National University of Science and technology

(NUST)

CS-114 - Fundamental of Programing

Lab Manual # 07

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Task 1:

```cpp
#include <iostream>

using namespace std;

int main(){

        int a[10];

        for(int i=0;i<10;i++){

                cout<<"Enter no."<<i+1<<" of the array:";

                cin>>a[i];


        }

        for(int j=0;j<10;j++){

                cout<<a[j]<<" ";

        }

        return 0;

}
```
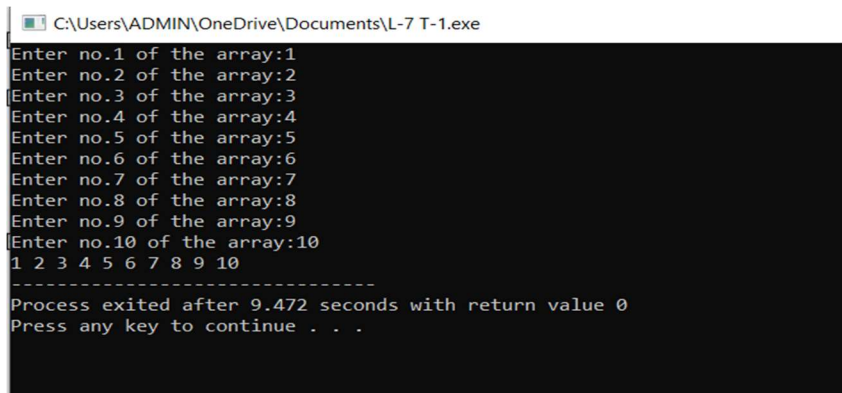
Result:


```
 C:\Users\ADMIN\OneDrive\Documents\L-7 T-1.exe
Enter no.1 of the array:1
Enter no.2 of the array:2
Enter no.3 of the array:3
Enter no.4 of the array:4
Enter no.5 of the array:5
Enter no.6 of the array:6
Enter no.7 of the array:7
Enter no.8 of the array:8
Enter no.9 of the array:9
Enter no.10 of the array:10
1 2 3 4 5 6 7 8 9 10
------------------------------
Process exited after 9.472 seconds with return value 0
Press any key to continue . . .
```

Task2:

```cpp
#include <iostream>
using namespace std;
int main(){
    int a[5],sum=0,product=1;
    for(int i=0;i<5;i++){
        cout<<"Enter No."<<i+1<<" of the array:";
        cin>>a[i];
        sum=sum+a[i];
        product=product*a[i];
    }
    cout<<"Sum of elements of array is ="<<sum<<endl;
    cout<<"Product of elements of array is = "<<product<<endl;
    return 0;
}
```

Result:


```
C:\Users\ADMIN\OneDrive\Documents\L-7 T-2.exe

Enter No.1 of the array:1
Enter No.2 of the array:2
Enter No.3 of the array:3
Enter No.4 of the array:4
Enter No.5 of the array:5
Sum of elements of array is =15
Product of elements of array is = 120

------------------------------
Process exited after 8.145 seconds with return value 0
Press any key to continue . . .
```

Task 3:

```cpp
#include <iostream>
using namespace std;
int main() {
    int n;
    cout << "Enter the size of the diamond: ";
    cin >> n;
    if (n % 2 == 0) {
        cout << "Please enter an odd number for the size of the diamond." << endl;
    }
    int spaces = n / 2;
    for (int i = 0; i < n / 2 + 1; ++i) {
        for (int j = 0; j < spaces; ++j) {
            cout << " ";
        }
        for (int k = 0; k < 2 * i + 1; ++k) {
            cout << "*";
        }
        cout << endl;
        --spaces;
    }
    spaces = 1;
    for (int i = n / 2 - 1; i >= 0; --i) {
        for (int j = 0; j < spaces; ++j) {
```
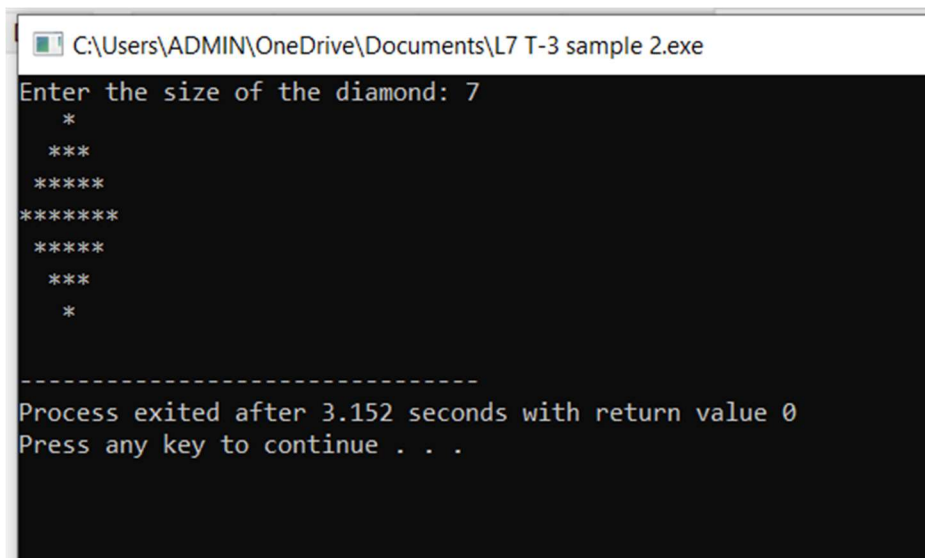
```cpp
        cout << " ";

    }

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

        cout << "*";

    }

    cout << endl;

    ++spaces;

    }


    return 0;

}
```

Result: