Array

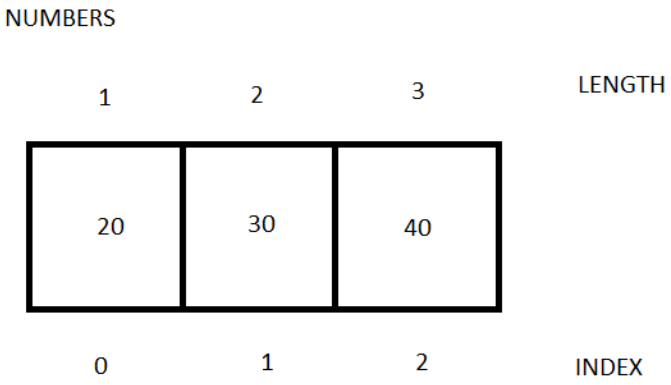
Array is an object which contains elements of a similar data type. The elements of an array are stored in a contiguous memory location.

Syntax

int numbers[3];

char name[10];

float tax[2];



Input & Output

scanf("%d", &numbers[1]);

printf("%d", numbers[1]);

Pointer Arithmetics

Pointer Arithmetic is the set of valid arithmetic operations that can be performed on pointers.

- Increment/Decrement of a Pointer
- Addition of integer to a pointer
- Subtraction of integer to a pointer
- Subtracting two pointers of the same type
- Comparison of pointers

Pointer to an array is also known as array pointer.

```
int a[3] = {3, 4, 5 };
int *ptr = a;
```

Array of pointers is an array of the pointer variables. It is also known as pointer arrays.

```
int *ptr[3];
```

Traverse an Array

```
int marks[10];
int *ptr = &marks[0];
```

Arrays as Function Argument

```
//declaration
void displayArray(int arr[], int n);
void displayArray(int *arr, int n);
//call
display(arr, n);
```

Multidimensional arrays

2D arrays

//declaration

int arr[][] = {{1,2}, {3,4}}

arr[0][0]

arr[0][1]

arr[1][0]

arr[1][1]