Compile-Time Graph Library

Generated by Doxygen 1.8.20

Chapter 1

Namespace Index

1.1 Namespace List

Here is a list of all documented namespaces with brief descriptions:

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

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

Chapter 3

Class Index

3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 4

Namespace Documentation

4.1 FunctorType Namespace Reference

Typedefs

- template<typename ... InputArgs>
  using **Consumer** = Functor< void(InputArgs...)>

4.1.1 Detailed Description

Represents different types of functors.

See also

Package java.util.function in Java

4.2 Objects Namespace Reference

Classes

- struct Boolean
- struct Integer

4.2.1 Detailed Description

Represents class holders of different objects

4.3 TL Namespace Reference

Classes

- struct Add
- struct Add< T, 0, TypeList< Arg, Args... > >
- struct Add< T, 0, TypeList< Args... > >
- struct Add< T, ind, TypeList< Arg, Args... > >
- struct Concatenate
- struct Concatenate< front, EmptyTypeList >
- struct Contains
- struct ContainsConstructibleParent
- struct ContainsConstructibleParent< EmptyTypeList, T >
- struct ContainsParent
- struct ContainsParent< EmptyTypeList, T >
- struct FindParentTypeList
- struct FindTypeListByClass
- struct GenerateTypeLists
- struct GenerateTypeLists< 0 >
- struct HasDerivedAndConstructible
- struct HasDerivedAndConstructible< EmptyTypeList, T >
- struct IndexOf
- struct IndexOf< EmptyTypeList, T >
- struct IndexOf< type_list, typename type_list::Head >
- struct IsBaseOf
- struct IsBaseOf< EmptyTypeList, derived >
- struct IsBaseOf< EmptyTypeList, EmptyTypeList >
- struct IsBaseOf< parent, EmptyTypeList >
- struct IsTypeList
- struct IsTypeList< TypeList< Args... > >
- struct MostDerived
- struct MostDerived< EmptyTypeList, T >
- struct MostDerivedAndConstructible
- struct MostDerivedAndConstructible< EmptyTypeList, T >
- struct NoDuplicates
- struct NoDuplicates< EmptyTypeList >
- struct Remove
- struct Remove< EmptyTypeList, T >
- struct Remove< type_list, typename type_list::Head >
- struct RemoveAll
- struct RemoveAll< type_list, typename type_list::Head >
- struct Replace
- struct Replace< T, 0, TypeList< Arg, Args... > >
- struct Replace< T, ind, TypeList< Arg, Args... > >
- struct Size
- struct Size< EmptyTypeList >
- struct TypeAt
- struct TypeAt< type_list, 0 >

4.3.1 Detailed Description

Represents functions (as structs) for working with TypeList

Chapter 5

Class Documentation

5.1 TL::Add< T, ind, Arg, Args > Struct Template Reference

5.1.1 Detailed Description

template<typename T, size_t ind, class Arg, class ... Args>
struct TL::Add< T, ind, Arg, Args >

See also

Add<T, ind, TypeList<Arg, Args...>>

The documentation for this struct was generated from the following file:

- TL/add.h

5.2 TL::Add< T, 0, TypeList< Arg, Args... > > Struct Template Reference

`#include <add.h>`

Public Types

- using **result** = TypeList< T, Arg, Args... >

5.2.1 Detailed Description

template<typename T, class Arg, class ... Args>
struct TL::Add< T, 0, TypeList< Arg, Args... > >

See also

Add<T, ind, TypeList<Arg, Args...>>

The documentation for this struct was generated from the following file:

- TL/add.h

5.3 TL::Add< T, 0, TypeList< Args... > > Struct Template Reference

`#include <add.h>`

Public Types

- using **result** = TypeList< T, Args... >

5.3.1 Detailed Description

template<typename T, class ... Args>
struct TL::Add< T, 0, TypeList< Args... > >

See also

Add<T, ind, TypeList<Arg, Args...>>

The documentation for this struct was generated from the following file:

- TL/add.h

5.4 TL::Add< T, ind, TypeList< Arg, Args... > > Struct Template Reference

`#include <add.h>`

Public Types

- using **end** = typename Add< T, ind - 1, TypeList< Args... > >::result
- using **result** = typename Add< Arg, 0, end >::result

5.4.1 Detailed Description

template<typename T, size_t ind, class Arg, class ... Args>
struct TL::Add< T, ind, TypeList< Arg, Args... > >

Adds typename to a specific position in TypeList

Parameters

T	Typename to add to a specific position in TypeList
ind	Number of this position
TypeList<Arg,Args...>	This TypeList

Returns

Parameter result, new type list with typename added to position ind

The documentation for this struct was generated from the following file:

- TL/add.h

5.5 GLib::AddEdge< GraphType, graph, edge > Struct Template Reference

5.5.1 Detailed Description

template<GraphType, class graph, class edge>
struct GLib::AddEdge< GraphType, graph, edge >

Returns new graph with added edge

Parameters

GraphType	Template parameter, type of a graph
graph	Template parameter, initial graph
edge	Template parameter, edge to add

See also

Edge

GraphType

Returns

Parameter result, new graph with added edge

The documentation for this struct was generated from the following file:

- graph/add_edge.h

5.6 GLib::AddEdge< ADJACENCY_LIST, graph, edge > Struct Template Reference

```
#include <add_edge.h>
```

Public Types

- using **adjacent_vertexes** = typename TL::TypeAt< typename graph::adjacency_list_, vertex_num >::value
- using **new_adjacent_vertexes** = typename TL::Add< edge, 0, adjacent_vertexes >::result
- using **new_adjacency_list** = typename TL::Replace< new_adjacent_vertexes, vertex_num, typename graph::adjacency_list_ >::result
- using **result** = AdjacencyListGraph< typename graph::vertexes_, new_adjacency_list >

Static Public Attributes

- constexpr static size_t **vertex_num** = graph::template GetVertexIndex<typename edge::from>()

5.6.1 Detailed Description

template<class graph, class edge>
struct GLib::AddEdge< ADJACENCY_LIST, graph, edge >

See also

AddEdge

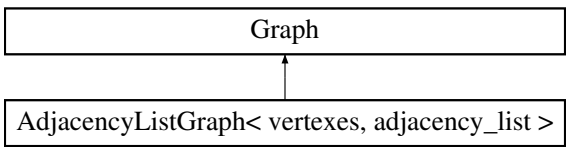
The documentation for this struct was generated from the following file:

- graph/add_edge.h

5.7 AdjacencyListGraph< vertexes, adjacency_list > Struct Template Reference

`#include <adjacency_list_graph.h>`

Inheritance diagram for AdjacencyListGraph< vertexes, adjacency_list >:



Classes

- struct ConvertTo
- struct ConvertTo< POINTER_STRUCTURE >

Public Types

- using vertexes_ = vertexes

  TypeList of vertexes in graph.
- using adjacency_list_ = adjacency_list

  TypeList of TypeLists of edges, which are grouped by starting vertex.

