Arrays
LAB # 05

Spring 2022

CSE-102L COMPUTER PROGRAMMING LAB

Submitted by: MUHAMMAD SADEEQ

Registration No.: 21PWCSE2028

Section: C

"On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work.'

Student Signature: _____

Submitted to:

Engr. Abdullah Hamid

(July 2022)

Department of Computer Systems Engineering University of

Engineering and Technology, Peshawar

Lab 5:   Arrays

Objectives:

To understand the programming knowledge using Array

To understand the programming using array

Tasks:

1. Write a program in which you take your registration number and name as input into an array from the user and then output your registration number and name from the array. Use loops for input and output.

2. Write a program to input twelve numbers from user using array and display all values on console (3 values in a row) (use separate loops for input and output operation).
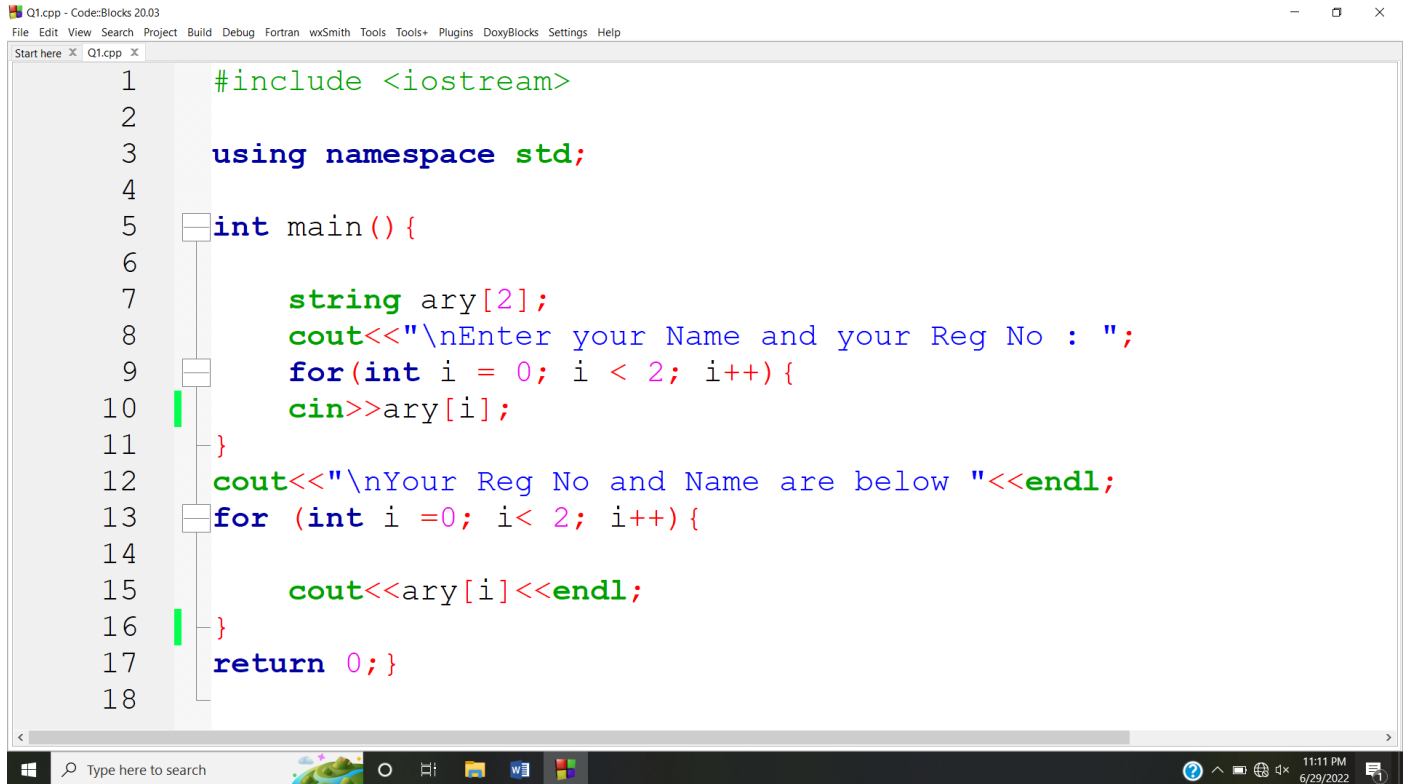   SAMPLE OUTPUT:

Value 1=??	Value 2=??	Value 3=??
Value 4=??	Value 5=??	Value 6=??
Value 7=??	Value 8=??	Value 9=??
Value 10=??	Value 11=??	Value 12=??

3. Write a program to input ten numbers from user using array and find the average of numbers (use separate loops for input operation and calculation).

4. Write a program to input multiple values from user using array and find the maximum (use separate loops for input operation and calculation).

5. Write a program to input two arrays from user and find the sum of arrays (element by element).

6. Write a program to input array from user and display the elements of array in reverse order (use separate loops for input and output operation).
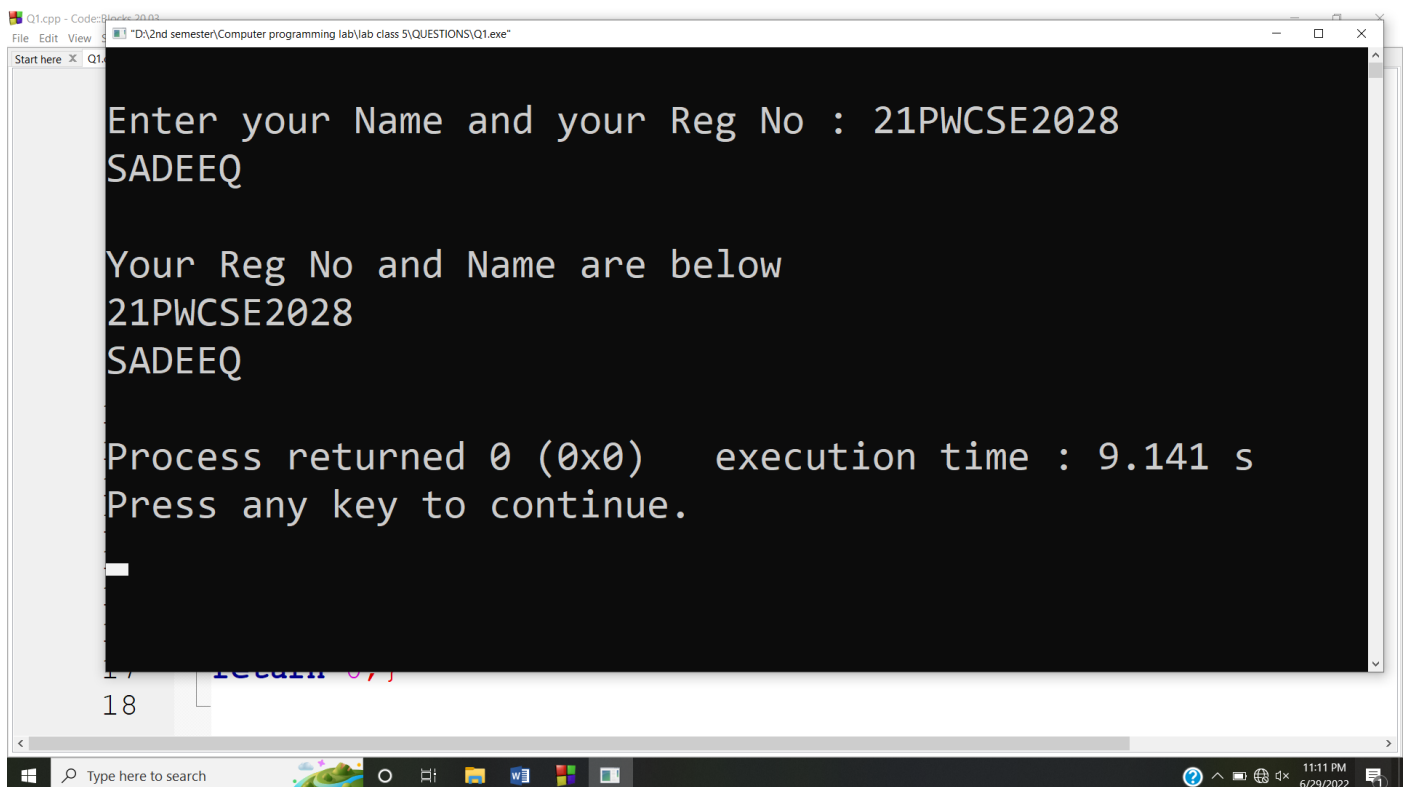   SAMPLE OUTPUT:

   Input = 1, 2, 3, 4, 5

   Output = 5, 4, 3, 2, 1

7. Write a program to input multiple values from user using array and then ask user to input a key number and then compare it with values entered by user (for array) and then display the index number of array with which value get matched (use separate loops for input operation and calculation) (use different loops for input operation and calculation).

COMPUTER PROGRAMMING LAB # 5

Answer #1

CODE:

```cpp
#include <iostream>

using namespace std;

int main(){

    string ary[2];
    cout<<"\nEnter your Name and your Reg No : ";
    for(int i = 0; i < 2; i++){
    cin>>ary[i];
}
cout<<"\nYour Reg No and Name are below "<<endl;
for (int i =0; i< 2; i++){

    cout<<ary[i]<<endl;
}
return 0;}
```
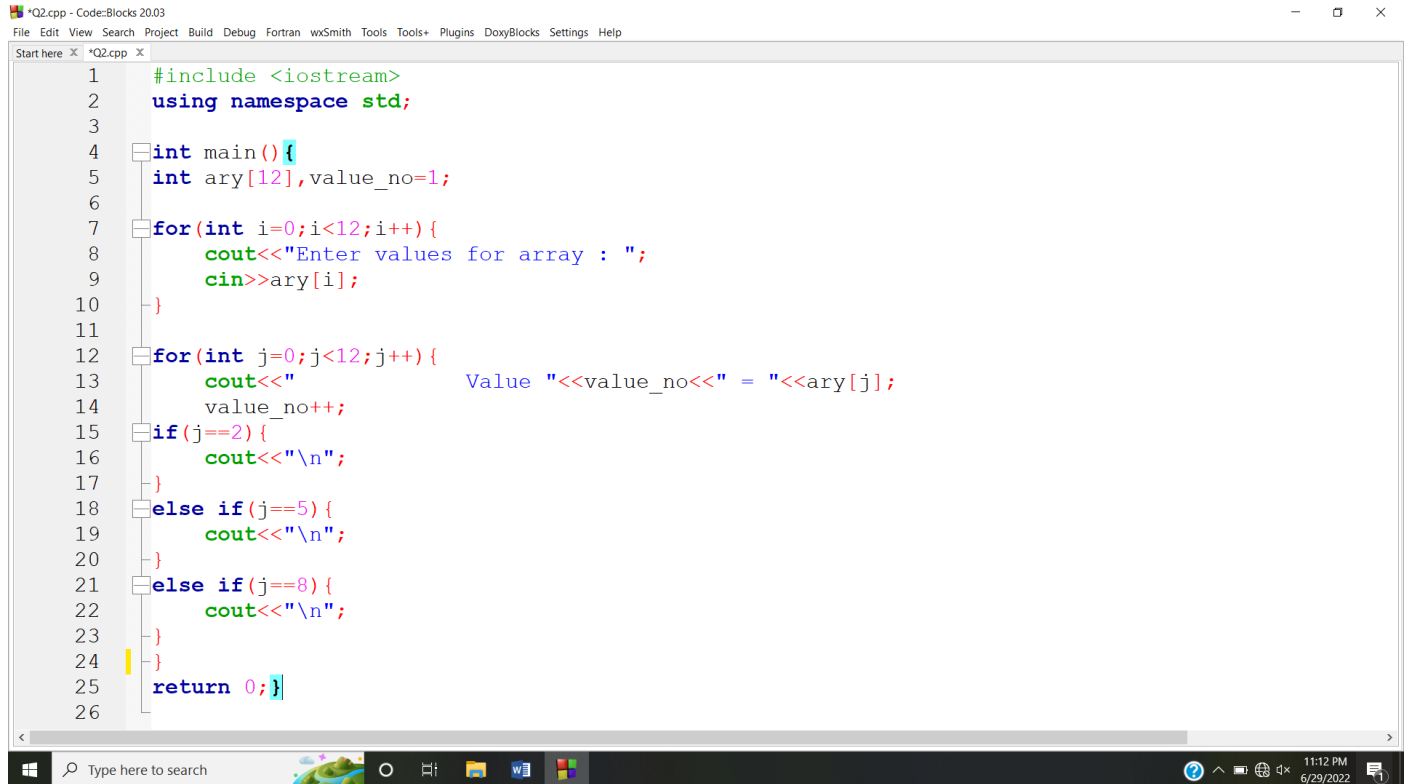
OUTPUT:

```
Enter your Name and your Reg No : 21PWCSE2028
SADEEQ

Your Reg No and Name are below
21PWCSE2028
SADEEQ

Process returned 0 (0x0)    execution time : 9.141 s
Press any key to continue.
```
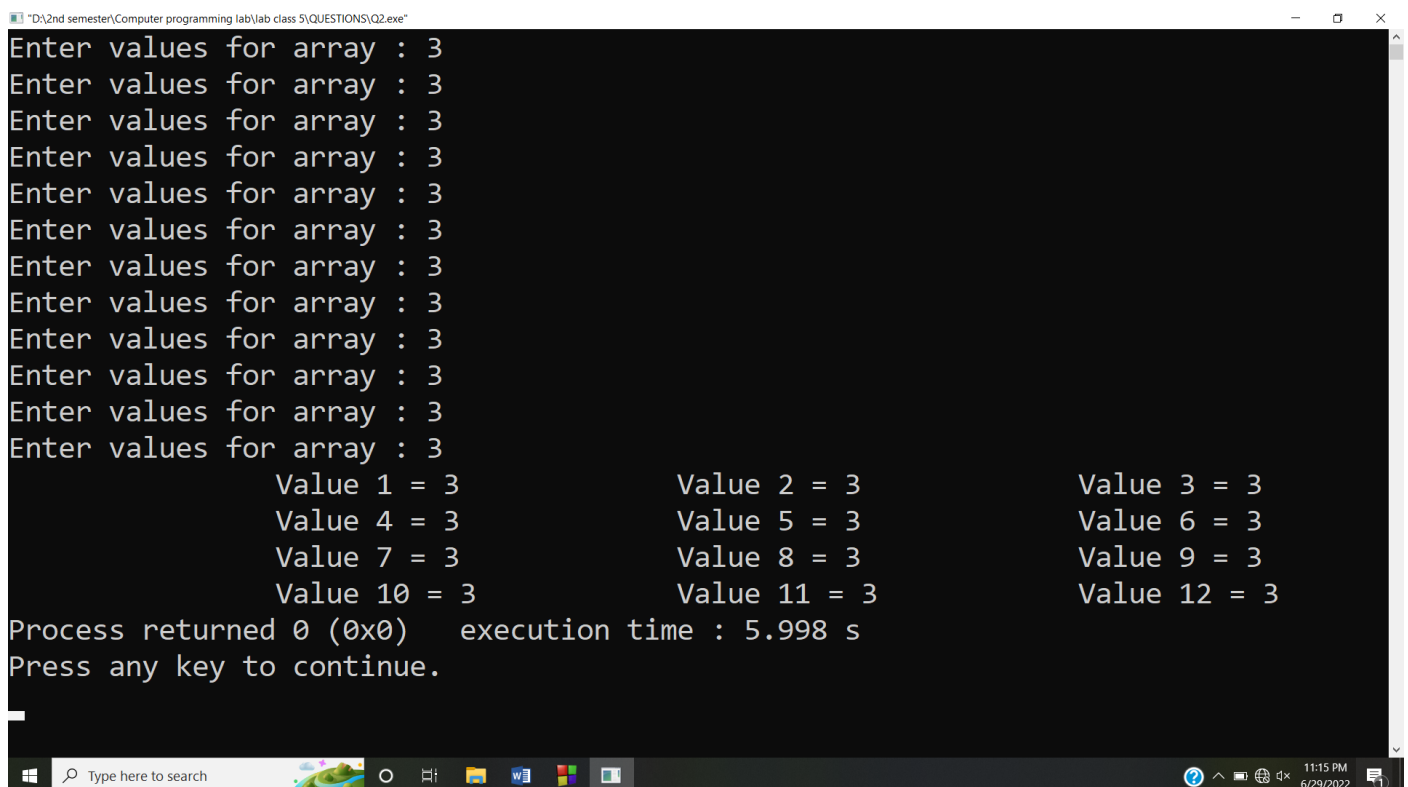
Answer #2

CODE:

```cpp
#include <iostream>
using namespace std;

int main(){
int ary[12],value_no=1;

for(int i=0;i<12;i++){
    cout<<"Enter values for array : ";
    cin>>ary[i];
}

for(int j=0;j<12;j++){
    cout<<"            Value "<<value_no<<" = "<<ary[j];
    value_no++;
if(j==2){
    cout<<"\n";
}
else if(j==5){
    cout<<"\n";
}
else if(j==8){
    cout<<"\n";
}
}
return 0;}
```
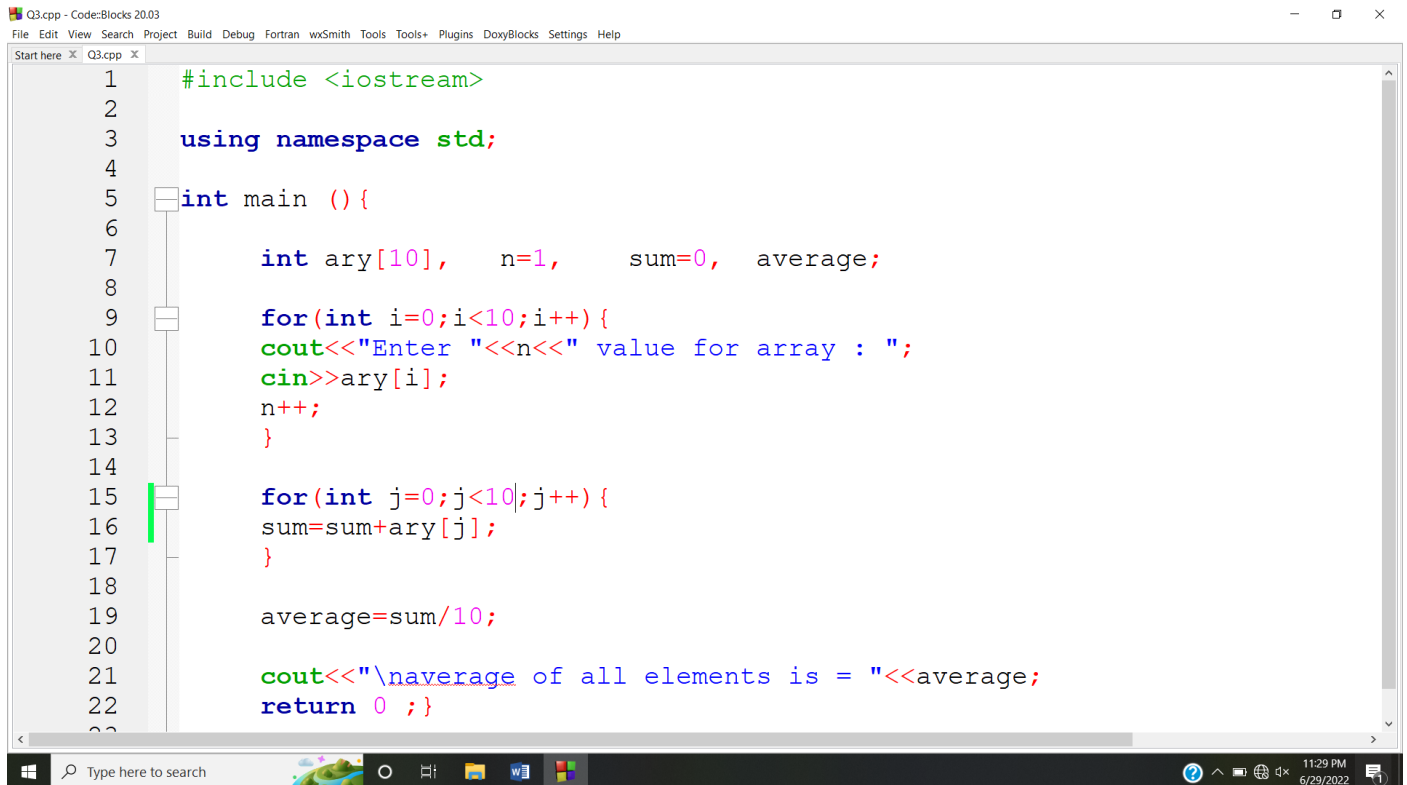
OUTPUT:

```
Enter values for array : 3
Enter values for array : 3
Enter values for array : 3
Enter values for array : 3
Enter values for array : 3
Enter values for array : 3
Enter values for array : 3
Enter values for array : 3
Enter values for array : 3
Enter values for array : 3
Enter values for array : 3
Enter values for array : 3
                Value 1 = 3             Value 2 = 3             Value 3 = 3
                Value 4 = 3             Value 5 = 3             Value 6 = 3
                Value 7 = 3             Value 8 = 3             Value 9 = 3
                Value 10 = 3            Value 11 = 3            Value 12 = 3
Process returned 0 (0x0)    execution time : 5.998 s
Press any key to continue.
```
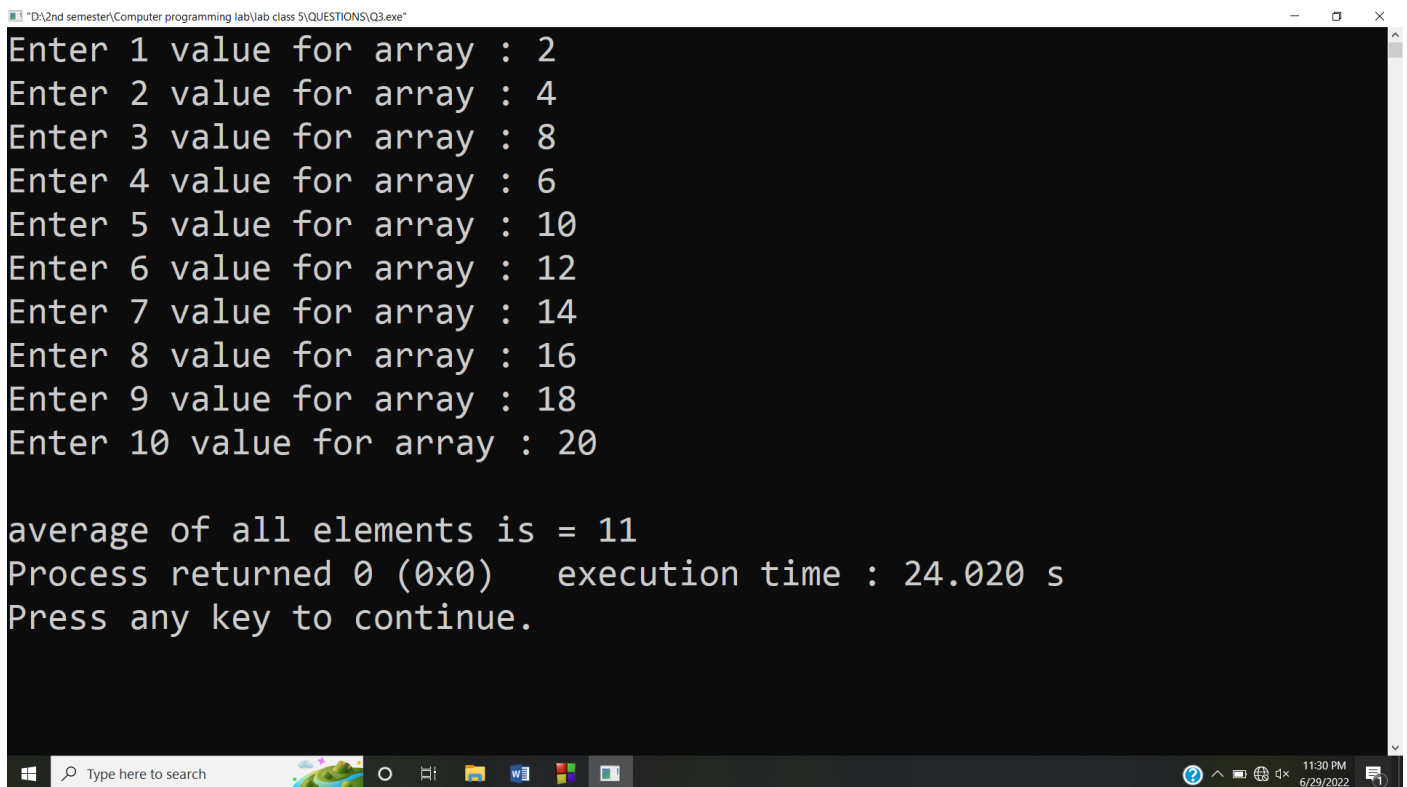
Answer #3

CODE:

```cpp
#include <iostream>

using namespace std;

int main (){

    int ary[10],   n=1,    sum=0,  average;

    for(int i=0;i<10;i++){
    cout<<"Enter "<<n<<" value for array : ";
    cin>>ary[i];
    n++;
    }

    for(int j=0;j<10;j++){
    sum=sum+ary[j];
    }

    average=sum/10;

    cout<<"\naverage of all elements is = "<<average;
    return 0 ;}
```

OUTPUT:
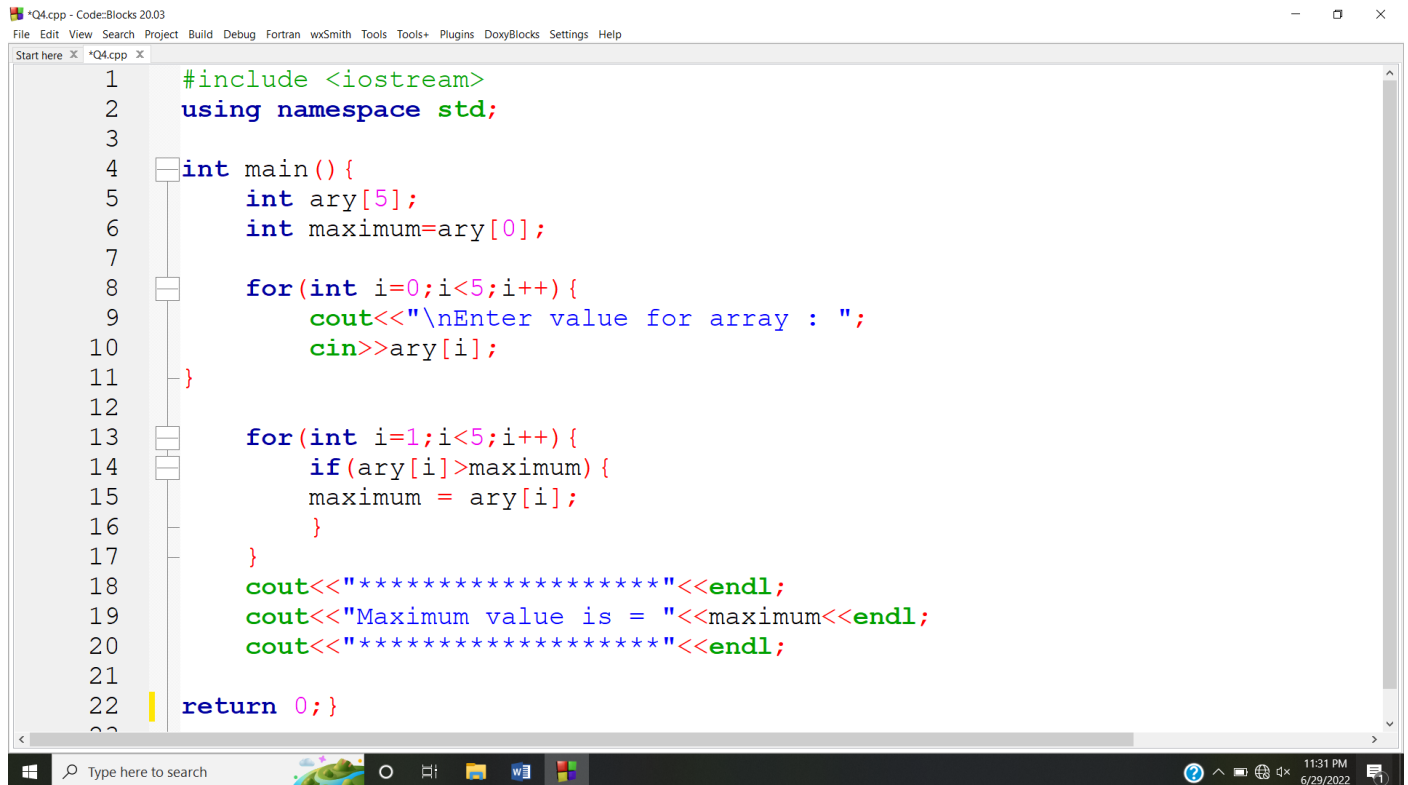
```
Enter 1 value for array : 2
Enter 2 value for array : 4
Enter 3 value for array : 8
Enter 4 value for array : 6
Enter 5 value for array : 10
Enter 6 value for array : 12
Enter 7 value for array : 14
Enter 8 value for array : 16
Enter 9 value for array : 18
Enter 10 value for array : 20

average of all elements is = 11
Process returned 0 (0x0)   execution time : 24.020 s
Press any key to continue.
```
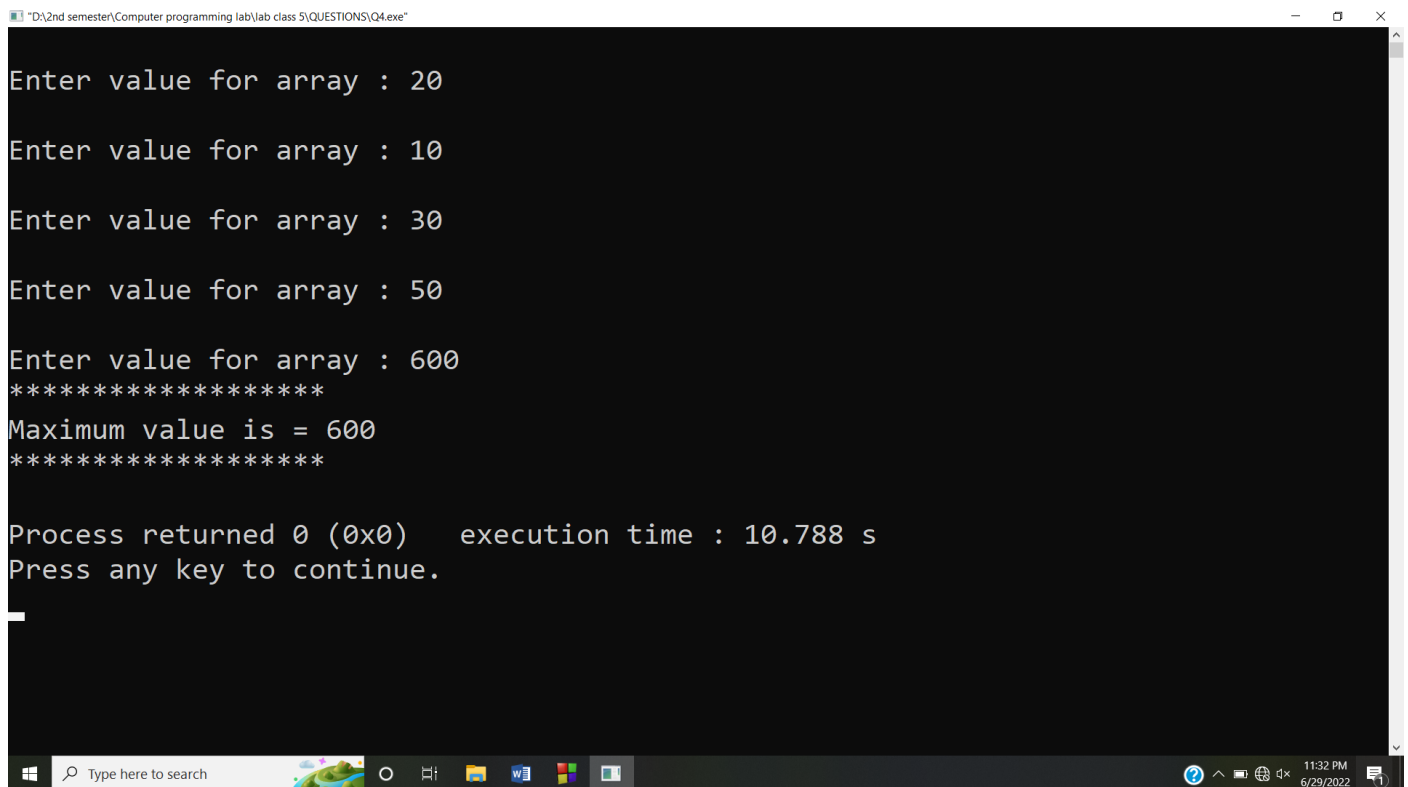
Answer #4

