Arrays

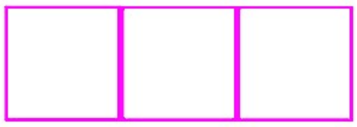
Collection of similar data types stored at contiguous memory locations

Syntax

```
int marks[3];

char name[10];

float price[2];
```



Input & Output

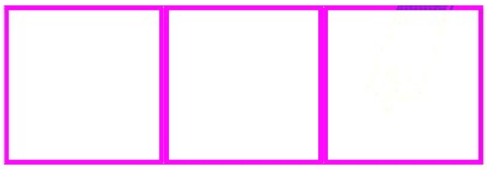
```
scanf("%d", &marks[0]);


printf("%d", marks[0]);
```

Inititalization of Array

```
int marks[ ] = {97, 98, 89};

int marks[ 3 ] = {97, 98, 89};
```



Memory Reserved :

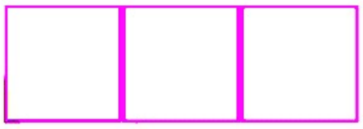
Pointer Arithmetic

Pointer can be incremented & decremented

CASE 1

```
int age = 22;
int *ptr = &age;
ptr++;
```

Pointer Arithmetic



CASE 2

```
float price = 20.00;
float *ptr = &price;
ptr++;
```

CASE 3

```
char star = '*';
char *ptr = &star;
ptr++;
```

Pointer Arithmetic

- We can also subtract one pointer from another

- We can also compare 2 pointers

Array is a Pointer

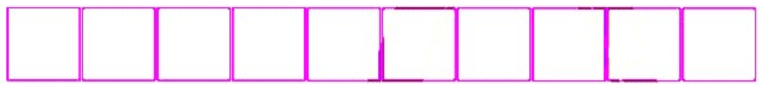
```
int *ptr = &arr[0];
```

```
int *ptr = arr;
```

Traverse an Array

```
int aadhar[10];

int *ptr = &aadhar[0];
```



Arrays as Function Argument

```
//Function Declaration
void printNumbers (int arr[ ], int n)
                    OR
void printNumbers (int *arr, int n)


//Function Call
printNumbers(arr, n);
```

Multidimensional Arrays

2 D Arrays

```
int arr[ ][ ] = { {1 , 2}, {3, 4} };    //Declare

//Access
arr[0][0]
arr[0][1]
arr[1][0]
arr[1][1]
```