Public Member Functions

- template<class edge >
  constexpr bool HasEdge ()

Static Public Member Functions

- template<typename vertex >
  constexpr static size_t GetVertexIndex ()

5.7.1 Detailed Description

template<class vertexes, class adjacency_list>
struct AdjacencyListGraph< vertexes, adjacency_list >

Represents graph vertexes defined in vertexes_, and edges, which are derived from adjacency_list_ Size of an adjacency list must be equal to amount of vertexes

Parameters

*vertexes_*	TypeList of vertexes in graph.
*adjacency_list_*	- TypeList of TypeLists of edges, which are grouped by starting vertex i.e. edge (from, to, weight) goes to adjacency_list_[from]

5.7.2 Member Function Documentation

5.7.2.1 GetVertexIndex()

```
template<class vertexes , class adjacency_list >
template<typename vertex >
constexpr static size_t AdjacencyListGraph< vertexes, adjacency_list >::GetVertexIndex ( )
[inline], [static], [constexpr]
```

Gets index of a passed vertex, throws assert if there is no such vertex

Parameters

vertex	Template parameter

Returns

Position of this vertex in vertexes_ TypeList

5.7.2.2 HasEdge()

```
template<class vertexes , class adjacency_list >
template<class edge >
constexpr bool AdjacencyListGraph< vertexes, adjacency_list >::HasEdge ( )  [inline], [constexpr]
```

Checks if edge, passed as a template, is located in this graph

Parameters

edge	Template parameter, represents an edge to check

Returns

true if this edge in the graph, false otherwise

The documentation for this struct was generated from the following file:

- graph/graphs/adjacency_list_graph.h

5.8 AdjacencyMatrixGraph< vertexes, matrix > Struct Template Reference

```
#include <adjacency_matrix_graph.h>
```

Classes

- struct ConvertTo
- struct ConvertTo< EDGE_LIST >

Public Types

- using vertexes_ = vertexes
  TypeList of vertexes in graph.
- using matrix_ = matrix
  TypeList of TypeLists of Edges.

5.8.1 Detailed Description

template<class vertexes, class matrix>
struct AdjacencyMatrixGraph< vertexes, matrix >

Represents graph as an adjacency matrix. If element in row i, column j is NullType, then there's no edge between them. Otherwise it should be a corresponding Edge.

See also

Graph

Edge

Parameters

vertexes	Template parameter, vertexes of a graph
matrix	Template parameter, an adjacencty matrix

Returns

Parameter result, resulting graph

The documentation for this struct was generated from the following file:

- graph/graphs/adjacency_matrix_graph.h

5.9 Objects::Boolean< boolean > Struct Template Reference

Static Public Attributes

- constexpr static bool **value** = boolean

The documentation for this struct was generated from the following file:

- graph/objects.h

5.10 CheckContainsConstructibleParent< type_list, T, is_parent > Struct Template Reference

The documentation for this struct was generated from the following file:

- TL/contains_constructible_parent.h

5.11 CheckContainsConstructibleParent< type_list, T, false > Struct Template Reference

Static Public Attributes

- constexpr static bool **result**

5.11.1 Member Data Documentation

5.11.1.1 result

```
template<class type_list , typename T >
constexpr static bool CheckContainsConstructibleParent< type_list, T, false >::result  [static],
[constexpr]
```

Initial value:

```
= TL::ContainsConstructibleParent<
        typename type_list::Tail,
        T
    >::result
```

The documentation for this struct was generated from the following file:

- TL/contains_constructible_parent.h

5.12 CheckContainsConstructibleParent< type_list, T, true > Struct Template Reference

Static Public Attributes

- constexpr static bool **result** = true

The documentation for this struct was generated from the following file:

- TL/contains_constructible_parent.h

5.13 CheckContainsParent< type_list, T, is_parent > Struct Template Reference

The documentation for this struct was generated from the following file:

- TL/contains_parent.h

5.14 CheckContainsParent< type_list, T, false > Struct Template Reference

Static Public Attributes

- constexpr static bool **result**

5.14.1 Member Data Documentation

5.14.1.1 result

```
template<class type_list , typename T >
constexpr static bool CheckContainsParent< type_list, T, false >::result  [static], [constexpr]
```

Initial value:

```
= TL::ContainsParent<
        typename type_list::Tail,
        T
    >::result
```

The documentation for this struct was generated from the following file:

- TL/contains_parent.h

5.15 CheckContainsParent< type_list, T, true > Struct Template Reference

Static Public Attributes

- constexpr static bool **result** = true

The documentation for this struct was generated from the following file:

- TL/contains_parent.h

5.16 CheckFindParentTypeList< contains_class, T, type_list, type_lists > Struct Template Reference

Public Types

- using **result** = NullType

The documentation for this struct was generated from the following file:

- TL/find_parent_type_list.h

5.17 CheckFindParentTypeList< false, T, type_list, type_lists... > Struct Template Reference

Public Types

- using **result** = typename TL::FindParentTypeList< T, type_lists... >::result

The documentation for this struct was generated from the following file:

- TL/find_parent_type_list.h

5.18 CheckFindParentTypeList< true, T, type_list, type_lists... > Struct Template Reference

Public Types

- using **result** = type_list

The documentation for this struct was generated from the following file:

- TL/find_parent_type_list.h

5.19 CheckFindTypeListByClass< contains_class, T, type_list, type_lists > Struct Template Reference

Public Types

- using **result** = NullType

The documentation for this struct was generated from the following file:

- TL/find_type_list_by_class.h

5.20 CheckFindTypeListByClass< false, T, type_list, type_lists... > Struct Template Reference

Public Types

- using **result** = typename TL::FindTypeListByClass< T, type_lists... >::result

The documentation for this struct was generated from the following file:

- TL/find_type_list_by_class.h

5.21 CheckFindTypeListByClass< true, T, type_list, type_lists... > Struct Template Reference

Public Types

- using **result** = type_list

The documentation for this struct was generated from the following file:

- TL/find_type_list_by_class.h

5.22 CheckHasDerivedAndConstructible< type_list, T, is_head_parent_of_T > Struct Template Reference

The documentation for this struct was generated from the following file:

- TL/has_derived_and_constructible.h

5.23 CheckHasDerivedAndConstructible< type_list, T, false > Struct Template Reference

Static Public Attributes

- constexpr static bool **result** = TL::HasDerivedAndConstructible<typename type_list::Tail, T>::result

