

# C++ ARRAY-1

## Lecture-11

Raghav Garg

COLLEGE  
WALLAH

# Today's checklist

- 1) Introduction to Arrays
- 2) Syntax , accessing elements of Arrays
- 3) Printing Output and Taking Input
- 4) Types of Arrays
- 5) Size operator
- 6) Memory allocation in array, address of array elements
- 7) Linear search
- 8) Basic problems

COLLEGE  
WALLAH

# What is an array?

COLLEGE  
WALLAH

# Syntax and Declaration

COLLEGE  
WALLAH

# How to access Elements in Array ?

COLLEGE  
WALLAH

# Printing Output and Taking Input

COLLEGE  
WALLAH

**Ques:** Given an array of marks of students, if the mark of any student is less than 35 print its roll number. [roll number here refers to the index of the array.]

COLLEGE  
WALLAH

**Ques** : Are the following array declarations correct?

```
int a (25) ;
```

```
int size = 10, b[size] ;
```

```
int c = {0,1,2} ;
```

COLLEGE  
WALLAH



**Ques** : Which element of the array does this expression reference?

**num[4]**

COLLEGE  
WALLAH

# Types of Arrays

- 1) One dimensional Array
- 2) Two dimensional Array

COLLEGE  
WALLAH

# Size and sizeof operator (How can we use it to find the Length of array?)

COLLEGE  
WALLAH

# Memory Allocation in Arrays

COLLEGE  
WALLAH

# Address of Array Elements

COLLEGE  
WALLAH

## Predict the output :

```
main()  
{  
    int num[26], temp ;  
    num[0] = 100 ;  
    num[25] = 200 ;  
    temp = num[25] ;  
    num[25] = num[0] ;  
    num[0] = temp ;  
    cout<<endl<<num[0]<<" "<<num[25] ;  
}
```

Point out the errors(if any) in the following code:

```
int main() {
    int size ;
    cin>>size ;
    int arr[size] ;
    for ( i = 1 ; i <= size ; i++ ) {
        cin>>arr[i] ;
        cout<<arr[i] ;
    }
    return 0;
}
```

COLLEGE  
WALLAH

**Ques :** Calculate the sum of all the elements in the given array.

COLLEGE  
WALLAH



## Linear search

**Ques :** Find the element  $x$  in the array . Take array and  $x$  as input.

COLLEGE  
WALLAH

**Ques :** Find the maximum value out of all the elements in the array.

COLLEGE  
WALLAH

**Ques :** Find the second largest element in the given Array.

COLLEGE  
WALLAH

**MCQ :** What is the difference between the 5's in these two expressions?

```
int num[5];  
num[5] = 11;
```

1. first is particular element, second is type
2. first is array size, second is particular element
3. first is particular element, second is array size
4. both specify array size

**MCQ :** What would happen if you assign a value to an element of an array whose subscript exceeds the size of the array?

1. the element will be set to 0
2. nothing, it's done all the time
3. other data may be overwritten
4. error message from the compiler

## State TRUE or FALSE :

1. The array `int num[26]` has twenty-six elements.
2. The expression `num[1]` designates the first element in the array
3. It is necessary to initialize the array at the time of declaration.
4. The expression `num[27]` designates the twenty-eighth element in the array.

**Ques :** Count the number of elements in given array greater than a given number  $x$ .

COLLEGE  
WALLAH

# THANK YOU

COLLEGE  
WALLAH