# Array

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*`#include <array>*

*std::array<DataType, Size> arrayName;`*

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## Array Insights:

- STL Array & Component Programming: Not ideal due to static size.
- Random Access Magic: Contiguous memory enables swift indexing.
- Array Methods: Length, Max, Min – streamlining coding.
- size(): Returns the number of elements in the array.

## Methods:

1. max_size(): Returns the maximum possible number of elements the array can hold.

2. empty(): Checks if the array is empty (i.e., if its size is zero).

3. fill(value): Fills all elements of the array with the given value.

4. at(index): Accesses the element at the specified index, performing bounds checking.

5. operator[] (index): Accesses the element at the specified index. No bounds checking is performed.

6. front(): Returns a reference to the first element in the array.

7. back(): Returns a reference to the last element in the array.

8. data(): Returns a pointer to the underlying array, allowing direct memory manipulation.

9. swap(other_array): Swaps the contents of the array with another array of the same type and size.