The documentation for this struct was generated from the following file:

- TL/has_derived_and_constructible.h

5.24 CheckHasDerivedAndConstructible< type_list, T, true > Struct Template Reference

Static Public Attributes

- constexpr static bool **result** = true

The documentation for this struct was generated from the following file:

- TL/has_derived_and_constructible.h

5.25 CheckIsBaseOf< has_parent, parent, derived > Struct Template Reference

The documentation for this struct was generated from the following file:

- TL/is_base_of.h

5.26 CheckIsBaseOf< false, parent, derived > Struct Template Reference

Static Public Attributes

- constexpr static bool **result** = false

The documentation for this struct was generated from the following file:

- TL/is_base_of.h

5.27 CheckIsBaseOf< true, parent, derived > Struct Template Reference

Static Public Attributes

- constexpr static bool **result**

5.27.1 Member Data Documentation

5.27.1.1 result

```
template<class parent , class derived >
constexpr static bool CheckIsBaseOf< true, parent, derived >::result  [static], [constexpr]
```

Initial value:

```
= TL::IsBaseOf<
        parent,
        typename derived::Tail
    >::result
```

The documentation for this struct was generated from the following file:

- TL/is_base_of.h

5.28 CheckMostDerived< type_list, T, is_head_parent_of_T > Struct Template Reference

Public Types

- using **result** = NullType

The documentation for this struct was generated from the following file:

- TL/most_derived.h

5.29 CheckMostDerived< type_list, T, false > Struct Template Reference

Public Types

- using **result** = typename TL::MostDerived< typename type_list::Tail, T >::result

The documentation for this struct was generated from the following file:

- TL/most_derived.h

5.30 CheckMostDerived< type_list, T, true > Struct Template Reference

Public Types

- using **result** = typename TL::MostDerived< typename type_list::Tail, typename type_list::Head >::result

The documentation for this struct was generated from the following file:

- TL/most_derived.h

5.31 CheckMostDerivedAndConstructible< type_list, T, is_head_parent_of_T > Struct Template Reference

The documentation for this struct was generated from the following file:

- TL/most_derived_and_constructible.h

5.32 CheckMostDerivedAndConstructible< type_list, T, false > Struct Template Reference

Public Types

- using **result** = typename TL::MostDerivedAndConstructible< typename type_list::Tail, T >::result

The documentation for this struct was generated from the following file:

- TL/most_derived_and_constructible.h

5.33 CheckMostDerivedAndConstructible< type_list, T, true > Struct Template Reference

Public Types

- using **result** = typename TL::MostDerivedAndConstructible< typename type_list::Tail, typename type_list::Head >::result

The documentation for this struct was generated from the following file:

- TL/most_derived_and_constructible.h

5.34 Class< T > Struct Template Reference

`#include <class.h>`

Public Types

- using value = T
  Holder of a typename.

5.34.1 Detailed Description

template<typename T>
struct Class< T >

Represents holder for a typename

Parameters

T	Template parameter, typename that should be contained

The documentation for this struct was generated from the following file:

- class.h

5.35 TL::Concatenate< front, back > Struct Template Reference

`#include <concatenate.h>`

Public Types

- using **result** = Concatenate< typename Add< typename back::Head, Size< front >::size, front >::result, typename back::Tail >

5.35.1 Detailed Description

template<class front, class back>
struct TL::Concatenate< front, back >

Concatenates two TypeLists

Parameters

front	Template parameter
back	Template parameter

Returns

Parameter result, Concatenated TypeList

The documentation for this struct was generated from the following file:

- TL/concatenate.h

5.36 TL::Concatenate< front, EmptyTypeList > Struct Template Reference

`#include <concatenate.h>`

Public Types

- using **result** = front

5.36.1 Detailed Description

template<class front>
struct TL::Concatenate< front, EmptyTypeList >

See also

Concatenate

The documentation for this struct was generated from the following file:

- TL/concatenate.h

5.37 TL::Contains< type_list, T > Struct Template Reference

`#include <contains.h>`

Static Public Attributes

- constexpr static bool **result** = IndexOf<type_list, T>::value >= 0

5.37.1 Detailed Description

template<class type_list, typename T>
struct TL::Contains< type_list, T >

Checks if type_list contains typename T

Parameters

type_list	Template parameter
T	Template parameter

Returns

Parameter result, true if type_list contains typename T, false otherwise

The documentation for this struct was generated from the following file:

- TL/contains.h

5.38 TL::ContainsConstructibleParent< type_list, T > Struct Template Reference

Static Public Attributes

- constexpr static bool **result**

5.38.1 Detailed Description

template<class type_list, typename T>
struct TL::ContainsConstructibleParent< type_list, T >

Checks if type_list contains constructible parent of T

Parameters

type_list	Template parameter
T	Template parameter

Returns

Parameter result, true if type_list contains constructible parent of T, false otherwise

5.38.2 Member Data Documentation

5.38.2.1 result

```
template<class type_list , typename T >
constexpr static bool TL::ContainsConstructibleParent< type_list, T >::result  [static], [constexpr]
```

Initial value:

```
= CheckContainsConstructibleParent<
            type_list,
            T,
            std::is_base_of<typename type_list::Head, T>::value &&
            std::is_constructible<typename type_list::Head>::value
        >::result
```

The documentation for this struct was generated from the following file:

- TL/contains_constructible_parent.h

5.39 TL::ContainsConstructibleParent< EmptyTypeList, T > Struct Template Reference

Static Public Attributes

- constexpr static bool **result** = false

The documentation for this struct was generated from the following file:

- TL/contains_constructible_parent.h

5.40 TL::ContainsParent< type_list, T > Struct Template Reference

Static Public Attributes

- constexpr static bool **result**

5.40.1 Detailed Description

template<class type_list, typename T>
struct TL::ContainsParent< type_list, T >

Checks if type_list contains parent of T

Parameters

type_list	Template parameter
T	Template parameter

Returns

Parameter result, true if type_list contains parent of T, false otherwise

5.40.2 Member Data Documentation

5.40.2.1 result

```
template<class type_list , typename T >
constexpr static bool TL::ContainsParent< type_list, T >::result  [static], [constexpr]
```

Initial value:

```
= CheckContainsParent<
            type_list,
            T,
            std::is_base_of<typename type_list::Head, T>::value
        >::result
```

The documentation for this struct was generated from the following file:

- TL/contains_parent.h

5.41 TL::ContainsParent< EmptyTypeList, T > Struct Template Reference

Static Public Attributes

- constexpr static bool **result** = false

The documentation for this struct was generated from the following file:

- TL/contains_parent.h

5.42 ConvertGraph< From, To, graph > Struct Template Reference

```
#include <convert_graph.h>
```

5.42.1 Detailed Description

template<GraphType From, GraphType To, class graph>
struct ConvertGraph< From, To, graph >

An adapter to convert graph of type From to type To. Defined separate from its realizations in order to avoid cycle dependency. Is used as a visitor in Visitor pattern.