CODE:

```cpp
#include <iostream>
using namespace std;

int main(){
    int ary[5];
    int maximum=ary[0];

    for(int i=0;i<5;i++){
        cout<<"\nEnter value for array : ";
        cin>>ary[i];
    }

    for(int i=1;i<5;i++){
        if(ary[i]>maximum){
        maximum = ary[i];
        }
    }
    cout<<"*******************"<<endl;
    cout<<"Maximum value is = "<<maximum<<endl;
    cout<<"*******************"<<endl;

    return 0;}
```
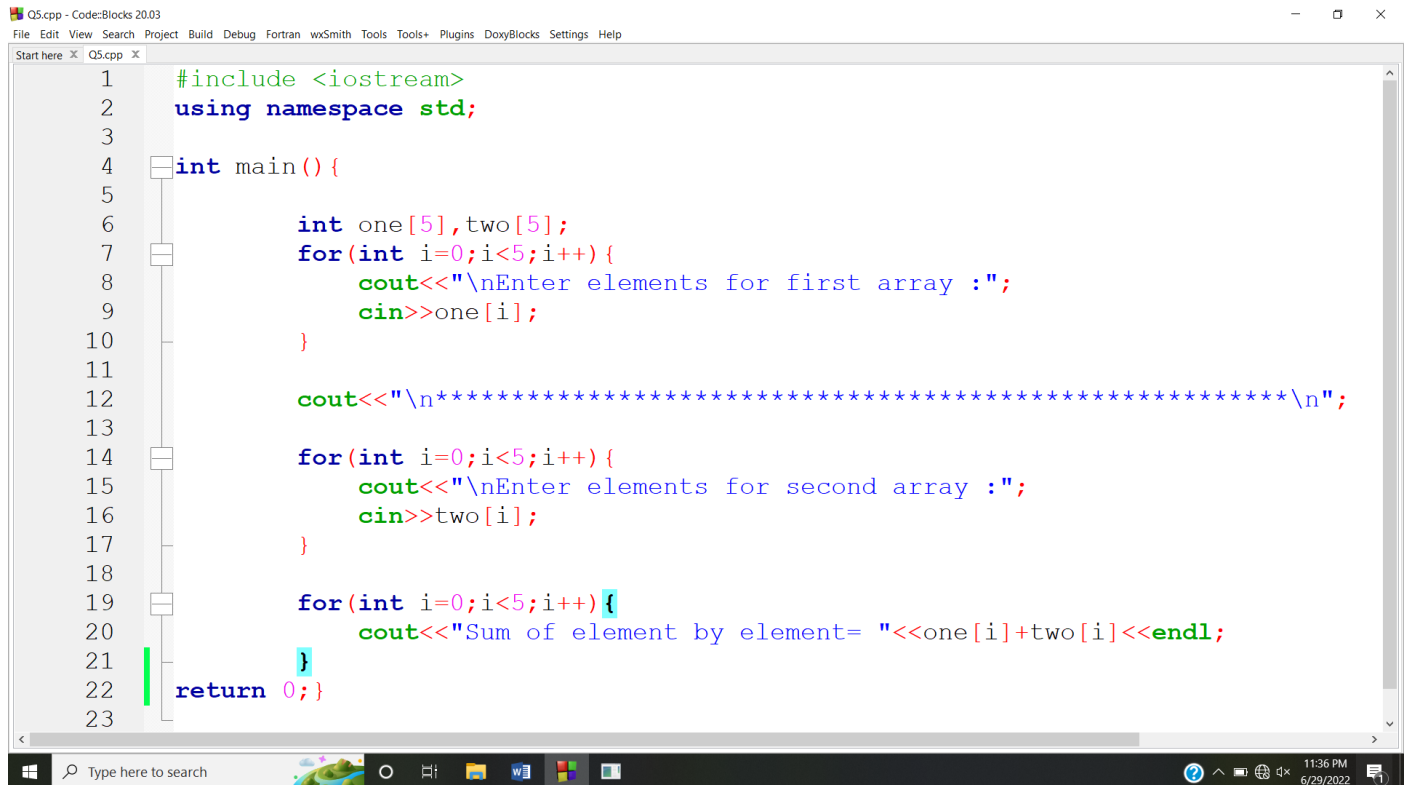
OUTPUT:

```
Enter value for array : 20

Enter value for array : 10

Enter value for array : 30

Enter value for array : 50

Enter value for array : 600
*******************
Maximum value is = 600
*******************

Process returned 0 (0x0)   execution time : 10.788 s
Press any key to continue.
```
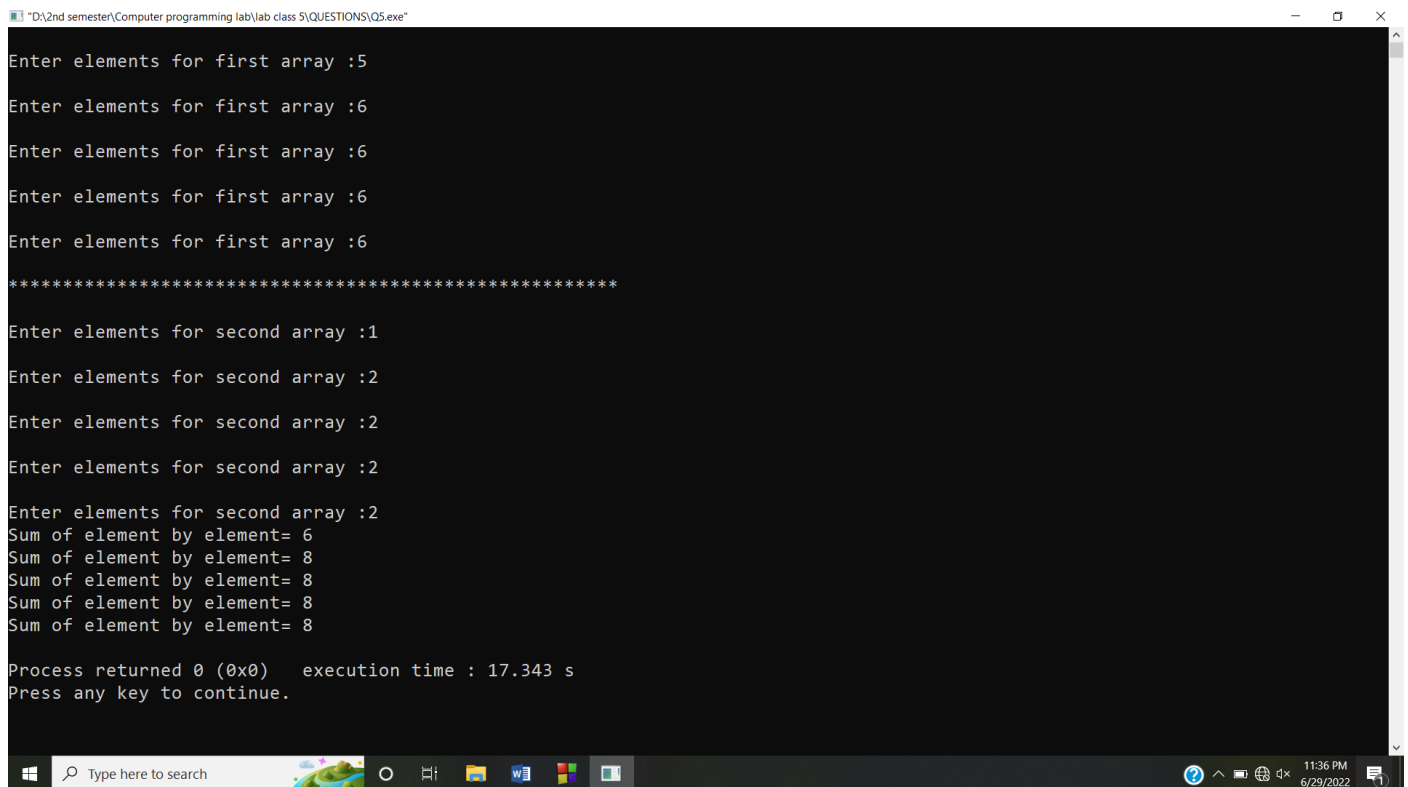
Answer #5

