#include <Rcpp/internal/wrap.h>
```

This graph shows which files directly or indirectly include this file:



## Classes

- class [Rcpp::traits::named\\_object< T >](#)
- class [Rcpp::object< T >](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::traits](#)  
*traits used to dispatch wrap*
- [Rcpp::internal](#)  
*internal implementation details*

## Macros

- `#define RcppExport extern "C"`

## Functions

- SEXP [Rcpp::Rcpp\\_eval](#) (SEXP expr, SEXP env)
- SEXP [Rcpp::Rcpp\\_PreserveObject](#) (SEXP x)
- void [Rcpp::Rcpp\\_ReleaseObject](#) (SEXP x)
- SEXP [Rcpp::Rcpp\\_ReplaceObject](#) (SEXP x, SEXP y)
- `template<typename Class >`  
SEXP [Rcpp::internal::make\\_new\\_object](#) (Class \*ptr)

### 7.380.1 Macro Definition Documentation

#### 7.380.1.1 `#define RcppExport extern "C"`

Examples:

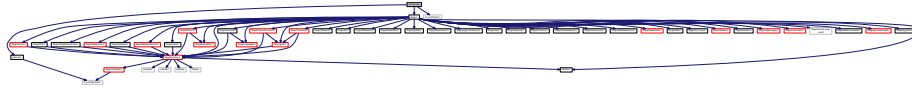
[ConvolveBenchmarks/convolve3\\_cpp.cpp](#), and [ConvolveBenchmarks/convolve4\\_cpp.cpp](#).

Definition at line 129 of file `RcppCommon.h`.

## 7.381 src/api.cpp File Reference

```
#include <Rcpp.h>
#include "internal.h"
#include <R_ext/PrtUtil.h>
```

Include dependency graph for api.cpp:



### Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

### Macros

- `#define` [COMPILING\\_RCPP](#)

### Functions

- `attribute_hidden unsigned long` [Rcpp::internal::enterRNGScope](#) ()
- `attribute_hidden unsigned long` [Rcpp::internal::exitRNGScope](#) ()
- `attribute_hidden char *` [Rcpp::internal::get\\_string\\_buffer](#) ()
- `attribute_hidden const char *` [Rcpp::type2name](#) (SEXP x)
- `std::string` [demangle](#) (const std::string &name)
- `const char *` [short\\_file\\_name](#) (const char \*file)
- SEXP [as\\_character\\_externalptr](#) (SEXP xp)
- SEXP [rcpp\\_capabilities](#) ()
- SEXP [rcpp\\_can\\_use\\_cxx0x](#) ()
- SEXP [rcpp\\_can\\_use\\_cxx11](#) ()
- SEXP [stack\\_trace](#) (const char \*file, int line)

### 7.381.1 Macro Definition Documentation

#### 7.381.1.1 #define COMPILING\_RCPP

Definition at line 23 of file api.cpp.

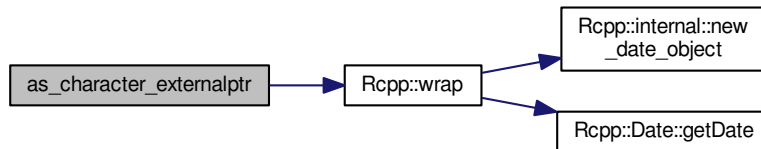
## 7.381.2 Function Documentation

### 7.381.2.1 SEXP `as_character_externalptr` ( SEXP *xp* )

Definition at line 150 of file `api.cpp`.

References `Rcpp::wrap()`.

Here is the call graph for this function:



### 7.381.2.2 `std::string demangle` ( const `std::string` & *name* ) [inline]

Definition at line 121 of file `api.cpp`.

Referenced by `exception_to_r_condition()`, `exception_to_try_error()`, `Rcpp::get_return_type_dispatch()`, and `register←Functions()`.

### 7.381.2.3 SEXP `rcpp_can_use_cxx0x` ( )

Definition at line 237 of file `api.cpp`.

### 7.381.2.4 SEXP `rcpp_can_use_cxx11` ( )

Definition at line 247 of file `api.cpp`.

### 7.381.2.5 SEXP `rcpp_capabilities` ( )

Definition at line 157 of file `api.cpp`.

### 7.381.2.6 `const char*` `short_file_name` ( const `char` \* *file* )

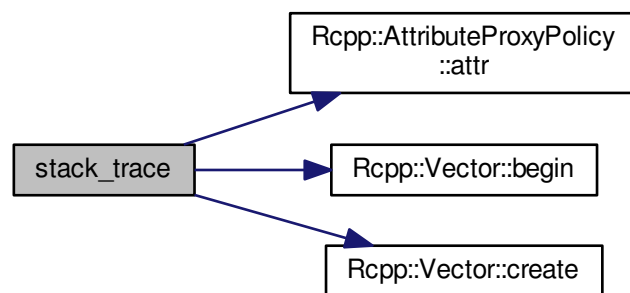
Definition at line 140 of file `api.cpp`.

## 7.381.2.7 SEXP stack\_trace ( const char \* file, int line )

Definition at line 257 of file api.cpp.

References Rcpp::\_, Rcpp::AttributeProxyPolicy< CLASS >::attr(), Rcpp::Vector< RTYPE, StoragePolicy >::begin(), and Rcpp::Vector< RTYPE, StoragePolicy >::create().

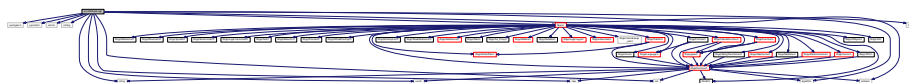
Here is the call graph for this function:



## 7.382 src/attributes.cpp File Reference

```
#include <sys/types.h>
#include <sys/stat.h>
#include <errno.h>
#include <cstring>
#include <string>
#include <vector>
#include <map>
#include <set>
#include <algorithm>
#include <fstream>
#include <sstream>
#include <Rcpp.h>
```

Include dependency graph for attributes.cpp:



## Classes

- class [Rcpp::attributes::FileInfo](#)
- class [Rcpp::attributes::Type](#)
- class [Rcpp::attributes::Argument](#)
- class [Rcpp::attributes::Function](#)
- class [Rcpp::attributes::Param](#)
- class [Rcpp::attributes::Attribute](#)
- class [Rcpp::attributes::SourceFileAttributes](#)
- class [Rcpp::attributes::CommentState](#)
- class [Rcpp::attributes::SourceFileAttributesParser](#)
- class [Rcpp::attributes::ExportsGenerator](#)
- class [Rcpp::attributes::CppExportsGenerator](#)
- class [Rcpp::attributes::CppExportsIncludeGenerator](#)
- class [Rcpp::attributes::CppPackageIncludeGenerator](#)
- class [Rcpp::attributes::REExportsGenerator](#)
- class [Rcpp::attributes::ExportsGenerators](#)

## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::attributes](#)

## Macros

- `#define COMPILING_RCPP`
- `#define RCPP_NO_SUGAR`

## Functions

- bool [Rcpp::attributes::removeFile](#) (const std::string &path)
- void [Rcpp::attributes::createDirectory](#) (const std::string &path)
- bool [Rcpp::attributes::isWhitespace](#) (char ch)
- void [Rcpp::attributes::trimWhitespace](#) (std::string \*pStr)
- void [Rcpp::attributes::stripTrailingLineComments](#) (std::string \*pStr)
- void [Rcpp::attributes::stripQuotes](#) (std::string \*pStr)
- bool [Rcpp::attributes::isQuoted](#) (const std::string &str)
- void [Rcpp::attributes::showWarning](#) (const std::string &msg)
- bool [Rcpp::attributes::isRxygenCpp](#) (const std::string &str)
- std::ostream & [Rcpp::attributes::operator<<](#) (std::ostream &os, const [Type](#) &type)
- std::ostream & [Rcpp::attributes::operator<<](#) (std::ostream &os, const [Argument](#) &argument)
- std::ostream & [Rcpp::attributes::operator<<](#) (std::ostream &os, const [Function](#) &function)
- std::ostream & [Rcpp::attributes::operator<<](#) (std::ostream &os, const [Param](#) &param)
- std::ostream & [Rcpp::attributes::operator<<](#) (std::ostream &os, const [Attribute](#) &attribute)
- std::string [Rcpp::attributes::generateRArgList](#) (const [Function](#) &function)
- void [Rcpp::attributes::generateCpp](#) (std::ostream &ostr, const [SourceFileAttributes](#) &attributes, bool include↔ Prototype, bool cpplInterface, const std::string &contextId)
- void [Rcpp::attributes::printArgument](#) (std::ostream &os, const [Argument](#) &argument, bool printDefault=true)
- void [Rcpp::attributes::printFunction](#) (std::ostream &os, const [Function](#) &function, bool printArgDefaults=true)
- [RcppExport](#) SEXP [sourceCppContext](#) (SEXP sFile, SEXP sCode, SEXP sRebuild, SEXP sCacheDir, SEXP s↔ Platform)
- [RcppExport](#) SEXP [compileAttributes](#) (SEXP sPackageDir, SEXP sPackageName, SEXP sDepends, SEXP s↔ CppFiles, SEXP sCppFileBasenames, SEXP sIncludes, SEXP sVerbose, SEXP sPlatform)



## Variables

- const char \*const `Rcpp::attributes::kWhitespaceChars` = "\n\r\t\v"
- const char \*const `Rcpp::attributes::kExportAttribute` = "export"
- const char \*const `Rcpp::attributes::kExportName` = "name"
- const char \*const `Rcpp::attributes::kExportRng` = "rng"
- const char \*const `Rcpp::attributes::kDependsAttribute` = "depends"
- const char \*const `Rcpp::attributes::kPluginsAttribute` = "plugins"
- const char \*const `Rcpp::attributes::kInterfacesAttribute` = "interfaces"
- const char \*const `Rcpp::attributes::kInterfaceR` = "r"
- const char \*const `Rcpp::attributes::kInterfaceCpp` = "cpp"
- const char \*const `Rcpp::attributes::kParamValueFalse` = "false"
- const char \*const `Rcpp::attributes::kParamValueTrue` = "true"
- const char \*const `Rcpp::attributes::kParamValueFALSE` = "FALSE"
- const char \*const `Rcpp::attributes::kParamValueTRUE` = "TRUE"

### 7.382.1 Macro Definition Documentation

#### 7.382.1.1 `#define COMPILING_RCPP`

Definition at line 22 of file attributes.cpp.

#### 7.382.1.2 `#define RCPP_NO_SUGAR`

Definition at line 38 of file attributes.cpp.

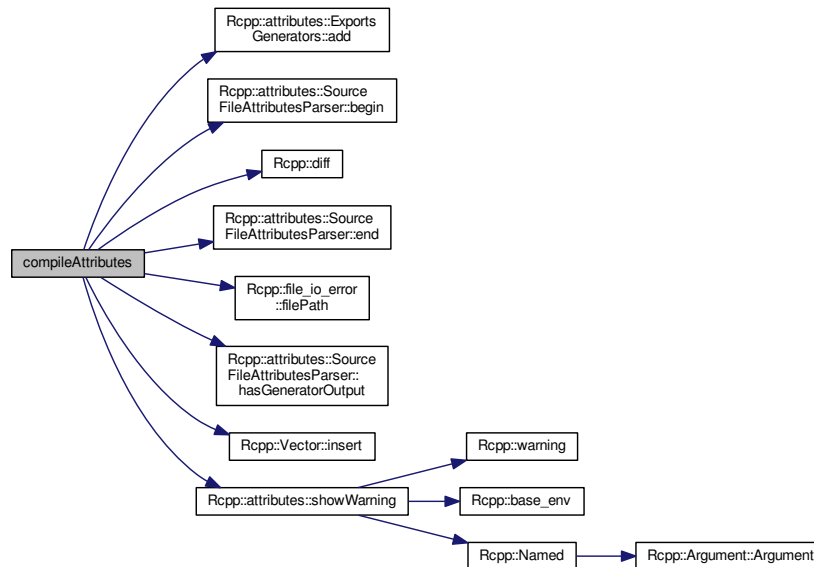
### 7.382.2 Function Documentation

#### 7.382.2.1 `RcppExport SEXP compileAttributes ( SEXP sPackageDir, SEXP sPackageName, SEXP sDepends, SEXP sCppFiles, SEXP sCppClassBasenames, SEXP sIncludes, SEXP sVerbose, SEXP sPlatform )`

Definition at line 3292 of file attributes.cpp.

References `Rcpp::attributes::ExportsGenerators::add()`, `Rcpp::attributes::SourceFileAttributesParser::begin()`, `BEGIN_RCPP`, `Rcpp::diff()`, `Rcpp::attributes::SourceFileAttributesParser::end()`, `END_RCPP`, `Rcpp::file_io_error::filePath()`, `Rcpp::attributes::SourceFileAttributesParser::hasGeneratorOutput()`, `Rcpp::Vector< RTYPE, StoragePolicy >::insert()`, `Rcpp::attributes::kDependsAttribute`, `Rcpp::Rcout`, and `Rcpp::attributes::showWarning()`.

Here is the call graph for this function:



### 7.382.2.2 RcppExport SEXP sourceCppContext ( SEXP sFile, SEXP sCode, SEXP sRebuild, SEXP sCacheDir, SEXP sPlatform )

Definition at line 3228 of file attributes.cpp.

References Rcpp::\_, BEGIN\_RCPP, Rcpp::Vector< RTYPE, StoragePolicy >::create(), and END\_RCPP.

Here is the call graph for this function:

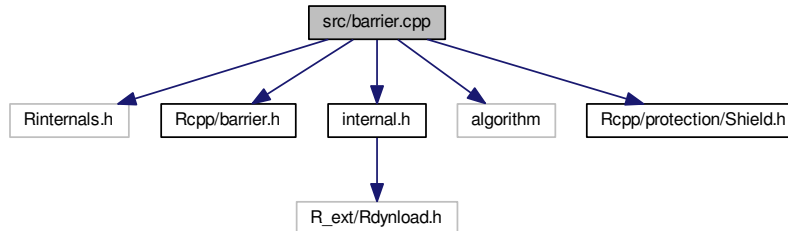


## 7.383 src/barrier.cpp File Reference