See also

GraphType

Parameters

From	Template parameter
To	Template parameter
graph	Template parameter

Returns

Parameter result, resulting graph.

The documentation for this struct was generated from the following file:

- graph/graphs/convert_graph.h

5.43 ConvertGraph< ADJACENCY_LIST, POINTER_STRUCTURE, graph > Struct Template Reference

`#include <convert_from_adjacency_list.h>`

Classes

- struct MakePointerStructureGraph
- struct MakePointerStructureGraph< EmptyTypeList, EmptyTypeList >

Public Types

- using **result** = PointerStructureGraph< typename MakePointerStructureGraph< typename graph::vertexes_, typename graph::adjacency_list_ >::result >

5.43.1 Detailed Description

template<class graph>
struct ConvertGraph< ADJACENCY_LIST, POINTER_STRUCTURE, graph >

See also

ConvertGraph

The documentation for this struct was generated from the following file:

- graph/graphs/convert_from_adjacency_list.h

5.44 ConvertGraph< EDGE_LIST, ADJACENCY_LIST, graph > Struct Template Reference

`#include <convert_from_edge_list.h>`

Classes

- struct IterateThroughEdges
- struct IterateThroughEdges< EmptyTypeList >

Public Types

- using **result** = typename IterateThroughEdges< typename graph::edge_list_ >::result

5.44.1 Detailed Description

template<class graph>
struct ConvertGraph< EDGE_LIST, ADJACENCY_LIST, graph >

See also

ConvertGraph

The documentation for this struct was generated from the following file:

- graph/graphs/convert_from_edge_list.h

5.45 ConvertGraph< POINTER_STRUCTURE, EDGE_LIST, graph > Struct Template Reference

`#include <convert_from_pointer_structure.h>`

5.45.1 Detailed Description

template<class graph>
struct ConvertGraph< POINTER_STRUCTURE, EDGE_LIST, graph >

See also

ConvertGraph

The documentation for this struct was generated from the following file:

- graph/graphs/convert_from_pointer_structure.h

5.46 AdjacencyListGraph< vertexes, adjacency_list >::ConvertTo< GraphType > Struct Template Reference

5.46.1 Detailed Description

template<class vertexes, class adjacency_list>
template<GraphType>
struct AdjacencyListGraph< vertexes, adjacency_list >::ConvertTo< GraphType >

Represents an adapter, which converts one type of a graph into another. Is used as an element in Visitor pattern.

Parameters

GraphType	Template parameter, type of a resulting graph

Returns

Parameter result, resulting graph

The documentation for this struct was generated from the following file:

- graph/graphs/adjacency_list_graph.h

5.47 EdgeListGraph< vertexes, edge_list >::ConvertTo< GraphType > Struct Template Reference

5.47.1 Detailed Description

template<class vertexes, class edge_list>
template<GraphType>
struct EdgeListGraph< vertexes, edge_list >::ConvertTo< GraphType >

Represents an adapter, which converts one type of a graph into another. Is used as an element in Visitor pattern.

Parameters

GraphType	Template parameter, type of a resulting graph

Returns

Parameter result, resulting graph

The documentation for this struct was generated from the following file:

- graph/graphs/edge_list_graph.h

5.48 AdjacencyMatrixGraph< vertexes, matrix >::ConvertTo< GraphType > Struct Template Reference

5.48.1 Detailed Description

template<class vertexes, class matrix>
template<GraphType>
struct AdjacencyMatrixGraph< vertexes, matrix >::ConvertTo< GraphType >

Represents an adapter, which converts one type of a graph into another. Is used as an element in Visitor pattern.

Parameters

GraphType	Template parameter, type of a resulting graph

Returns

Parameter result, resulting graph

The documentation for this struct was generated from the following file:

- graph/graphs/adjacency_matrix_graph.h

5.49 EdgeListGraph< vertexes, edge_list >::ConvertTo< ADJACENCY_LIST > Struct Reference

`#include <edge_list_graph.h>`

Public Types

- using **result** = typename ConvertGraph< EDGE_LIST, ADJACENCY_LIST, EdgeListGraph< vertexes_, edge_list_ > >::result

5.49.1 Detailed Description

template<class vertexes, class edge_list>
struct EdgeListGraph< vertexes, edge_list >::ConvertTo< ADJACENCY_LIST >

See also

ConvertTo

The documentation for this struct was generated from the following file:

- graph/graphs/edge_list_graph.h

5.50 AdjacencyMatrixGraph< vertexes, matrix >::ConvertTo< EDGE_LIST > Struct Reference

Public Types

- using **result** = typename ConvertGraph< ADJACENCY_MATRIX, EDGE_LIST, AdjacencyMatrixGraph< vertexes_, matrix_ > >::result

The documentation for this struct was generated from the following file:

- graph/graphs/adjacency_matrix_graph.h

5.51 AdjacencyListGraph< vertexes, adjacency_list >::ConvertTo< POINTER_STRUCTURE > Struct Reference

Public Types

- using **result** = typename ConvertGraph< ADJACENCY_LIST, POINTER_STRUCTURE, AdjacencyListGraph< vertexes, adjacency_list > >::result

The documentation for this struct was generated from the following file:

- graph/graphs/adjacency_list_graph.h

5.52 PointerStructureGraph< vertexes >::DFS< current_vertex, unvisited_vertexes > Struct Template Reference

`#include <pointer_structure_graph.h>`

Classes

- struct IterateThroughChildren
- struct IterateThroughChildren< EmptyTypeList >

Public Types

- using **vertexes_to_visit** = typename TL::Remove< unvisited_vertexes, current_vertex >::result
- using **result** = typename IterateThroughChildren< typename current_vertex::children >::result

5.52.1 Detailed Description

template<class vertexes>
template<class current_vertex, class unvisited_vertexes = vertexes_>
struct PointerStructureGraph< vertexes >::DFS< current_vertex, unvisited_vertexes >

Performs Depth-First Search, starting from passed vertex. It doesn't visit vertexes that have been visited already. It returns visited edges in chronological order, from which it's easy to deduce DFS. It's more versatile than one may think) Also a variation of Composite pattern.

Parameters

starting_vertex	Template parameter, starting vertex of DFS.

Returns

Parameter result, TypeList of visited edges in chronological order.

The documentation for this struct was generated from the following file:

- graph/graphs/pointer_structure_graph.h

5.53 Edge< from_, to_, weight_ > Struct Template Reference

`#include <edge.h>`

Public Types

- using from = from_
  Starting vertex of an edge.
- using to = to_
  Ending vertex of an edge.
- using weight = weight_
  Additional property of an edge.

5.53.1 Detailed Description

template<typename from_, typename to_, typename weight_ = NullType>
struct Edge< from_, to_, weight_ >

Represents an edge in the graph.

Parameters

*from_*	Template parameter, starting vertex of an edge
*to_*	Template parameter, ending vertex of an edge
*weight_*	Template parameter, additional property of an edge

The documentation for this struct was generated from the following file:

- graph/edge.h

5.54 EdgeListGraph< vertexes, edge_list > Struct Template Reference

`#include <edge_list_graph.h>`

Classes

- struct ConvertTo
- struct ConvertTo< ADJACENCY_LIST >

Public Types

- using vertexes_ = vertexes

  TypeList of vertexes in graph.
- using edge_list_ = edge_list

  TypeList of edges.

5.54.1 Detailed Description

template<class vertexes, class edge_list>
struct EdgeListGraph< vertexes, edge_list >

Represents graph as a list of edges.

See also

Graph

Edge

Parameters

vertexes	Template parameter, vertexes of a graph
edge_list	Template parameter, TypeList of Edge

Returns

Parameter result, resulting graph

The documentation for this struct was generated from the following file:

- graph/graphs/edge_list_graph.h

5.55 TL::FindParentTypeList< T, type_list, type_lists > Struct Template Reference

Public Types

- using **result** = typename CheckFindParentTypeList< TL::IsBaseOf< type_list, T >::result, T, type_list, type_lists... >::result

5.55.1 Detailed Description

template<typename T, class type_list, class ... type_lists>
struct TL::FindParentTypeList< T, type_list, type_lists >

Finds and returns TypeList that has the parent of T

Parameters

T	
type_list	First TypeList among other TypeLists
...type_lists	Other TypeLists to check

Returns

Parameter result, first TypeList that contains the parent of T, compilation error otherwise

The documentation for this struct was generated from the following file:

- TL/find_parent_type_list.h

5.56 TL::FindTypeListByClass< T, type_list, type_lists > Struct Template Reference

Public Types

- using **result** = typename CheckFindTypeListByClass< TL::Contains< type_list, T >::result, T, type_list, type_lists... >::result

5.56.1 Detailed Description

template<typename T, class type_list, class ... type_lists>
struct TL::FindTypeListByClass< T, type_list, type_lists >

Finds and returns TypeList that has T

Parameters

T	Template parameter
type_list	Template parameter, first TypeList among other TypeLists
...type_lists	Template parameter, other TypeLists to check

Returns

Parameter result, first TypeList that contains T, compilation error otherwise

The documentation for this struct was generated from the following file:

- TL/find_type_list_by_class.h

5.57 Functor< ResultType, ArgTypes > Class Template Reference

The documentation for this class was generated from the following file:

- functor.h

5.58 Functor< ResultType(ArgTypes...)> Class Template Reference

`#include <functor.h>`

Public Member Functions

- template<typename Function >
  Functor (Function function)
- template<typename Function , class Class >
  Functor (Function Class::*function)
- **Functor** (const Functor &other)
- Functor & **operator=** (const Functor &other)
- ResultType operator() (ArgTypes... args)

5.58.1 Detailed Description

template<typename ResultType, typename ... ArgTypes>
class Functor< ResultType(ArgTypes...)>

Provides an object that contains a function

Parameters

ResultType	Template parameter, type of an object function returns
ArgTypes	Template parameters, types of an object function accepts

5.58.2 Member Function Documentation

5.58.2.1 operator()()

```
template<typename ResultType , typename ...  ArgTypes>
ResultType Functor< ResultType(ArgTypes...)>::operator() (
            ArgTypes...  args )  [inline]
```

Invokes function

Parameters

args	Arguments for a function

Returns

Result of a function with passed args as arguments

The documentation for this class was generated from the following file:

- functor.h

5.59 TL::GenerateTypeLists< n > Struct Template Reference

`#include <generate_type_lists.h>`

Public Types

- using **result** = typename Add< EmptyTypeList, 0, typename GenerateTypeLists< n - 1 >::result >::result

5.59.1 Detailed Description

template<int n>
struct TL::GenerateTypeLists< n >

Generates TypeList of n EmptyTypeLists

See also

EmptyTypeList

Parameters

n	Template parameter, a number of EmptyTypeLists to generate

Returns

Parameter result, TypeList of n EmptyTypeList

The documentation for this struct was generated from the following file:

- TL/generate_type_lists.h

5.60 TL::GenerateTypeLists< 0 > Struct Reference

Public Types

- using **result** = EmptyTypeList

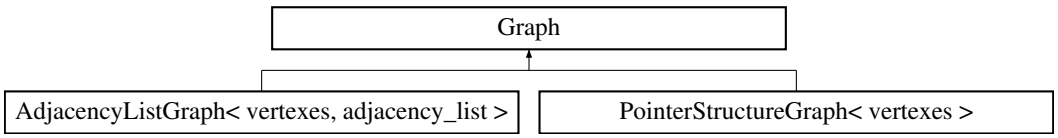
The documentation for this struct was generated from the following file:

- TL/generate_type_lists.h

5.61 Graph Struct Reference

`#include <graph.h>`

Inheritance diagram for Graph:



5.61.1 Detailed Description

Represents placeholder for a graph. Graph is a pair of vertexes (collection of some elements), and edges (collection of pairs of vertexes). Graph can be represented in multiple ways in code. This library provides several preexisting implementaions. Also it should be noted that preexisting implementations are built in compile-time, and it's recommended to follow this rule.

