Pointers (Part 1 Basics)
LAB # 08

Spring 2022

CSE-102L COMPUTER PROGRAMMING LAB

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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:

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(July 2022)

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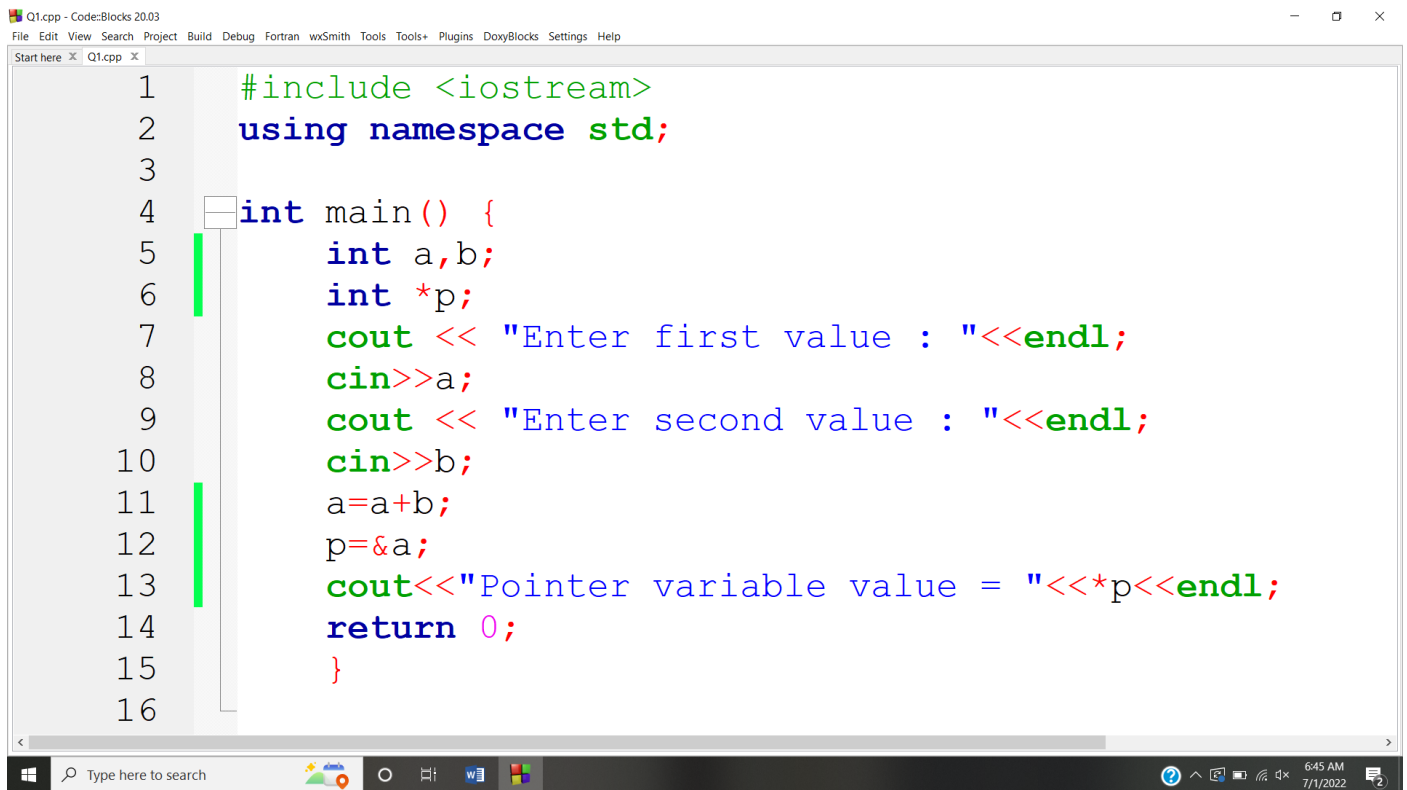
Lab 8:   Pointers (Part 1 Basics)

Objectives:
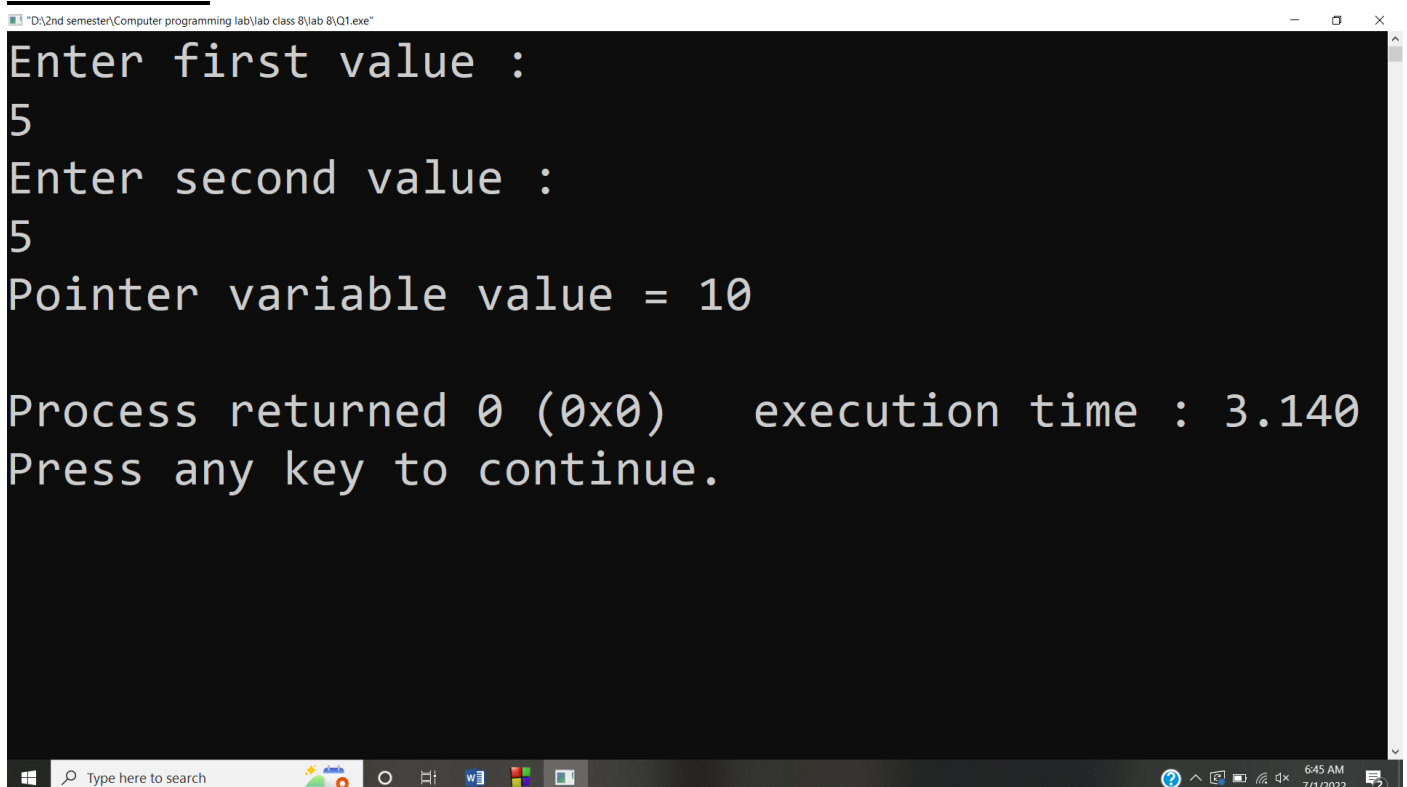
To understand pointers and references.