```
#include <Rinternals.h>
```

```
#include <Rcpp/barrier.h>
#include "internal.h"
#include <algorithm>
#include <Rcpp/protection/Shield.h>
```

Include dependency graph for barrier.cpp:



## Namespaces

- [Rcpp](#)  
*Rcpp API.*
- [Rcpp::internal](#)  
*internal implementation details*

## Macros

- `#define COMPILING_RCPP`
- `#define USE_RINTERNALS`
- `#define RCPP_HASH_CACHE_INDEX 4`
- `#define RCPP_CACHE_SIZE 5`
- `#define RCPP_HASH_CACHE_INITIAL_SIZE 1024`

## Functions

- SEXP [Rcpp::Rcpp\\_eval](#) (SEXP expr, SEXP env)
- SEXP [get\\_string\\_elt](#) (SEXP x, int i)
- const char \* [char\\_get\\_string\\_elt](#) (SEXP x, int i)
- void [set\\_string\\_elt](#) (SEXP x, int i, SEXP value)
- void [char\\_set\\_string\\_elt](#) (SEXP x, int i, const char \*value)
- SEXP \* [get\\_string\\_ptr](#) (SEXP x)
- SEXP [get\\_vector\\_elt](#) (SEXP x, int i)
- void [set\\_vector\\_elt](#) (SEXP x, int i, SEXP value)
- SEXP \* [get\\_vector\\_ptr](#) (SEXP x)
- void \* [dataptr](#) (SEXP x)
- const char \* [char\\_nocheck](#) (SEXP x)
- SEXP [get\\_rcpp\\_cache](#) ()

- attribute\_hidden SEXP [Rcpp::internal::get\\_Rcpp\\_namespace](#) ()
- SEXP [rcpp\\_get\\_stack\\_trace](#) ()
- SEXP [rcpp\\_set\\_stack\\_trace](#) (SEXP e)
- SEXP [set\\_error\\_occured](#) (SEXP cache, SEXP e)
- SEXP [set\\_current\\_error](#) (SEXP cache, SEXP e)
- SEXP [init\\_Rcpp\\_cache](#) ()
- SEXP [reset\\_current\\_error](#) ()
- int [error\\_occured](#) ()
- SEXP [rcpp\\_error\\_recorder](#) (SEXP e)
- SEXP [rcpp\\_get\\_current\\_error](#) ()
- int \* [get\\_cache](#) (int m)

## Variables

- static bool [Rcpp\\_cache\\_know](#) = false
- static SEXP [Rcpp\\_cache](#) = R\_NilValue

### 7.383.1 Macro Definition Documentation

#### 7.383.1.1 #define COMPILING\_RCPP

Definition at line 22 of file barrier.cpp.

#### 7.383.1.2 #define RCPP\_CACHE\_SIZE 5

Definition at line 87 of file barrier.cpp.

Referenced by [init\\_Rcpp\\_cache](#)().

#### 7.383.1.3 #define RCPP\_HASH\_CACHE\_INDEX 4

Definition at line 86 of file barrier.cpp.

Referenced by [get\\_cache](#)(), and [init\\_Rcpp\\_cache](#)().

#### 7.383.1.4 #define RCPP\_HASH\_CACHE\_INITIAL\_SIZE 1024

Definition at line 90 of file barrier.cpp.

Referenced by [init\\_Rcpp\\_cache](#)().

#### 7.383.1.5 #define USE\_RINTERNALS

Definition at line 24 of file barrier.cpp.

## 7.383.2 Function Documentation

7.383.2.1 `const char* char_get_string_elt ( SEXP x, int i )` [inline]

Definition at line 39 of file barrier.cpp.

Referenced by registerFunctions().

7.383.2.2 `const char* char_nocheck ( SEXP x )` [inline]

Definition at line 79 of file barrier.cpp.

Referenced by registerFunctions(), and Rcpp::String::setBuffer().

7.383.2.3 `void char_set_string_elt ( SEXP x, int i, const char * value )` [inline]

Definition at line 49 of file barrier.cpp.

Referenced by registerFunctions().

7.383.2.4 `void* dataptr ( SEXP x )` [inline]

Definition at line 74 of file barrier.cpp.

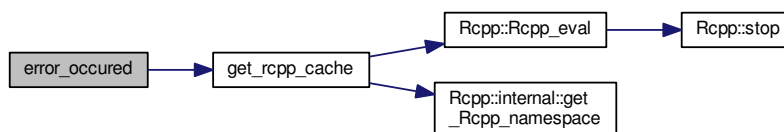
Referenced by registerFunctions().

7.383.2.5 `int error_occured ( )`

Definition at line 174 of file barrier.cpp.

References get\_rcpp\_cache().

Here is the call graph for this function:

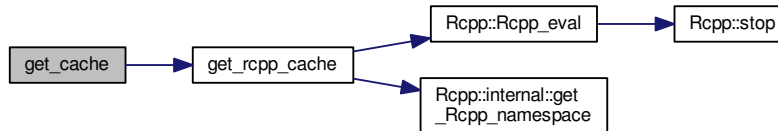


### 7.383.2.6 int\* get\_cache ( int m )

Definition at line 198 of file barrier.cpp.

References `get_rcpp_cache()`, and `RCPP_HASH_CACHE_INDEX`.

Here is the call graph for this function:



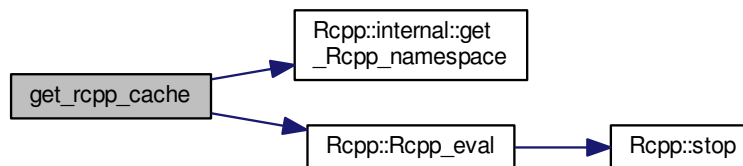
### 7.383.2.7 SEXP get\_rcpp\_cache ( )

Definition at line 94 of file barrier.cpp.

References `Rcpp::internal::get_Rcpp_namespace()`, `Rcpp_cache`, `Rcpp_cache_know`, and `Rcpp::Rcpp_eval()`.

Referenced by `error_occured()`, `get_cache()`, `rcpp_error_recorder()`, `rcpp_get_current_error()`, `rcpp_get_stack_trace()`, `rcpp_set_stack_trace()`, and `reset_current_error()`.

Here is the call graph for this function:



### 7.383.2.8 SEXP get\_string\_elt ( SEXP x, int i ) [inline]

Definition at line 34 of file barrier.cpp.

Referenced by `registerFunctions()`.

**7.383.2.9** `SEXP* get_string_ptr( SEXP x )` `[inline]`

Definition at line 54 of file barrier.cpp.

Referenced by `Rcpp::sugar::get_const_begin()`, and `registerFunctions()`.

**7.383.2.10** `SEXP get_vector_elt( SEXP x, int i )` `[inline]`

Definition at line 59 of file barrier.cpp.

Referenced by `registerFunctions()`.

**7.383.2.11** `SEXP* get_vector_ptr( SEXP x )` `[inline]`

Definition at line 69 of file barrier.cpp.

Referenced by `registerFunctions()`.

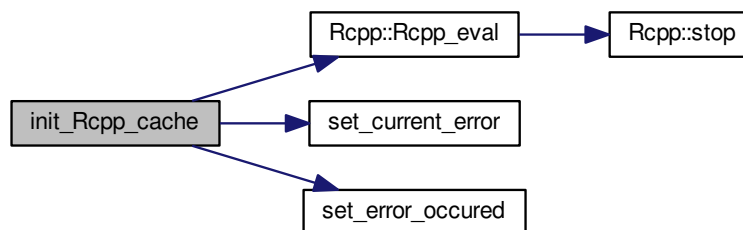
**7.383.2.12** `SEXP init_Rcpp_cache ( )`

Definition at line 138 of file barrier.cpp.

References `RCPP_CACHE_SIZE`, `Rcpp::Rcpp_eval()`, `Rcpp::Rcpp_eval()`, `RCPP_HASH_CACHE_INDEX`, `RCPP_HASH_CACHE_INITIAL_SIZE`, `set_current_error()`, and `set_error_occured()`.

Referenced by `R_init_Rcpp()`.

Here is the call graph for this function:

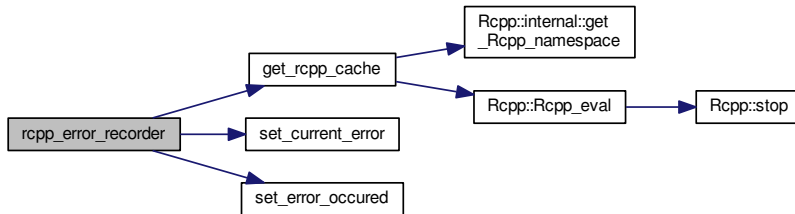


## 7.383.2.13 SEXP rcpp\_error\_recorder ( SEXP e )

Definition at line 180 of file barrier.cpp.

References `get_rcpp_cache()`, `set_current_error()`, and `set_error_occured()`.

Here is the call graph for this function:

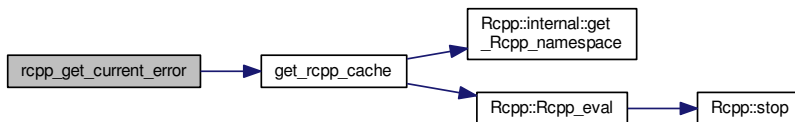


## 7.383.2.14 SEXP rcpp\_get\_current\_error ( )

Definition at line 193 of file barrier.cpp.

References `get_rcpp_cache()`.

Here is the call graph for this function:



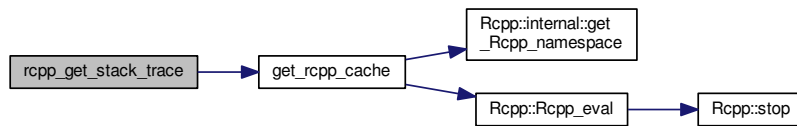
## 7.383.2.15 SEXP rcpp\_get\_stack\_trace ( )

Definition at line 118 of file barrier.cpp.

References `get_rcpp_cache()`.



Here is the call graph for this function:

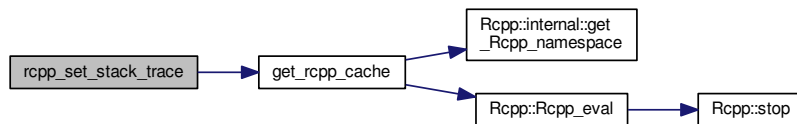


#### 7.383.2.16 SEXP rcpp\_set\_stack\_trace ( SEXP e )

Definition at line 123 of file barrier.cpp.

References `get_rcpp_cache()`.

Here is the call graph for this function:

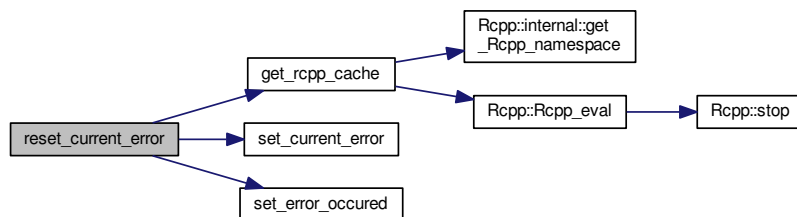


#### 7.383.2.17 SEXP reset\_current\_error ( )

Definition at line 158 of file barrier.cpp.

References `get_rcpp_cache()`, `set_current_error()`, and `set_error_occured()`.

Here is the call graph for this function:



**7.383.2.18** `SEXP set_current_error ( SEXP cache, SEXP e )`

Definition at line 133 of file barrier.cpp.

Referenced by `init_Rcpp_cache()`, `rcpp_error_recorder()`, and `reset_current_error()`.

**7.383.2.19** `SEXP set_error_occured ( SEXP cache, SEXP e )`

Definition at line 128 of file barrier.cpp.

Referenced by `init_Rcpp_cache()`, `rcpp_error_recorder()`, and `reset_current_error()`.

**7.383.2.20** `void set_string_elt ( SEXP x, int i, SEXP value )` `[inline]`

Definition at line 44 of file barrier.cpp.

Referenced by `registerFunctions()`.

**7.383.2.21** `void set_vector_elt ( SEXP x, int i, SEXP value )` `[inline]`

Definition at line 64 of file barrier.cpp.

Referenced by `registerFunctions()`.

**7.383.3** **Variable Documentation****7.383.3.1** `SEXP Rcpp_cache = R_NilValue` `[static]`

Definition at line 84 of file barrier.cpp.

Referenced by `get_rcpp_cache()`.

**7.383.3.2** `bool Rcpp_cache_know = false` `[static]`

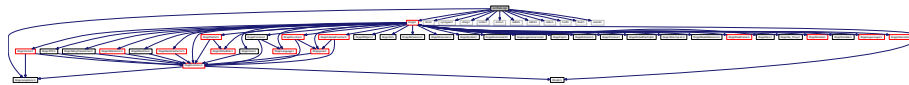
Definition at line 83 of file barrier.cpp.

Referenced by `get_rcpp_cache()`.

## 7.384 src/Date.cpp File Reference

```
#include <Rcpp.h>
#include <time.h>
#include <Rcpp/exceptions.h>
#include "sys/types.h"
#include "string.h"
#include "limits.h"
#include <errno.h>
#include "stdlib.h"
#include "stdint.h"
#include "stdio.h"
#include "fcntl.h"
#include "float.h"
#include <unistd.h>
```

Include dependency graph for Date.cpp:



### Classes

- struct [Rcpp::tzhead](#)
- struct [Rcpp::tinfo](#)
- struct [Rcpp::lsinfo](#)
- struct [Rcpp::state](#)
- struct [Rcpp::rule](#)

### Namespaces

- [Rcpp](#)  
*Rcpp API.*

### Macros

- #define [COMPILING\\_RCPP](#)
- #define [isleap](#)(y) (((y) % 4) == 0 && ((y) % 100) != 0) || ((y) % 400) == 0)
- #define [days\\_in\\_year](#)(year) (isleap(year) ? 366 : 365)
- #define [\\_NO\\_OLDNAMES](#) /\* avoid tznames \*/
- #define [EOVERFLOW](#) 79
- #define [TYPE\\_BIT](#)(type) (sizeof (type) \* CHAR\_BIT)
- #define [TYPE\\_SIGNED](#)(type) (((type) - 1) < 0)
- #define [TYPE\\_INTEGRAL](#)(type) (((type) 0.5) != 0.5)
- #define [GRANDPARENTED](#) "Local time zone must be set--see zic manual page"
- #define [YEARSPPERPEAT](#) 400 /\* years before a Gregorian repeat \*/
- #define [AVGSECSPERYEAR](#) 31556952L

- #define SECSPERREPEAT ((int\_fast64\_t) YEARSPERREPEAT \* (int\_fast64\_t) AVGSECSPERYEAR)
- #define SECSPERREPEAT\_BITS 34 /\* ceil(log2(SECSPERREPEAT)) \*/
- #define is\_digit(c) ((unsigned)(c) - '0' <= 9)
- #define INITIALIZE(x) (x = 0)
- #define TZFILE\_H
- #define TZDIR "/usr/local/etc/zoneinfo" /\* Time zone object file directory \*/
- #define TZDEFAULT "localtime"
- #define TZDEFRULES "America/New\_York"
- #define TZ\_MAGIC "TZif"
- #define TZ\_MAX\_TIMES 1200
- #define TZ\_MAX\_TYPES 256 /\* Limited by what (unsigned char)'s can hold \*/
- #define TZ\_MAX\_CHARS 50 /\* Maximum number of abbreviation characters \*/
- #define TZ\_MAX\_LEAPS 50 /\* Maximum number of leap second corrections \*/
- #define SECSPERMIN 60
- #define MINSPERHOUR 60
- #define HOURSPERDAY 24
- #define DAYSPERWEEK 7
- #define DAYSPERNYEAR 365
- #define DAYSPERLYEAR 366
- #define SECSPERHOUR (SECSPERMIN \* MINSPERHOUR)
- #define SECSPERDAY ((long) SECSPERHOUR \* HOURSPERDAY)
- #define MONSPERYEAR 12
- #define TM\_SUNDAY 0
- #define TM\_MONDAY 1
- #define TM\_TUESDAY 2
- #define TM\_WEDNESDAY 3
- #define TM\_THURSDAY 4
- #define TM\_FRIDAY 5
- #define TM\_SATURDAY 6
- #define TM\_JANUARY 0
- #define TM\_FEBRUARY 1
- #define TM\_MARCH 2
- #define TM\_APRIL 3
- #define TM\_MAY 4
- #define TM\_JUNE 5
- #define TM\_JULY 6
- #define TM\_AUGUST 7
- #define TM\_SEPTEMBER 8
- #define TM\_OCTOBER 9
- #define TM\_NOVEMBER 10
- #define TM\_DECEMBER 11
- #define EPOCH\_YEAR 1970
- #define EPOCH\_WDAY TM\_THURSDAY
- #define isleap(y) (((y) % 4) == 0 && (((y) % 100) != 0 || ((y) % 400) == 0))
- #define isleap\_sum(a, b) isleap((a) % 400 + (b) % 400)
- #define OPEN\_MODE O\_RDONLY
- #define TZDEFRULESTRING ",M4.1.0,M10.5.0"
- #define BIGGEST(a, b) (((a) > (b)) ? (a) : (b))
- #define MY\_TZNAME\_MAX 255
- #define JULIAN\_DAY 0 /\* Jn - Julian day \*/
- #define DAY\_OF\_YEAR 1 /\* n - day of year \*/
- #define MONTH\_NTH\_DAY\_OF\_WEEK 2 /\* Mm.n.d - month, week, day of week \*/
- #define gmtptr (&gmtmem)

## Functions

- attribute\_hidden double [Rcpp::mktime00](#) (struct tm &tm)
- static int [Rcpp::tzparse](#) (const char \*name, struct state \*sp, int lastditch)
- static int [Rcpp::typesequiv](#) (const struct state \*sp, int a, int b)
- static const char \* [Rcpp::getsecs](#) (const char \*strp, long \*secsp)
- static const char \* [Rcpp::getnum](#) (const char \*strp, int \*const nump, const int min, const int max)
- static const char \* [Rcpp::getrule](#) (const char \*strp, struct rule \*const rulep)
- static time\_t [Rcpp::transtime](#) (const time\_t janfirst, const int year, const struct rule \*const rulep, const long offset)
- static struct tm \* [Rcpp::timesub](#) (const time\_t \*const timep, const long offset, const struct state \*const sp, struct tm \*const tmp)
- static int [Rcpp::leaps\\_thru\\_end\\_of](#) (const int y)
- static int [Rcpp::increment\\_overflow](#) (int \*number, int delta)
- static long [Rcpp::detzcode](#) (const char \*const codep)
- static time\_t [Rcpp::detzcode64](#) (const char \*const codep)
- static int [Rcpp::differ\\_by\\_repeat](#) (const time\_t t1, const time\_t t0)
- static const char \* [Rcpp::getzname](#) (const char \*strp)
- static const char \* [Rcpp::getqzname](#) (const char \*strp, const int delim)
- static const char \* [Rcpp::getoffset](#) (const char \*strp, long \*const offsetp)
- static int [Rcpp::tzload](#) (const char \*name, struct state \*const sp, const int doextend)
- static void [Rcpp::gmtload](#) (struct state \*const sp)
- static struct tm \* [Rcpp::gmtsub](#) (const time\_t \*const timep, const long offset, struct tm \*const tmp)
- attribute\_hidden struct tm \* [Rcpp::gmttime\\_](#) (const time\_t \*const x)

## Variables

- static const char [Rcpp::gmt](#) [] = "GMT"
- static const int [Rcpp::mon\\_lengths](#) [2][MONSPERYEAR]
- static const int [Rcpp::year\\_lengths](#) [2]
- static int [Rcpp::gmt\\_is\\_set](#)
- static struct state [Rcpp::gmtmem](#)
- static struct tm [Rcpp::tm](#)

### 7.384.1 Macro Definition Documentation

7.384.1.1 `#define _NO_OLDNAMES /* avoid tznames */`

Definition at line 89 of file Date.cpp.

7.384.1.2 `#define AVGSECSPERYEAR 31556952L`

Definition at line 113 of file Date.cpp.

7.384.1.3 `#define BIGGEST( a, b ) (((a) > (b)) ? (a) : (b))`

Definition at line 312 of file Date.cpp.

7.384.1.4 `#define COMPILING_RCPP`

Definition at line 29 of file Date.cpp.

7.384.1.5 `#define DAY_OF_YEAR 1 /* n - day of year */`

Definition at line 358 of file Date.cpp.

Referenced by `Rcpp::getrule()`, and `Rcpp::transtime()`.

7.384.1.6 `#define days_in_year( year ) (isleap(year) ? 366 : 365)`

7.384.1.7 `#define DAYSPERYEAR 366`

Definition at line 243 of file Date.cpp.

Referenced by `Rcpp::timesub()`.

7.384.1.8 `#define DAYSPERNYEAR 365`

Definition at line 242 of file Date.cpp.

Referenced by `Rcpp::getrule()`, and `Rcpp::timesub()`.

7.384.1.9 `#define DAYSPERWEEK 7`

Definition at line 241 of file Date.cpp.

Referenced by `Rcpp::getrule()`, `Rcpp::getsecs()`, `Rcpp::timesub()`, and `Rcpp::transtime()`.

7.384.1.10 `#define EOVERFLOW 79`

Definition at line 95 of file Date.cpp.

7.384.1.11 `#define EPOCH_WDAY TM_THURSDAY`

Definition at line 270 of file Date.cpp.

Referenced by `Rcpp::timesub()`.

7.384.1.12 `#define EPOCH_YEAR 1970`

Definition at line 269 of file Date.cpp.

Referenced by `Rcpp::timesub()`, and `Rcpp::tzparse()`.

7.384.1.13 `#define gmtptr (&gmtmem)`

Definition at line 375 of file Date.cpp.

Referenced by `Rcpp::gmtsub()`.

7.384.1.14 `#define GRANDPARENTED "Local time zone must be set--see zic manual page"`

Definition at line 111 of file Date.cpp.

7.384.1.15 `#define HOURSPerDAY 24`

Definition at line 240 of file Date.cpp.

Referenced by `Rcpp::getsecs()`.

7.384.1.16 `#define INITIALIZE( x ) (x = 0)`

Definition at line 117 of file Date.cpp.

Referenced by `Rcpp::transtime()`, and `Rcpp::tzparse()`.

7.384.1.17 `#define is_digit( c ) ((unsigned)(c) - '0' <= 9)`

Definition at line 116 of file Date.cpp.

Referenced by `Rcpp::getnum()`, `Rcpp::getrule()`, and `Rcpp::getzname()`.

7.384.1.18 `#define isleap( y ) (((y) % 4) == 0 && ((y) % 100) != 0) || ((y) % 400) == 0)`

Definition at line 272 of file Date.cpp.

Referenced by `Rcpp::timesub()`, `Rcpp::transtime()`, and `Rcpp::tzparse()`.

```
7.384.1.19 #define isleap( y )(((y) % 4) == 0 && ((y) % 100) != 0 || ((y) % 400) == 0))
```

Definition at line 272 of file Date.cpp.

```
7.384.1.20 #define isleap_sum( a, b ) isleap((a) % 400 + (b) % 400)
```

Definition at line 286 of file Date.cpp.

```
7.384.1.21 #define JULIAN_DAY 0 /* Jn - Julian day */
```

Definition at line 357 of file Date.cpp.

Referenced by Rcpp::getrule(), and Rcpp::transtime().

```
7.384.1.22 #define MINSPERHOUR 60
```

Definition at line 239 of file Date.cpp.

Referenced by Rcpp::getsecs().

```
7.384.1.23 #define MONSPERYEAR 12
```

Definition at line 246 of file Date.cpp.

Referenced by Rcpp::getrule().

```
7.384.1.24 #define MONTH_NTH_DAY_OF_WEEK 2 /* Mm.n.d - month, week, day of week */
```

Definition at line 359 of file Date.cpp.

Referenced by Rcpp::getrule(), and Rcpp::transtime().

```
7.384.1.25 #define MY_TZNAME_MAX 255
```

Definition at line 318 of file Date.cpp.

