

TOSEEF HAIDER 457249

LAB MANUAL 7

TASK 1:

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

CODE:

```
#include <iostream>

using namespace std;

int main() {

    // Initialize an array to store the integers
    int integerArray[10]={ };

    // Take 10 inputs from the user to store them
    for (int i = 0; i <10; ++i) {
        cout << "Enter value of integer " << i+1<< ": ";
        cin >> integerArray[i];
    }

    // Print the array of the input values
    cout << "The array of integers is: ";
    for (int i = 0; i <10; ++i) {
        cout << integerArray[i] << " "; //output
    }

    cout << endl;

    return 0;
}
```

RESULT:

```
Enter value of integer 1: 1
Enter value of integer 2: 2
Enter value of integer 3: 3
Enter value of integer 4: 4
Enter value of integer 5: 5
Enter value of integer 6: 6
Enter value of integer 7: 7
Enter value of integer 8: 8
Enter value of integer 9: 9
Enter value of integer 10: 10
The array of integers is: 1 2 3 4 5 6 7 8 9 10

-----
Process exited after 9.907 seconds with return value 0
Press any key to continue . . .
```

TASK 2:

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

CODE:

```
#include <iostream>

using namespace std;

int main() {

    // Initialize an array

    int numArray[5]={ };

    int sum = 0; //initialize and declare sum

    int product = 1;

    // Take 5 inputs from the user for store them

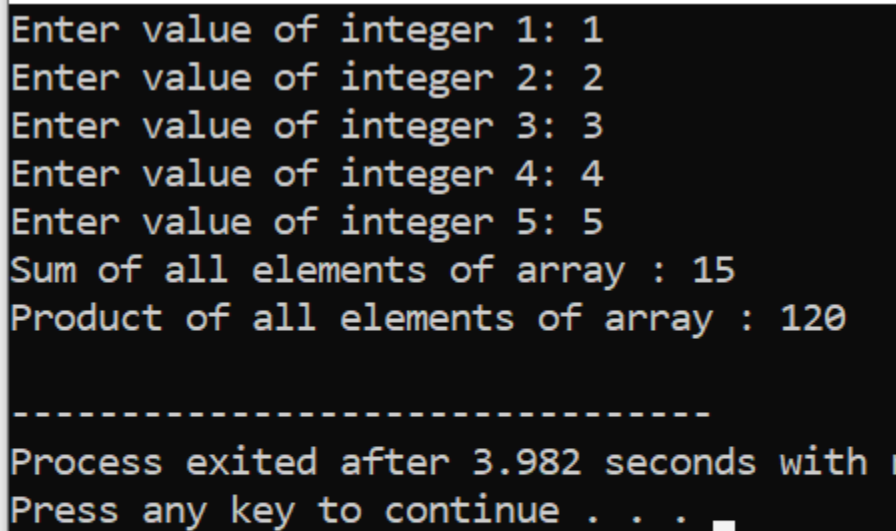
    for (int i = 1; i <= 5; ++i) {

        cout << "Enter value of integer " << i << ": ";

        cin >> numArray[i];
```

```
sum = sum+numArray[i];  
    product = product*numArray[i];  
  
}  
// Print the output of sum and product  
cout << "Sum of all elements of array : " << sum << endl;  
cout << "Product of all elements of array : " << product << endl;  
  
return 0;  
}
```

RESULT:



```
Enter value of integer 1: 1  
Enter value of integer 2: 2  
Enter value of integer 3: 3  
Enter value of integer 4: 4  
Enter value of integer 5: 5  
Sum of all elements of array : 15  
Product of all elements of array : 120  
  
-----  
Process exited after 3.982 seconds with  
Press any key to continue . . .
```

TASK 3:

Print diamond pattern using a single array.

CODE:

```

#include <iostream>

using namespace std;

int main()
{ // code for making diamond using array

    int n, i ;

    int j , k;

    cout << "Enter the number of rows: ";

    cin >> n;

    k = n;

    for (i = 1; i <= n; i++) {

        for (j = 1; j <= k; j++) {

            cout << " ";

        }

        k--;

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

            cout << "*";

        }

        cout << endl;

    }

    k = 1;

    for (i = n-1 ; i >= 1; i--) {

        for (j = 0; j <= k; j++) {

            cout << " ";

        }

        k++;

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

            cout << "*";

        }

        cout << endl;
    }
}

```

$$\left. \begin{array}{l} \} \\ \text{re} \\ \} \end{array} \right\}$$

RESULT:

```
Enter the number of rows: 7
      *
     ***
    *****
   *********
  **********
 **********
 **********
          *
         ***
        *****
       ****
```

```
Process exited after 2.745 seconds
Press any key to continue . . .
```