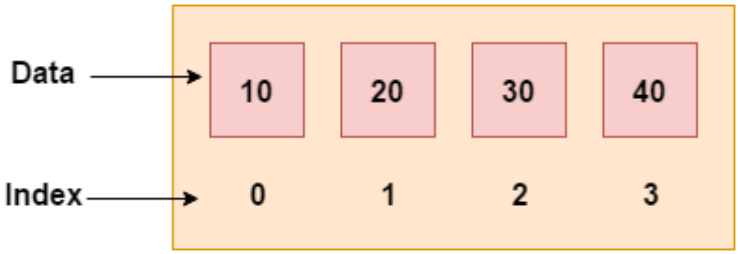
C++ Arrays

Like other programming languages, array in C++ is a group of similar types of elements that have contiguous memory location.

In C++ **std::array** is a container that encapsulates fixed size arrays. In C++, array index starts from 0. We can store only fixed set of elements in C++ array.



Advantages of C++ Array

- Code Optimization (less code)
- Random Access
- Easy to traverse data
- Easy to manipulate data
- Easy to sort data etc.

Disadvantages of C++ Array

- Fixed size

C++ Array Types

There are 2 types of arrays in C++ programming:

1. Single Dimensional Array
2. Multidimensional Array

C++ Single Dimensional Array

Let's see a simple example of C++ array, where we are going to create, initialize and traverse array.

```
#include <iostream>
using namespace std;
int main()
{
 int arr[5]={10, 0, 20, 0, 30};  //creating and initializing array
       //traversing array
       for (int i = 0; i < 5; i++)
       {
          cout<<arr[i]<<"\n";
       }
}
```

Output:/p>

```
10
0
20
0
30
```

C++ Array Example: Traversal using foreach loop

We can also traverse the array elements using foreach loop. It returns array element one by one.

```
#include <iostream>
using namespace std;
int main()
{
 int arr[5]={10, 0, 20, 0, 30}; //creating and initializing array
       //traversing array
      for (int i: arr)
       {
          cout<<i<<"\n";
       }
}
```

Output:

```
10
20
30
40
50
```

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