```
7.384.1.26 #define OPEN_MODE O_RDONLY
```

Definition at line 296 of file Date.cpp.

Referenced by Rcpp::tzload().



7.384.1.27 `#define SECSPERDAY ((long) SECSPERHOUR * HOURSPERDAY)`

Definition at line 245 of file Date.cpp.

Referenced by `Rcpp::timesub()`, `Rcpp::transtime()`, and `Rcpp::tzparse()`.

7.384.1.28 `#define SECSPERHOUR (SECSPERMIN * MINSPERHOUR)`

Definition at line 244 of file Date.cpp.

Referenced by `Rcpp::getrule()`, `Rcpp::getsecs()`, `Rcpp::timesub()`, and `Rcpp::tzparse()`.

7.384.1.29 `#define SECSPERMIN 60`

Definition at line 238 of file Date.cpp.

Referenced by `Rcpp::getsecs()`, and `Rcpp::timesub()`.

7.384.1.30 `#define SECSPERREPEAT ((int_fast64_t) YEARSPERREPEAT * (int_fast64_t) AVGSECSPERYEAR)`

Definition at line 114 of file Date.cpp.

Referenced by `Rcpp::differ_by_repeat()`.

7.384.1.31 `#define SECSPERREPEAT_BITS 34 /* ceil(log2(SECSPERREPEAT)) */`

Definition at line 115 of file Date.cpp.

Referenced by `Rcpp::differ_by_repeat()`.

7.384.1.32 `#define TM_APRIL 3`

Definition at line 259 of file Date.cpp.

7.384.1.33 `#define TM_AUGUST 7`

Definition at line 263 of file Date.cpp.

7.384.1.34 `#define TM_DECEMBER 11`

Definition at line 267 of file Date.cpp.

7.384.1.35 `#define TM_FEBRUARY 1`

Definition at line 257 of file Date.cpp.

7.384.1.36 `#define TM_FRIDAY 5`

Definition at line 253 of file Date.cpp.

7.384.1.37 `#define TM_JANUARY 0`

Definition at line 256 of file Date.cpp.

7.384.1.38 `#define TM_JULY 6`

Definition at line 262 of file Date.cpp.

7.384.1.39 `#define TM_JUNE 5`

Definition at line 261 of file Date.cpp.

7.384.1.40 `#define TM_MARCH 2`

Definition at line 258 of file Date.cpp.

7.384.1.41 `#define TM_MAY 4`

Definition at line 260 of file Date.cpp.

7.384.1.42 `#define TM_MONDAY 1`

Definition at line 249 of file Date.cpp.

7.384.1.43 `#define TM_NOVEMBER 10`

Definition at line 266 of file Date.cpp.

7.384.1.44 `#define TM_OCTOBER 9`

Definition at line 265 of file Date.cpp.

7.384.1.45 `#define TM_SATURDAY 6`

Definition at line 254 of file Date.cpp.

7.384.1.46 `#define TM_SEPTEMBER 8`

Definition at line 264 of file Date.cpp.

7.384.1.47 `#define TM_SUNDAY 0`

Definition at line 248 of file Date.cpp.

7.384.1.48 `#define TM_THURSDAY 4`

Definition at line 252 of file Date.cpp.

7.384.1.49 `#define TM_TUESDAY 2`

Definition at line 250 of file Date.cpp.

7.384.1.50 `#define TM_WEDNESDAY 3`

Definition at line 251 of file Date.cpp.

7.384.1.51 `#define TYPE_BIT( type ) (sizeof (type) * CHAR_BIT)`

Definition at line 108 of file Date.cpp.

Referenced by `Rcpp::differ_by_repeat()`.

7.384.1.52 `#define TYPE_INTEGRAL( type ) (((type) 0.5) != 0.5)`

Definition at line 110 of file Date.cpp.

Referenced by `Rcpp::differ_by_repeat()`, and `Rcpp::tzload()`.

7.384.1.53 `#define TYPE_SIGNED( type ) (((type) -1) < 0)`

Definition at line 109 of file Date.cpp.

Referenced by `Rcpp::differ_by_repeat()`, and `Rcpp::tzload()`.

7.384.1.54 `#define TZ_MAGIC "TZif"`

Definition at line 158 of file Date.cpp.

7.384.1.55 `#define TZ_MAX_CHARS 50 /* Maximum number of abbreviation characters */`

Definition at line 230 of file Date.cpp.

Referenced by `Rcpp::tzload()`.

7.384.1.56 `#define TZ_MAX_LEAPS 50 /* Maximum number of leap second corrections */`

Definition at line 235 of file Date.cpp.

Referenced by `Rcpp::tzload()`.

7.384.1.57 `#define TZ_MAX_TIMES 1200`

Definition at line 213 of file Date.cpp.

Referenced by `Rcpp::tzload()`, and `Rcpp::tzparse()`.

7.384.1.58 `#define TZ_MAX_TYPES 256 /* Limited by what (unsigned char)'s can hold */`

Definition at line 218 of file Date.cpp.

Referenced by `Rcpp::tzload()`.

7.384.1.59 `#define TZDEFAULT "localtime"`

Definition at line 147 of file Date.cpp.

Referenced by `Rcpp::tzload()`.

7.384.1.60 `#define TZDEFRULES "America/New_York"`

Definition at line 151 of file Date.cpp.

Referenced by `Rcpp::tzparse()`.

7.384.1.61 `#define TZDEFRULESTRING ",M4.1.0,M10.5.0"`

Definition at line 309 of file Date.cpp.

Referenced by `Rcpp::tzparse()`.

7.384.1.62 `#define TZDIR "/usr/local/etc/zoneinfo" /* Time zone object file directory */`

Definition at line 143 of file Date.cpp.

7.384.1.63 `#define TZFILE_H`

Definition at line 123 of file Date.cpp.

7.384.1.64 `#define YEARSPPERREPEAT 400 /* years before a Gregorian repeat */`

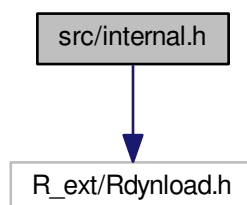
Definition at line 112 of file Date.cpp.

Referenced by `Rcpp::tzload()`.

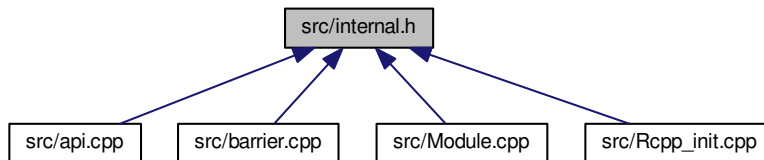
## 7.385 src/internal.h File Reference

```
#include <R_ext/Rdynload.h>
```

Include dependency graph for internal.h:



This graph shows which files directly or indirectly include this file:



## Macros

- #define [CALLFUN\\_0](#)(name) SEXP name()
- #define [CALLFUN\\_1](#)(name) SEXP name(SEXP)
- #define [CALLFUN\\_2](#)(name) SEXP name(SEXP,SEXP)
- #define [CALLFUN\\_3](#)(name) SEXP name(SEXP,SEXP,SEXP)
- #define [CALLFUN\\_4](#)(name) SEXP name(SEXP,SEXP,SEXP,SEXP)
- #define [CALLFUN\\_5](#)(name) SEXP name(SEXP,SEXP,SEXP,SEXP,SEXP)
- #define [EXTFUN](#)(name) SEXP name(SEXP)
- #define [MAX\\_ARGS](#) 65
- #define [UNPACK\\_EXTERNAL\\_ARGS](#)(\_\_CARGS\_\_, \_\_P\_\_)
- #define [RCPP\\_FUN\\_1](#)(\_\_OUT\_\_, \_\_NAME\_\_, \_\_0)
- #define [RCPP\\_FUN\\_2](#)(\_\_OUT\_\_, \_\_NAME\_\_, \_\_0, \_\_1)
- #define [RCPP\\_FUN\\_3](#)(\_\_OUT\_\_, \_\_NAME\_\_, \_\_0, \_\_1, \_\_2)
- #define [RCPP\\_FUN\\_4](#)(\_\_OUT\_\_, \_\_NAME\_\_, \_\_0, \_\_1, \_\_2, \_\_3)

## Functions

- SEXP [get\\_Rcpp\\_protection\\_stack](#) ()
- [CALLFUN\\_1](#) (as\_character\_externalptr)
- [CALLFUN\\_1](#) (Class\_\_name)
- [CALLFUN\\_1](#) (Class\_\_has\_default\_constructor)
- [CALLFUN\\_1](#) (CppClass\_\_complete)
- [CALLFUN\\_1](#) (CppClass\_\_methods)
- [CALLFUN\\_1](#) (Module\_\_classes\_info)
- [CALLFUN\\_1](#) (Module\_\_complete)
- [CALLFUN\\_1](#) (Module\_\_functions\_arity)
- [CALLFUN\\_1](#) (Module\_\_functions\_names)
- [CALLFUN\\_2](#) (Module\_\_get\_class)
- [CALLFUN\\_2](#) (Module\_\_has\_class)
- [CALLFUN\\_2](#) (Module\_\_has\_function)
- [CALLFUN\\_2](#) (Module\_\_get\_function)
- [CALLFUN\\_1](#) (Module\_\_name)
- [CALLFUN\\_2](#) (CppClass\_\_finalize)
- [CALLFUN\\_0](#) (get\_rcpp\_cache)

- [CALLFUN\\_0](#) ([init\\_Rcpp\\_cache](#))
- [CALLFUN\\_1](#) ([rcpp\\_error\\_recorder](#))
- [CALLFUN\\_3](#) ([CppField\\_\\_get](#))
- [CALLFUN\\_4](#) ([CppField\\_\\_set](#))
- [CALLFUN\\_0](#) ([rcpp\\_capabilities](#))
- [CALLFUN\\_0](#) ([rcpp\\_can\\_use\\_cxx0x](#))
- [CALLFUN\\_0](#) ([rcpp\\_can\\_use\\_cxx11](#))
- [EXTFUN](#) ([CppMethod\\_\\_invoke](#))
- [EXTFUN](#) ([CppMethod\\_\\_invoke\\_void](#))
- [EXTFUN](#) ([CppMethod\\_\\_invoke\\_notvoid](#))
- [EXTFUN](#) ([InternalFunction\\_\\_invoke](#))
- [EXTFUN](#) ([Module\\_\\_invoke](#))
- [EXTFUN](#) ([class\\_\\_newInstance](#))
- [EXTFUN](#) ([class\\_\\_dummyInstance](#))
- void [init\\_Rcpp\\_routines](#) ([DllInfo](#) \*)

### 7.385.1 Macro Definition Documentation

7.385.1.1 `#define CALLFUN_0( name ) SEXP name()`

Definition at line 27 of file internal.h.

7.385.1.2 `#define CALLFUN_1( name ) SEXP name(SEXP)`

Definition at line 28 of file internal.h.

7.385.1.3 `#define CALLFUN_2( name ) SEXP name(SEXP,SEXP)`

Definition at line 29 of file internal.h.

7.385.1.4 `#define CALLFUN_3( name ) SEXP name(SEXP,SEXP,SEXP)`

Definition at line 30 of file internal.h.

7.385.1.5 `#define CALLFUN_4( name ) SEXP name(SEXP,SEXP,SEXP,SEXP)`

Definition at line 31 of file internal.h.

7.385.1.6 `#define CALLFUN_5( name ) SEXP name(SEXP,SEXP,SEXP,SEXP,SEXP)`

Definition at line 32 of file internal.h.

7.385.1.7 `#define EXTFUN( name ) SEXP name(SEXP)`

Definition at line 33 of file internal.h.

7.385.1.8 `#define MAX_ARGS 65`

Definition at line 38 of file internal.h.

7.385.1.9 `#define RCPP_FUN_1( __OUT__, __NAME__, __0 )`**Value:**

```

__OUT__ RCPP_DECORATE(__NAME__)(__0); \
SEXP __NAME__(SEXP x0) { \
    SEXP res = R_NilValue; \
    BEGIN_RCPP \
    res = ::Rcpp::wrap(RCPP_DECORATE(__NAME__)(:: \
        Rcpp::internal::converter(x0))); \
    return res; \
    END_RCPP \
} \
__OUT__ RCPP_DECORATE(__NAME__)(__0)

```

Definition at line 48 of file internal.h.

7.385.1.10 `#define RCPP_FUN_2( __OUT__, __NAME__, __0, __1 )`**Value:**

```

__OUT__ RCPP_DECORATE(__NAME__)(__0, __1); \
SEXP __NAME__(SEXP x0, SEXP x1) { \
    SEXP res = R_NilValue; \
    BEGIN_RCPP \
    res = ::Rcpp::wrap(RCPP_DECORATE(__NAME__)(:: \
        Rcpp::internal::converter(x0), \
        ::Rcpp::internal::converter(x1))); \
    return res; \
    END_RCPP \
} \
__OUT__ RCPP_DECORATE(__NAME__)(__0, __1)

```

Definition at line 60 of file internal.h.





## 7.385.2 Function Documentation

7.385.2.1 CALLFUN\_0 ( get\_rcpp\_cache )

7.385.2.2 CALLFUN\_0 ( init\_Rcpp\_cache )

7.385.2.3 CALLFUN\_0 ( rcpp\_capabilities )

7.385.2.4 CALLFUN\_0 ( rcpp\_can\_use\_cxx0x )

7.385.2.5 CALLFUN\_0 ( rcpp\_can\_use\_cxx11 )

7.385.2.6 CALLFUN\_1 ( as\_character\_externalptr )

7.385.2.7 CALLFUN\_1 ( Class\_name )

7.385.2.8 CALLFUN\_1 ( Class\_has\_default\_constructor )

7.385.2.9 CALLFUN\_1 ( CppClass\_complete )

7.385.2.10 CALLFUN\_1 ( CppClass\_methods )

7.385.2.11 CALLFUN\_1 ( Module\_classes\_info )

7.385.2.12 CALLFUN\_1 ( Module\_complete )

7.385.2.13 CALLFUN\_1 ( Module\_functions\_arity )

7.385.2.14 CALLFUN\_1 ( Module\_functions\_names )

7.385.2.15 CALLFUN\_1 ( Module\_name )

7.385.2.16 CALLFUN\_1 ( rcpp\_error\_recorder )

7.385.2.17 CALLFUN\_2 ( Module\_get\_class )

7.385.2.18 CALLFUN\_2 ( Module\_has\_class )

7.385.2.19 CALLFUN\_2 ( Module\_has\_function )

7.385.2.20 CALLFUN\_2 ( Module\_get\_function )

- 7.385.2.21 CALLFUN\_2 ( CppObject\_finalize )
- 7.385.2.22 CALLFUN\_3 ( CppField\_get )
- 7.385.2.23 CALLFUN\_4 ( CppField\_set )
- 7.385.2.24 EXTFUN ( CppMethod\_invoke )
- 7.385.2.25 EXTFUN ( CppMethod\_invoke\_void )
- 7.385.2.26 EXTFUN ( CppMethod\_invoke\_notvoid )
- 7.385.2.27 EXTFUN ( InternalFunction\_invoke )
- 7.385.2.28 EXTFUN ( Module\_invoke )
- 7.385.2.29 EXTFUN ( class\_newInstance )
- 7.385.2.30 EXTFUN ( class\_dummyInstance )
- 7.385.2.31 SEXP\_get\_Rcpp\_protection\_stack ( )
- 7.385.2.32 void init\_Rcpp\_routines ( DllInfo \* )

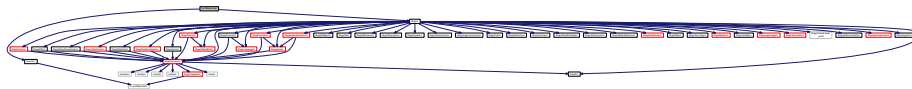
Definition at line 76 of file Rcpp\_init.cpp.

References callEntries, and extEntries.

Referenced by R\_init\_Rcpp().

## 7.386 src/Module.cpp File Reference

```
#include <Rcpp.h>
#include "internal.h"
Include dependency graph for Module.cpp:
```



### Namespaces

- [Rcpp](#)  
*Rcpp API.*

## Macros

- `#define COMPILING_RCPP`
- `#define CHECK_DUMMY_OBJ(p) if (p == rcpp_dummy_pointer) throw Rcpp::not_initialized()`

## Typedefs

- `typedef Rcpp::XPtr< Rcpp::Module > XP_Module`
- `typedef Rcpp::XPtr< Rcpp::class_Base > XP_Class`
- `typedef Rcpp::XPtr< Rcpp::CppClassBase > XP_Function`

## Functions

- `RCPP_FUN_1` (bool, Class\_\_has\_default\_constructor, `XP_Class` cl)
- `RCPP_FUN_2` (SEXP, Module\_\_get\_function, `XP_Module` module, std::string fun)
- `RCPP_FUN_2` (bool, Class\_\_has\_method, `XP_Class` cl, std::string m)
- `RCPP_FUN_2` (bool, Class\_\_has\_property, `XP_Class` cl, std::string m)
- `RCPP_FUN_1` (std::string, Class\_\_name, `XP_Class` cl)
- `RCPP_FUN_2` (bool, Module\_\_has\_function, `XP_Module` module, std::string met)
- `RCPP_FUN_2` (bool, Module\_\_has\_class, `XP_Module` module, std::string cl)
- `RCPP_FUN_2` (`Rcpp::CppClass`, Module\_\_get\_class, `XP_Module` module, std::string cl)
- `RCPP_FUN_1` (bool, CppObject\_\_needs\_init, SEXP xp)
- `RCPP_FUN_1` (`Rcpp::CharacterVector`, CppClass\_\_methods, `XP_Class` cl)
- `RCPP_FUN_1` (`Rcpp::CharacterVector`, CppClass\_\_properties, `XP_Class` cl)
- `RCPP_FUN_1` (`Rcpp::List`, CppClass\_\_property\_classes, `XP_Class` cl)
- `RCPP_FUN_1` (`Rcpp::IntegerVector`, CppClass\_\_methods\_arity, `XP_Class` cl)
- `RCPP_FUN_1` (`Rcpp::LogicalVector`, CppClass\_\_methods\_voidness, `XP_Class` cl)
- `RCPP_FUN_2` (bool, CppClass\_\_property\_is\_readonly, `XP_Class` cl, std::string p)
- `RCPP_FUN_2` (std::string, CppClass\_\_property\_class, `XP_Class` cl, std::string p)
- `RCPP_FUN_1` (`Rcpp::IntegerVector`, Module\_\_functions\_arity, `XP_Module` module)
- `RCPP_FUN_1` (`Rcpp::CharacterVector`, Module\_\_functions\_names, `XP_Module` module)
- `RCPP_FUN_1` (std::string, Module\_\_name, `XP_Module` module)
- `RCPP_FUN_1` (`Rcpp::List`, Module\_\_classes\_info, `XP_Module` module)
- `RCPP_FUN_1` (`Rcpp::CharacterVector`, Module\_\_complete, `XP_Module` module)
- `RCPP_FUN_1` (`Rcpp::CharacterVector`, CppClass\_\_complete, `XP_Class` cl)
- `RCPP_FUN_3` (SEXP, CppField\_\_get, `XP_Class` cl, SEXP field\_xp, SEXP obj)
- `RCPP_FUN_4` (SEXP, CppField\_\_set, `XP_Class` cl, SEXP field\_xp, SEXP obj, SEXP value)
- `RCPP_FUN_2` (SEXP, CppObject\_\_finalize, `XP_Class` cl, SEXP obj)
- SEXP `InternalFunction_invoke` (SEXP args)
- SEXP `Module__invoke` (SEXP args)
- SEXP `class__newInstance` (SEXP args)
- SEXP `class__dummyInstance` (SEXP args)
- SEXP `CppMethod__invoke` (SEXP args)
- SEXP `CppMethod__invoke_void` (SEXP args)
- SEXP `CppMethod__invoke_notvoid` (SEXP args)
- `Rcpp::Module * getCurrentScope` ()
- void `setCurrentScope` (`Rcpp::Module *scope`)

## Variables

- SEXP `rcpp_dummy_pointer` = `R_NilValue`
- static Module \* `Rcpp::current_scope`

### 7.386.1 Macro Definition Documentation

7.386.1.1 `#define CHECK_DUMMY_OBJ( p ) if (p == rcpp_dummy_pointer) throw Rcpp::not_initialized()`

Definition at line 149 of file Module.cpp.

Referenced by `CppMethod__invoke()`, `CppMethod__invoke_notvoid()`, and `CppMethod__invoke_void()`.

7.386.1.2 `#define COMPILING_RCPP`

Definition at line 22 of file Module.cpp.

### 7.386.2 Typedef Documentation

7.386.2.1 `typedef Rcpp::XPtr<Rcpp::class_Base> XP_Class`

Definition at line 28 of file Module.cpp.

7.386.2.2 `typedef Rcpp::XPtr<Rcpp::CppMethodBase> XP_Function`

Definition at line 29 of file Module.cpp.

7.386.2.3 `typedef Rcpp::XPtr<Rcpp::Module> XP_Module`

Definition at line 27 of file Module.cpp.

### 7.386.3 Function Documentation

7.386.3.1 `SEXP class__dummyInstance ( SEXP args )`

Definition at line 152 of file Module.cpp.

References `rcpp_dummy_pointer`.

### 7.386.3.2 SEXP class\_\_newInstance ( SEXP args )

Definition at line 137 of file Module.cpp.

References UNPACK\_EXTERNAL\_ARGS.

### 7.386.3.3 SEXP CppMethod\_\_invoke ( SEXP args )

Definition at line 166 of file Module.cpp.

References CHECK\_DUMMY\_OBJ, and UNPACK\_EXTERNAL\_ARGS.

### 7.386.3.4 SEXP CppMethod\_\_invoke\_notvoid ( SEXP args )

Definition at line 204 of file Module.cpp.

References CHECK\_DUMMY\_OBJ, and UNPACK\_EXTERNAL\_ARGS.

### 7.386.3.5 SEXP CppMethod\_\_invoke\_void ( SEXP args )

Definition at line 185 of file Module.cpp.

References CHECK\_DUMMY\_OBJ, and UNPACK\_EXTERNAL\_ARGS.

### 7.386.3.6 Rcpp::Module\* getCurrentScope ( )

Definition at line 227 of file Module.cpp.

References Rcpp::current\_scope.

### 7.386.3.7 SEXP InternalFunction\_\_invoke ( SEXP args )

Definition at line 117 of file Module.cpp.

References BEGIN\_RCPP, END\_RCPP, and UNPACK\_EXTERNAL\_ARGS.

### 7.386.3.8 SEXP Module\_\_invoke ( SEXP args )

Definition at line 126 of file Module.cpp.

References BEGIN\_RCPP, END\_RCPP, and UNPACK\_EXTERNAL\_ARGS.

7.386.3.9 `RCPP_FUN_1 ( bool , Class__has_default_constructor , XP_Class cl )`

Definition at line 31 of file Module.cpp.

7.386.3.10 `RCPP_FUN_1 ( std::string , Class__name , XP_Class cl )`

Definition at line 43 of file Module.cpp.

7.386.3.11 `RCPP_FUN_1 ( bool , CppObject__needs_init , SEXP xp )`

Definition at line 55 of file Module.cpp.

7.386.3.12 `RCPP_FUN_1 ( Rcpp::CharacterVector , CppClass__methods , XP_Class cl )`

Definition at line 58 of file Module.cpp.

7.386.3.13 `RCPP_FUN_1 ( Rcpp::CharacterVector , CppClass__properties , XP_Class cl )`

Definition at line 61 of file Module.cpp.

7.386.3.14 `RCPP_FUN_1 ( Rcpp::List , CppClass__property_classes , XP_Class cl )`

Definition at line 64 of file Module.cpp.

7.386.3.15 `RCPP_FUN_1 ( Rcpp::IntegerVector , CppClass__methods_arity , XP_Class cl )`

Definition at line 68 of file Module.cpp.

7.386.3.16 `RCPP_FUN_1 ( Rcpp::LogicalVector , CppClass__methods_voidness , XP_Class cl )`

Definition at line 71 of file Module.cpp.

7.386.3.17 `RCPP_FUN_1 ( Rcpp::IntegerVector , Module__functions_arity , XP_Module module )`

Definition at line 83 of file Module.cpp.

7.386.3.18 `RCPP_FUN_1 ( Rcpp::CharacterVector , Module__functions_names , XP_Module module )`

Definition at line 86 of file Module.cpp.

7.386.3.19 `RCPP_FUN_1 ( std::string , Module__name , XP_Module module )`

Definition at line 89 of file Module.cpp.

7.386.3.20 `RCPP_FUN_1 ( Rcpp::List , Module__classes_info , XP_Module module )`

Definition at line 92 of file Module.cpp.

7.386.3.21 `RCPP_FUN_1 ( Rcpp::CharacterVector , Module__complete , XP_Module module )`

Definition at line 95 of file Module.cpp.

7.386.3.22 `RCPP_FUN_1 ( Rcpp::CharacterVector , CppClass__complete , XP_Class cl )`

Definition at line 98 of file Module.cpp.

7.386.3.23 `RCPP_FUN_2 ( SEXP , Module__get_function , XP_Module module, std::string fun )`

Definition at line 34 of file Module.cpp.

7.386.3.24 `RCPP_FUN_2 ( bool , Class__has_method , XP_Class cl, std::string m )`

Definition at line 37 of file Module.cpp.

7.386.3.25 `RCPP_FUN_2 ( bool , Class__has_property , XP_Class cl, std::string m )`

Definition at line 40 of file Module.cpp.

7.386.3.26 `RCPP_FUN_2 ( bool , Module__has_function , XP_Module module, std::string met )`

Definition at line 46 of file Module.cpp.

7.386.3.27 `RCPP_FUN_2 ( bool , Module__has_class , XP_Module module, std::string cl )`

Definition at line 49 of file Module.cpp.

7.386.3.28 `RCPP_FUN_2 ( Rcpp::CppClass , Module__get_class , XP_Module module, std::string cl )`

Definition at line 52 of file Module.cpp.



7.386.3.29 `R_CPP_FUN_2( bool , CppClass__property_is_readonly , XP_Class cl , std::string p )`

Definition at line 76 of file Module.cpp.

7.386.3.30 `R_CPP_FUN_2( std::string , CppClass__property_class , XP_Class cl , std::string p )`

Definition at line 79 of file Module.cpp.

7.386.3.31 `R_CPP_FUN_2( SEXP , CppObject__finalize , XP_Class cl , SEXP obj )`

Definition at line 111 of file Module.cpp.

7.386.3.32 `R_CPP_FUN_3( SEXP , CppField__get , XP_Class cl , SEXP field_xp , SEXP obj )`

Definition at line 104 of file Module.cpp.

7.386.3.33 `R_CPP_FUN_4( SEXP , CppField__set , XP_Class cl , SEXP field_xp , SEXP obj , SEXP value )`

Definition at line 107 of file Module.cpp.

7.386.3.34 `void setCurrentScope( Rcpp::Module * scope )`

Definition at line 230 of file Module.cpp.

References `Rcpp::current_scope`.

## 7.386.4 Variable Documentation

7.386.4.1 `SEXP rcpp_dummy_pointer = R_NilValue`

Definition at line 147 of file Module.cpp.

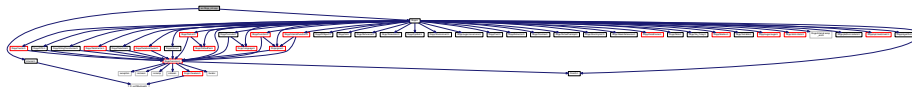
Referenced by class `__dummyInstance()`.

## 7.387 src/Rcpp\_init.cpp File Reference

