

Conventions

What are the rules and terminologies needed to run algorithms? Let's find out.

To use the algorithms, you have to keep a few rules in your head.

The algorithms are defined in various headers.

`<algorithm>`:

Contains the general algorithms.

`<numeric>`:

Contains the numeric algorithms. Many of the algorithms have the name suffix `_if` and `_copy`.

`_if`:

The algorithm can be parametrized by a [predicate](#).

`_copy`:

The algorithm copies its elements in another range.

Algorithms like `auto num = std::count(InpIt first, InpIt last, const T& val)` return the number of elements that are equal to `val`. `num` is of type `iterator_traits<InpIt>::difference_type`. You have the guarantee that `num` is sufficient to hold the result. Because of the automatic return type deduction with `auto`, the compiler will give you the right types.

 **If the container uses an additional range, it has to be valid**

The algorithm `std::copy_if` uses an iterator to the beginning of its destination range. This destination range has to be valid.

i Naming conventions for the algorithms

I use a few naming conventions for the type of arguments and the return type of the algorithms to make them easier to read.

Name	Description
InIt	[Input iterator]
FwdIt	[Forward iterator]
BiIt	[Bidirectional iterator]
UnFunc	[Unary callable]
BiFunc	[Binary callable]
UnPre	[Unary predicate]
BiPre	[Binary predicate]
Search	The searcher encapsulates the search algorithm.
ValType	From the input range automatically deduced value type.
ExePol	Execution policy

Signature of the algorithms