CODE:

```cpp
#include <iostream>
using namespace std;

int main(){

    int one[5],two[5];
    for(int i=0;i<5;i++){
        cout<<"\nEnter elements for first array :";
        cin>>one[i];
    }

    cout<<"\n*******************************************************\n";

    for(int i=0;i<5;i++){
        cout<<"\nEnter elements for second array :";
        cin>>two[i];
    }

    for(int i=0;i<5;i++){
        cout<<"Sum of element by element= "<<one[i]+two[i]<<endl;
    }
    return 0;}
```
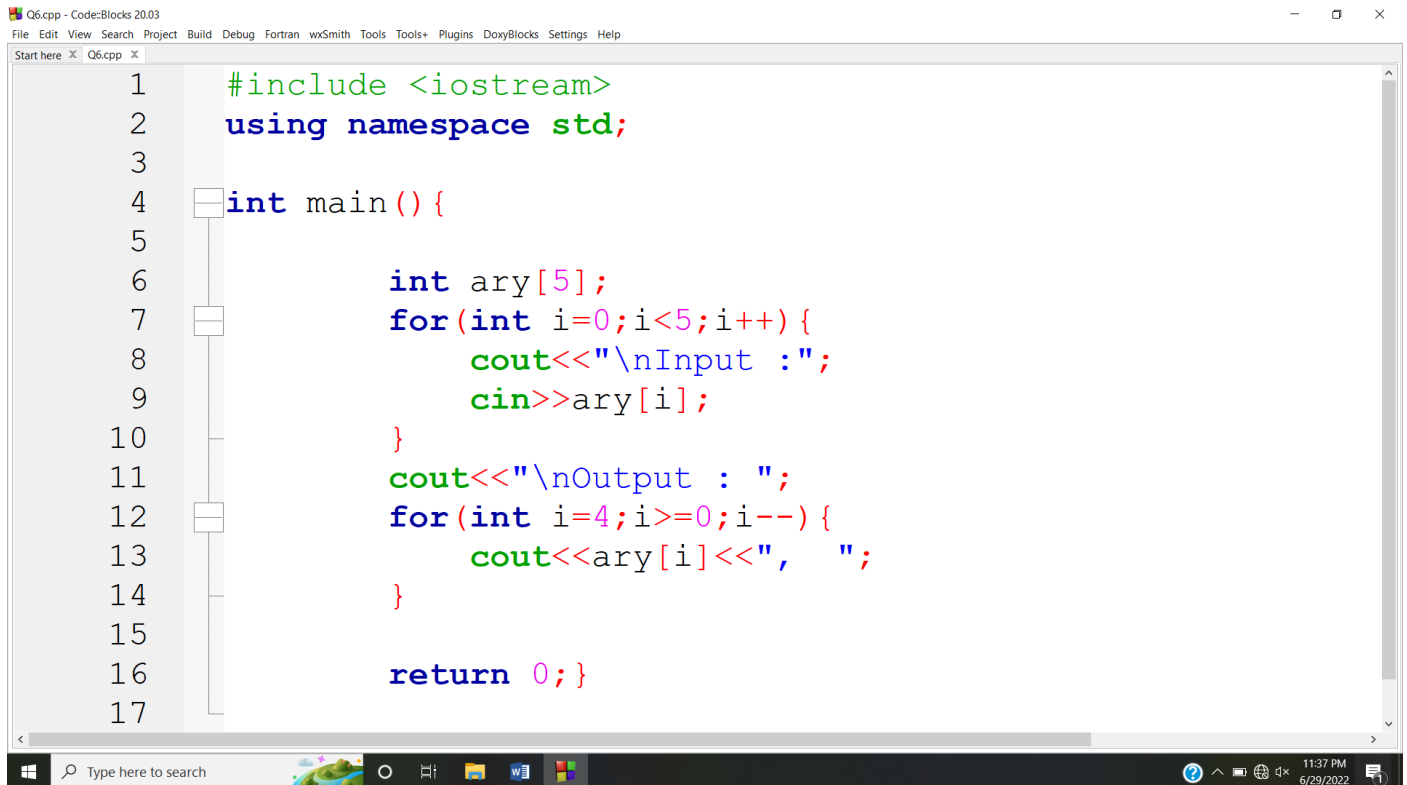
OUTPUT:

```
Enter elements for first array :5

Enter elements for first array :6

Enter elements for first array :6

Enter elements for first array :6

Enter elements for first array :6

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

Enter elements for second array :1

Enter elements for second array :2

Enter elements for second array :2

Enter elements for second array :2

Enter elements for second array :2
Sum of element by element= 6
Sum of element by element= 8
Sum of element by element= 8
Sum of element by element= 8
Sum of element by element= 8

Process returned 0 (0x0)   execution time : 17.343 s
Press any key to continue.
```
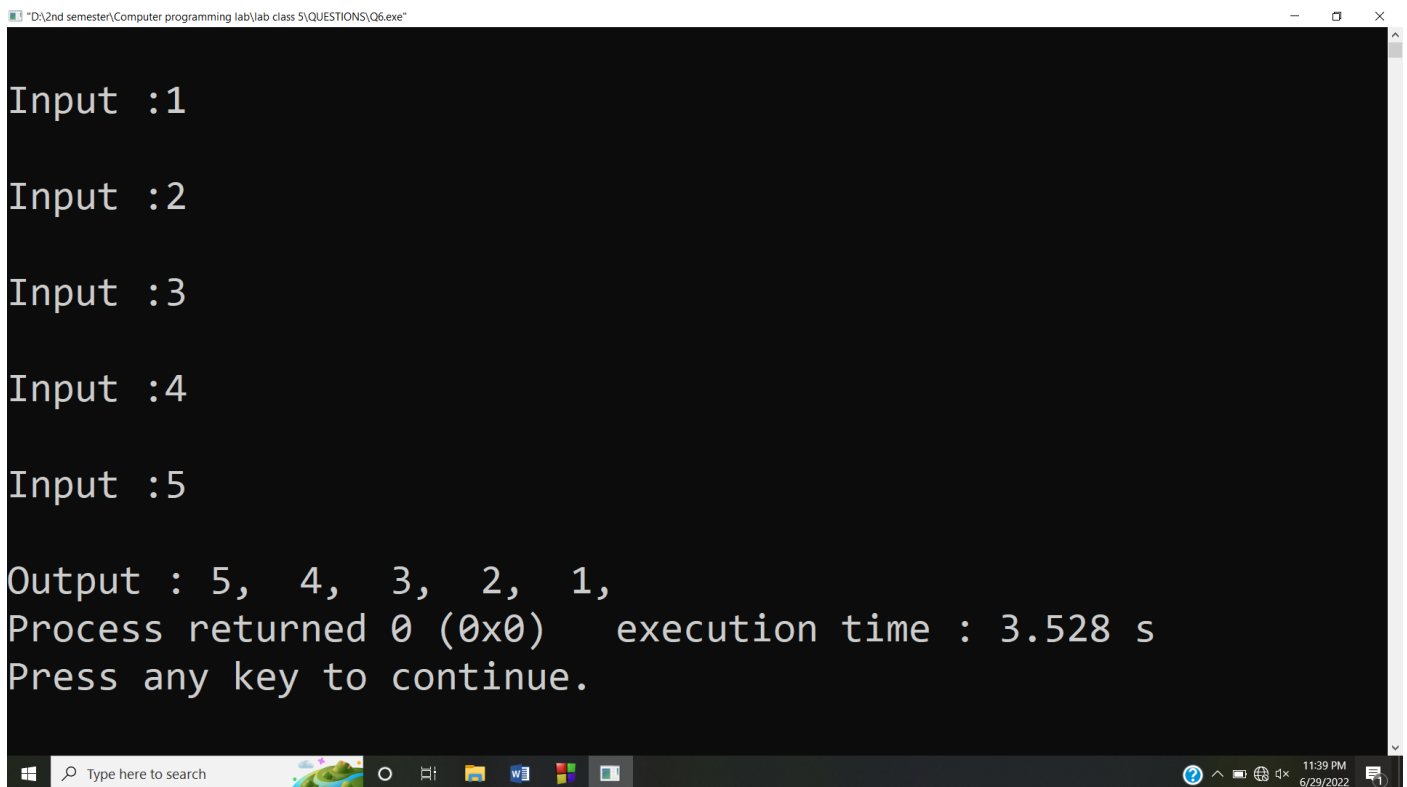
Answer #6