```
#include <Rcpp.h>
```

```
#include "internal.h"
```

Include dependency graph for `Rcpp_init.cpp`:



## Macros

- #define [COMPILING\\_RCPP](#)
- #define [CALLDEF](#)(name, n) {#name, (DL\_FUNC) &name, n}
- #define [EXTDEF](#)(name) {#name, (DL\_FUNC) &name, -1}
- #define [RCPP\\_REGISTER](#)(\_\_FUN\_\_) R\_RegisterCallable( "Rcpp", #\_\_FUN\_\_ , (DL\_FUNC)\_\_FUN\_\_ );

## Functions

- void [init\\_Rcpp\\_routines](#) (DllInfo \*info)
- void [registerFunctions](#) ()
- void [R\\_unload\\_Rcpp](#) (DllInfo \*info)
- void [R\\_init\\_Rcpp](#) (DllInfo \*info)

## Variables

- static R\_CallMethodDef [callEntries](#) []
- static R\_ExternalMethodDef [extEntries](#) []

### 7.387.1 Macro Definition Documentation

7.387.1.1 #define [CALLDEF](#)( *name*, *n* ) {#name, (DL\_FUNC) &name, n}

Definition at line 28 of file Rcpp\_init.cpp.

7.387.1.2 #define [COMPILING\\_RCPP](#)

Definition at line 22 of file Rcpp\_init.cpp.

7.387.1.3 #define [EXTDEF](#)( *name* ) {#name, (DL\_FUNC) &name, -1}

Definition at line 29 of file Rcpp\_init.cpp.

7.387.1.4 #define [RCPP\\_REGISTER](#)( *\_\_FUN\_\_* ) R\_RegisterCallable( "Rcpp", #\_\_FUN\_\_ , (DL\_FUNC)\_\_FUN\_\_ );

Referenced by [registerFunctions](#)().

## 7.387.2 Function Documentation

### 7.387.2.1 void init\_Rcpp\_routines ( DllInfo \* *info* )

Definition at line 76 of file Rcpp\_init.cpp.

References callEntries, and extEntries.

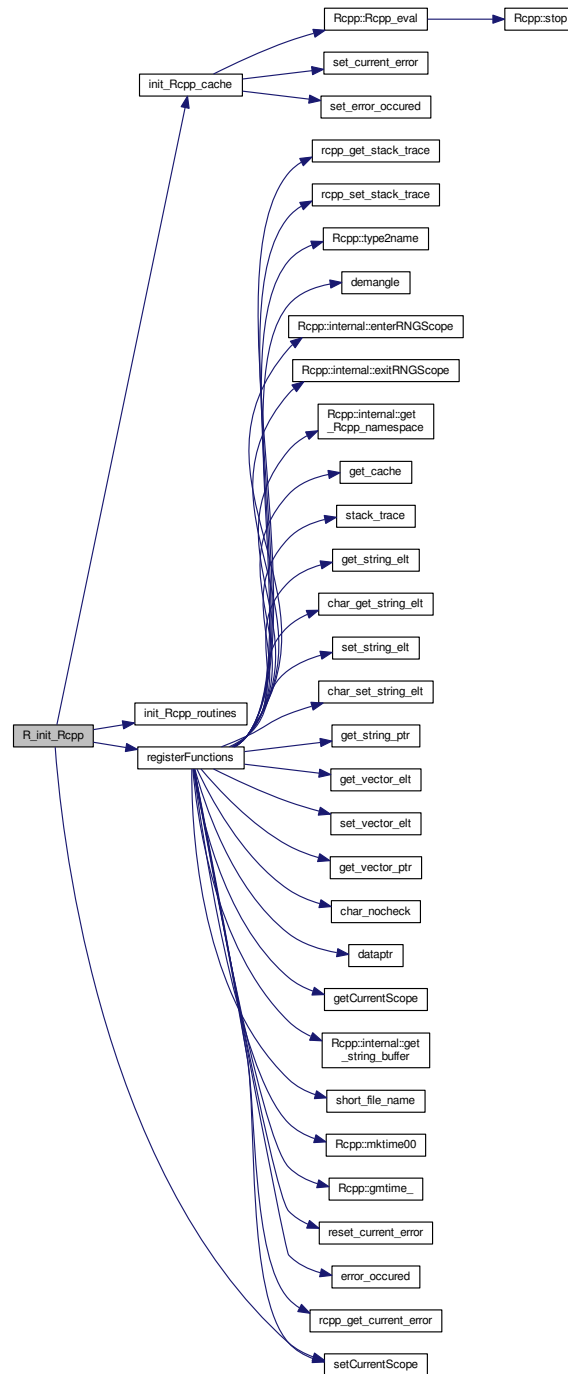
Referenced by R\_init\_Rcpp().

### 7.387.2.2 void R\_init\_Rcpp ( DllInfo \* *info* )

Definition at line 128 of file Rcpp\_init.cpp.

References init\_Rcpp\_cache(), init\_Rcpp\_routines(), registerFunctions(), and setCurrentScope().

Here is the call graph for this function:



### 7.387.2.3 void R\_unload\_Rcpp ( DllInfo \* info )

Definition at line 124 of file `Rcpp_init.cpp`.

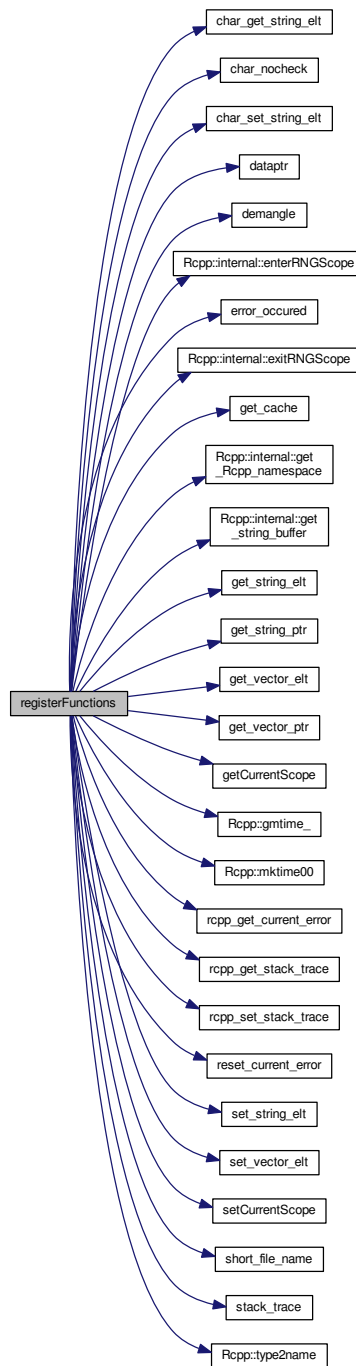
## 7.387.2.4 void registerFunctions ( )

Definition at line 86 of file Rcpp\_init.cpp.

References `char_get_string_elt()`, `char_nocheck()`, `char_set_string_elt()`, `dataptr()`, `demangle()`, `Rcpp::internal::enterRNGScope()`, `error_occured()`, `Rcpp::internal::exitRNGScope()`, `get_cache()`, `Rcpp::internal::get_Rcpp_namespace()`, `Rcpp::internal::get_string_buffer()`, `get_string_elt()`, `get_string_ptr()`, `get_vector_elt()`, `get_vector_ptr()`, `getCurrentScope()`, `Rcpp::gmtime_()`, `Rcpp::mktime00()`, `rcpp_get_current_error()`, `rcpp_get_stack_trace()`, `RCPP_REGISTER`, `rcpp_set_stack_trace()`, `reset_current_error()`, `set_string_elt()`, `set_vector_elt()`, `setCurrentScope()`, `short_file_name()`, `stack_trace()`, and `Rcpp::type2name()`.

Referenced by `R_init_Rcpp()`.

Here is the call graph for this function:



### 7.387.3 Variable Documentation

### 7.387.3.1 R\_CallMethodDef callEntries[] [static]

Definition at line 31 of file Rcpp\_init.cpp.

Referenced by `init_Rcpp_routines()`.

### 7.387.3.2 R\_ExternalMethodDef extEntries[] [static]

#### Initial value:

```
= {  
  EXTDEF(CppMethod__invoke),  
  EXTDEF(CppMethod__invoke_void),  
  EXTDEF(CppMethod__invoke_notvoid),  
  EXTDEF(InternalFunction__invoke),  
  EXTDEF(Module__invoke),  
  EXTDEF(class__newInstance),  
  EXTDEF(class__dummyInstance),  
  
  {NULL, NULL, 0}  
}
```

Definition at line 63 of file Rcpp\_init.cpp.

Referenced by `init_Rcpp_routines()`.





## Chapter 8

# Example Documentation

### 8.1 ConvolveBenchmarks/convolve2\_c.c

The basic convolution example from Section 5.10.1 of 'Writing R Extensions'

```
/* This is from 'Writing R Extensions' section 5.10.1 */

#include <R.h>
#include <Rdefines.h>

SEXP convolve2(SEXP a, SEXP b)
{
    int i, j, na, nb, nab;
    double *xa, *xb, *xab;
    SEXP ab;

    PROTECT(a = AS_NUMERIC(a));
    PROTECT(b = AS_NUMERIC(b));
    na = LENGTH(a); nb = LENGTH(b); nab = na + nb - 1;
    PROTECT(ab = NEW_NUMERIC(nab));
    xa = NUMERIC_POINTER(a); xb = NUMERIC_POINTER(b);
    xab = NUMERIC_POINTER(ab);
    for(i = 0; i < nab; i++) xab[i] = 0.0;
    for(i = 0; i < na; i++)
        for(j = 0; j < nb; j++) xab[i + j] += xa[i] * xb[j];
    UNPROTECT(3);
    return(ab);
}

#include "loopmacro.h"
LOOPMACRO_C(convolve2)
```

### 8.2 ConvolveBenchmarks/convolve2\_cpp.cpp

A simple version of the basic convolution example from Section 5.10.1 of 'Writing R Extensions', now rewritten for Rcpp using RcppVector<double>.

### 8.3 ConvolveBenchmarks/convolve3\_cpp.cpp

A more efficient version of the basic convolution example from Section 5.10.1 of 'Writing R Extensions', now rewritten for `Rcpp` and using `Rcpp::NumericVector`.

```
// -*- mode: C++; c-indent-level: 4; c-basic-offset: 4; tab-width: 8 -*-
// This is a rewrite of the 'Writing R Extensions' section 5.10.1 example
#include <Rcpp.h>

RcppExport SEXP convolve3cpp(SEXP a, SEXP b){
  Rcpp::NumericVector xa(a);
  Rcpp::NumericVector xb(b);
  int n_xa = xa.size() ;
  int n_xb = xb.size() ;
  int nab = n_xa + n_xb - 1;
  Rcpp::NumericVector xab(nab);

  for (int i = 0; i < n_xa; i++)
    for (int j = 0; j < n_xb; j++)
      xab[i + j] += xa[i] * xb[j];

  return xab ;
}

#include "loopmacro.h"
LOOPMACRO_CPP(convolve3cpp)
```

### 8.4 ConvolveBenchmarks/convolve4\_cpp.cpp

An even more efficient version of the basic convolution example from Section 5.10.1 of 'Writing R Extensions', now rewritten for `Rcpp` and using `Rcpp::NumericVector` as well as direct pointer operations for better performance.

```
// -*- mode: C++; c-indent-level: 4; c-basic-offset: 4; tab-width: 8 -*-
// This is a rewrite of the 'Writing R Extensions' section 5.10.1 example
#include <Rcpp.h>

RcppExport SEXP convolve4cpp(SEXP a, SEXP b) {
  Rcpp::NumericVector xa(a);
  Rcpp::NumericVector xb(b);
  int n_xa = xa.size() ;
  int n_xb = xb.size() ;
  int nab = n_xa + n_xb - 1;
  Rcpp::NumericVector xab(nab,0.0);

  double* pa = xa.begin() ;
  double* pb = xb.begin() ;
  double* pab = xab.begin() ;
  int i,j=0;
  for (i = 0; i < n_xa; i++)
    for (j = 0; j < n_xb; j++)
      pab[i + j] += pa[i] * pb[j];

  return xab ;
}

#include "loopmacro.h"
LOOPMACRO_CPP(convolve4cpp)
```

## 8.5 ConvolveBenchmarks/convolve7\_c.c

The basic convolution example from Section 5.10.1 of 'Writing R Extensions', written using REAL(x)[i] accessor macros to demonstrate the performance hit imposed by these.

```
// This is from 'Writing R Extensions' section 5.10.1
// BUT slowed down by using REAL() on each access which proves to be rather costly

#include <R.h>
#include <Rdefines.h>

SEXP convolve7(SEXP a, SEXP b)
{
    int i, j, na, nb, nab;
    SEXP ab;

    PROTECT(a = AS_NUMERIC(a));
    PROTECT(b = AS_NUMERIC(b));
    na = LENGTH(a); nb = LENGTH(b); nab = na + nb - 1;
    PROTECT(ab = NEW_NUMERIC(nab));
    for(i = 0; i < nab; i++) REAL(ab)[i] = 0.0;
    for(i = 0; i < na; i++)
        for(j = 0; j < nb; j++) REAL(ab)[i + j] += REAL(a)[i] * REAL(b)[j];
    UNPROTECT(3);
    return(ab);
}

#include "loopmacro.h"
LOOPMACRO_C(convolve7)
```

## 8.6 ConvolveBenchmarks/exampleRCode.r

R file / littler script to run and time the various implementations.

