



NUST
NATIONAL UNIVERSITY
OF SCIENCES & TECHNOLOGY

FUNDAMENTALS OF PROGRAMMING

LAB MANUAL-7

LAB TASKS

ME-15C

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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()
{
    int arr[10];

    cout << "Enter 10 integers: ";

    for (int i = 0; i < 10; i++)
    {
        cin >> arr[i];
    }

    cout << "The array elements are: ";

    for (int i = 0; i < 10; i++)
    {
        cout << arr[i] << " ";
    }

    return 0;
}
```

```
Enter 10 integers: 5
4
6
8
7
9
2
1
3
6
The array elements are: 5 4 6 8 7 9 2 1 3 6
Process returned 0 (0x0)    execution time : 8.400 s
Press any key to continue.
|
```

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()
{
    int arr[5] = {1, 2, 3, 4, 5};

    int sum = 0, product = 1;

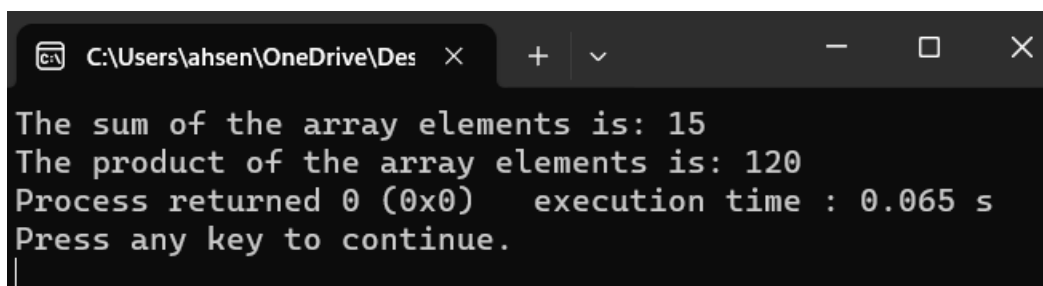
    for (int i = 0; i < 5; i++)
    {
        sum += arr[i];

        product *= arr[i];
    }

    cout << "The sum of the array elements is: " << sum<<endl;

    cout << "The product of the array elements is: " << product;

    return 0;
}
```



The screenshot shows a Windows command prompt window with a dark background. The title bar at the top indicates the file path 'C:\Users\ahsen\OneDrive\Des' and includes standard window controls (minimize, maximize, close). The command prompt displays the following output: 'The sum of the array elements is: 15', 'The product of the array elements is: 120', 'Process returned 0 (0x0) execution time : 0.065 s', and 'Press any key to continue.' A cursor is visible on the line following the last message.

```
C:\Users\ahsen\OneDrive\Des >
The sum of the array elements is: 15
The product of the array elements is: 120
Process returned 0 (0x0)   execution time : 0.065 s
Press any key to continue.
```

2. Print diamond pattern using a single array.

```
#include <iostream>

int main() {

    int n = 5;

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

        for (int j = 0; j < n - i - 1; j++) {

            std::cout << " ";

        }

        for (int j = 0; j < 2 * i + 1; j++) {

            std::cout << "*";

        }

        std::cout << std::endl;

    }

    for (int i = n - 2; i >= 0; i--) {

        for (int j = 0; j < n - i - 1; j++) {

            std::cout << " ";

        }

        for (int j = 0; j < 2 * i + 1; j++) {

            std::cout << "*";

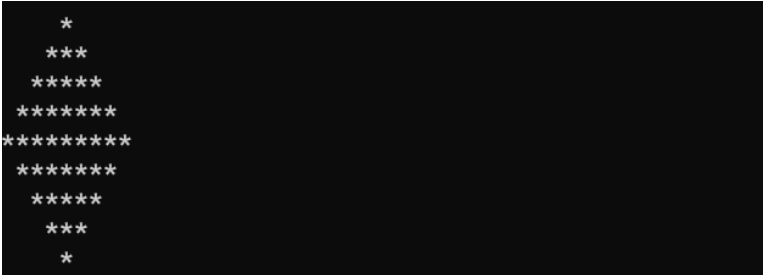
        }

        std::cout << std::endl;

    }

    return 0;

}
```



```

    *
   ***
  *****
 *****
*****
 *****
  *****
   ***
    *

Process returned 0 (0x0)   execution time : 0.166 s
Press any key to continue.
```