Hint: You can also input values in pointers using cin>>*p;

Tasks:

1. Write a C++ program where you take two values in two variables from user, add the values of the two variables and put it into a third variable using a pointer. you must you only one pointer.
2. Write a C++ program where you take two values from user in two variables, swaps the values of the variables using pointers.
3. Write a C++ program where you take a value in a variable from use increment that value by 5 using a pointer in a for loop and display its value using pointer.
4. Write a C++ program where you take your first name from user in a string variable, also in take your registration number from the user in another string variable. And then display both using a single pointer.
5. Display 1 to n numbers using pointer, user must enter the n.
6. Add even numbers from 1 to n using pointers user must enter n.

COMPUTER PROGRAMMING LAB # 8

Answer #1

CODE:

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

int main() {
    int a,b;
    int *p;
    cout << "Enter first value : "<<endl;
    cin>>a;
    cout << "Enter second value : "<<endl;
    cin>>b;
    a=a+b;
    p=&a;
    cout<<"Pointer variable value = "<<*p<<endl;
    return 0;
}
```
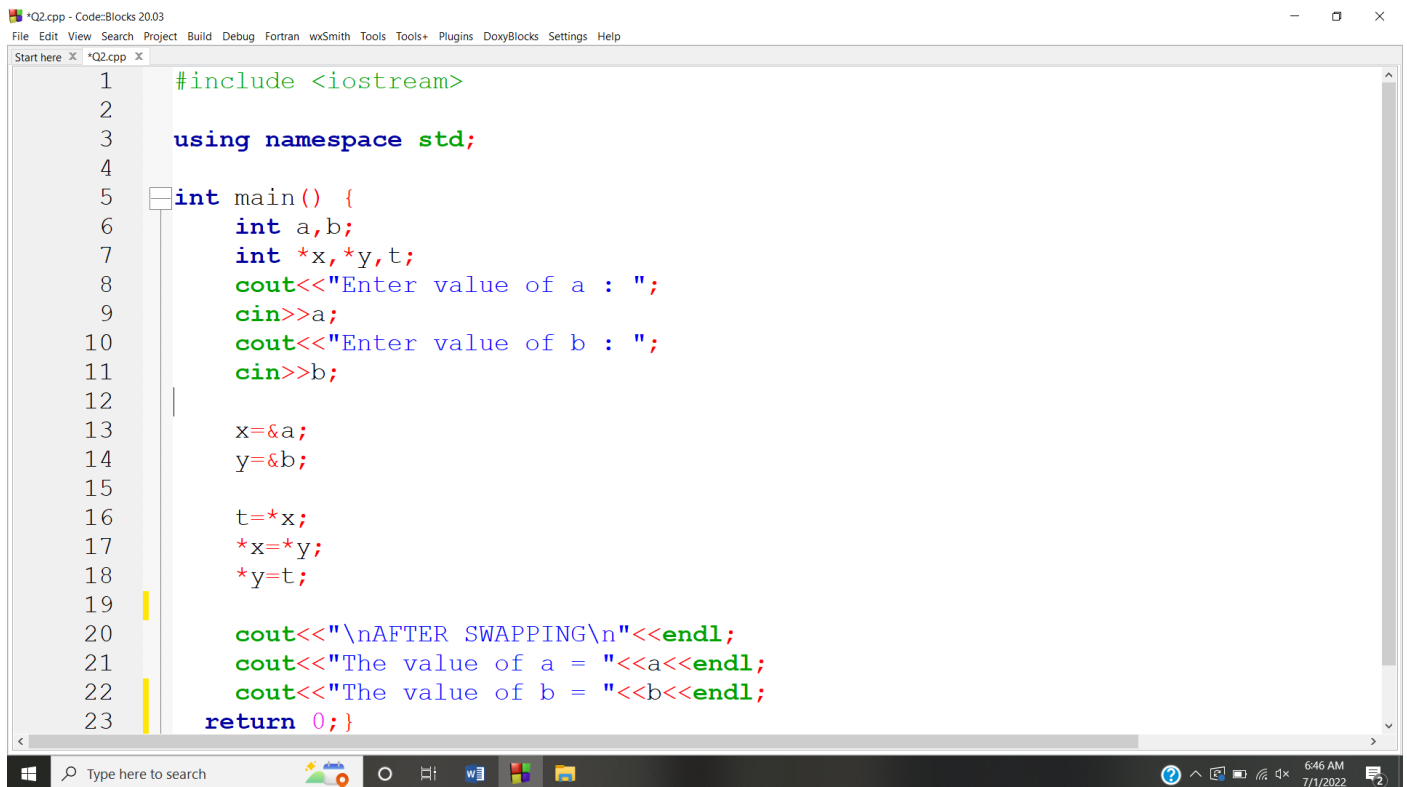
OUTPUT:

```
Enter first value :
5
Enter second value :
5
Pointer variable value = 10

Process returned 0 (0x0)    execution time : 3.140
Press any key to continue.
```
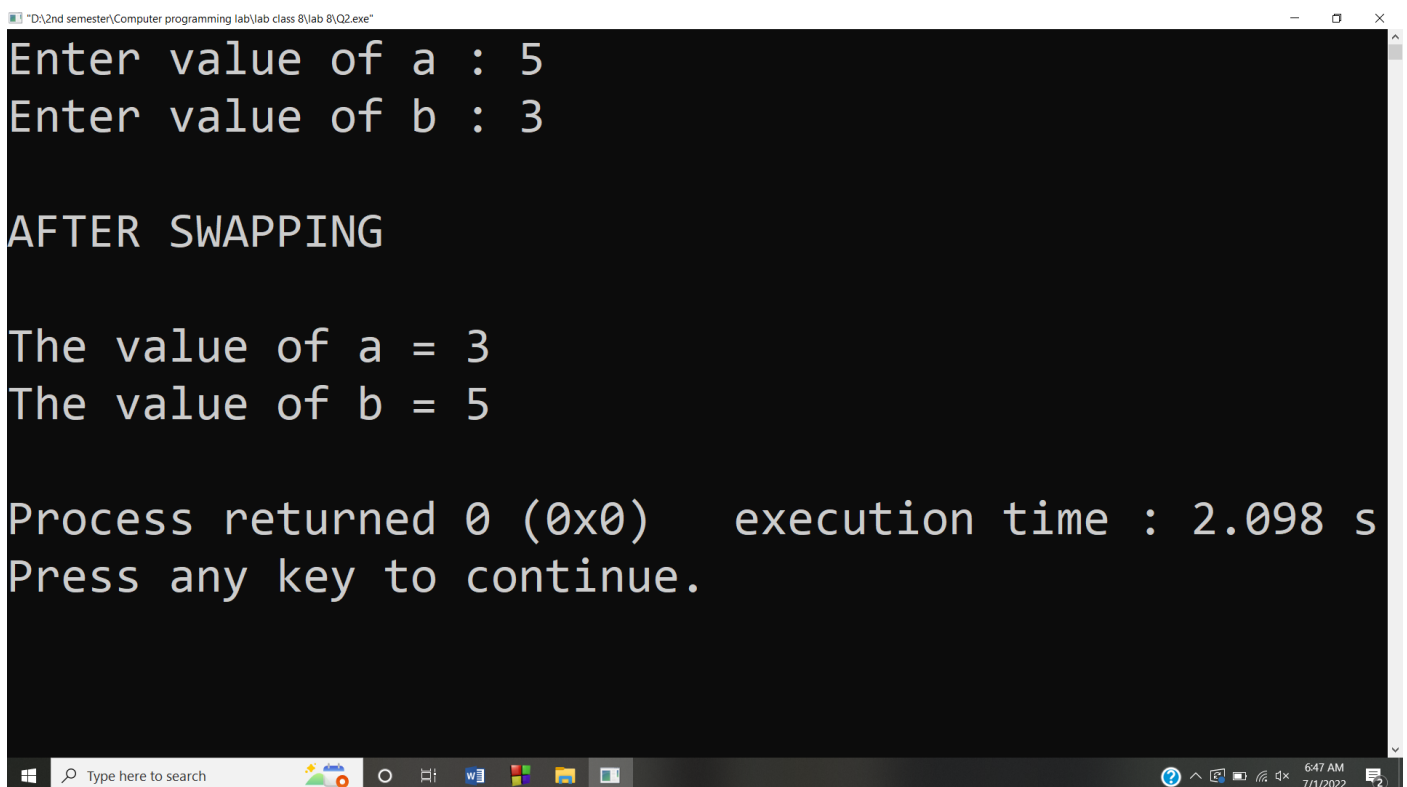
Answer #2

CODE:

```cpp
#include <iostream>

using namespace std;

int main() {
    int a,b;
    int *x,*y,t;
    cout<<"Enter value of a : ";
    cin>>a;
    cout<<"Enter value of b : ";
    cin>>b;

    x=&a;
    y=&b;

    t=*x;
    *x=*y;
    *y=t;