```
1 #!/usr/bin/env r
2
3 suppressMessages(require(Rcpp))
4 set.seed(42)
5 n <- 200
6 a <- rnorm(n)
7 b <- rnorm(n)
8
9 ## load shared libraries with wrapper code
10 dyn.load("convolve2_c.so")
11 dyn.load("convolve3_cpp.so")
12 dyn.load("convolve4_cpp.so")
13 dyn.load("convolve5_cpp.so")
14 dyn.load("convolve7_c.so")
15
16 dyn.load("convolve8_cpp.so")
17 dyn.load("convolve9_cpp.so")
18 dyn.load("convolve10_cpp.so")
19 dyn.load("convolve11_cpp.so")
20 dyn.load("convolve12_cpp.so")
21 dyn.load("convolve14_cpp.so")
22
23 ## now run each one once for comparison of results,
24 ## and define test functions
25
26 R_API_optimised <- function(n,a,b) .Call("convolve2__loop", n, a, b)
27 Rcpp_New_std <- function(n,a,b) .Call("convolve3cpp__loop", n, a, b)
28 #Rcpp_New_std_inside <- function(n,a,b) .Call("convolve3cpp__loop", n, a, b, PACKAGE = "Rcpp" )
29 Rcpp_New_ptr <- function(n,a,b) .Call("convolve4cpp__loop", n, a, b)
30 Rcpp_New_sugar <- function(n,a,b) .Call("convolve5cpp__loop", n, a, b)
31 Rcpp_New_sugar_noNA <- function(n,a,b) .Call("convolve11cpp__loop", n, a, b)
```

```

32 R_API_naive <- function(n,a,b) .Call("convolve7__loop", n, a, b)
33 Rcpp_New_std_2 <- function(n,a,b) .Call("convolve8cpp__loop", n, a, b)
34 #Rcpp_New_std_3 <- function(n,a,b) .Call("convolve9cpp__loop", n, a, b)
35 #Rcpp_New_std_4 <- function(n,a,b) .Call("convolve10cpp__loop", n, a, b)
36 Rcpp_New_std_it <- function(n,a,b) .Call("convolve12cpp__loop", n, a, b )
37 Rcpp_New_std_Fast <- function(n,a,b) .Call("convolve14cpp__loop", n, a, b )
38
39
40 v1 <- R_API_optimised(1L, a, b )
41 v3 <- Rcpp_New_std(1L, a, b)
42 v4 <- Rcpp_New_ptr(1L, a, b)
43 v5 <- Rcpp_New_sugar(1L, a, b )
44 v7 <- R_API_naive(1L, a, b)
45 v11 <- Rcpp_New_sugar_noNA(1L, a, b)
46
47 stopifnot(all.equal(v1, v3))
48 stopifnot(all.equal(v1, v4))
49 stopifnot(all.equal(v1, v5))
50 stopifnot(all.equal(v1, v7))
51 stopifnot(all.equal(v1, v11))
52
53 ## load benchmarkin helper function
54 suppressMessages(library(rbenchmark))
55 REPS <- 5000L
56 bm <- benchmark(R_API_optimised(REPS,a,b),
57               R_API_naive(REPS,a,b),
58               Rcpp_New_std(REPS,a,b),
59 #             Rcpp_New_std_inside(REPS,a,b),
60               Rcpp_New_ptr(REPS,a,b),
61               Rcpp_New_sugar(REPS,a,b),
62               Rcpp_New_sugar_noNA(REPS,a,b),
63               Rcpp_New_std_2(REPS,a,b),
64 #             Rcpp_New_std_3(REPS,a,b),
65 #             Rcpp_New_std_4(REPS,a,b),
66               Rcpp_New_std_it(REPS,a,b),
67               Rcpp_New_std_Fast(REPS,a,b),
68               columns=c("test", "elapsed", "relative", "user.self", "sys.self"),
69               order="relative",
70               replications=1)
71 print(bm)
72
73 cat("All results are equal\n") # as we didn't get stopped
74 q("no")
75
76
77 sizes <- 1:10*100
78 REPS <- 5000L
79 timings <- lapply( sizes, function(size){
80   cat( "size = ", size, "..." )
81   a <- rnorm(size); b <- rnorm(size)
82   bm <- benchmark(R_API_optimised(REPS,a,b),
83                 R_API_naive(REPS,a,b),
84                 Rcpp_New_std(REPS,a,b),
85                 Rcpp_New_ptr(REPS,a,b),
86                 Rcpp_New_sugar(REPS,a,b),
87                 Rcpp_New_sugar_noNA(REPS,a,b),
88                 columns=c("test", "elapsed", "relative", "user.self", "sys.self"),
89                 order="relative",
90                 replications=1)
91
92   cat( " done\n" )
93   bm
94 } )
95 for( i in seq_along(sizes)){
96   timings[[i]]$size <- sizes[i]
97 }
98 timings <- do.call( rbind, timings )
99
100 require( lattice )
101 png( "elapsed.png", width = 800, height = 600 )
102 xyplot( elapsed ~ size, groups = test, data = timings, auto.key = TRUE, type = "l", lwd = 2 )
103 dev.off()
104 png( "relative.png", width = 800, height = 600 )
105 xyplot( relative ~ size, groups = test, data = timings, auto.key = TRUE, type = "l", lwd = 2 )
106 dev.off()
107

```

## 8.7 FastLM/benchmark.r

Linear model benchmark master file

```

1 #!/usr/bin/env r
2 #
3 # Comparison benchmark
4 #
5 # This shows how Armadillo improves on the previous version using GNU GSL,
6 # and how both are doing better than lm.fit()
7 #
8 # Copyright (C) 2010 Dirk Eddelbuettel and Romain Francois
9 #
10 # This file is part of Rcpp.
11 #
12 # Rcpp is free software: you can redistribute it and/or modify it
13 # under the terms of the GNU General Public License as published by
14 # the Free Software Foundation, either version 2 of the License, or
15 # (at your option) any later version.
16 #
17 # Rcpp is distributed in the hope that it will be useful, but
18 # WITHOUT ANY WARRANTY; without even the implied warranty of
19 # MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
20 # GNU General Public License for more details.
21 #
22 # You should have received a copy of the GNU General Public License
23 # along with Rcpp. If not, see <http://www.gnu.org/licenses/>.
24
25 suppressMessages(library(RcppGSL))
26 suppressMessages(library(RcppArmadillo))
27
28 source("lmArmadillo.R")
29 source("lmGSL.R")
30
31 set.seed(42)
32 n <- 5000
33 k <- 9
34 X <- cbind( rep(1,n), matrix(rnorm(n*k), ncol=k) )
35 truecoef <- 1:(k+1)
36 y <- as.numeric(X %*% truecoef + rnorm(n))
37
38 N <- 100
39
40 lmgs1 <- lmGSL()
41 lmarma <- lmArmadillo()
42
43 tlm <- mean(replicate(N, system.time( lmfit <- lm(y ~ X - 1) )["elapsed"]), trim=0.05)
44 tlmfit <- mean(replicate(N, system.time(lmfitfit <- lm.fit(X, y))["elapsed"]), trim=0.05)
45 tlmgs1 <- mean(replicate(N, system.time(lmgs1(y, X))["elapsed"]), trim=0.05)
46 tlmarma <- mean(replicate(N, system.time(lmarma(y, X))["elapsed"]), trim=0.05)
47
48 res <- c(tlm, tlmfit, tlmgs1, tlmarma)
49 data <- data.frame(results=res, ratios=tlm/res)
50 rownames(data) <- c("lm", "lm.fit", "lmGSL", "lmArma")
51 cat("For n=", n, " and k=", k, "\n", sep="")
52 print(t(data))
53 print(t(1/data[,1,drop=FALSE])) # regressions per second
54

```

## 8.8 FastLM/fastLMviaArmadillo.r

Runs lm via Armadillo and times the run

```

1 #!/usr/bin/env r
2 #
3 # A faster lm() replacement based on Armadillo
4 #
5 # This improves on the previous version using GNU GSL
6 #

```

```

7 # Copyright (C) 2010 Dirk Eddelbuettel and Romain Francois
8 #
9 # This file is part of Rcpp.
10 #
11 # Rcpp is free software: you can redistribute it and/or modify it
12 # under the terms of the GNU General Public License as published by
13 # the Free Software Foundation, either version 2 of the License, or
14 # (at your option) any later version.
15 #
16 # Rcpp is distributed in the hope that it will be useful, but
17 # WITHOUT ANY WARRANTY; without even the implied warranty of
18 # MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
19 # GNU General Public License for more details.
20 #
21 # You should have received a copy of the GNU General Public License
22 # along with Rcpp. If not, see <http://www.gnu.org/licenses/>.
23
24 source("lmArmadillo.R")
25
26 checkLmArmadillo <- function(y, X) {
27   fun <- lmArmadillo()
28   res <- fun(y, X)
29   fit <- lm(y ~ X - 1)
30   rc <- all.equal( as.numeric(res[[1]]), as.numeric(coef(fit))) &
31     all.equal( as.numeric(res[[2]]), as.numeric(coef(summary(fit))[,2]))
32   invisible(rc)
33 }
34
35 timeLmArmadillo <- function(y, X, N) {
36   fun <- lmArmadillo();
37   meantime <- mean(replicate(N, system.time(fun(y, X))["elapsed"]), trim=0.05)
38 }
39
40 set.seed(42)
41 n <- 5000
42 k <- 9
43 X <- cbind( rep(1,n), matrix(rnorm(n*k), ncol=k) )
44 truecoef <- 1:(k+1)
45 y <- as.numeric(X %*% truecoef + rnorm(n))
46
47 N <- 100
48
49 stopifnot(checkLmArmadillo(y, X))
50 mt <- timeLmArmadillo(y, X, N)
51 cat("Armadillo: Running", N, "simulations yields (trimmed) mean time", mt, "\n")

```

## 8.9 FastLM/fastLMviaGSL.r

Runs lm via GSL and times the run

```

1 #!/usr/bin/env r
2 #
3 # A faster lm() replacement based on GNU GSL
4 #
5 # This first appeared in the 'Intro to HPC tutorials'
6 # but has been wrapped in inline::cfunction() here
7 #
8 # Copyright (C) 2010 Dirk Eddelbuettel and Romain Francois
9 #
10 # This file is part of Rcpp.
11 #
12 # Rcpp is free software: you can redistribute it and/or modify it
13 # under the terms of the GNU General Public License as published by
14 # the Free Software Foundation, either version 2 of the License, or
15 # (at your option) any later version.
16 #
17 # Rcpp is distributed in the hope that it will be useful, but
18 # WITHOUT ANY WARRANTY; without even the implied warranty of
19 # MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
20 # GNU General Public License for more details.
21 #
22 # You should have received a copy of the GNU General Public License
23 # along with Rcpp. If not, see <http://www.gnu.org/licenses/>.

```

```

24
25 source("lmGSL.R")
26
27 checkLmGSL <- function(y, X) {
28   fun <- lmGSL()
29   res <- fun(y, X)
30   fit <- lm(y ~ X - 1)
31   rc <- all.equal( res[[1]], as.numeric(coef(fit))) &
32     all.equal( res[[2]], as.numeric(coef(summary(fit))[,2]))
33   invisible(rc)
34 }
35
36 timeLmGSL <- function(y, X, N) {
37   fun <- lmGSL();
38   meantime <- mean(replicate(N, system.time(fun(y, X))["elapsed"]), trim=0.05)
39 }
40
41 set.seed(42)
42 n <- 5000
43 k <- 9
44 X <- cbind( rep(1,n), matrix(rnorm(n*k), ncol=k) )
45 truecoef <- 1:(k+1)
46 y <- as.numeric(X %*% truecoef + rnorm(n))
47
48 N <- 100
49
50 stopifnot( checkLmGSL(y, X) )
51 mt <- timeLmGSL(y, X, N)
52 cat("GSL: Running", N, "simulations yields (trimmed) mean time", mt, "\n")

```

## 8.10 FastLM/ImArmadillo.r

Armadillo-based implementation of a bare-boned lm()

## 8.11 FastLM/lmGSL.r

GSL-based implementation of a bare-boned lm()

## 8.12 functionCallback/ExampleRCode.R

This files defines the [R](#) function `vecfunc` passed down to C++ and called via the wrapper function built using the subclass of `RcppFunction` to call it.

## 8.13 functionCallback/RcppFunctionCallExample.cpp

An example providing a class `RVectorFuncCall` derived from class `RcppFunction` which implements a vector-values function `transformVector()`; the class gets initialized with an [R](#) function `vecfunc` passed along using [Rcpp](#).

## 8.14 Misc/fibonacci.r

Faster recursive computation of Fibonacci numbers via [Rcpp](#)

```

1 #!/usr/bin/env r
2
3 ## this short example was provided in response to this StackOverflow questions:
4 ## http://stackoverflow.com/questions/6807068/why-is-my-recursive-function-so-slow-in-r
5 ## and illustrates that recursive function calls are a) really expensive in R and b) not
6 ## all expensive in C++ (my machine sees a 700-fold speed increase) and c) the byte
7 ## compiler in R does not help here.
8
9 suppressMessages(library(Rcpp))
10
11 ## byte compiler
12 require(compiler)
13
14 ## A C++ version compile with cppFunction
15 fibRcpp <- cppFunction( '
16 int fibonacci(const int x) {
17     if (x == 0) return(0);
18     if (x == 1) return(1);
19     return (fibonacci(x - 1)) + fibonacci(x - 2);
20 }
21 ' )
22
23
24 ## for comparison, the original (but repaired with 0/1 offsets)
25 fibR <- function(seq) {
26     if (seq == 0) return(0);
27     if (seq == 1) return(1);
28     return (fibR(seq - 1) + fibR(seq - 2));
29 }
30
31 ## also use byte-compiled R function
32 fibRC <- cmpfun(fibR)
33
34 ## load rbenchmark to compare
35 library(rbenchmark)
36
37 N <- 35      ## same parameter as original post
38 res <- benchmark(fibR(N),
39                 fibRC(N),
40                 fibRcpp(N),
41                 columns=c("test", "replications", "elapsed",
42                           "relative", "user.self", "sys.self"),
43                 order="relative",
44                 replications=1)
45 print(res) ## show result
46

```

## 8.15 Misc/ifelseLooped.r

Nice example of accelerating path-dependent loops with [Rcpp](#)

```

1 #!/usr/bin/env r
2 ##
3 ## This example goes back to the following StackOverflow questions:
4 ##
5 ## http://stackoverflow.com/questions/7153586/can-i-vectorize-a-calculation-which-depends-on-previous-elements
6 ## and provides a nice example of how to accelerate path-dependent
7 ## loops which are harder to vectorise. It lead to the following blog
8 ## post:
9 ## http://dirk.eddelbuettel.com/blog/2011/08/23#rcpp_for_path_dependent_loops
10 ##
11 ## Thanks to Josh Ulrich for provided a first nice (R-based) answer on
12 ## StackOverflow and for also catching a small oversight in my posted answer.
13 ## Dirk Eddelbuettel, 23 Aug 2011

```



```

14 ##
15 ## Copyrighted but of course GPL'ed
16
17
18 library(inline)
19 library(rbenchmark)
20 library(compiler)
21
22 fun1 <- function(z) {
23   for(i in 2:NROW(z)) {
24     z[i] <- ifelse(z[i-1]==1, 1, 0)
25   }
26   z
27 }
28 fun1c <- cmpfun(fun1)
29
30
31 fun2 <- function(z) {
32   for(i in 2:NROW(z)) {
33     z[i] <- if(z[i-1]==1) 1 else 0
34   }
35   z
36 }
37 fun2c <- cmpfun(fun2)
38
39
40 funRcpp <- cxxfunction(signature(zs="numeric"), plugin="Rcpp", body="
41   Rcpp::NumericVector z = Rcpp::NumericVector(zs);
42   int n = z.size();
43   for (int i=1; i<n; i++) {
44     z[i] = (z[i-1]==1.0 ? 1.0 : 0.0);
45   }
46   return(z);
47 ")
48
49
50 z <- rep(c(1,1,0,0,0), 100)
51 ## test all others against fun1 and make sure all are identical
52 all(sapply(list(fun2(z), fun1c(z), fun2c(z), funRcpp(z)), identical, fun1(z)))
53
54 res <- benchmark(fun1(z), fun2(z),
55                 fun1c(z), fun2c(z),
56                 funRcpp(z),
57                 columns=c("test", "replications", "elapsed", "relative", "user.self", "sys.self"),
58                 order="relative",
59                 replications=1000)
60 print(res)
61
62 z <- c(1,1,0,0,0)
63 res2 <- benchmark(fun1(z), fun2(z),
64                 fun1c(z), fun2c(z),
65                 funRcpp(z),
66                 columns=c("test", "replications", "elapsed", "relative", "user.self", "sys.self"),
67                 order="relative",
68                 replications=10000)
69 print(res2)
70
71
72 if (FALSE) {
73   # quick test to see if Int vectors are faster: appears not
74   funRcppI <- cxxfunction(signature(zs="integer"), plugin="Rcpp", body="
75     Rcpp::IntegerVector z = Rcpp::IntegerVector(zs);
76     int n = z.size();
77     for (int i=1; i<n; i++) {
78       z[i] = (z[i-1]==1.0 ? 1.0 : 0.0);
79     }
80     return(z);
81 ")
82
83   z <- rep(c(1L,1L,0L,0L,0L), 100)
84   identical(fun1(z), fun2(z), fun1c(z), fun2c(z), funRcppI(z))
85
86   res3 <- benchmark(fun1(z), fun2(z),
87                   fun1c(z), fun2c(z),
88                   funRcppI(z),
89                   columns=c("test", "replications", "elapsed", "relative", "user.self", "sys.self"),
90                   order="relative",
91                   replications=1000)
92   print(res3)
93
94   z <- c(1L,1L,0L,0L,0L)
95   res4 <- benchmark(fun1(z), fun2(z),

```

```

95         fun1c(z), fun2c(z),
96         funRcppI(z),
97         columns=c("test", "replications", "elapsed", "relative", "user.self", "sys.self"),
98         order="relative",
99         replications=10000)
100     print(res4)
101 }

```

## 8.16 OpenMP/check.R

Compares both approaches

```

1
2 dyn.load("piWithInterrupts.so")
3 #res <- .Call("PiLeibniz", n=1e9, frequency=1e6)
4 res <- .Call("PiLeibniz", n=1e9, frequency=1e6)
5 print(res, digits=10)

```

## 8.17 OpenMP/OpenMPandInline.r

Example of using OpenMP compilation via inline

```

1 #!/usr/bin/env r
2
3 library(inline)
4 library(rbenchmark)
5
6 serialCode <- '
7 // assign to C++ vector
8 std::vector<double> x = Rcpp::as<std::vector< double >>(xs);
9 size_t n = x.size();
10 for (size_t i=0; i<n; i++) {
11     x[i] = ::log(x[i]);
12 }
13 return Rcpp::wrap(x);
14 '
15 funSerial <- cxxfunction(signature(xs="numeric"), body=serialCode, plugin="Rcpp")
16
17 serialStdAlgCode <- '
18 std::vector<double> x = Rcpp::as<std::vector< double >>(xs);
19 std::transform(x.begin(), x.end(), x.begin(), ::log);
20 return Rcpp::wrap(x);
21 '
22 funSerialStdAlg <- cxxfunction(signature(xs="numeric"), body=serialStdAlgCode, plugin="Rcpp")
23
24 ## same, but with Rcpp vector just to see if there is measurable difference
25 serialRcppCode <- '
26 // assign to C++ vector
27 Rcpp::NumericVector x = Rcpp::NumericVector(xs);
28 size_t n = x.size();
29 for (size_t i=0; i<n; i++) {
30     x[i] = ::log(x[i]);
31 }
32 return x;
33 '
34 funSerialRcpp <- cxxfunction(signature(xs="numeric"), body=serialRcppCode, plugin="Rcpp")
35
36 serialStdAlgRcppCode <- '
37 Rcpp::NumericVector x = Rcpp::NumericVector(xs);
38 std::transform(x.begin(), x.end(), x.begin(), ::log);
39 return x;
40 '
41 funSerialStdAlgRcpp <- cxxfunction(signature(xs="numeric"), body=serialStdAlgRcppCode, plugin="Rcpp")
42
43 serialImportTransRcppCode <- '
44 Rcpp::NumericVector x(xs);

```

```

45   return Rcpp::NumericVector::import_transform(x.begin(), x.end(), ::log);
46 '
47 funSerialImportTransRcpp <- cxxfunction(signature(xs="numeric"), body=serialImportTransRcppCode,
    plugin="Rcpp")
48
49 ## now with a sugar expression with internalizes the loop
50 sugarRcppCode <- '
51   // assign to C++ vector
52   Rcpp::NumericVector x = log ( Rcpp::NumericVector(xs) );
53   return x;
54 '
55 funSugarRcpp <- cxxfunction(signature(xs="numeric"), body=sugarRcppCode, plugin="Rcpp")
56
57 ## lastly via OpenMP for parallel use
58 openMPCode <- '
59   // assign to C++ vector
60   std::vector<double> x = Rcpp::as<std::vector< double > >(xs);
61   size_t n = x.size();
62   #pragma omp parallel for shared(x, n)
63   for (size_t i=0; i<n; i++) {
64     x[i] = ::log(x[i]);
65   }
66   return Rcpp::wrap(x);
67 '
68
69 ## modify the plugin for Rcpp to support OpenMP
70 settings <- getPlugin("Rcpp")
71 settings$env$PKG_CXXFLAGS <- paste('-fopenmp', settings$env$PKG_CXXFLAGS)
72 settings$env$PKG_LIBS <- paste('-fopenmp -lgomp', settings$env$PKG_LIBS)
73
74 funOpenMP <- cxxfunction(signature(xs="numeric"), body=openMPCode, plugin="Rcpp", settings=settings)
75
76
77 z <- seq(1, 2e6)
78 res <- benchmark(funSerial(z), funSerialStdAlg(z),
79   funSerialRcpp(z), funSerialStdAlgRcpp(z),
80   funSerialImportTransRcpp(z),
81   funOpenMP(z), funSugarRcpp(z),
82   columns=c("test", "replications", "elapsed",
83     "relative", "user.self", "sys.self"),
84   order="relative",
85   replications=100)
86 print(res)
87
88

```

## 8.18 OpenMP/piWithInterrupts.cpp.R

Computing pi via MPI, and letting the user interrupt via Ctrl-C

## 8.19 RcppGibbs/RcppGibbs.R

Implementation of a MCMC Gibbs sampler using [Rcpp](#)

```

1 ## Simple Gibbs Sampler Example
2 ## Adapted from Darren Wilkinson's post at
3 ## http://darrenjw.wordpress.com/2010/04/28/mcmc-programming-in-r-python-java-and-c/
4 ##
5 ## Sanjog Misra and Dirk Eddelbuettel, June-July 2011
6
7 suppressMessages(library(Rcpp))
8 suppressMessages(library(inline))
9 suppressMessages(library(compiler))
10 suppressMessages(library(rbenchmark))

```

