LAB 07

Summary

Items	Description
Course Title	Programming Fundamentals
Lab Title	Arrays
Duration	3 Hours
Operating System /Tool/Language	Visual Studio
Objective	To get familiar with Arrays in C++

Syntax:

```
type name [elements];
```

for accessing : name[index]

Examples:

int A[5];

int ARR[] = { 10, 20, 30 };

int ARR[5]; *// declaration of a new array*
ARR[2] = 75; *// access to an element of the array.*

The main difference is that the declaration is preceded by the type of the elements, while the access is not.

Some other valid operations with arrays:

```
1 ARR[0] = a;
2 ARR[a] = 75;
3 b = ARR [a+2];
4 ARR[ARR[a]] = ARR[2] + 5;
```

//Reference website: http://www.cplusplus.com/doc/tutorial/arrays/

Sample program #01 :

```
#include "stdafx.h"
```

```
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
        cout<<"EXAMPLE OF ARRAYS"<<endl;
  int a[5];
  for(int i=0;i<5;i++)
  {
  cout<<"enter the value # "<<i+1<<"\t";
  cin>>a[i];
  }
  cout<<"you have enterd follwing values"<<endl;
    for(int j=0;j<5;j++)
    {cout<<a[j]<<endl;}

       system("pause");
       return 0;
}
```

Sample Program # 02

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
int avg, sum = 0 ;
int i ;
int marks[10] ; /* array declaration */
for ( i = 0 ; i <= 9 ; i++ )
{
cout<<"enter marks";
cin>>marks[i]; /* store data in array */
}
for ( i = 0 ; i <= 9 ; i++ )
sum = sum + marks[i] ; /* read data from an array*/
avg = sum / 10 ;
cout<<"average ="<<avg ;


       system("pause");
       return 0;
}
```

LAB TASKS

TASK # 01

Run the sample programs, note the output and get familiar with the syntax.
Minimize the logic used in sample program # 02

TASK # 02

Create a program which take 15 input from user.
Ask the user to enter a key
your program should search for the key if it is present in array? If yes then also print the number of times the key is present?

TASK # 03

Create a C++ program to take 13 inputs from user in an array. Your program should count the number of zeros, no of positive integers, no of negative integers entered by user.

TASK # 04

Create a program to find the largest number from array of 5 elements entered by user.

TASK # 05

Write a program to take 20 values from user in an array.
your code should divide the array in two equal parts
Hint: create two separate arrays copy the contents of first half of original array in array1 , copy the remaining half in array2 print both the arrays on the screen.