The documentation for this struct was generated from the following file:

- graph/graphs/graph.h

5.62 TL::HasDerivedAndConstructible< type_list, T > Struct Template Reference

Static Public Attributes

- constexpr static bool **result**

5.62.1 Detailed Description

template<class type_list, typename T>
struct TL::HasDerivedAndConstructible< type_list, T >

Checks if type_list contains derived and constructible child of T

Parameters

type_list	Template parameter
T	Template parameter

Returns

Parameter result, true if type_list ccontains derived and constructible child of T, false otherwise

5.62.2 Member Data Documentation

5.62.2.1 result

```
template<class type_list , typename T >
constexpr static bool TL::HasDerivedAndConstructible< type_list, T >::result  [static], [constexpr]
```

Initial value:

```
= CheckHasDerivedAndConstructible<
            type_list,
            T,
            std::is_base_of<T, typename type_list::Head>::value&&
            std::is_constructible<typename type_list::Head>::value
        >::result
```

The documentation for this struct was generated from the following file:

- TL/has_derived_and_constructible.h

5.63 TL::HasDerivedAndConstructible< EmptyTypeList, T > Struct Template Reference

```
#include <has_derived_and_constructible.h>
```

Static Public Attributes

- constexpr static bool **result** = false

5.63.1 Detailed Description

template<typename T>
struct TL::HasDerivedAndConstructible< EmptyTypeList, T >

See also

HasDerivedAndConstructible

The documentation for this struct was generated from the following file:

- TL/has_derived_and_constructible.h

5.64 TL::IndexOf< type_list, T > Struct Template Reference

`#include <index_of.h>`

Static Public Attributes

- constexpr static int **value** = 1 + IndexOf<typename type_list::Tail, T>::value

5.64.1 Detailed Description

template<class type_list, typename T>
struct TL::IndexOf< type_list, T >

Gets index of a first ocurrence of typename T in type_list

Parameters

type_list	Template parameter
T	Template parameter

Returns

Parameter value, index of a first ocurrence of typename T in type_list, INT32_MIN otherwise

The documentation for this struct was generated from the following file:

- TL/index_of.h

5.65 TL::IndexOf< EmptyTypeList, T > Struct Template Reference

`#include <index_of.h>`

Static Public Attributes

- constexpr static int **value** = INT32_MIN

5.65.1 Detailed Description

template<typename T>
struct TL::IndexOf< EmptyTypeList, T >

See also

IndexOf

The documentation for this struct was generated from the following file:

- TL/index_of.h

5.66 TL::IndexOf< type_list, typename type_list::Head > Struct Template Reference

`#include <index_of.h>`

Static Public Attributes

- constexpr static int **value** = 0

5.66.1 Detailed Description

template<class type_list>
struct TL::IndexOf< type_list, typename type_list::Head >

See also

IndexOf

The documentation for this struct was generated from the following file:

- TL/index_of.h

5.67 Objects::Integer< integer > Struct Template Reference

Static Public Attributes

- constexpr static int **value** = integer

The documentation for this struct was generated from the following file:

- graph/objects.h

5.68 TL::IsBaseOf< parent, derived > Struct Template Reference

Static Public Attributes

- constexpr static bool **result**

5.68.1 Detailed Description

template<class parent, class derived>
struct TL::IsBaseOf< parent, derived >

Checks if TypeList "parent" is in fact parent of another TypeList "derived" "parent" is parent of "derived" if and only if for every class C in "derived", "parent" has parent of C

Parameters

parent	Template parameter
derived	Template parameter

Returns

true if TypeList "parent" is in fact parent of another TypeList "derived", false otherwise

5.68.2 Member Data Documentation

5.68.2.1 result

```
template<class parent , class derived >
constexpr static bool TL::IsBaseOf< parent, derived >::result  [static], [constexpr]
```

Initial value:

```
= CheckIsBaseOf<
            ContainsParent<parent, typename derived::Head>::result,
            parent,
            derived
        >::result
```

The documentation for this struct was generated from the following file:

- TL/is_base_of.h

5.69 TL::IsBaseOf< EmptyTypeList, derived > Struct Template Reference

Static Public Attributes

- constexpr static bool **result** = false

The documentation for this struct was generated from the following file:

- TL/is_base_of.h

5.70 TL::IsBaseOf< EmptyTypeList, EmptyTypeList > Struct Reference

Static Public Attributes

- constexpr static bool **result** = true

The documentation for this struct was generated from the following file:

- TL/is_base_of.h

5.71 TL::IsBaseOf< parent, EmptyTypeList > Struct Template Reference

Static Public Attributes

- constexpr static bool **result** = true

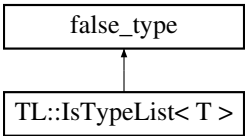
The documentation for this struct was generated from the following file:

- TL/is_base_of.h

5.72 TL::IsTypeList< T > Struct Template Reference

`#include <is_type_list.h>`

Inheritance diagram for TL::IsTypeList< T >:



5.72.1 Detailed Description

template<class T>
struct TL::IsTypeList< T >

Checks if passed class T is a TypeList

Parameters

T	Template argument

Returns

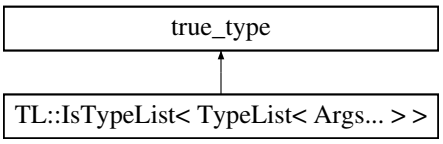
Parameter value, true if T is a TypeList, false otherwise

The documentation for this struct was generated from the following file:

- TL/is_type_list.h

5.73 TL::IsTypeList< TypeList< Args... > > Struct Template Reference

Inheritance diagram for TL::IsTypeList< TypeList< Args... > >:



The documentation for this struct was generated from the following file:

- TL/is_type_list.h

5.74 PointerStructureGraph< vertexes >::DFS< current_vertex, unvisited_vertexes >::IterateThroughChildren< current_children > Struct Template Reference

Public Types

- using **result** = std::conditional_t< TL::Contains< vertexes_to_visit, typename current_children::Head >::value, TL::Concatenate< typename DFS< typename current_children::Head, vertexes_to_visit >::result, typename IterateThroughChildren< typename current_children::Tail >::result >, typename IterateThroughChildren< typename current_children::Tail >::result >

The documentation for this struct was generated from the following file:

- graph/graphs/pointer_structure_graph.h

5.75 PointerStructureGraph< vertexes >::DFS< current_vertex, unvisited_vertexes >::IterateThroughChildren< EmptyTypeList > Struct Reference

Public Types

- using **result** = EmptyTypeList

The documentation for this struct was generated from the following file:

- graph/graphs/pointer_structure_graph.h

5.76 ConvertGraph< EDGE_LIST, ADJACENCY_LIST, graph >::IterateThroughEdges< edge_list > Struct Template Reference

Public Types

- using **result** = typename GLib::AddEdge< ADJACENCY_LIST, typename IterateThroughEdges< typename edge_list::Tail >::result, typename edge_list::Head >::result

The documentation for this struct was generated from the following file:

- graph/graphs/convert_from_edge_list.h

5.77 ConvertGraph< EDGE_LIST, ADJACENCY_LIST, graph >::IterateThroughEdges< EmptyTypeList > Struct Reference

Public Types

- using **result** = AdjacencyListGraph< typename graph::vertexes_, typename TL::GenerateTypeLists< TL::Size< typename graph::vertexes_ >::size >::result >

The documentation for this struct was generated from the following file:

- graph/graphs/convert_from_edge_list.h

5.78 ConvertGraph< ADJACENCY_LIST, POINTER_STRUCTURE, graph >::MakePointerStructureGraph< current_vertexes, current_adjacency_list > Struct Template Reference