```

11
12
13 ## Actual joint density -- the code which follow implements
14 ## a Gibbs sampler to draw from the following joint density f(x,y)
15 fun <- function(x,y) {
16     x*x * exp(-x*y*y - y*y + 2*y - 4*x)
17 }
18
19 ## Note that the full conditionals are propotional to
20 ## f(x|y) = (x^2)*exp(-x*(4+y*y))           : a Gamma density kernel
21 ## f(y|x) = exp(-0.5*2*(x+1)*(y^2 - 2*y/(x+1))) : Normal Kernel
22
23 ## There is a small typo in Darrens code.
24 ## The full conditional for the normal has the wrong variance
25 ## It should be 1/sqrt(2*(x+1)) not 1/sqrt(1+x)
26 ## This we can verify ...
27 ## The actual conditional (say for x=3) can be computed as follows
28 ## First - Construct the Unnormalized Conditional
29 fy.unnorm <- function(y) fun(3,y)
30
31 ## Then - Find the appropriate Normalizing Constant
32 K <- integrate(fy.unnorm,-Inf,Inf)
33
34 ## Finally - Construct Actual Conditional
35 fy <- function(y) fy.unnorm(y)/K$val
36
37 ## Now - The corresponding Normal should be
38 fy.dnorm <- function(y) {
39     x <- 3
40     dnorm(y,1/(1+x),sqrt(1/(2*(1+x))))
41 }
42
43 ## and not ...
44 fy.dnorm.wrong <- function(y) {
45     x <- 3
46     dnorm(y,1/(1+x),sqrt(1/((1+x))))
47 }
48
49 if (interactive()) {
50     ## Graphical check
51     ## Actual (gray thick line)
52     curve(fy,-2,2,col='grey',lwd=5)
53
54     ## Correct Normal conditional (blue dotted line)
55     curve(fy.dnorm,-2,2,col='blue',add=T,lty=3)
56
57     ## Wrong Normal (Red line)
58     curve(fy.dnorm.wrong,-2,2,col='red',add=T)
59 }
60
61 ## Here is the actual Gibbs Sampler
62 ## This is Darren Wilkinsons R code (with the corrected variance)
63 ## But we are returning only his columns 2 and 3 as the 1:N sequence
64 ## is never used below
65 Rgibbs <- function(N,thin) {
66     mat <- matrix(0,ncol=2,nrow=N)
67     x <- 0
68     y <- 0
69     for (i in 1:N) {
70         for (j in 1:thin) {
71             x <- rgamma(1,3,y*y+4)
72             y <- rnorm(1,1/(x+1),1/sqrt(2*(x+1)))
73         }
74         mat[i,] <- c(x,y)
75     }
76     mat
77 }
78
79 ## We can also try the R compiler on this R function
80 RCgibbs <- cmpfun(Rgibbs)
81
82 ## For example
83 ## mat <- Rgibbs(10000,10); dim(mat)
84 ## would give: [1] 10000    2
85
86 ## Now for the Rcpp version -- Notice how easy it is to code up!
87
88 ## NOTE: This is the old way to compile Rcpp code inline.
89 ## The code here has left as a historical artifact and tribute to the old way.
90 ## Please use the code under the "new" inline compilation section.
91

```

```

92 gibbscode <- '
93
94 using namespace Rcpp; // inline does that for us already
95
96 // n and thin are SEXP's which the Rcpp::as function maps to C++ vars
97 int N = as<int>(n);
98 int thn = as<int>(thin);
99
100 int i,j;
101 NumericMatrix mat(N, 2);
102
103 RNGScope scope; // Initialize Random number generator
104
105 // The rest of the code follows the R version
106 double x=0, y=0;
107
108 for (i=0; i<N; i++) {
109     for (j=0; j<thn; j++) {
110         x = :Rf_rgamma(3.0,1.0/(y*y+4));
111         y = :Rf_rnorm(1.0/(x+1),1.0/sqrt(2*x+2));
112     }
113     mat(i,0) = x;
114     mat(i,1) = y;
115 }
116
117 return mat; // Return to R
118 '
119
120 # Compile and Load
121 RcppGibbs_old <- cxxfunction(signature(n="int", thin = "int"),
122                             gibbscode, plugin="Rcpp")
123
124
125 gslgibbsincl <- '
126 #include <gsl/gsl_rng.h>
127 #include <gsl/gsl_randist.h>
128
129 using namespace Rcpp; // just to be explicit
130 '
131
132 gslgibbscode <- '
133 int N = as<int>(ns);
134 int thin = as<int>(thns);
135 int i, j;
136 gsl_rng *r = gsl_rng_alloc(gsl_rng_mt19937);
137 double x=0, y=0;
138 NumericMatrix mat(N, 2);
139 for (i=0; i<N; i++) {
140     for (j=0; j<thin; j++) {
141         x = gsl_ran_gamma(r,3.0,1.0/(y*y+4));
142         y = 1.0/(x+1)+gsl_ran_gaussian(r,1.0/sqrt(2*x+2));
143     }
144     mat(i,0) = x;
145     mat(i,1) = y;
146 }
147 gsl_rng_free(r);
148
149 return mat; // Return to R
150 '
151
152 ## Compile and Load
153 GSLGibbs_old <- cxxfunction(signature(ns="int", thns = "int"),
154                             body=gslgibbscode, includes=gslgibbsincl,
155                             plugin="RcppGSL")
156
157 ## without RcppGSL, using cfunction()
158 GSLGibbs <- cfunction(signature(ns="int", thns = "int"),
159 #                       body=gslgibbscode, includes=gslgibbsincl,
160 #                       Rcpp=TRUE,
161 #                       cppargs="-I/usr/include",
162 #                       libargs="-lgsl -lgslcblas")
163
164
165 ## NOTE: Within this section, the new way to compile Rcpp code inline has been
166 ## written. Please use the code next as a template for your own project.
167
168 ## Use of the cppFunction() gives the ability to immediately compile embed C++
169 ## without having to worry about header specification or Rcpp attributes.
170
171 cppFunction('
172 NumericMatrix RcppGibbs(int N, int thn){

```

```

173 // Note: n and thin are SEXPs which the Rcpp automatically converts to ints
174
175 // Setup storage matrix
176 NumericMatrix mat(N, 2);
177
178 // The rest of the code follows the R version
179 double x = 0, y = 0;
180
181 for (int i = 0; i < N; i++) {
182     for (int j = 0; j < thn; j++) {
183         x = R::rgamma(3.0, 1.0/(y*y+4));
184         y = R::rnorm(1.0/(x+1), 1.0/sqrt(2*x+2));
185     }
186     mat(i,0) = x;
187     mat(i,1) = y;
188 }
189
190 return mat; // Return to R
191 }')
192
193
194 ## Use of the sourceCpp() is preferred for users who wish to source external
195 ## files or specify their headers and Rcpp attributes within their code.
196 ## Code here is able to easily be extracted and placed into its own C++ file.
197
198 ## Compile and Load
199 sourceCpp(code="
200 #include <RcppGSL.h>
201 #include <gsl/gsl_rng.h>
202 #include <gsl/gsl_randist.h>
203
204 using namespace Rcpp; // just to be explicit
205
206 // [[Rcpp::depends(RcppGSL)]]
207
208 // [[Rcpp::export]]
209 NumericMatrix GSLGibbs(int N, int thin){
210     gsl_rng *r = gsl_rng_alloc(gsl_rng_mt19937);
211     double x = 0, y = 0;
212     NumericMatrix mat(N, 2);
213     for (int i = 0; i < N; i++) {
214         for (int j = 0; j < thin; j++) {
215             x = gsl_ran_gamma(r, 3.0, 1.0/(y*y+4));
216             y = 1.0/(x+1)+gsl_ran_gaussian(r, 1.0/sqrt(2*x+2));
217         }
218         mat(i,0) = x;
219         mat(i,1) = y;
220     }
221     gsl_rng_free(r);
222
223     return mat; // Return to R
224 }")
225
226
227
228 ## Now for some tests
229 ## You can try other values if you like
230 ## Note that the total number of iterations are N*thin!
231 Ns <- c(1000, 5000, 10000, 20000)
232 thins <- c(10, 50, 100, 200)
233 tim_R <- rep(0, 4)
234 tim_RC <- rep(0, 4)
235 tim_Rgsl <- rep(0, 4)
236 tim_Rcpp <- rep(0, 4)
237
238 for (i in seq_along(Ns)) {
239     tim_R[i] <- system.time(mat <- Rgibbs(Ns[i], thins[i]))[3]
240     tim_RC[i] <- system.time(cmat <- RCgibbs(Ns[i], thins[i]))[3]
241     tim_Rgsl[i] <- system.time(gslmat <- GSLGibbs(Ns[i], thins[i]))[3]
242     tim_Rcpp[i] <- system.time(rcppmat <- RcppGibbs(Ns[i], thins[i]))[3]
243     cat("Replication #", i, "complete \n")
244 }
245
246 ## Comparison
247 speedup <- round(tim_R/tim_Rcpp, 2);
248 speedup2 <- round(tim_R/tim_Rgsl, 2);
249 speedup3 <- round(tim_R/tim_RC, 2);
250 summtab <- round(rbind(tim_R, tim_RC, tim_Rcpp, tim_Rgsl, speedup3, speedup, speedup2), 3)
251 colnames(summtab) <- c("N=1000", "N=5000", "N=10000", "N=20000")
252 rownames(summtab) <- c("Elapsed Time (R)", "Elapsed Time (RC)", "Elapsed Time (Rcpp)", "Elapsed Time (Rgsl)",
253     "SpeedUp Rcomp.", "SpeedUp Rcpp", "SpeedUp GSL")

```

```

254
255 print(summtab)
256
257 ## Contour Plots -- based on Darren's example
258 if (interactive() && require(KernSmooth)) {
259   op <- par(mfrow=c(4,1),mar=c(3,3,3,1))
260   x <- seq(0,4,0.01)
261   y <- seq(-2,4,0.01)
262   z <- outer(x,y,fun)
263   contour(x,y,z,main="Contours of actual distribution",xlim=c(0,2), ylim=c(-2,4))
264   fit <- bkde2D(as.matrix(mat),c(0.1,0.1))
265   contour(drawlabels=T, fit$x1, fit$x2, fit$fhat, xlim=c(0,2), ylim=c(-2,4),
266     main=paste("Contours of empirical distribution:",round(tim_R[4],2)," seconds"))
267   fitc <- bkde2D(as.matrix(rcppmat),c(0.1,0.1))
268   contour(fitc$x1,fitc$x2,fitc$fhat,xlim=c(0,2), ylim=c(-2,4),
269     main=paste("Contours of Rcpp based empirical distribution:",round(tim_Rcpp[4],2)," seconds"))
270   fitg <- bkde2D(as.matrix(gslmat),c(0.1,0.1))
271   contour(fitg$x1,fitg$x2,fitg$fhat,xlim=c(0,2), ylim=c(-2,4),
272     main=paste("Contours of GSL based empirical distribution:",round(tim_Rgsl[4],2)," seconds"))
273   par(op)
274 }
275
276
277 ## also use rbenchmark package
278 N <- 20000
279 thn <- 200
280 res <- benchmark(Rgibbs(N, thn),
281   RCGibbs(N, thn),
282   RcppGibbs(N, thn),
283   GSLGibbs(N, thn),
284   columns=c("test", "replications", "elapsed",
285     "relative", "user.self", "sys.self"),
286   order="relative",
287   replications=10)
288 print(res)
289
290
291 ## And we are done
292
293

```

## 8.20 RcppGibbs/timeRNGs.R

Illustration of speed differences between Normal and Uniform RNG draws from R and GSL

```

1
2 suppressMessages(library(Rcpp))
3 suppressMessages(library(inline))
4 suppressMessages(library(rbenchmark))
5
6 ## NOTE: This is the old way to compile Rcpp code inline.
7 ## The code here has left as a historical artifact and tribute to the old way.
8 ## Please use the code under the "new" inline compilation section.
9
10 rcppGamma_old <- cxxfunction(signature(xs="numeric"), plugin="Rcpp", body='
11   NumericVector x(xs);
12   int n = x.size();
13
14   // Initialize Random number generator
15   RNGScope scope;
16
17   const double y = 1.234;
18   for (int i=0; i<n; i++) {
19     x[i] = ::Rf_rgamma(3.0, 1.0/(y*y+4));
20   }
21
22   // Return to R
23   return x;
24 ')
25
26
27 gslGamma_old <- cxxfunction(signature(xs="numeric"), plugin="RcppGSL",
28   include=' #include <gsl/gsl_rng.h>

```

```

29             #include <gsl/gsl_randist.h>',
30             body='
31 NumericVector x(xs);
32 int n = x.size();
33
34 gsl_rng *r = gsl_rng_alloc(gsl_rng_mt19937);
35 const double y = 1.234;
36 for (int i=0; i<n; i++) {
37     x[i] = gsl_ran_gamma(r,3.0,1.0/(y*y+4));
38 }
39 gsl_rng_free(r);
40
41 // Return to R
42 return x;
43 ')
44
45
46 rcppNormal_old <- cxxfunction(signature(xs="numeric"), plugin="Rcpp", body='
47 NumericVector x(xs);
48 int n = x.size();
49
50 // Initialize Random number generator
51 RNGScope scope;
52
53 const double y = 1.234;
54 for (int i=0; i<n; i++) {
55     x[i] = ::Rf_rnorm(1.0/(y+1),1.0/sqrt(2*y+2));
56 }
57
58 // Return to R
59 return x;
60 ')
61
62
63 gslNormal_old <- cxxfunction(signature(xs="numeric"), plugin="RcppGSL",
64                             include='#include <gsl/gsl_rng.h>
65                             #include <gsl/gsl_randist.h>',
66                             body='
67 NumericVector x(xs);
68 int n = x.size();
69
70 gsl_rng *r = gsl_rng_alloc(gsl_rng_mt19937);
71 const double y = 1.234;
72 for (int i=0; i<n; i++) {
73     x[i] = 1.0/(y+1)+gsl_ran_gaussian(r,1.0/sqrt(2*y+2));
74 }
75 gsl_rng_free(r);
76
77 // Return to R
78 return x;
79 ')
80
81
82 ## NOTE: Within this section, the new way to compile Rcpp code inline has been
83 ## written. Please use the code next as a template for your own project.
84
85 cppFunction('
86 NumericVector rcppGamma(NumericVector x){
87     int n = x.size();
88
89     const double y = 1.234;
90     for (int i=0; i<n; i++) {
91         x[i] = R::rgamma(3.0, 1.0/(y*y+4));
92     }
93
94     // Return to R
95     return x;
96 }')
97
98 ## This approach is a bit sloppy. Generally, you will want to use
99 ## sourceCpp() if there are additional includes that are required.
100 cppFunction('
101 NumericVector gslGamma(NumericVector x){
102     int n = x.size();
103
104     gsl_rng *r = gsl_rng_alloc(gsl_rng_mt19937);
105     const double y = 1.234;
106     for (int i=0; i<n; i++) {
107         x[i] = gsl_ran_gamma(r,3.0,1.0/(y*y+4));
108     }
109     gsl_rng_free(r);

```



```

110
111 // Return to R
112 return x;
113 }, includes = '#include <gsl/gsl_rng.h>
114 #include <gsl/gsl_randist.h>',
115 depends = "RcppGSL")
116
117
118 cppFunction('
119 NumericVector rcppNormal(NumericVector x){
120   int n = x.size();
121
122   const double y = 1.234;
123   for (int i=0; i<n; i++) {
124     x[i] = R::rnorm(1.0/(y+1),1.0/sqrt(2*y+2));
125   }
126
127 // Return to R
128 return x;
129 }')
130
131
132 ## Here we demonstrate the use of sourceCpp() to show the continuity
133 ## of the code artifact.
134
135 sourceCpp(code = '
136 #include <RcppGSL.h>
137 #include <gsl/gsl_rng.h>
138 #include <gsl/gsl_randist.h>
139
140 using namespace Rcpp;
141
142 // [[Rcpp::depends("RcppGSL")]]
143
144 // [[Rcpp::export]]
145 NumericVector gslNormal(NumericVector x){
146   int n = x.size();
147
148   gsl_rng *r = gsl_rng_alloc(gsl_rng_mt19937);
149   const double y = 1.234;
150   for (int i=0; i<n; i++) {
151     x[i] = 1.0/(y+1)+gsl_ran_gaussian(r,1.0/sqrt(2*y+2));
152   }
153   gsl_rng_free(r);
154
155 // Return to R
156 return x;
157 }')
158
159 x <- rep(NA, 1e6)
160 res <- benchmark(rcppGamma(x),
161                 gslGamma(x),
162                 rcppNormal(x),
163                 gslNormal(x),
164                 columns=c("test", "replications", "elapsed", "relative", "user.self", "sys.self"),
165                 order="relative",
166                 replications=20)
167 print(res)
168
169

```

## 8.21 RcppInline/external\_pointer.r

A simple example (using inline) of external Pointer use via [Rcpp::XPtr](#)

```

1 #!/usr/bin/env r
2 #
3 # Copyright (C) 2009 - 2010 Romain Francois
4 #
5 # This file is part of Rcpp.
6 #
7 # Rcpp is free software: you can redistribute it and/or modify it
8 # under the terms of the GNU General Public License as published by

```

```

9 # the Free Software Foundation, either version 2 of the License, or
10 # (at your option) any later version.
11 #
12 # Rcpp is distributed in the hope that it will be useful, but
13 # WITHOUT ANY WARRANTY; without even the implied warranty of
14 # MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
15 # GNU General Public License for more details.
16 #
17 # You should have received a copy of the GNU General Public License
18 # along with Rcpp. If not, see <http://www.gnu.org/licenses/>.
19
20 require(Rcpp)
21 require(inline)
22
23
24 ## NOTE: This is the old way to compile Rcpp code inline.
25 ## The code here has left as a historical artifact and tribute to the old way.
26 ## Please use the code under the "new" inline compilation section.
27
28 funx_old <- cxxfunction(signature(), '
29     /* creating a pointer to a vector<int> */
30     std::vector<int>* v = new std::vector<int> ;
31     v->push_back( 1 ) ;
32     v->push_back( 2 ) ;
33
34     /* wrap the pointer as an external pointer */
35     /* this automatically protected the external pointer from R garbage
36        collection until p goes out of scope. */
37     Rcpp::XPtr< std::vector<int> > p(v) ;
38
39     /* return it back to R, since p goes out of scope after the return
40        the external pointer is no more protected by p, but it gets
41        protected by being on the R side */
42     return( p ) ;
43 ', plugin = "Rcpp" )
44 xp <- funx_old()
45 stopifnot( identical( typeof( xp ), "externalptr" ) )
46
47 # passing the pointer back to C++
48 funx_old <- cxxfunction(signature(x = "externalptr" ), '
49     /* wrapping x as smart external pointer */
50     /* The SEXP based constructor does not protect the SEXP from
51        garbage collection automatically, it is already protected
52        because it comes from the R side, however if you want to keep
53        the Rcpp::XPtr object on the C(++) side
54        and return something else to R, you need to protect the external
55        pointer, by using the protect member function */
56     Rcpp::XPtr< std::vector<int> > p(x) ;
57
58     /* just return the front of the vector as a SEXP */
59     return( Rcpp::wrap( p->front() ) ) ;
60 ', plugin = "Rcpp" )
61 front <- funx_old(xp)
62 stopifnot( identical( front, 1L ) )
63
64
65 ## NOTE: Within this section, the new way to compile Rcpp code inline has been
66 ## written. Please use the code next as a template for your own project.
67
68 ## Use of the cppFunction() gives the ability to immediately compile embedded
69 ## C++ directly within R without having to worry about header specification or
70 ## Rcpp attributes.
71
72 cppFunction('
73 Rcpp::XPtr< std::vector<int> > funx(){
74     /* creating a pointer to a vector<int> */
75     std::vector<int>* v = new std::vector<int> ;
76     v->push_back( 1 ) ;
77     v->push_back( 2 ) ;
78
79     /* wrap the pointer as an external pointer */
80     /* this automatically protected the external pointer from R garbage
81        * collection until p goes out of scope.
82        */
83     Rcpp::XPtr< std::vector<int> > p(v) ;
84
85     /* return it back to R, since p goes out of scope after the return
86        * the external pointer is no more protected by p, but it gets
87        * protected by being on the R side
88        */
89     return( p ) ;

```

```

90 })
91
92 xp <- funx()
93 stopifnot( identical( typeof( xp ), "externalptr" ) )
94
95 # passing the pointer back to C++
96 cppFunction('
97 SEXP funx_pt(Rcpp::XPtr< std::vector<int> > p){
98     /* Wrapping x as smart external pointer */
99
100    /* The SEXP based constructor does not protect the SEXP from
101     * garbage collection automatically, it is already protected
102     * because it comes from the R side, however if you want to keep
103     * the Rcpp::XPtr object on the C(++) side
104     * and return something else to R, you need to protect the external
105     * pointer, by using the protect member function
106     */
107
108    /* Just return the front of the vector as a SEXP */
109    return Rcpp::wrap(p->front());
110 }')
111 front <- funx_pt(xp)
112 stopifnot( identical( front, 1L ) )
113

```

## 8.22 RcppInline/RcppInlineExample.r

The 'distribution of determinant' example as a demonstration of how to use inline and [Rcpp](#) for a simple function.