    cout<<"\nAFTER SWAPPING\n"<<endl;
    cout<<"The value of a = "<<a<<endl;
    cout<<"The value of b = "<<b<<endl;
    return 0;}
```

OUTPUT:
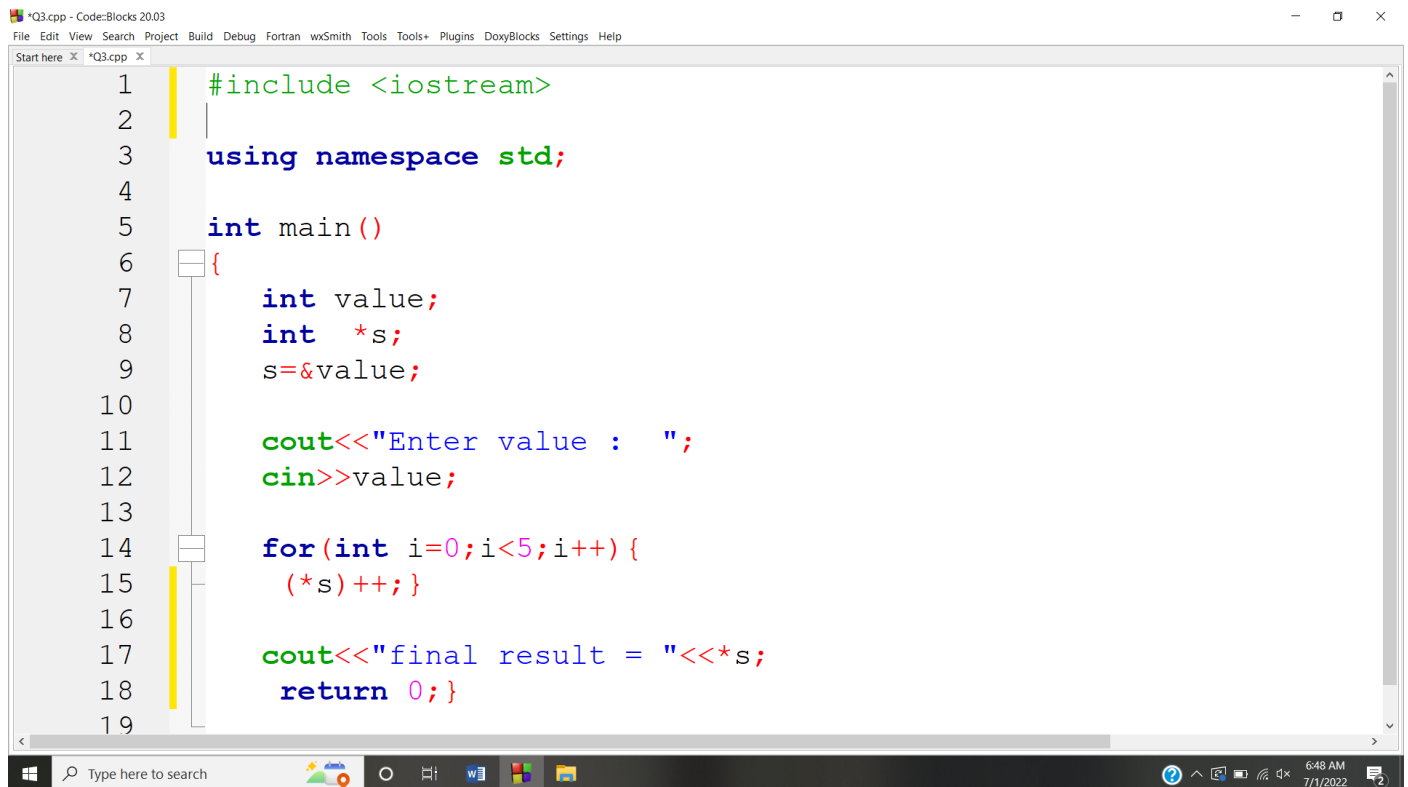
```
Enter value of a : 5
Enter value of b : 3


AFTER SWAPPING


The value of a = 3
The value of b = 5


Process returned 0 (0x0)    execution time : 2.098 s
Press any key to continue.
```
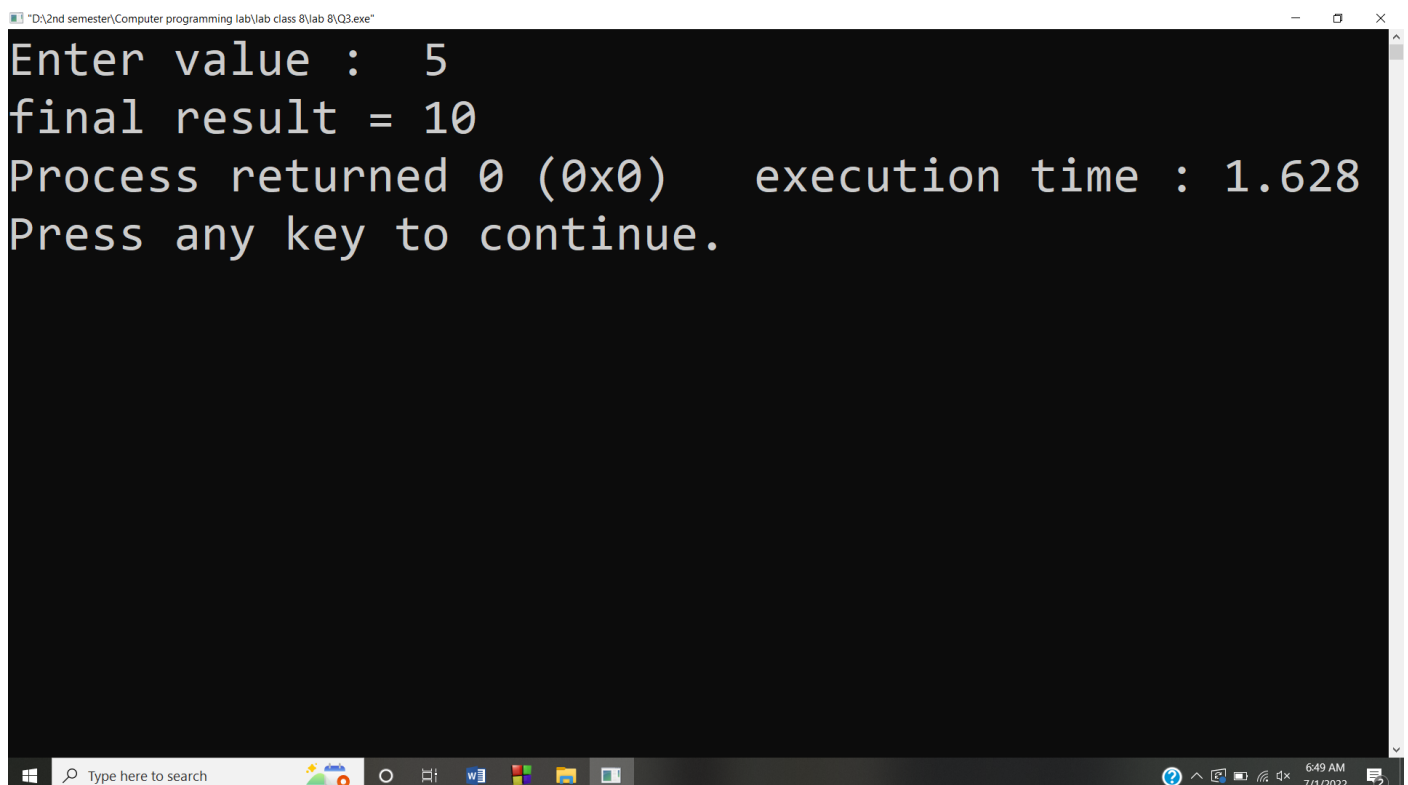
Answer #3

CODE:

```cpp
#include <iostream>

using namespace std;

int main()
{
    int value;
    int  *s;
    s=&value;

    cout<<"Enter value :   ";
    cin>>value;

    for(int i=0;i<5;i++){
      (*s)++;}

    cout<<"final result = "<<*s;
     return 0;}
```
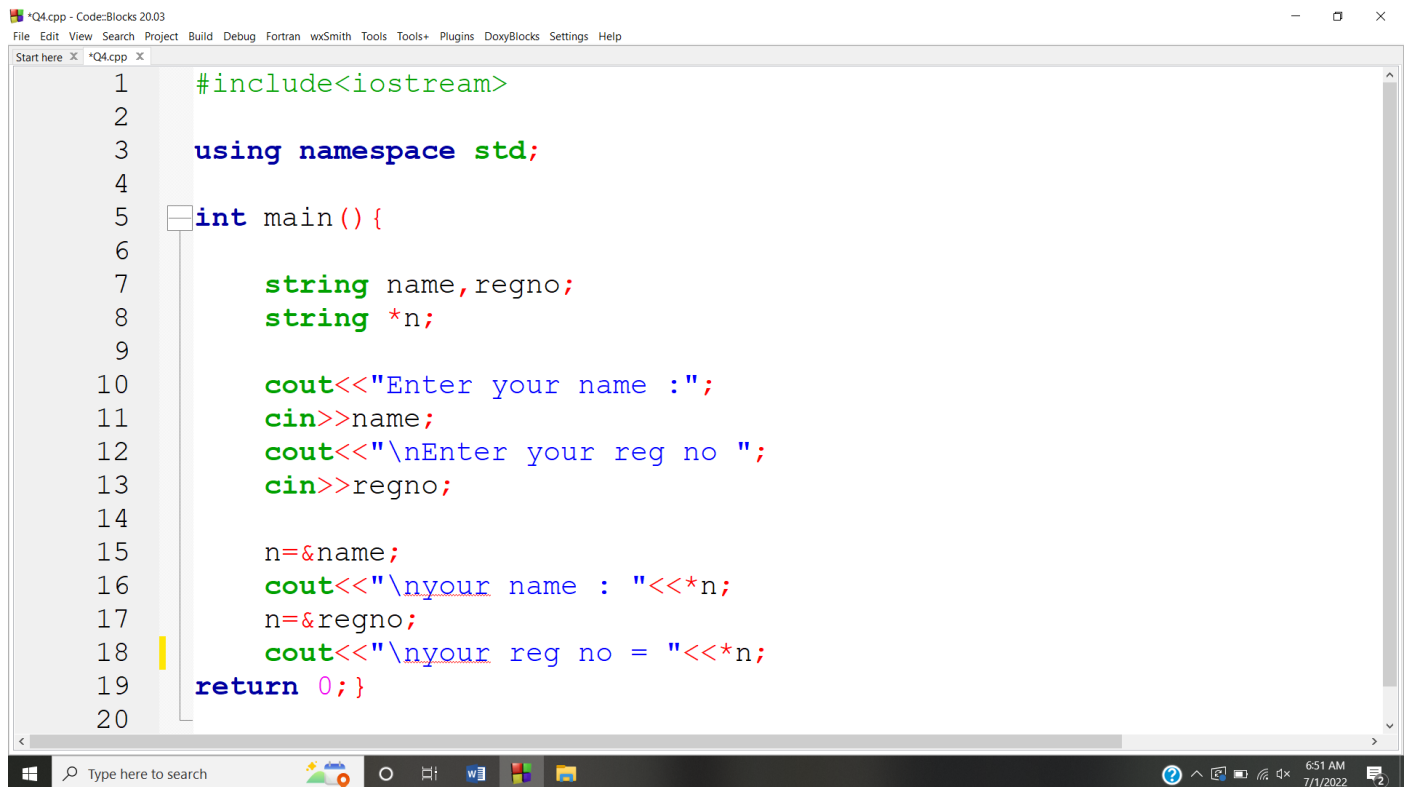
OUTPUT:

```
Enter value :   5
final result = 10
Process returned 0 (0x0)   execution time : 1.628
Press any key to continue.
```

Answer #4
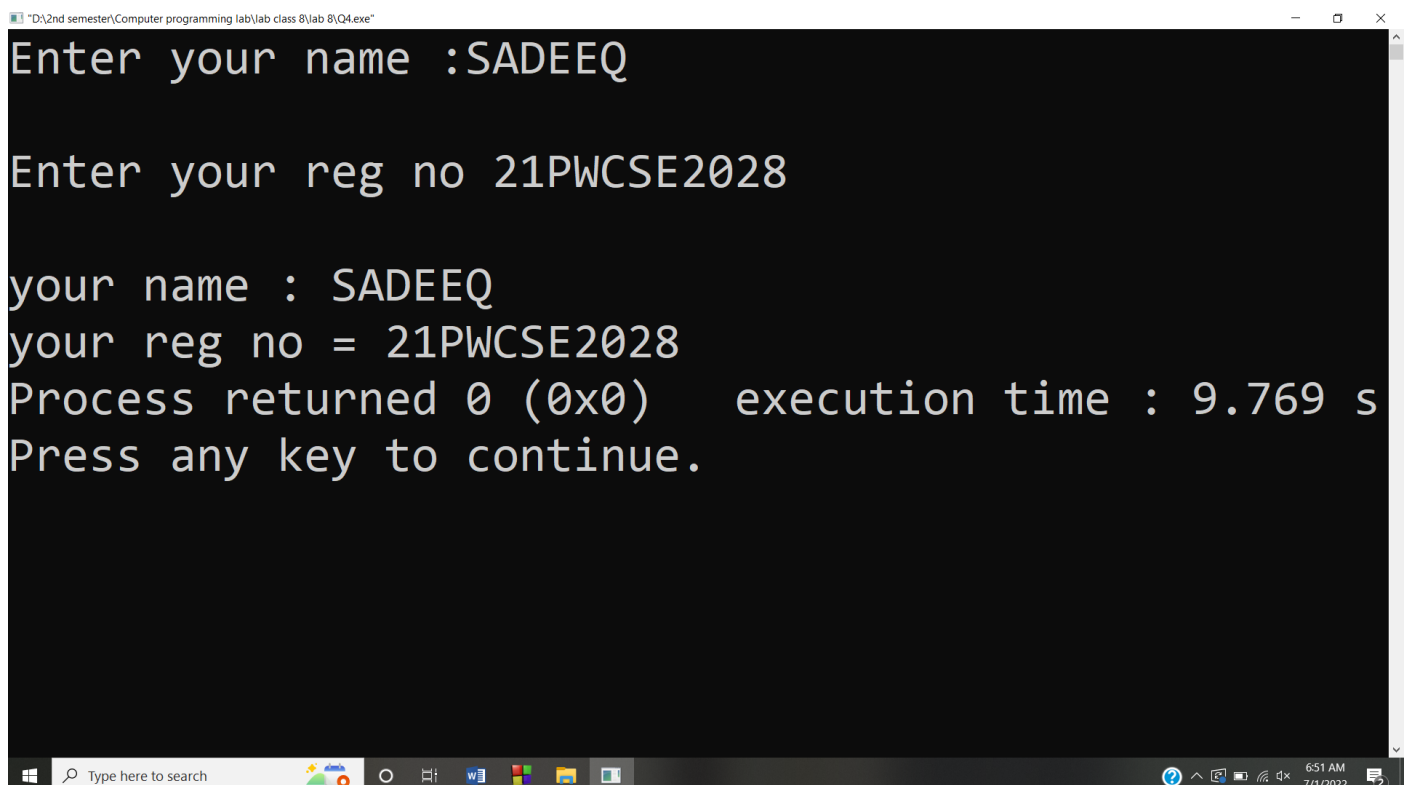
CODE:

```cpp
#include<iostream>

using namespace std;

int main(){

    string name,regno;
    string *n;

    cout<<"Enter your name :";
    cin>>name;
    cout<<"\nEnter your reg no ";
    cin>>regno;

    n=&name;
    cout<<"\nyour name : "<<*n;
    n=&regno;
    cout<<"\nyour reg no = "<<*n;
return 0;}
```
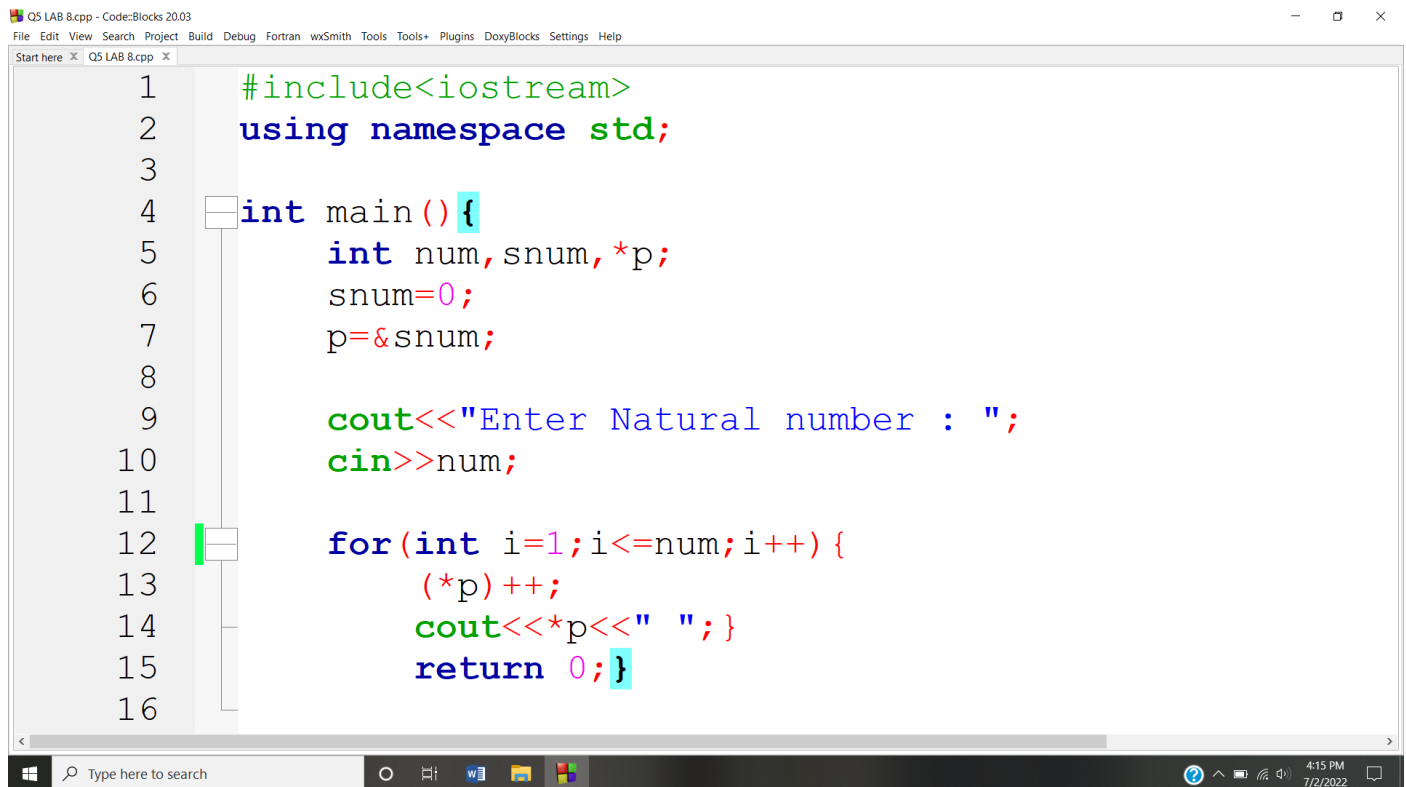
OUTPUT:

