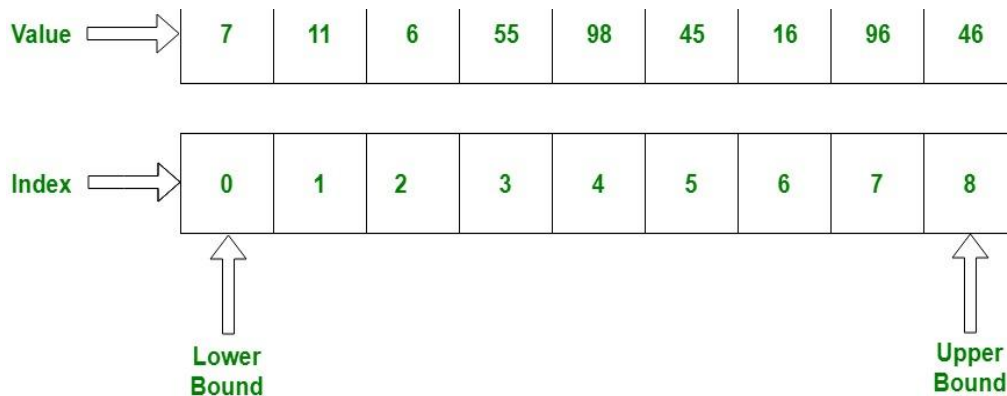


Array

❖ What is an array?

- ⇒ An array is a collection of items of same data type stored at contiguous memory locations.
- ⇒ It can be of the primitive data type such as int, float, double, char, string and user defined data types such as structure, union and class in object oriented.
- ⇒ With the contiguous memory allocation, it becomes easier to find out the memory location of any element in the array by just knowing the first memory location and adding the offset.



◆ Create Array :

⇒ I have created array of the following data types :

- Int
- Float
- Double
- Char
- String

⇒ Created a user defined library ***Array.cpp*** that is to be included in the file you want to create Array object using class "***Array***".

Syntax :

Array <OBJECT> (SIZE, DATATYPE);

Example :

```
#include<iostream>
#include<stdbool.h>
#include "Array/Array.cpp"

using namespace std;

int main()
{
    Array obj(10, "int");
    return 1;
}
```

◆ Method of array :

No	Name of the method	Description of the method	Syntax	Return Type
1.	isFull()	to check are all the elements set of that array	obj.isFull();	boolean
2.	isEmpty()	to check is the array empty	obj.isEmpty();	boolean
3.	compareArray()	to check both array elements are same or not	obj.compareArray(<other Array object>);	boolean
4.	mergeArray()	to merge one element to another array	obj.mergeArray(<other Array object>);	boolean
5.	checkArrayInitialization()	to check that the particular array object is initialized or not	obj.checkArrayInitialization();	boolean
6.	printArrayUninitializedError()	to print the array not initialized error.	obj.printArrayUninitialize dError();	void
7.	sortArray()	to sort the array in the ascending order.	obj.sortArray();	void
8.	displayArray()	display all elements of the array	obj.displayArray();	void

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9.	splitArray(int,object,object)	to split the array by index and store them in two different array objects.	obj.splitArray(index,<new array object>,<new array object>);	boolean
10.	sum()	to sum all the elements for int,float and double and concat for char and string.	obj.sum(value); (value can be int, float, double, char, string) (method overloading)	int/float/ double/string (method overloading)
11.	printArrayElementsUninitializedError()	to print error that all array elements are not initialized	obj.printArrayElementsUninitializedError();	void
12.	setArrayElement()	This method is return a array size	obj.setArrayElements(value); (value can be int, float, double, char, string) (method overloading)	void
13.	searchArrayElement()	search element by index.	obj.searchArrayElement(value); (value can be of int, float, char, double, string) (method overloading)	int (return index)
14.	replaceByIndex()	replace element in array by particular index.	obj.replaceByIndex(index,index);	boolean

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15.	<code>replaceByData(</code>	to replace element by	<code>obj.replaceByData(int,int</code>	boolean
	<code>)</code>	matching value.	<code>/float,float/char,char/do</code>	
			<code>uble,double/string,string</code>	
			<code>);</code>	
16.	<code>arrayToString()</code>	to convert array into	<code>obj.arrayToString();</code>	string
		string		
17.	<code>reverseArray()</code>	to reverse the whole array	<code>obj.reverse();</code>	void