CODE:

```cpp
#include <iostream>
using namespace std;

int main(){

    int ary[5];
    for(int i=0;i<5;i++){
        cout<<"\nInput :";
        cin>>ary[i];
    }
    cout<<"\nOutput : ";
    for(int i=4;i>=0;i--){
        cout<<ary[i]<<",  ";
    }

    return 0;}
```
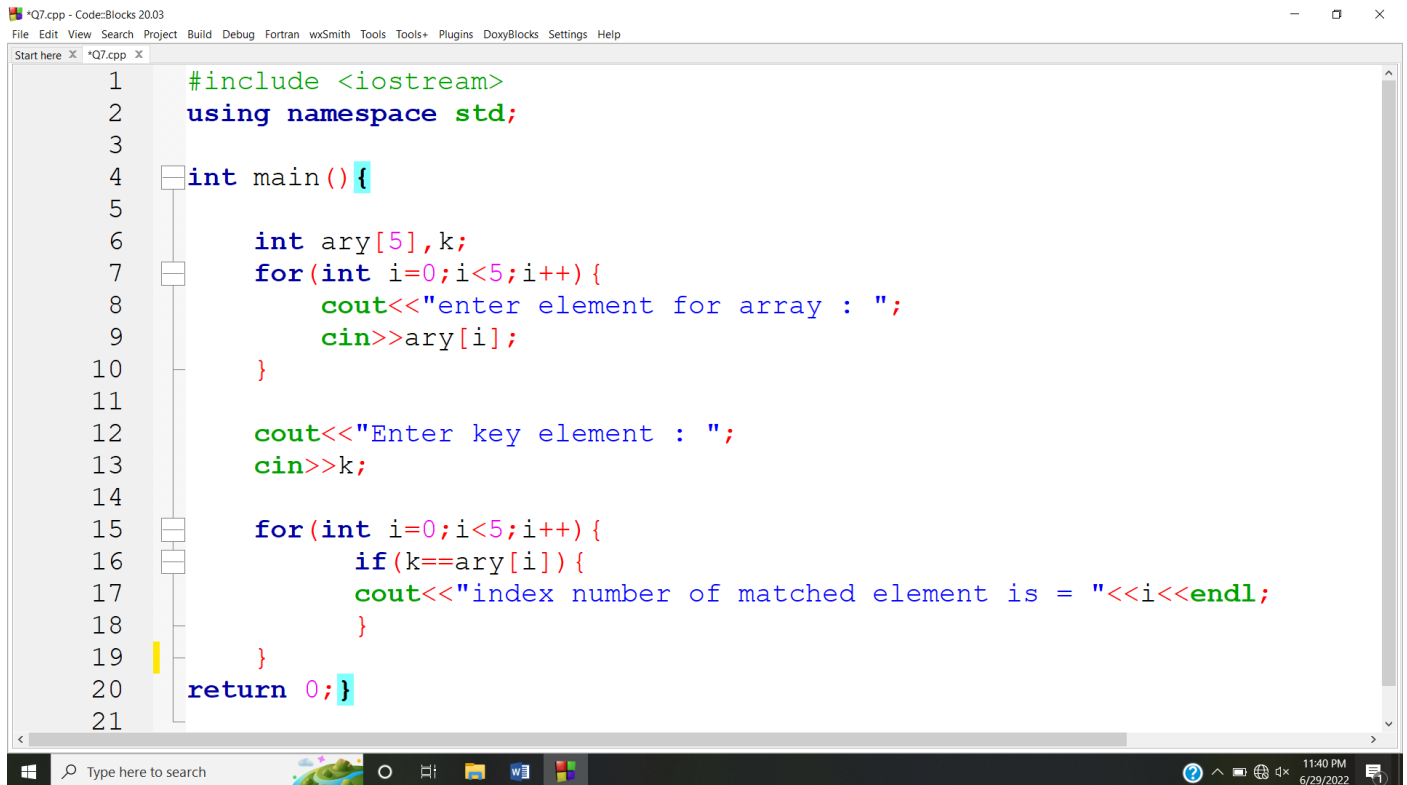
OUTPUT:

```
Input :1

Input :2

Input :3

Input :4

Input :5

Output : 5,  4,  3,  2,  1,
Process returned 0 (0x0)   execution time : 3.528 s
Press any key to continue.
```
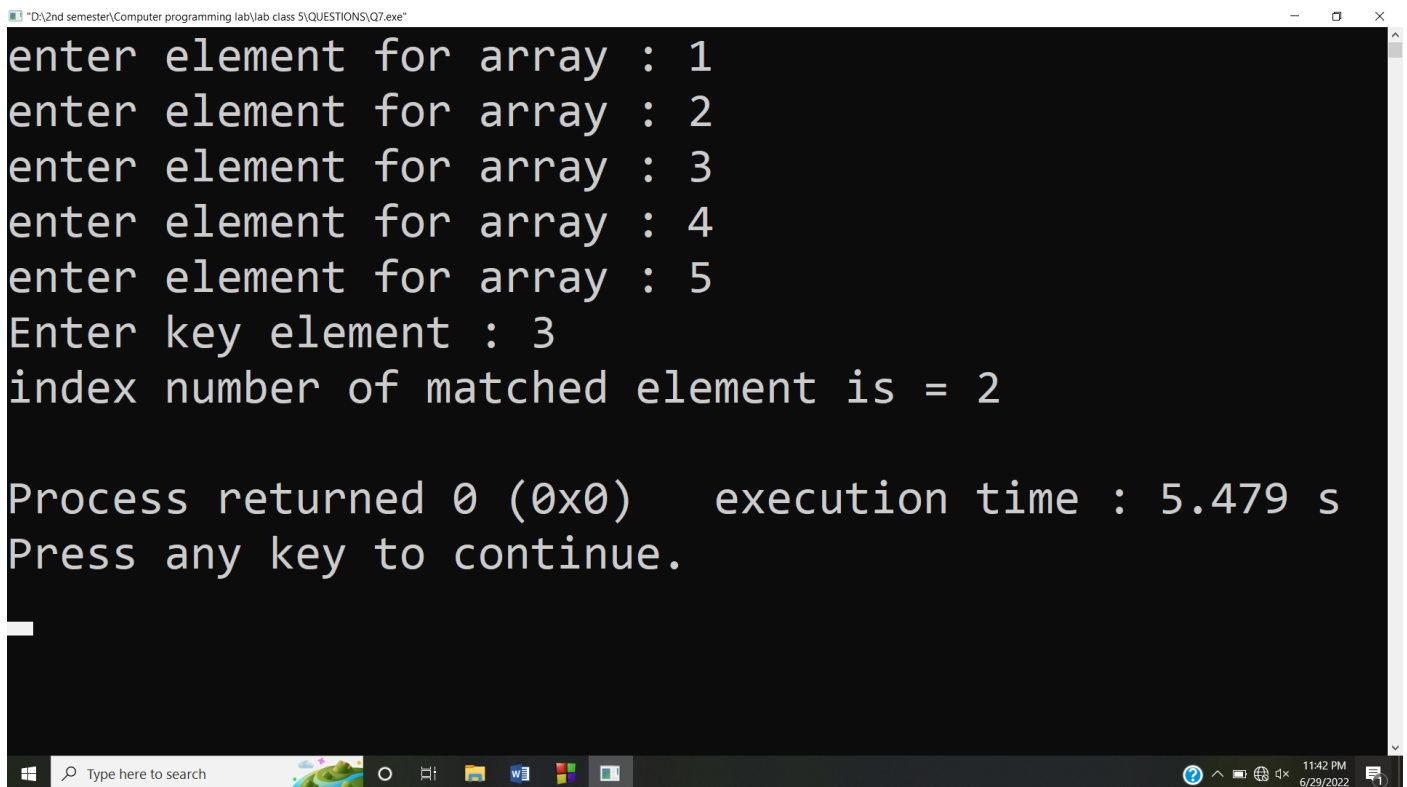
Answer #7

CODE:

```cpp
#include <iostream>
using namespace std;

int main(){

    int ary[5],k;
    for(int i=0;i<5;i++){
        cout<<"enter element for array : ";
        cin>>ary[i];
    }

    cout<<"Enter key element : ";
    cin>>k;

    for(int i=0;i<5;i++){
        if(k==ary[i]){
        cout<<"index number of matched element is = "<<i<<endl;
        }
    }
return 0;}
```

OUTPUT:

```
enter element for array : 1
enter element for array : 2
enter element for array : 3
enter element for array : 4
enter element for array : 5
Enter key element : 3
index number of matched element is = 2

Process returned 0 (0x0)   execution time : 5.479 s
Press any key to continue.
```