# array Class (STL)

Describes an object that controls a sequence of length *N* of elements of type *Ty*. The sequence is stored as an array of *Ty*, contained in the array<Ty, N> object.

template<class Ty, std::size\_t N>  
 class array;

## Parameters

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| Parameter | Description |
| *Ty* | The type of an element. |
| *N* | The number of elements. |

## Members

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| Type Definition | Description |
| array::const\_iterator | The type of a constant iterator for the controlled sequence. |
| array::const\_pointer | The type of a constant pointer to an element. |
| array::const\_reference | The type of a constant reference to an element. |
| array::const\_reverse\_iterator | The type of a constant reverse iterator for the controlled sequence. |
| array::difference\_type | The type of a signed distance between two elements. |
| array::iterator | The type of an iterator for the controlled sequence. |
| array::pointer | The type of a pointer to an element. |
| array::reference | The type of a reference to an element. |
| array::reverse\_iterator | The type of a reverse iterator for the controlled sequence. |
| array::size\_type | The type of an unsigned distance between two elements. |
| array::value\_type | The type of an element. |

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| Member Function | Description |
| array::array | Constructs an array object. |
| array::assign | Replaces all elements. |
| array::at | Accesses an element at a specified position. |
| array::back | Accesses the last element. |
| array::begin | Designates the beginning of the controlled sequence. |
| array::cbegin | Returns a random-access const iterator to the first element in the array. |
| array::cend | Returns a random-access const iterator that points just beyond the end of the array. |
| array::crbegin | Returns a const iterator to the first element in a reversed array. |
| array::crend | Returns a const iterator to the end of a reversed array. |
| array::data | Gets the address of the first element. |
| array::empty | Tests whether elements are present. |
| array::end | Designates the end of the controlled sequence. |
| array::fill | Replaces all elements with a specified value. |
| array::front | Accesses the first element. |
| array::max\_size | Counts the number of elements. |
| array::rbegin | Designates the beginning of the reversed controlled sequence. |
| array::rend | Designates the end of the reversed controlled sequence. |
| array::size | Counts the number of elements. |
| array::swap | Swaps the contents of two containers. |

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| Operator | Description |
| array::operator= | Replaces the controlled sequence. |
| array::operator[] | Accesses an element at a specified position. |

## Remarks

The type has a default constructor array() and a default assignment operator operator=, and satisfies the requirements for an aggregate. Therefore, objects of typearray<Ty, N> can be initialized by using an aggregate initializer. For example,

array<int, 4> ai = { 1, 2, 3 };

creates the object ai that holds four integer values, initializes the first three elements to the values 1, 2, and 3, respectively, and initializes the fourth element to 0.

## Requirements

Header: <array>

Namespace: std