Public Types

- using **type_list_without_first** = typename MakePointerStructureGraph< typename current_vertexes::Tail, typename current_adjacency_list::Tail >::result
- using **result** = typename TL::Add< PointerStructureGraph::Node< typename current_vertexes::Head, typename current_adjacency_list::Head >, 0, type_list_without_first >::result

The documentation for this struct was generated from the following file:

- graph/graphs/convert_from_adjacency_list.h

5.79 ConvertGraph< ADJACENCY_LIST, POINTER_STRUCTURE, graph >::MakePointerStructureGraph< EmptyTypeList, EmptyTypeList > Struct Reference

Public Types

- using **result** = EmptyTypeList

The documentation for this struct was generated from the following file:

- graph/graphs/convert_from_adjacency_list.h

5.80 TL::MostDerived< type_list, T > Struct Template Reference

Public Types

- using **result** = typename CheckMostDerived< type_list, T, std::is_base_of< T, typename type_list::Head >::value >::result

5.80.1 Detailed Description

template<class type_list, typename T>
struct TL::MostDerived< type_list, T >

Finds the most derived child of T in type_list

Parameters

type_list	Template parameter
T	Template parameter

Returns

Parameter result, the most derived child of T in type_list

The documentation for this struct was generated from the following file:

- TL/most_derived.h

5.81 TL::MostDerived< EmptyTypeList, T > Struct Template Reference

Public Types

- using **result** = T

The documentation for this struct was generated from the following file:

- TL/most_derived.h

5.82 TL::MostDerivedAndConstructible< type_list, T > Struct Template Reference

Public Types

- using **result** = typename CheckMostDerivedAndConstructible< type_list, T, std::is_base_of< T, typename type_list::Head >::value &&std::is_constructible< typename type_list::Head >::value >::result

5.82.1 Detailed Description

template<class type_list, typename T>
struct TL::MostDerivedAndConstructible< type_list, T >

Finds the most derived and constructible child of T in type_list

Parameters

type_list	Template parameter
T	Template parameter

Returns

Parameter result, the most derived and constructible child of T in type_list

The documentation for this struct was generated from the following file:

- TL/most_derived_and_constructible.h

5.83 TL::MostDerivedAndConstructible< EmptyTypeList, T > Struct Template Reference

Public Types

- using **result** = T

The documentation for this struct was generated from the following file:

- TL/most_derived_and_constructible.h

5.84 PointerStructureGraph< vertexes >::Node< vertex_, children_ > Struct Template Reference

`#include <pointer_structure_graph.h>`

Public Types

- using **vertex** = vertex_
- using **children** = children_

5.84.1 Detailed Description

template<class vertexes>
template<class vertex_, class children_>
struct PointerStructureGraph< vertexes >::Node< vertex_, children_ >

Default version of a suitable class. It's not necessary to use this one. In fact, it's encouraged to make your objects suitable to PointerStructureGraph.

Parameters

*vertex_*	Template parameter, vertex that this node represents
*children_*	Template parameter, TypeList of Edges, showing who can be reached from this vertex.

The documentation for this struct was generated from the following file:

- graph/graphs/pointer_structure_graph.h

5.85 TL::NoDuplicates< type_list > Struct Template Reference

`#include <no_duplicates.h>`

Public Types

- using **result** = TypeList< typename type_list::Head, typename NoDuplicates< typename RemoveAll< typename type_list::Tail, typename type_list::Head >::result >::result >

5.85.1 Detailed Description

template<class type_list>
struct TL::NoDuplicates< type_list >

Removes duplicated from TypeList type_list

Parameters

type_list	Template parameter

Returns

Parameter result, new TypeList without any duplicates

The documentation for this struct was generated from the following file:

- TL/no_duplicates.h

5.86 TL::NoDuplicates< EmptyTypeList > Struct Reference

`#include <no_duplicates.h>`

Public Types

- using **result** = EmptyTypeList

5.86.1 Detailed Description

See also

NoDuplicates

The documentation for this struct was generated from the following file:

- TL/no_duplicates.h

5.87 NullType Struct Reference

`#include <null_type.h>`

5.87.1 Detailed Description

Represents nothing. If there is an absence of some template, it should be represented by NullType.

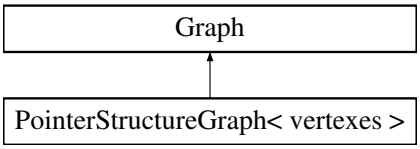
The documentation for this struct was generated from the following file:

- TL/null_type.h

5.88 PointerStructureGraph< vertexes > Struct Template Reference

`#include <pointer_structure_graph.h>`

Inheritance diagram for PointerStructureGraph< vertexes >:



Classes

- struct DFS
- struct Node

Public Types

- using vertexes_ = vertexes

  All accounted vertexes in this graph.

5.88.1 Detailed Description

template<class vertexes>
struct PointerStructureGraph< vertexes >

Represents graph as a structure with pointers Every vertex must contain TypeList "children", which is a TypeList of Edges, showing who can be reached from this vertex.

Parameters

vertexes	Template parameter, vertexes in this graph

The documentation for this struct was generated from the following file:

- graph/graphs/pointer_structure_graph.h

5.89 TL::Remove< type_list, T > Struct Template Reference

`#include <remove.h>`

Public Types

- using **result** = TypeList< typename type_list::Head, typename Remove< typename type_list::Tail, T >↩ ::result >

5.89.1 Detailed Description

template<class type_list, typename T>
struct TL::Remove< type_list, T >

Removes first ocurrence of T in type_list

Parameters

type_list	Template parameter
T	Template parameter

Returns

Parameter result, new TypeList without first ocurrence of T

The documentation for this struct was generated from the following file:

- TL/remove.h

5.90 TL::Remove< EmptyTypeList, T > Struct Template Reference

`#include <remove.h>`

Public Types

- using **result** = EmptyTypeList

5.90.1 Detailed Description

template<typename T>
struct TL::Remove< EmptyTypeList, T >

See also

Remove

The documentation for this struct was generated from the following file:

- TL/remove.h

5.91 TL::Remove< type_list, typename type_list::Head > Struct Template Reference

`#include <remove.h>`

Public Types

- using **result** = typename type_list::Tail

5.91.1 Detailed Description

template<class type_list>
struct TL::Remove< type_list, typename type_list::Head >

See also

Remove

The documentation for this struct was generated from the following file:

- TL/remove.h

5.92 TL::RemoveAll< type_list, T > Struct Template Reference

`#include <remove.h>`

Public Types

- using **result** = TypeList< typename type_list::Head, typename RemoveAll< typename type_list::Tail, T >↩ ::result >

