

# CS & Programming Lab

## Lab Manual 07

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Name: Abdullah Jamil Tung

Class: ME-15-Sec-A

Roll #: 478459

## **Lab Task #1**

/\*1. Take 10 integer inputs from user and store them in an array and print them on screen.\*/

```
#include <iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    //Declaring array
```

```
    int Array[10];
```

```
    //Taking inputs
```

```
    for (int i=0; i<=9; i++)
```

```
    {
```

```
        cout<<"Enter integer # "<<i+1<<" = ";
```

```
        cin>>Array[i];
```

```
        cout<<endl;
```

```
    }
```

```

//Displaying output

cout<<"The ten integers are : ";

for (int i=0; i<=9; i++)

cout<<Array[i]<<" ";

return 0;

}

```

```

1  /*1. Take 10 integer inputs from user and store them in an array and print them on screen.*/
2
3  #include <iostream>
4  using namespace std;
5
6  int main()
7  {
8      //Declaring array
9      int Array[10];
10
11     //Taking inputs
12     for (int i=0; i<=9; i++)
13     {
14         cout<<"Enter integer # "<<i+1<<" = ";
15         cin>>Array[i];
16         cout<<endl;
17     }
18
19     //Displaying output
20     cout<<"The ten integers are : ";
21     for (int i=0; i<=9; i++)
22         cout<<Array[i]<<" ";
23
24     return 0;
25 }

```

```

C:\Users\SA\Documents\Lab Task # 1-7.e
Enter integer # 1 = 1
Enter integer # 2 = 2
Enter integer # 3 = 3
Enter integer # 4 = 4
Enter integer # 5 = 5
Enter integer # 6 = 6
Enter integer # 7 = 7
Enter integer # 8 = 8
Enter integer # 9 = 9
Enter integer # 10 = 10
The ten integers are : 1 2 3 4 5 6 7 8 9 10
-----
Process exited after 11.16 seconds with return value 0
Press any key to continue . . .

```

## **Lab Task #2**

/\*2. Write a program to find the sum and product of all elements of an array with 5 integer elements.\*/

```
#include <iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    //Declaring variables and assigning values
```

```
    int sum, product, set[5] = { 1, 2, 3, 4, 5};
```

```
    //Computing and displaying Sum
```

```
    for (int i=0; i<=4; i++)
```

```
    { sum += set[i]; }
```

```
    cout<<"The sum of all the integers is "<<sum<<". "<<endl;
```

```
    //Computing and displaying Product
```

```
    for ( int i=0; i<=4; i++)
```

```
{product *= set[i];}
```

```
cout<<"The product of all the integers is "<<product<<". "<<endl;
```

```
return 0;
```

```
}
```

```
1  /*2. Write a program to find the sum and product of all elements of an array with 5 integer elements.*/
2
3  #include <iostream>
4  using namespace std;
5
6  int main()
7  {
8      //Declaring variables and assigning values
9      int sum, product, set[5] = {1, 2, 3, 4, 5};
10
11     //Computing and displaying Sum
12     for (int i=0; i<=4; i++)
13     {sum += set[i];}
14
15     cout<<"The sum of all the integers is "<<sum<<". "<<endl;
16
17     //Computing and displaying Product
18     for ( int i=0; i<=4; i++)
19     {product *= set[i];}
20
21     cout<<"The product of all the integers is "<<product<<". "<<endl;
22
23     return 0;
24 }
```

```
C:\Users\SA\Documents\Lab Task # 2-7.ex
The sum of all the integers is 15.
The product of all the integers is 120.

-----
Process exited after 0.04415 seconds with return value 0
Press any key to continue . . .
```

## **Lab Task #3**

/\*3. Print diamond pattern using a single array.\*/

```
#include <iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    //Declaring variables and assigning values
```

```
    int n=15;
```

```
    int half = n/2;
```

```
    char diamond[n];
```

```
    //Computing and displaying top-half part of the diamond
```

```
    for (int i=0; i<n; i++)
```

```
    {diamond[i] = ' ' ;}
```

```
    for (int i=0; i<=half; i++)
```

```
    {
```

```
        for (int j=0; j<n; j++)
```

```
{diamond[half+i] = '*';  
diamond[half-i] = '*';  
cout<<diamond[j];  
}cout<<endl;}
```

//Computing and displaying bottom-half part of the diamond

```
for (int i=0; i<n; i++)  
{diamond[i] = '*' ;}
```

```
for (int i=half; i>0; i--)
```

```
{
```

```
for (int j=0; j<n; j++)
```

```
{diamond[half+i] = ' ';
```

```
diamond[half-i] = ' ';
```

```
cout<<diamond[j];}
```

```
cout<<endl;}
```

```
return 0;
```

```
}
```

