

# Array in C

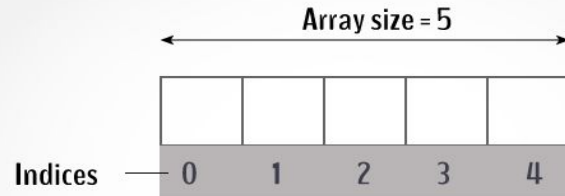
Prof. Harish D.G.  
Dept. of Computer and IT  
College of Engineering, Pune  
[www.harishgadade.com](http://www.harishgadade.com)

# Array in C

- Definition
- Declaration of an array
- Accessing of an array elements.
- How to initialize an array?
- How to change value of an array element?
- How to accept and Display an array elements?

# Definition

- An array is a collection of items with similar data types
- An array is a variable that can store multiple values. For example, if you want to store 100 integers, you can create an array for it.



**C Arrays**

# Declaration of an Array

- An declaration of an Array is;

## Syntax:

```
dataType arrayName[size];
```

## Example:

```
int mark[5];
```

- Here, we declared an array, **mark**, of integer type. And its **size is 5**. Meaning, it can hold **5** integer values.
- It's important to note that the **size** and **type** of an array cannot be changed once it is declared.

# Accessing of an Array Elements

- You can access elements of an array by using indices.
- Suppose you declared an array `mark` then the first element is `mark[0]` , the second element is `mark[1]` and so on.

`mark[0]` `mark[1]` `mark[2]` `mark[3]` `mark[4]`

--	--	--	--	--

`mark[0]` `mark[1]` `mark[2]` `mark[3]` `mark[4]`

19	10	8	17	9
----	----	---	----	---

# How to Initialize an Array?

- We can initialise an array during declaration

```
int mark[5] = {19,10,8,17,9};  
OR  
int mark[] = {19,10,8,17,9};
```

mark[0]	mark[1]	mark[2]	mark[3]	mark[4]
19	10	8	17	9

However, the compiler knows its size is 5 as we are initializing it with 5 elements.

```
mark[0] is equal to 19  
mark[1] is equal to 10  
mark[2] is equal to 8  
mark[3] is equal to 17  
mark[4] is equal to 9
```

# How to change value of an Array Element?

- Consider the following array;

```
int mark[5] = {19,10,8,17,9};
```

- Now, suppose we want to change third element value to 20 and fifth element value to -5

```
Mark[2] = 20;  
Mark[4] = -5;
```

- Now, an array would be

```
int mark[5] = {19,10,20,17,-5};
```

# How to Accept and Display an Array Element?

- To accept and display an array element, we need to use a loop.

```
void main()
{
    int mark[5];
    printf("Enter an Array Elements : ");
    for(i=0;i<5;i++)
    {
        scanf("%d",&mark[i]);
    }

    printf("Entered Array is : ");
    for(i=0;i<5;i++)
    {
        printf("%d  ",mark[i]);
    }
}
```