```
Enter your name :SADEEQ

Enter your reg no 21PWCSE2028

your name : SADEEQ
your reg no = 21PWCSE2028
Process returned 0 (0x0)    execution time : 9.769 s
Press any key to continue.
```
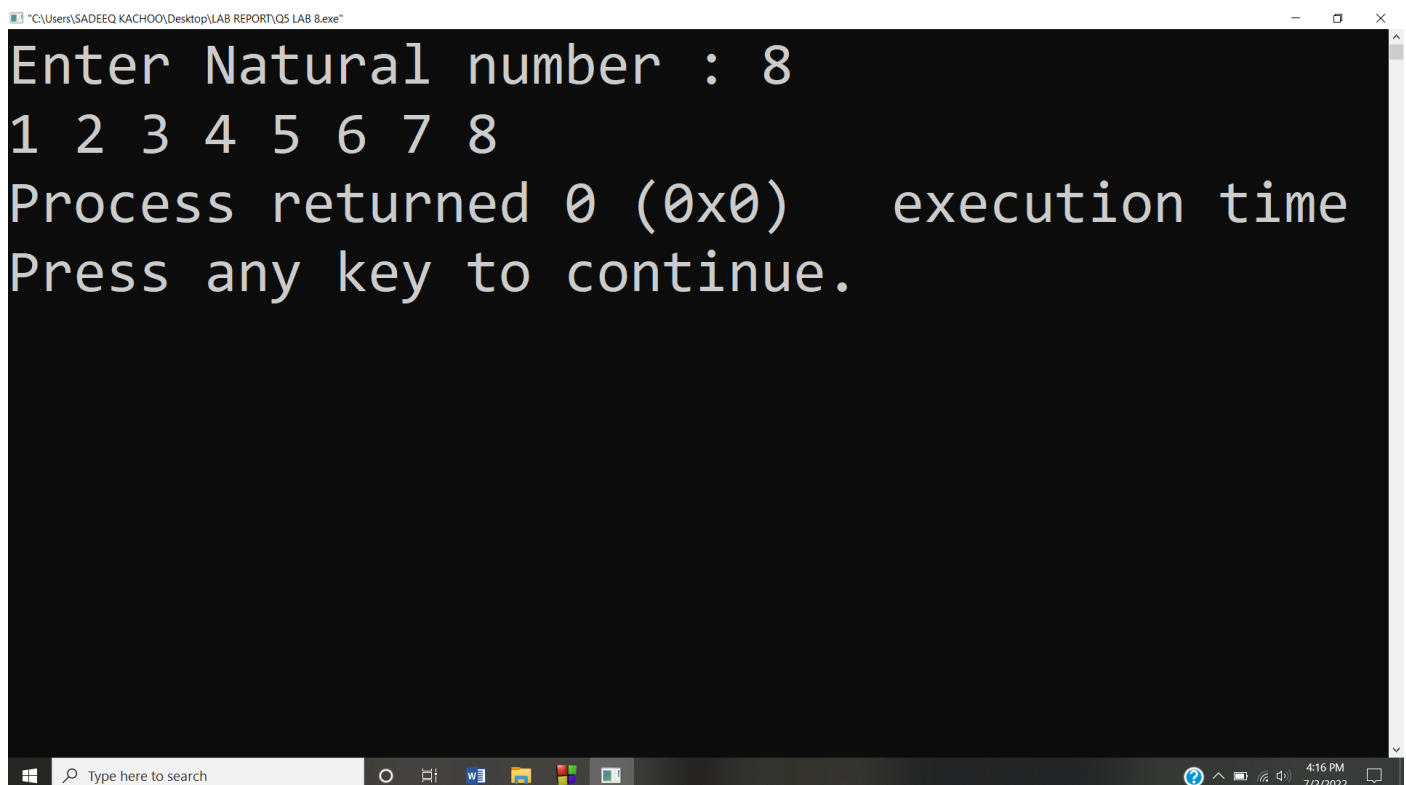
Answer #5

CODE:

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

int main(){
    int num,snum,*p;
    snum=0;
    p=&snum;

    cout<<"Enter Natural number : ";
    cin>>num;

    for(int i=1;i<=num;i++){
        (*p)++;
