



NUST SCHOOL OF MECHANICAL & MANUFACTURING ENGINEERING

ASSIGNMENT NO:7

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Section: A

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**Course: Computer systems and
programming**

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Date: 15/ 11 /2023

SMME 

Q1. Take 10 integer inputs from user and store them in an array and print them on screen:

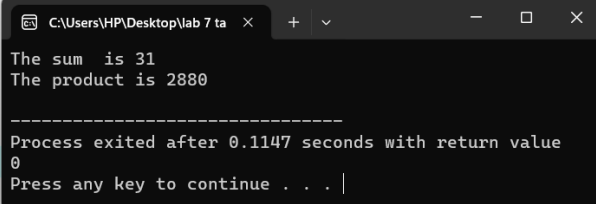
```
lab 7 task 1.cpp
1  #include<iostream>
2  using namespace std;
3
4  int main()
5  {
6      int arr[10] = { 0 };
7      for (int i = 0; i < 10; i++)
8      {
9          cout << "enter the" << i << "digit" << endl;
10         cin >> arr[i];
11     }
12     for (int i = 0; i < 10; i++)
13     {
14         cout << arr[i] << endl;
15     }
16 }
```



Q2. 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;

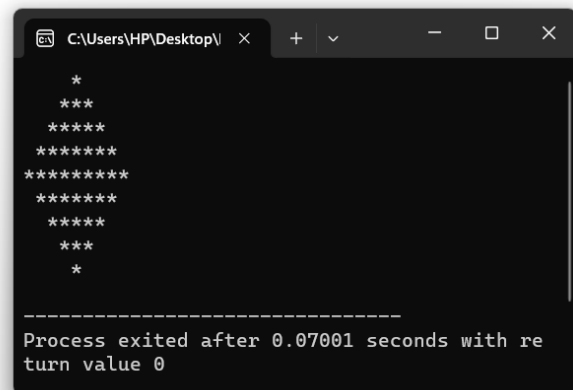
int main()
{
    // here we declare an array of 5 elements:
    int ARR[5] = {8, 1, 5, 8, 9};
    // Initialize sum and product variables
    int sum = 0;
    int product = 1;
    // Loop through the array elements
    for (int x = 0; x < 5; x++)
    {
        sum += ARR[x];
        product *= ARR[x];
    }
    // Print the sum and product
    cout << "The sum is " << sum << endl;
    cout << "The product is " << product << endl;
    return 0;
}
```



Q3. Print diamond pattern using a single array

```
int main() {
    int n = 9;
    int half = n / 2;
    char diam[n];
    for (int i = 0; i < n; i++) {
        diam[i] = ' ';
    }
    for (int i = 0; i <= half; i++) {
        for (int j = 0; j < n; j++) {
            if (j >= half - i && j <= half + i) {
                diam[j] = '*';
            } else {
                diam[j] = ' ';
            }
            cout << diam[j];
        }
        cout << endl;
    }
    // now for printing the remaning PART OF THE DIAMOND;
    for (int i = half - 1; i >= 0; i--) {
        for (int j = 0; j < n; j++) {
            if (j >= half - i && j <= half + i) {
                diam[j] = '*';
            } else {
                diam[j] = ' ';
            }
            cout << diam[j];
        }
        cout << endl;
    }

    return 0;
}
```



```
C:\Users\HP\Desktop\ >
*
***
*****
*****
*****
*****
*****
***
*

Process exited after 0.07001 seconds with re
turn value 0
```