```

1 #!/usr/bin/env r
2
3 suppressMessages(library(Rcpp))
4
5 ## NOTE: This is the old way to compile Rcpp code inline.
6 ## The code here has left as a historical artifact and tribute to the old way.
7 ## Please use the code under the "new" inline compilation section.
8
9 suppressMessages(library(inline))
10
11 foo <- '
12     IntegerVector vec(10000);    // vec parameter viewed as vector of ints.
13     int i = 0;
14     for (int a = 0; a < 9; a++)
15         for (int b = 0; b < 9; b++)
16             for (int c = 0; c < 9; c++)
17                 for (int d = 0; d < 9; d++)
18                     vec(i++) = a*b - c*d;
19
20     return vec;
21 '
22
23 funx_old <- cxxfunction(signature(), foo, plugin = "Rcpp" )
24
25 ## NOTE: Within this section, the new way to compile Rcpp code inline has been
26 ## written. Please use the code next as a template for your own project.
27
28 cppFunction('IntegerVector funx(){
29     IntegerVector vec(10000);    // vec parameter viewed as vector of ints.
30     int i = 0;
31     for (int a = 0; a < 9; a++)
32         for (int b = 0; b < 9; b++)
33             for (int c = 0; c < 9; c++)
34                 for (int d = 0; d < 9; d++)
35                     vec(i++) = a*b - c*d;
36
37     return vec;
38 }')
39
40 dd.inline.rcpp <- function() {
41     res <- funx()
42     tabulate(res)
43 }
44
45 print(mean(replicate(100,system.time(dd.inline.rcpp())["elapsed"]),trim=0.05))
46
47

```

## 8.23 RcppInline/RcppInlineWithLibsExamples.r

Four simple examples of how to combine [Rcpp](#) and an external library (where we use the GNU GSL) using inline.

```

1 #!/usr/bin/env r
2 #
3 # Copyright (C) 2009 - 2016 Dirk Eddelbuettel and Romain Francois
4 #
5 # This file is part of Rcpp.
6 #
7 # Rcpp is free software: you can redistribute it and/or modify it
8 # under the terms of the GNU General Public License as published by
9 # the Free Software Foundation, either version 2 of the License, or
10 # (at your option) any later version.
11 #
12 # Rcpp is distributed in the hope that it will be useful, but
13 # WITHOUT ANY WARRANTY; without even the implied warranty of
14 # MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
15 # GNU General Public License for more details.
16 #
17 # You should have received a copy of the GNU General Public License
18 # along with Rcpp. If not, see <http://www.gnu.org/licenses/>.
19
20 suppressMessages(library(Rcpp))
21 suppressMessages(library(RcppGSL))
22
23 ## NOTE: This is the old way to compile Rcpp code inline.
24 ## The code here has left as a historical artifact and tribute to the old way.
25 ## Please use the code under the "new" inline compilation section.
26
27 suppressMessages(library(inline))
28
29 firstExample_old <- function() {
30   ## a really simple C program calling three functions from the GSL
31   gslrng <- '
32   gsl_rng *r;
33   gsl_rng_env_setup();
34   double v;
35
36   r = gsl_rng_alloc (gsl_rng_default);
37
38   printf(" generator type: %s\n", gsl_rng_name (r));
39   printf(" seed = %lu\n", gsl_rng_default_seed);
40   v = gsl_rng_get (r);
41   printf(" first value = %.0f\n", v);
42
43   gsl_rng_free(r);
44   return R_NilValue;
45   '
46
47   ## turn into a function that R can call
48   ## compileargs redundant on Debian/Ubuntu as gsl headers are found anyway
49   funx_old <- cxxfunction(signature(), gslrng,
50                           includes="#include <gsl/gsl_rng.h>",
51                           plugin="RcppGSL")
52
53   cat("Calling first example\n")
54   funx_old()
55   invisible(NULL)
56 }
57
58 secondExample_old <- function() {
59
60   ## now use Rcpp to pass down a parameter for the seed
61   gslrng <- '
62   int seed = Rcpp::as<int>(par) ;
63
64   gsl_rng *r;
65   gsl_rng_env_setup();
66   double v;
67
68   r = gsl_rng_alloc (gsl_rng_default);
69
70   gsl_rng_set (r, (unsigned long) seed);
71   v = gsl_rng_get (r);
72
73   #ifndef BeSilent

```

```

74     printf(" generator type: %s\\n", gsl_rng_name (r));
75     printf(" seed = %d\\n", seed);
76     printf(" first value = %.0f\\n", v);
77     #endif
78
79     gsl_rng_free(r);
80     return Rcpp::wrap(v) ;
81     '
82
83     ## turn into a function that R can call
84     ## compileargs redundant on Debian/Ubuntu as gsl headers are found anyway
85     ## use additional define for compile to suppress output
86     funx_old <- cxxfunction(signature(par="numeric"), gslrng,
87                           includes="#include <gsl/gsl_rng.h>",
88                           plugin="RcppGSL")
89     cat("\\n\\nCalling second example without -DBeSilent set\\n")
90     print(funx_old(0))
91
92
93     ## now override settings to add -D flag
94     settings <- getPlugin("RcppGSL")
95     settings$env$PKG_CPPFLAGS <- paste(settings$PKG_CPPFLAGS, "-DBeSilent")
96
97     funx_old <- cxxfunction(signature(par="numeric"), gslrng,
98                           includes="#include <gsl/gsl_rng.h>",
99                           settings=settings)
100     cat("\\n\\nCalling second example with -DBeSilent set\\n")
101     print(funx_old(0))
102
103     invisible(NULL)
104 }
105
106 thirdExample_old <- function() {
107
108     ## now use Rcpp to pass down a parameter for the seed, and a vector size
109     gslrng <- '
110     int seed = Rcpp::as<int>(s) ;
111     int len = Rcpp::as<int>(n);
112
113     gsl_rng *r;
114     gsl_rng_env_setup();
115     std::vector<double> v(len);
116
117     r = gsl_rng_alloc (gsl_rng_default);
118
119     gsl_rng_set (r, (unsigned long) seed);
120     for (int i=0; i<len; i++) {
121         v[i] = gsl_rng_get (r);
122     }
123     gsl_rng_free(r);
124
125     return Rcpp::wrap(v) ;
126     '
127
128     ## turn into a function that R can call
129     ## compileargs redundant on Debian/Ubuntu as gsl headers are found anyway
130     ## use additional define for compile to suppress output
131     funx_old <- cxxfunction(signature(s="numeric", n="numeric"),
132                           gslrng,
133                           includes="#include <gsl/gsl_rng.h>",
134                           plugin="RcppGSL")
135     cat("\\n\\nCalling third example with seed and length\\n")
136     print(funx_old(0, 5))
137
138     invisible(NULL)
139 }
140
141 fourthExample_old <- function() {
142
143     ## now use Rcpp to pass down a parameter for the seed, and a vector size
144     gslrng <- '
145     int seed = Rcpp::as<int>(s);
146     int len = Rcpp::as<int>(n);
147
148     gsl_rng *r;
149     gsl_rng_env_setup();
150     std::vector<double> v(len);
151
152     r = gsl_rng_alloc (gsl_rng_default);
153
154     gsl_rng_set (r, (unsigned long) seed);

```

```

155   for (int i=0; i<len; i++) {
156       v[i] = gsl_rng_get (r);
157   }
158   gsl_rng_free(r);
159
160   return wrap(v);
161   ,
162
163   ## turn into a function that R can call
164   ## compileargs redundant on Debian/Ubuntu as gsl headers are found anyway
165   ## use additional define for compile to suppress output
166   funx_old <- cxxfunction(signature(s="numeric", n="numeric"),
167                           gslrng,
168                           includes=c("#include <gsl/gsl_rng.h>",
169                                       "using namespace Rcpp;",
170                                       "using namespace std;"),
171                           plugin="RcppGSL")
172   cat("\n\nCalling fourth example with seed, length and namespaces\n")
173   print(funx_old(0, 5))
174
175   invisible(NULL)
176 }
177
178 ## NOTE: Within this section, the new way to compile Rcpp code inline has been
179 ## written. Please use the code next as a template for your own project.
180
181 firstExample <- function() {
182     ## a really simple C program calling three functions from the GSL
183
184     sourceCpp(code='
185 #include <RcppGSL.h>
186 #include <gsl/gsl_rng.h>
187
188 // [[Rcpp::depends(RcppGSL)]]
189
190 // [[Rcpp::export]]
191 SEXP funx(){
192     gsl_rng *r;
193     gsl_rng_env_setup();
194     double v;
195
196     r = gsl_rng_alloc (gsl_rng_default);
197
198     printf(" generator type: %s\n", gsl_rng_name (r));
199     printf(" seed = %lu\n", gsl_rng_default_seed);
200     v = gsl_rng_get (r);
201     printf(" first value = %.0f\n", v);
202
203     gsl_rng_free(r);
204     return R_NilValue;
205 }')
206
207     cat("Calling first example\n")
208     funx()
209     invisible(NULL)
210 }
211
212 secondExample <- function() {
213
214     ## now use Rcpp to pass down a parameter for the seed
215
216     ## turn into a function that R can call
217     ## compileargs redundant on Debian/Ubuntu as gsl headers are found anyway
218     ## use additional define for compile to suppress output
219
220     gslrng <- '
221 #include <RcppGSL.h>
222 #include <gsl/gsl_rng.h>
223
224 // [[Rcpp::depends(RcppGSL)]]
225
226 // [[Rcpp::export]]
227 double funx(int seed){
228
229     gsl_rng *r;
230     gsl_rng_env_setup();
231     double v;
232
233     r = gsl_rng_alloc (gsl_rng_default);
234
235     gsl_rng_set (r, (unsigned long) seed);

```

```

236     v = gsl_rng_get (r);
237
238     #ifndef BeSilent
239     printf(" generator type: %s\\n", gsl_rng_name (r));
240     printf(" seed = %d\\n", seed);
241     printf(" first value = %.0f\\n", v);
242     #endif
243
244     gsl_rng_free(r);
245     return v;
246     }'
247
248     sourceCpp(code=gslrng, rebuild = TRUE)
249
250     cat("\\n\\nCalling second example without -DBeSilent set\\n")
251     print(funx(0))
252
253
254     ## now override settings to add -D flag
255     o = Sys.getenv("PKG_CPPFLAGS")
256     Sys.setenv("PKG_CPPFLAGS" = paste(o, "-DBeSilent"))
257
258     sourceCpp(code=gslrng, rebuild = TRUE)
259
260     # Restore environment flags
261     Sys.setenv("PKG_CPPFLAGS" = o )
262
263     cat("\\n\\nCalling second example with -DBeSilent set\\n")
264     print(funx(0))
265
266     invisible(NULL)
267 }
268
269 thirdExample <- function() {
270
271     ## now use Rcpp to pass down a parameter for the seed, and a vector size
272
273     ## turn into a function that R can call
274     ## compileargs redundant on Debian/Ubuntu as gsl headers are found anyway
275     ## use additional define for compile to suppress output
276
277     sourceCpp(code='
278     #include <RcppGSL.h>
279     #include <gsl/gsl_rng.h>
280
281     // [[Rcpp::depends(RcppGSL)]]
282
283     // [[Rcpp::export]]
284     std::vector<double> funx(int seed, int len){
285
286         gsl_rng *r;
287         gsl_rng_env_setup();
288         std::vector<double> v(len);
289
290         r = gsl_rng_alloc (gsl_rng_default);
291
292         gsl_rng_set (r, (unsigned long) seed);
293         for (int i=0; i<len; i++) {
294             v[i] = gsl_rng_get (r);
295         }
296         gsl_rng_free(r);
297
298         return v;
299     }')
300
301     cat("\\n\\nCalling third example with seed and length\\n")
302     print(funx(0, 5))
303
304     invisible(NULL)
305 }
306
307 fourthExample <- function() {
308
309     ## now use Rcpp to pass down a parameter for the seed, and a vector size
310
311     ## turn into a function that R can call
312     ## compileargs redundant on Debian/Ubuntu as gsl headers are found anyway
313     ## use additional define for compile to suppress output
314
315     sourceCpp(code='
316     #include <RcppGSL.h>

```

```

317 #include <gsl/gsl_rng.h>
318
319 using namespace Rcpp;
320 using namespace std;
321
322 // [[Rcpp::depends(RcppGSL)]]
323
324 // [[Rcpp::export]]
325 std::vector<double> funx(int seed, int len){
326
327     gsl_rng *r;
328     gsl_rng_env_setup();
329     std::vector<double> v(len);
330
331     r = gsl_rng_alloc (gsl_rng_default);
332
333     gsl_rng_set (r, (unsigned long) seed);
334     for (int i=0; i<len; i++) {
335         v[i] = gsl_rng_get (r);
336     }
337     gsl_rng_free(r);
338
339     return v;
340 }')
341
342 cat("\n\nCalling fourth example with seed, length and namespaces\n")
343 print(funx(0, 5))
344
345 invisible(NULL)
346 }
347
348 firstExample()
349 secondExample()
350 thirdExample()
351 fourthExample()

```

## 8.24 RcppInline/RcppSimpleExample.r

A very simple example of using inline without [Rcpp](#).

```

1 #!/usr/bin/env r
2
3
4 suppressMessages(library(Rcpp))
5 suppressMessages(library(inline))
6
7
8 foo <- '
9     int i, j, na, nb, nab;
10    double *xa, *xb, *xab;
11    SEXP ab;
12
13    PROTECT(a = AS_NUMERIC(a));
14    PROTECT(b = AS_NUMERIC(b));
15    na = LENGTH(a); nb = LENGTH(b); nab = na + nb - 1;
16    PROTECT(ab = NEW_NUMERIC(nab));
17    xa = NUMERIC_POINTER(a); xb = NUMERIC_POINTER(b);
18    xab = NUMERIC_POINTER(ab);
19    for(i = 0; i < nab; i++) xab[i] = 0.0;
20    for(i = 0; i < na; i++)
21        for(j = 0; j < nb; j++) xab[i + j] += xa[i] * xb[j];
22    UNPROTECT(3);
23    return(ab);
24 '
25
26 funx <- cfunction(signature(a="numeric",b="numeric"), foo, Rcpp=FALSE, verbose=FALSE)
27 funx(a=1:20, b=2:11)

```

## 8.25 RcppInline/RcppSimpleTests.r

This file provides a few simple tests that preceded the creation of the numerous formal unit tests that followed.



## 8.26 RcppInline/RObject.r

A number of examples on how to use `wrap()` to automatically convert data types.

```

1 #!/usr/bin/env r
2 #
3 # Copyright (C) 2009 - 2010 Dirk Eddelbuettel and Romain Francois
4 #
5 # This file is part of Rcpp.
6 #
7 # Rcpp is free software: you can redistribute it and/or modify it
8 # under the terms of the GNU General Public License as published by
9 # the Free Software Foundation, either version 2 of the License, or
10 # (at your option) any later version.
11 #
12 # Rcpp is distributed in the hope that it will be useful, but
13 # WITHOUT ANY WARRANTY; without even the implied warranty of
14 # MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
15 # GNU General Public License for more details.
16 #
17 # You should have received a copy of the GNU General Public License
18 # along with Rcpp. If not, see <http://www.gnu.org/licenses/>.
19
20 ## NB This file is mostly historic and predates the unit tests.
21 ## Yet it still provides useful examples -- but the unitTests/
22 ## for vastly larger coverage
23
24 suppressMessages(library(Rcpp))
25 suppressMessages(library(inline))
26
27 cat("===Doubles\n")
28 foo <- '
29     double d = Rcpp::as<double>(x);
30     std::cout << "Returning twice the value of " << d << " : ";
31     return(Rcpp::wrap( 2*d ) );
32     '
33 funx <- cfunction(signature(x="numeric"), foo, Rcpp=TRUE, verbose=FALSE)
34 cat(funx(x=2.123), "\n")
35 cat(funx(x=2), "\n")
36 ##funx(x='2') ## throws as expected
37 ##funx(x=2:3) ## throws as expected
38
39
40 cat("\n===Int\n")
41 foo <- '
42     int i = Rcpp::as<int>(x);
43     std::cout << "Returning twice the value of " << i << " : ";
44     return(Rcpp::wrap( 2*i ) );
45     '
46 funx <- cfunction(signature(x="numeric"), foo, Rcpp=TRUE, verbose=FALSE)
47 cat(funx(x=2), "\n")
48 cat(funx(x=2.2), "\n")
49 funx <- cfunction(signature(x="raw"), foo, Rcpp=TRUE, verbose=FALSE)
50 cat(funx(x=as.raw(2)), "\n")
51
52 cat("\n===String\n")
53 foo <- '
54     std::string s = Rcpp::as<std::string>(x);
55     std::cout << "Returning twice the value of " << s << " : ";
56     return(Rcpp::wrap( s+s ) );
57     '
58 funx <- cfunction(signature(x="character"), foo, Rcpp=TRUE, verbose=FALSE)
59 cat(funx(x="abc"), "\n")
60
61 cat("\n===Raw (bytes)\n")
62 foo <- '
63     Rbyte i = Rcpp::as<Rbyte>(x) ;
64     std::cout << "Returning twice the value of " << (int)i << " : ";
65     return(Rcpp::wrap( (Rbyte)(2*i) ) );
66     '
67 funx <- cfunction(signature(x="numeric"), foo, Rcpp=TRUE, verbose=FALSE)

```