5.92.1 Detailed Description

template<class type_list, class T>
struct TL::RemoveAll< type_list, T >

Removes all ocurrences of T in type_list

Parameters

type_list	Template parameter
T	Template parameter

Returns

Parameter result, new TypeList without ocurrences of T

The documentation for this struct was generated from the following file:

- TL/remove.h

5.93 TL::RemoveAll< type_list, typename type_list::Head > Struct Template Reference

`#include <remove.h>`

Public Types

- using **result** = typename RemoveAll< typename type_list::Tail, typename type_list::Head >::result

5.93.1 Detailed Description

template<class type_list>
struct TL::RemoveAll< type_list, typename type_list::Head >

See also

RemoveAll

The documentation for this struct was generated from the following file:

- TL/remove.h

5.94 TL::Replace< T, ind, Arg, Args > Struct Template Reference

`#include <replace.h>`

5.94.1 Detailed Description

template<typename T, size_t ind, class Arg, class ... Args>
struct TL::Replace< T, ind, Arg, Args >

Replaces typename on a specific position in TypeList

Parameters

T	Typename that will be on a specific position in TypeList
ind	Number of this position
TypeList<Arg,Args...>	This TypeList

Returns

Parameter result, new type list with typename added to position ind

The documentation for this struct was generated from the following file:

- TL/replace.h

5.95 TL::Replace< T, 0, TypeList< Arg, Args... > > Struct Template Reference

`#include <replace.h>`

Public Types

- using **result** = TypeList< T, Args... >

5.95.1 Detailed Description

template<typename T, class Arg, class ... Args>
struct TL::Replace< T, 0, TypeList< Arg, Args... > >

See also

Replace

The documentation for this struct was generated from the following file:

- TL/replace.h

5.96 TL::Replace< T, ind, TypeList< Arg, Args... > > Struct Template Reference

`#include <replace.h>`

Public Types

- using **end** = typename Replace< T, ind - 1, TypeList< Args... > >::result
- using **result** = typename Add< Arg, 0, end >::result

5.96.1 Detailed Description

template<typename T, size_t ind, class Arg, class ... Args>
struct TL::Replace< T, ind, TypeList< Arg, Args... > >

See also

Replace

The documentation for this struct was generated from the following file:

- TL/replace.h

5.97 TL::Size< type_list > Struct Template Reference

`#include <size.h>`

Static Public Attributes

- constexpr static size_t **size** = 1 + Size<typename type_list::Tail>::size

5.97.1 Detailed Description

template<class type_list>
struct TL::Size< type_list >

Gets length of a TypeList

Parameters

TypeList	Template parameter

Returns

Parameter size, amount of elements in TypeList

The documentation for this struct was generated from the following file:

- TL/size.h

5.98 TL::Size< EmptyTypeList > Struct Reference

`#include <size.h>`

Static Public Attributes

- constexpr static size_t **size** = 0

5.98.1 Detailed Description

See also

Size

The documentation for this struct was generated from the following file:

- TL/size.h

5.99 TL::TypeAt< type_list, ind > Struct Template Reference

`#include <type_at.h>`

Public Types

- using **value** = typename TypeAt< typename type_list::Tail, ind - 1 >::value

5.99.1 Detailed Description

template<class type_list, size_t ind>
struct TL::TypeAt< type_list, ind >

Get class at specific index of TypeList

Parameters

type_list	Template parameter, where required class is located
ind	Template parameter, shows position where required class is located

Returns

Parameter value, class at a specific index of TypeList

The documentation for this struct was generated from the following file:

- TL/type_at.h

5.100 TL::TypeAt< type_list, 0 > Struct Template Reference

`#include <type_at.h>`

Public Types

- using **value** = typename type_list::Head

5.100.1 Detailed Description

template<class type_list>
struct TL::TypeAt< type_list, 0 >

See also

TypeAt

The documentation for this struct was generated from the following file:

- TL/type_at.h

5.101 TypeList< Args > Struct Template Reference

`#include <type_list.h>`

Public Types

- using **Head** = NullType
- using **Tail** = TypeList<>

5.101.1 Detailed Description

template<typename ... Args>
struct TypeList< Args >

See also

TypeList<H, T...>

The documentation for this struct was generated from the following file:

- TL/type_list.h

5.102 TypeList< H, T... > Struct Template Reference

`#include <type_list.h>`

Public Types

- using Head = H

  First type in a type list.
- using Tail = TypeList< T... >

  TypeList of other types.

5.102.1 Detailed Description

template<typename H, typename ... T>
struct TypeList< H, T... >

Represents a list of various types

Parameters

H	Template parameter, first object in a type list
T	Template parameter, other objects in a type list

The documentation for this struct was generated from the following file:

- TL/type_list.h

5.103 TypeList< T > Struct Template Reference

`#include <type_list.h>`

Public Types

- using **Head** = T
- using **Tail** = EmptyTypeList

5.103.1 Detailed Description

template<typename T>
struct TypeList< T >

See also

TypeList<H, T...>

The documentation for this struct was generated from the following file:

- TL/type_list.h

5.104 VertexStream< stream, graph > Struct Template Reference

`#include <vertex_stream.h>`

Public Types

- using stream_ = stream

  TypeList of vertexes of a graph.

Public Member Functions

- template<class Consumer >
  void ForEach (Consumer consumer)

5.104.1 Detailed Description

template<class stream, class graph>
struct VertexStream< stream, graph >

Represents a stream of vertexes of a graph

Parameters

stream	Template parameter, TypeList of vertexes of a graph
graph	Template parameter

5.104.2 Member Function Documentation

5.104.2.1 ForEach()

```
template<class stream , class graph >
template<class Consumer >
void VertexStream< stream, graph >::ForEach (
            Consumer consumer )  [inline]
```

Calls consumer on every vertex in a stream It's recommended that this object must be of type FunctorTypes::↩ Consumer Also it's based on a variation of "Chain of a responsibility" pattern

Parameters

consumer	Consumer, that accepts Class object of a graph and index of a current vertex

See also

FunctorType::Consumer

Class

The documentation for this struct was generated from the following file:

- graph/vertex_stream.h

5.105 VertexStream< EmptyTypeList, graph > Struct Template Reference

`#include <vertex_stream.h>`

Public Types

- using **stream** = EmptyTypeList

Public Member Functions

- template<class Consumer >
  void **ForEach** (Consumer consumer)

5.105.1 Detailed Description

template<class graph>
struct VertexStream< EmptyTypeList, graph >

See also

VertexStream

The documentation for this struct was generated from the following file:

- graph/vertex_stream.h

Index