NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF MECHANICAL AND MANUFACTURING ENGINEERING

CS-114 - Fundamental of Programing

LAB MANUAL # 7

(LAB TASKS)

ME -15 (C)

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Question #1:

```cpp
#include <iostream>
using namespace std;

int main()
{
    int arr[10];
    cout << "Enter any ten numbers:\n";
    for (int i = 0; i <= 9; i++)
    { // Taking input from the user and storing it in array
        cout << "Enter the Number " << i + 1 << ":";
        cin >> arr[i];
    }
    cout << "The array is\n";
    for (int i = 0; i <= 9; ++i)
    { // To show each number of The Array
        cout << arr[i] << endl;
    }
    return 0;
}
```

Result:

```
> cd "e:\Coding\" ; if ($?) { g++ Main.cpp -o Main } ; if ($?) { .\Main }
Enter any ten numbers:
Enter the Number 1:1
Enter the Number 2:2
Enter the Number 3:3
Enter the Number 4:4
Enter the Number 5:5
Enter the Number 6:6
Enter the Number 7:7
Enter the Number 8:8
Enter the Number 9:9
Enter the Number 10:10
The array is
1
2
3
4
5
6
7
8
9
10
```

Question#2:

```cpp
#include <iostream>
using namespace std;
int main()
{
    int arr[5],
        S = 0,
        P = 1;
    cout << "Enter any 5 Numbers\n";
    for (int i = 0; i < 5; i++)
    { // loop to get input from user and store it in array
        cin >> arr[i];
    }
    for (int j = 0; j < 5; j++)
    { // for loop to calculate the sum
        S = S + arr[j];
    }
    cout << "The Sum is = " << S << endl; // shows the sum
    for (int k = 0; k < 5; k++)
    { // for loop to calculate produt
        P = P * arr[k];
    }
    cout << "The product is = " << P << endl; // shows the product
    return 0;
}
```

Result:

```
PS E:\Coding> cd "e:\Coding\" ;
Enter any 5 Numbers
12
13
14
15
16
The Sum is = 70
The product is = 524160
```

Question#3:

```cpp
#include <iostream>
using namespace std;
int main()
{
    int c = 9, d = 9;
    char sta[c];
    for (int i = 0; i < c; i++)
    {
        sta[i] = ' ';
    }
    for (int j = 0; j < d / 2; j++)
    {
        for (int k = 0; k < c; k++)
        {
            if (k >= c / 2 - j && k <= c / 2 + j)
            {
                sta[k] = '*';
            }
            else
            {
                sta[k] = ' ';
            }
            cout << sta[k];
        }
        cout << endl;
    }
    for (int k = 0; k < d / 2; k++)
    {
        for (int i = 0; i < c; i++)
        {
            if (i >= k + 1 && i <= c - (k + 2))
            {
                sta[i] = '*';
            }
            else
            {
                sta[i] = ' ';
            }
            cout << sta[i];
        }
        cout << endl;
    }
}
```

```
    return 0;
}
```

Result:

```
PS E:\Coding> cd "e:\Coding\" ;
      *
     ***
    *****
   *******
   *******
    *****
     ***
      *
PS E:\Coding> []
```