```

68 cat( funx(x=2), "\n")
69 funx <- cfunction(signature(x="integer"), foo, Rcpp=TRUE, verbose=FALSE)
70 cat( funx(x=2L), "\n")
71 funx <- cfunction(signature(x="raw"), foo, Rcpp=TRUE, verbose=FALSE)
72 cat( funx(x=as.raw(2)), "\n")
73
74 cat("\n=== logical \n")
75 foo <- '
76 bool b = Rcpp::as<bool>(x);
77 std::cout << "flip " << ( b ? "TRUE" : "FALSE" ) << " : ";
78 return(Rcpp::wrap( !b ));
79 '
80 funx <- cfunction(signature(x="logical"), foo, Rcpp=TRUE, verbose=FALSE)
81 cat( res <- funx(x=TRUE) , "\n" ) ; stopifnot( !res )
82 cat( res <- funx(x=FALSE), "\n" ) ; stopifnot( res )
83 funx <- cfunction(signature(x="numeric"), foo, Rcpp=TRUE, verbose=FALSE)
84 cat( res <- funx(x=2) , "\n" ) ; stopifnot( !res )
85 cat( res <- funx(x=0.0), "\n" ) ; stopifnot( res )
86 funx <- cfunction(signature(x="integer"), foo, Rcpp=TRUE, verbose=FALSE)
87 cat( res <- funx(x=2L), "\n" ) ; stopifnot( !res )
88 cat( res <- funx(x=0L), "\n" ) ; stopifnot( res )
89 funx <- cfunction(signature(x="raw"), foo, Rcpp=TRUE, verbose=FALSE)
90 cat( res <- funx(x=as.raw(2)), "\n" ) ; stopifnot( !res )
91 cat( res <- funx(x=as.raw(0)), "\n" ) ; stopifnot( res )
92
93 ### vectors
94
95 cat("\n===Int Vector via wrap\n")
96 foo <- '
97     std::vector<int> iv = Rcpp::as< std::vector<int> >(x) ;
98     std::cout << "Returning twice the value of vector : ";
99     for (size_t i=0; i<iv.size(); i++) {
100         iv[i] = 2*iv[i];
101     }
102     return(Rcpp::wrap(iv));
103 '
104 funx <- cfunction(signature(x="numeric"), foo, Rcpp=TRUE, verbose=FALSE)
105 print( funx(x=2:5) )
106 funx <- cfunction(signature(x="integer"), foo, Rcpp=TRUE, verbose=FALSE)
107 print( funx(x=2:5) )
108 funx <- cfunction(signature(x="raw"), foo, Rcpp=TRUE, verbose=FALSE)
109 print( funx(x=as.raw(2:5)) )
110
111 cat("\n===Int Vector\n")
112 foo <- '
113     std::vector<int> iv = Rcpp::as< std::vector<int> >(x) ;
114     std::cout << "Returning twice the value of vector : ";
115     for (size_t i=0; i<iv.size(); i++) {
116         iv[i] = 2*iv[i];
117     }
118     return(Rcpp::wrap( iv ) );
119 '
120 funx <- cfunction(signature(x="numeric"), foo, Rcpp=TRUE, verbose=FALSE)
121 print( funx(x=2:5+.1) )
122 funx <- cfunction(signature(x="integer"), foo, Rcpp=TRUE, verbose=FALSE)
123 print( funx(x=2:5) )
124 funx <- cfunction(signature(x="raw"), foo, Rcpp=TRUE, verbose=FALSE)
125 print( funx(x=as.raw(2:5)) )
126
127
128 cat("\n===Double Vector\n")
129 foo <- '
130     std::vector<double> iv = Rcpp::as< std::vector<double> >(x) ;
131     std::cout << "Returning twice the value of vector : ";
132     for (size_t i=0; i<iv.size(); i++) {
133         iv[i] = 2*iv[i];
134     }
135     return(Rcpp::wrap( iv ) );
136 '
137 funx <- cfunction(signature(x="numeric"), foo, Rcpp=TRUE, verbose=FALSE)
138 print( funx(x=0.1+2:5) )
139 funx <- cfunction(signature(x="integer"), foo, Rcpp=TRUE, verbose=FALSE)
140 print( funx(x=2:5) )
141 funx <- cfunction(signature(x="raw"), foo, Rcpp=TRUE, verbose=FALSE)
142 print( funx(x=as.raw(2:5)) )
143
144 cat("\n===Raw Vector\n")
145 foo <- '
146     std::vector<Rbyte> iv = Rcpp::as< std::vector<Rbyte> >(x) ;
147     std::cout << "Returning twice the value of vector : ";
148     for (size_t i=0; i<iv.size(); i++) {

```

```

149         iv[i] = 2*iv[i];
150     }
151     return(Rcpp::wrap( iv ));
152     ,
153 funx <- cfunction(signature(x="raw"), foo, Rcpp=TRUE, verbose=FALSE)
154 print(funx(x=as.raw(0:9)))
155 funx <- cfunction(signature(x="integer"), foo, Rcpp=TRUE, verbose=FALSE)
156 print(funx(x=0:9))
157 funx <- cfunction(signature(x="numeric"), foo, Rcpp=TRUE, verbose=FALSE)
158 print(funx(x=0:9+.1))
159
160 cat("\n=== vector<bool>\n")
161 foo <- '
162 std::vector<bool> bv = Rcpp::as< std::vector<bool> >(x) ;
163 std::cout << "Flip the value of vector : ";
164 for (size_t i=0; i<bv.size(); i++) {
165     bv[i].flip() ;
166 }
167 return(Rcpp::wrap( bv ));
168 '
169 funx <- cfunction(signature(x="logical"), foo, Rcpp=TRUE, verbose=FALSE)
170 print(funx(x=c(TRUE,FALSE)))
171 funx <- cfunction(signature(x="raw"), foo, Rcpp=TRUE, verbose=FALSE)
172 print(funx(x=as.raw(0:9)))
173 funx <- cfunction(signature(x="integer"), foo, Rcpp=TRUE, verbose=FALSE)
174 print(funx(x=0:9))
175 funx <- cfunction(signature(x="numeric"), foo, Rcpp=TRUE, verbose=FALSE)
176 print(funx(x=as.numeric(0:9)))
177
178
179 cat("\n===String Vector\n")
180 foo <- '
181     std::vector<std::string> iv = Rcpp::as< std::vector<std::string> >(x);
182     std::cout << "Returning twice the value of vector : ";
183     for (size_t i=0; i<iv.size(); i++) {
184         iv[i] = iv[i] + iv[i];
185     }
186     return(Rcpp::wrap( iv ));
187     ,
188 funx <- cfunction(signature(x="character"), foo, Rcpp=TRUE, verbose=FALSE)
189 print(funx(x=c("foo", "bar")))
190
191 ### using std::set
192 cat("\n=== set<int>\n")
193 foo <- '
194 std::set<int> iv ;
195 iv.insert( 0 ) ;
196 iv.insert( 1 ) ;
197 iv.insert( 0 ) ;
198 return Rcpp::wrap( iv );'
199 funx <- cfunction(signature(), foo, Rcpp=TRUE, verbose=FALSE, includes = "#include <set>" )
200 print(res <- funx())
201 stopifnot( identical( res, 0:1 ) )
202
203 cat("\n=== set<double>\n")
204 foo <- '
205 std::set<double> ds;
206 ds.insert( 0.0 );
207 ds.insert( 1.0 );
208 ds.insert( 0.0 );
209 return(Rcpp::wrap( ds )); '
210 funx <- cfunction(signature(), foo, Rcpp=TRUE, verbose=FALSE, includes = "#include <set>")
211 print( res <- funx() )
212 stopifnot( identical( res, as.numeric(0:1)) )
213
214 cat("\n=== set<raw>\n")
215 foo <- '
216 std::set<Rbyte> bs ;
217 bs.insert( (Rbyte)0 ) ;
218 bs.insert( (Rbyte)1 ) ;
219 bs.insert( (Rbyte)0 ) ;
220 return(Rcpp::wrap( bs )); '
221 funx <- cfunction(signature(), foo, Rcpp=TRUE, verbose=FALSE, includes = "#include <set>")
222 print( res <- funx() )
223 stopifnot( identical( res, as.raw(0:1)) )
224
225 cat("\n=== set<string> \n")
226 foo <- '
227 std::set<std::string> ss ;
228 ss.insert( "foo" ) ;
229 ss.insert( "bar" ) ;

```

```

230 ss.insert( "foo" );
231 return(Rcpp::wrap( ss )); '
232 funx <- cfunction(signature(), foo, Rcpp=TRUE, verbose=FALSE, include = "#include <set>" )
233 print( res <- funx() )
234 stopifnot( identical( res, c("bar","foo")) )
235
236
237 #===== attributes
238
239 funx <- cfunction(
240   signature(x="data.frame"), '
241   std::vector<std::string> iv = Rcpp::RObj(x).attributeNames();
242   return(Rcpp::wrap( iv ));
243   ', Rcpp=TRUE, verbose=FALSE)
244 res <- funx( iris )
245 stopifnot( all( c("names", "row.names", "class" ) %in% res ) )
246
247 funx <- cfunction(signature(x="data.frame"), '
248   bool has_class = Rcpp::RObj(x).hasAttribute( "class" );
249   return Rcpp::wrap( has_class );
250   ', Rcpp=TRUE, verbose=FALSE)
251 res <- funx( iris )
252 stopifnot( res )
253
254 funx <- cfunction(signature(x="data.frame"), '
255   return Rcpp::RObj(x).attr( "row.names" );
256   ', Rcpp=TRUE, verbose=FALSE)
257 res <- funx( iris )
258 stopifnot( identical( res, 1:150) )
259
260 #===== NULL
261 funx <- cfunction(signature(x="ANY"), '
262   bool is_null = Rcpp::RObj(x).isNull();
263   return Rcpp::wrap( is_null );
264   ', Rcpp=TRUE, verbose=FALSE)
265 res <- funx( iris )
266 stopifnot( !res )
267 res <- funx( NULL )
268 stopifnot( res )
269
270
271

```

## 8.27 RcppInline/UncaughtExceptions.r

An example of how to catch C++ exceptions even without a try / catch block.

```

1 #!/usr/bin/env r
2 #
3 # Copyright (C) 2009 - 2010 Romain Francois and Dirk Eddelbuettel
4 #
5 # This file is part of Rcpp.
6 #
7 # Rcpp is free software: you can redistribute it and/or modify it
8 # under the terms of the GNU General Public License as published by
9 # the Free Software Foundation, either version 2 of the License, or
10 # (at your option) any later version.
11 #
12 # Rcpp is distributed in the hope that it will be useful, but
13 # WITHOUT ANY WARRANTY; without even the implied warranty of
14 # MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
15 # GNU General Public License for more details.
16 #
17 # You should have received a copy of the GNU General Public License
18 # along with Rcpp. If not, see <http://www.gnu.org/licenses/>.
19
20 require(Rcpp)
21
22
23 ## NOTE: This is the old way to compile Rcpp code inline.
24 ## The code here has left as a historical artifact and tribute to the old way.
25 ## Please use the code under the "new" inline compilation section.
26

```

```

27 require(inline)
28 funx_old <- cxxfunction(
29   signature(),
30   'throw std::range_error("boom"); return R_NilValue ; ',
31   plugin = "Rcpp" )
32
33 ## NOTE: Within this section, the new way to compile Rcpp code inline has been
34 ## written. Please use the code next as a template for your own project.
35
36 cppFunction('
37 SEXP funx(){
38   throw std::range_error("boom"); return R_NilValue ;
39 }')
40
41 tryCatch( funx(), "C++Error" = function(e){
42   cat( sprintf( "C++ exception of class '%s' : %s\n", class(e)[1L], e$message ) )
43 } )
44 # or using a direct handler
45 tryCatch( funx(), "std::range_error" = function(e){
46   cat( sprintf( "C++ exception of class '%s' : %s\n", class(e)[1L], e$message ) )
47 } )
48 # just to check things carry on
49 print( rnorm(10) )
50

```

## 8.28 SugarPerformance/sugarBenchmarks.R

### Benchmarking the 'Rcpp sugar' extensions

```

1 #!/usr/bin/env r
2
3 suppressMessages(library(inline))
4 suppressMessages(library(Rcpp))
5
6 benchmark <- function(start = settings$start,
7   hand.written = settings$hand.written,
8   sugar = settings$sugar,
9   expr = settings$expr,
10  runs = settings$runs,
11  data = settings$data,
12  end = settings$end,
13  inc = settings$inc,
14
15  settings = list(
16    start = "", hand.written = "",
17    sugar = "", expr = NULL,
18    runs = 500,
19    data = NULL ,
20    end = "",
21    inc = ""
22  )
23  ) {
24
25  expr <- force(expr)
26  inc <- force( inc )
27
28  src <- sprintf( '
29    unsigned int runs = as<int>(runs);
30    Environment e(env) ;
31
32    %s
33
34    Timer timer;
35
36    // approach one
37    timer.Start();
38    for (unsigned int i=0; i<runs; i++) {
39      %s
40    }
41    timer.Stop();
42    double t1 = timer.ElapsedTime();
43
44    // approach two

```

```

45     timer.Reset(); timer.Start();
46     for (unsigned int i=0; i<runs; i++) {
47         %s
48     }
49     timer.Stop();
50     double t2 = timer.ElapsedTime();
51
52     Language call(expr) ;
53
54     timer.Reset(); timer.Start();
55     for (unsigned int i=0; i<runs; i++) {
56         NumericVector res2 = Rcpp_eval( call, e ) ;
57     }
58     timer.Stop();
59     double t3 = timer.ElapsedTime();
60
61     %s
62
63     return NumericVector::create(
64         _["hand written"] = t1,
65         _["sugar"] = t2,
66         _["R"] = t3
67     ) ;
68 ',
69         paste( start, collapse = "\n" ) ,
70         paste( hand.written, collapse = "\n" ) ,
71         paste( sugar, collapse = "\n" ) ,
72         paste( end, collapse = "\n" )
73     )
74
75     e <- environment()
76     for( i in names(data) ){
77         assign( i, data[[i]], envir = e )
78     }
79
80     settings <- getPlugin("Rcpp")
81     settings$env$PKG_CXXFLAGS <- paste("-I", getwd(), sep="")
82
83     fun <- cxxfunction(signature(runss="integer", expr = "language", env = "environment" ),
84                         src,
85                         includes= sprintf( '#include "Timer.h"\n%s', paste( inc, collapse = "\n" ) ),
86                         plugin="Rcpp",
87                         settings=settings)
88     results <- fun(runs, expr, environment() )
89     cat( "-" )
90     list( results = results, runs = runs, expr = deparse(expr) )
91 }
92
93 settings.ifelse <- list( start = '
94     NumericVector x = e["x"] ;
95     NumericVector y = e["y"] ;
96 ', hand.written = '
97     int n = x.size() ;
98     NumericVector res1( n ) ;
99     double x_ = 0.0 ;
100     double y_ = 0.0 ;
101     for( int i=0; i<n; i++){
102         x_ = x[i] ;
103         y_ = y[i] ;
104         if( R_IsNA(x_) || R_IsNA(y_) ){
105             res1[i] = NA_REAL;
106         } else if( x_ < y_ ){
107             res1[i] = x_ * x_ ;
108         } else {
109             res1[i] = -( y_ * y_ ) ;
110         }
111     }
112
113 ', sugar = '
114     NumericVector res2 = ifelse( x < y, x*x, -(y*y) ) ;
115 ', expr = quote(ifelse(x<y, x*x, -(y*y) )),
116     data = list( x = runif(1e5), y = runif(1e5) )
117 )
118
119 settings.ifelse.nona <- list( start = '
120     NumericVector x = e["x"] ;
121     NumericVector y = e["y"] ;
122 ', hand.written = '
123     int n = x.size() ;
124     NumericVector res1( n ) ;
125     double x_ = 0.0 ;

```

```

126     double y_ = 0.0 ;
127     for( int i=0; i<n; i++){
128         x_ = x[i] ;
129         y_ = y[i] ;
130         if( x_ < y_ ){
131             res1[i] = x_ * x_ ;
132         } else {
133             res1[i] = -( y_ * y_ ) ;
134         }
135     }
136
137 ', sugar = '
138     NumericVector res2 = ifelse( x < y, noNA(x)*noNA(x), -(noNA(y)*noNA(y)) ) ;
139 ', expr = quote(ifelse(x<y, x*x, -(y*y) )),
140     data = list( x = runif(1e5), y = runif(1e5) )
141 )
142
143 settings.sapply <- list( start = '
144     NumericVector x = e["x"] ;
145     int n = x.size() ;
146
147 ', hand.written = '
148     NumericVector res1( n ) ;
149     std::transform( x.begin(), x.end(), res1.begin(), square ) ;
150
151 ', sugar = '
152     NumericVector res2 = sapply( x, square ) ;
153 ',
154     expr = quote(sapply(x,square)),
155     runs = 500,
156     data = list(
157         x = rnorm(1e5) ,
158         square = function(x) x*x
159     ),
160     inc = '
161     inline double square(double x){ return x*x ; }
162 ',
163 )
164
165 settings.any <- list( start = '
166     NumericVector x = e["x"] ;
167     NumericVector y = e["y"] ;
168     int res ;
169     SEXP res2 ;
170
171 ', hand.written = '
172     int n = x.size() ;
173     bool seen_na = false ;
174     bool result = false ;
175     double x_ = 0.0 ;
176     double y_ = 0.0 ;
177     for( int i=0; i<n; i++){
178         x_ = x[i] ;
179         if( R_IsNA( x_ ) ){
180             seen_na = true ;
181         } else {
182             y_ = y[i] ;
183             if( R_IsNA( y_ ) ){
184                 seen_na = true ;
185             } else {
186                 /* both non NA */
187                 if( x_*y_ < 0.0 ){
188                     result = true ;
189                     break ;
190                 }
191             }
192         }
193     }
194     res = result ? TRUE : ( seen_na ? NA_LOGICAL : FALSE ) ;
195 ', sugar = '
196     res2 = any( x*y < 0 ) ;
197 ',
198     expr = quote(any(x*y<0)),
199     runs = 5000,
200     data = list(
201         x = seq( -1, 1, length = 1e05),
202         y = rep( 1, 1e05)
203     )
204 )
205 raw.results <- list(
206     benchmark( settings = settings.any , runs = 5000 ),

```

```

207     benchmark( settings = settings.ifelse, runs = 500 ),
208     benchmark( settings = settings.ifelse.nona, runs = 500 ),
209     benchmark( settings = settings.sapply, runs = 500 )
210 )
211 cat("\n")
212
213 results <- do.call( rbind, lapply( raw.results, "[[", "results" ) )
214 results <- data.frame(
215     runs = sapply( raw.results, "[[", "runs" ),
216     expr = sapply( raw.results, "[[", "expr" ),
217     as.data.frame( results, stringsAsFactors = FALSE )
218 )
219
220 results[[ "hand/sugar" ]] <- results[["hand.written" ]] / results[["sugar"]]
221 results[[ "R/sugar" ]] <- results[["R" ]] / results[["sugar"]]
222 # results <- results[ order( results[["expr"]], results[["runs"]] ), ]
223
224 options( width = 300 )
225 print( results )
226

```

## 8.29 SugarPerformance/Timer.h

Simple C++ timer class in a headers-only implementation

```

// -*- mode: C++; c-indent-level: 4; c-basic-offset: 4; tab-width: 8 -*-
//
// Timer.h: Rcpp R/C++ interface class library -- simple timer class
//
// Copyright (C) 2010 Dirk Eddelbuettel and Romain Francois
//
// This file is part of Rcpp.
//
// Rcpp is free software: you can redistribute it and/or modify it
// under the terms of the GNU General Public License as published by
// the Free Software Foundation, either version 2 of the License, or
// (at your option) any later version.
//
// Rcpp is distributed in the hope that it will be useful, but
// WITHOUT ANY WARRANTY; without even the implied warranty of
// MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
// GNU General Public License for more details.
//
// You should have received a copy of the GNU General Public License
// along with Rcpp. If not, see <http://www.gnu.org/licenses/>.

// Simple timer class based on on ideas in atimer.h / atimer.cxx found a few years ago at
// http://www.cs.uiowa.edu/~sriram/30/fall03/
// and attributed to Amir Elaguizy while under GPL
// but converted to using gettimeofday/GetSystemTime instead

#ifdef TIMER_H
#define TIMER_H

class Timer {
public:
    Timer() : sys_time("Sys.time") { Reset(); }
    void Start() { start_t = getFractionalSeconds(); }
    void Stop() {
        end_t = getFractionalSeconds();
        elapsed = end_t - start_t; // Calculate elapsed time in seconds
        cumul += elapsed;
    }
    void Reset() { end_t = start_t = elapsed = cumul = 0.0; }
    double ElapsedTime() { return elapsed; }
    double CumulativeTime() { return cumul; }

private:
    Function sys_time;
    double start_t, end_t, elapsed, cumul;

```



```
    double getFractionalSeconds(void) {  
        return as<double>( sys_time() );  
    }  
};  
#endif
```

## 8.30 SugarPerformance/Timertest.cpp

Simple test program for the C++ timer class

```
// -*- mode: c++; compile-command: "g++ -Wall -O3 -o Timertest Timertest.cpp"; c-indent-level: 4;  
   c-basic-offset: 4; tab-width: 8 -*-  
  
// from http://www.cs.uiowa.edu/~sriram/30/fall03/  
  
#include <iostream>  
#include <unistd.h>  
#include "Timer.h"  
  
int main() {  
    Timer test;  
  
    std::cout << "Sleeping 2 seconds" << std::endl;  
    test.Start();  
    sleep(2);  
    test.Stop();  
    std::cout << "Sleep lasted for " << test.ElapsedTime() << " seconds." << std::endl;  
    std::cout << "Sleeping 1 second" << std::endl;  
    test.Start();  
    sleep(1);  
    test.Stop();  
    std::cout << "Sleep lasted for " << test.ElapsedTime() << " seconds." << std::endl;  
    std::cout << "Cumulative time is " << test.CumulativeTime() << " seconds." << std::endl;  
    std::cout << "Reseting" << std::endl;  
    test.Reset();  
    std::cout << "Sleeping 2 seconds" << std::endl;  
    test.Start();  
    sleep(2);  
    test.Stop();  
    std::cout << "Sleep lasted for " << test.ElapsedTime() << " seconds." << std::endl;  
    std::cout << "Cumulative time is " << test.CumulativeTime() << " seconds." << std::endl;  
}
```

