LAB MANUAL # 7

NATIONAL UNIVERSITY OF SCIENCE & TECNOLOGY

SCHOOL OF MECHANICAL AND MANUFACTURING ENGINEERING

[FUNDAMENTALS OF PROGRAMMING –(LAB)]

LAB MANUAL # 7

SEMESTER # 01

CLASS: - ME-15 [SEC A]

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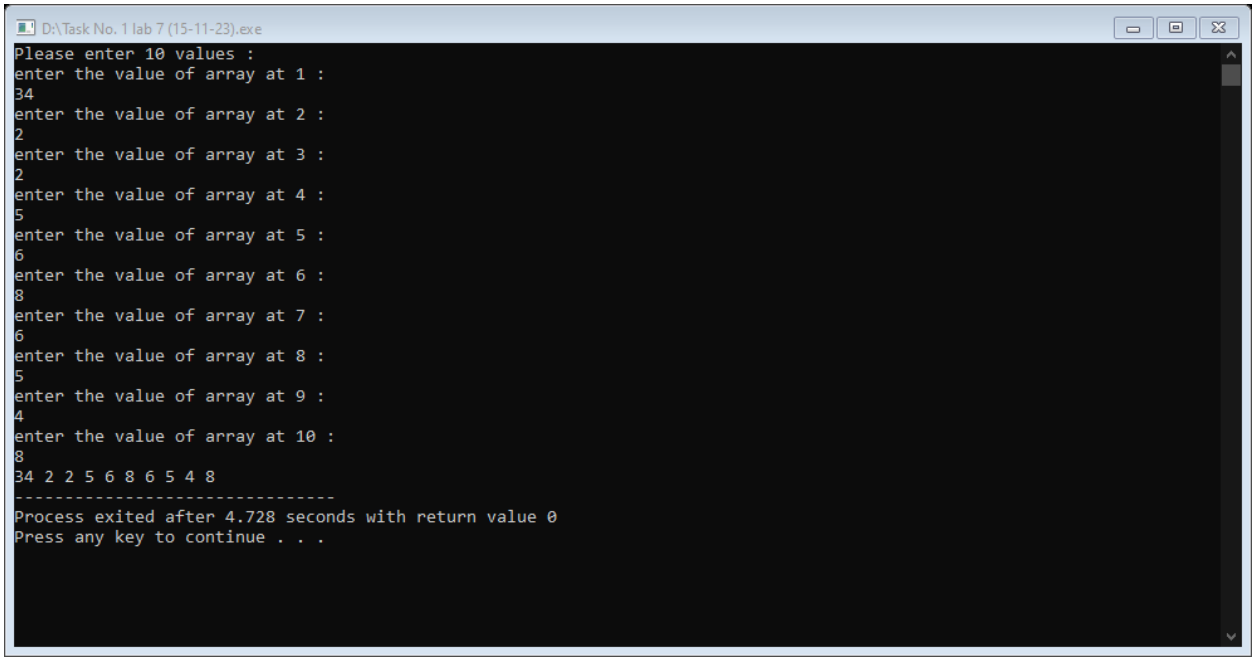
QUESTION NUMBER 1

```
//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 of 10 elements and getting input from user
int arr[10];
cout<<"Please enter 10 values : "<<endl;

 for(int i=0; i<10; i++){
       cout<<"enter the value of array at "<<i+1<<" : \n";
       cin>>arr[i]; } // getting values from user in array

    for(int i=0; i<10; i++)
//printing values from user
       {cout<<arr[i]<<" ";}

return 0;}
```



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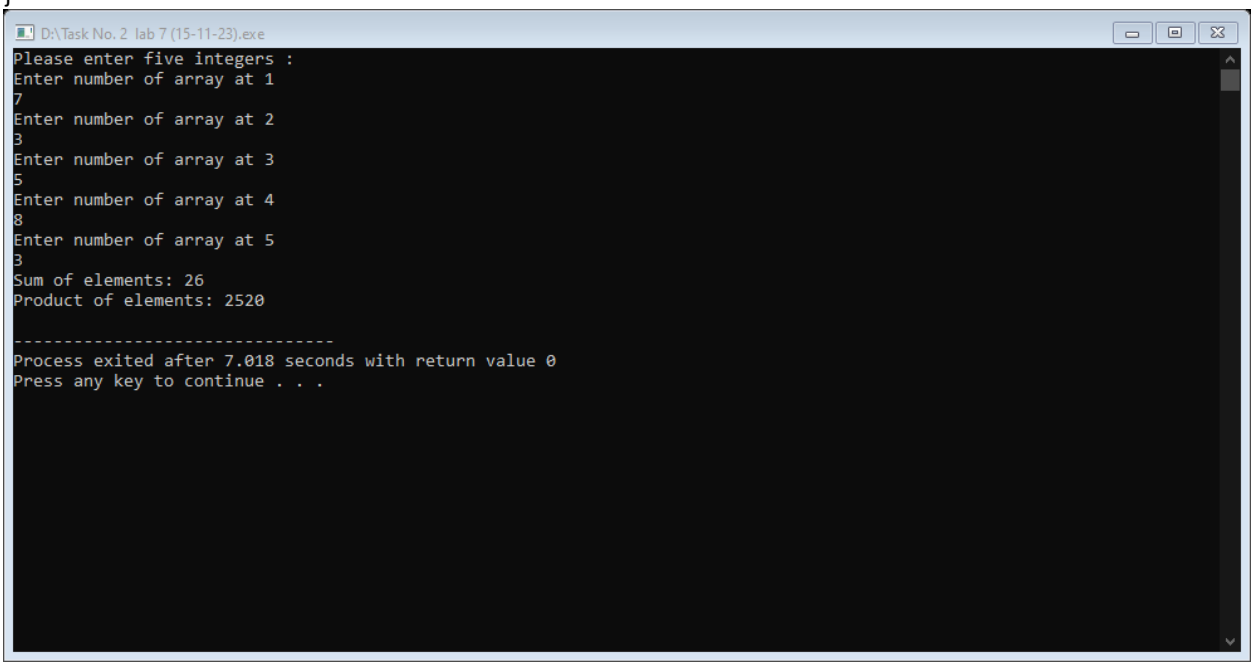
QUESTION NUMBER 2

//--\\
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 the array with number of 5 elemets :
int arr[5];
//input values from user :
cout<<"Please enter five integers :\n";

for(int i=0; i<5; i++)
        {cout<<"Enter number of array at "<<i+1<<endl;
        cin>>arr[i];}
//for sum & product of integers :
        int array_sum=0;
        int array_product=1;

        for(int i=0; i<5; i++)
        {array_sum+=arr[i];
         array_product*=arr[i];
        }
//output results :
        cout << "Sum of elements: " << array_sum << endl;
        cout << "Product of elements: " << array_product << endl;
return 0;
}
```



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QUESTION NUMBER 3

```
//-----------------------------------\\

Print diamond pattern using a single array

#include<iostream>

using namespace std;

int main() {

//n represents number of rows:

int n, half;


//taking input from user:

// *enter a odd number to get a perfect diamond*

cout<<"Enter the number of rows for diamond"<<endl;

cin>>n;


//delaring character array:


char diamond[n];

half = n/2;


//replacing elements of array with spaces:

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

                diamond[i] = ' ';

                }


//for row :

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

                diamond[half] = '*';

                diamond[half - i] = '*';

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

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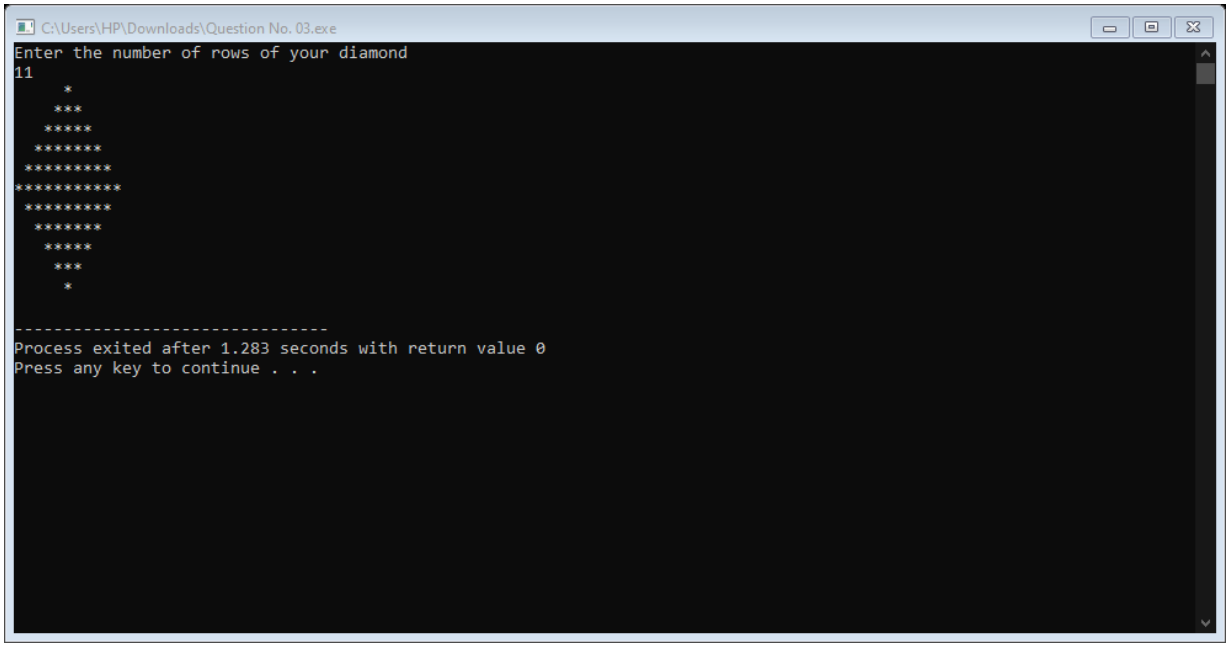
```
//for column :
        for ( int j = 0; j<n; j++ ) {
                cout<<diamond[j];
           }
        cout<<endl;} // to move onto the next column used endl:


//for bottom rows :
        for ( int i = half; i >= 1; i-- ) {
           diamond[half - i] = ' ';
           diamond[half + i] = ' ';

        for ( int j = 0; j<n; j++) {
                cout<<diamond[j];
                }
                cout<<endl; // to move onto the next row used endl :
                }
                return 0;
}
```



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