        cout<<*p<<" ";}
        return 0;}
```
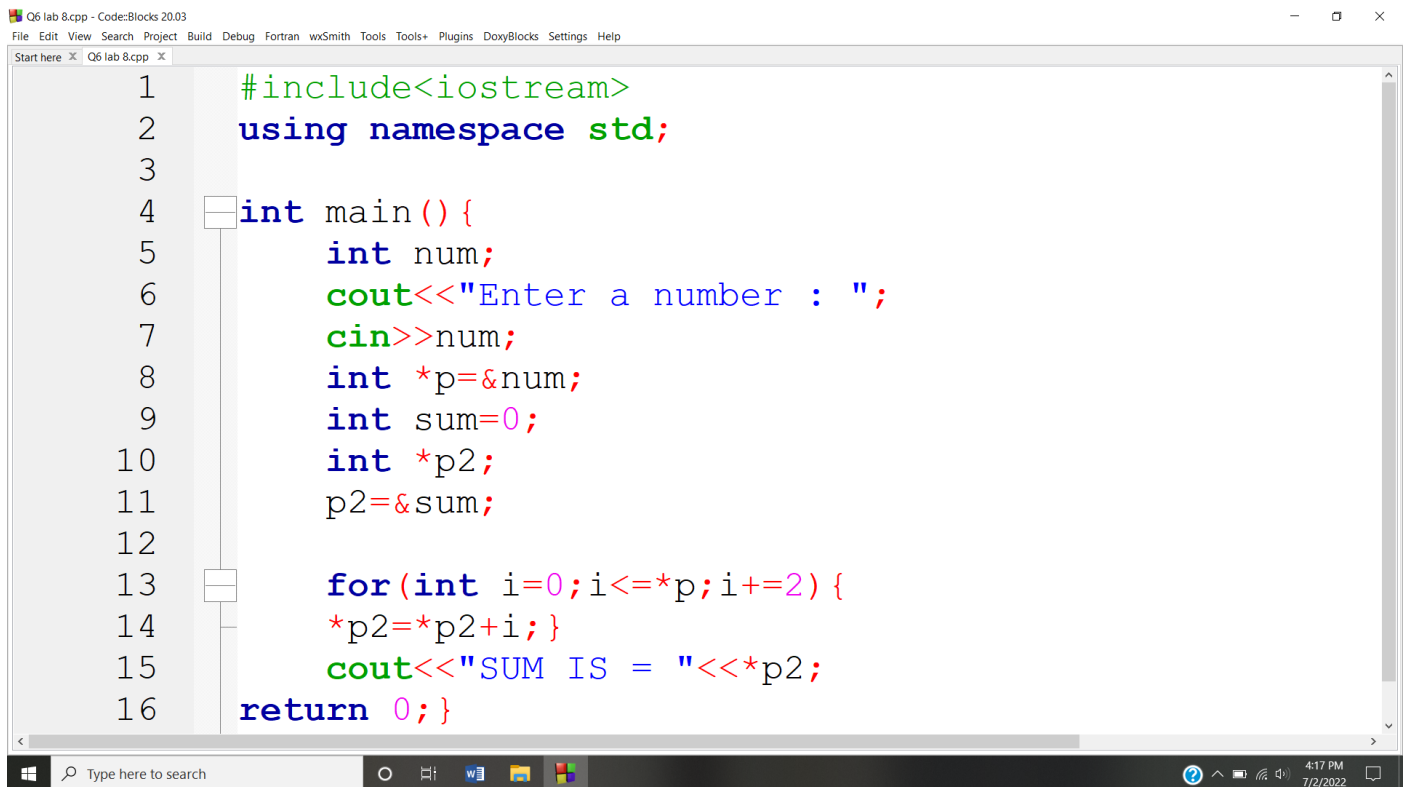
OUTPUT:

```
Enter Natural number : 8
1 2 3 4 5 6 7 8
Process returned 0 (0x0)   execution time
Press any key to continue.
```
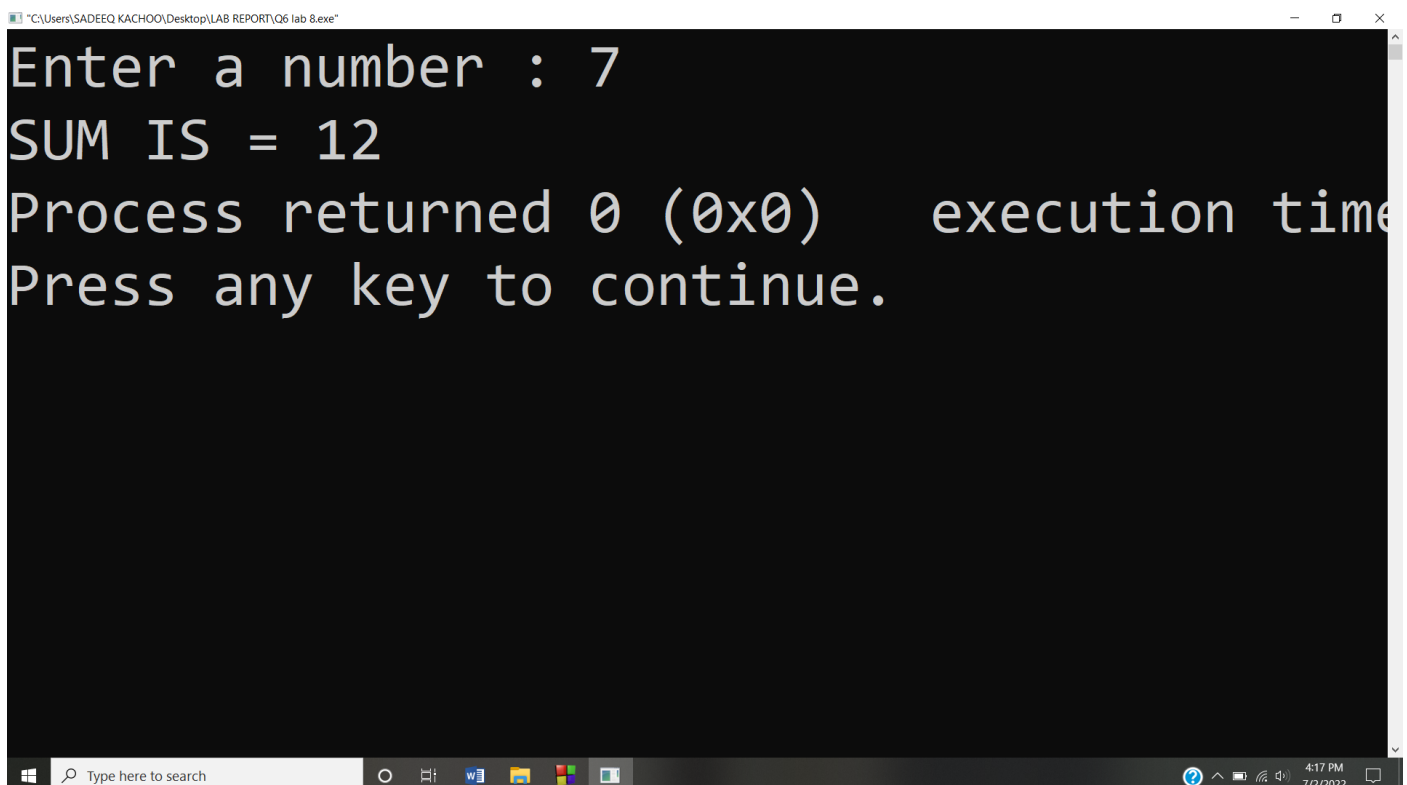
Answer #6

CODE:

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

int main(){
    int num;
    cout<<"Enter a number : ";
    cin>>num;
    int *p=&num;
    int sum=0;
    int *p2;
    p2=&sum;

    for(int i=0;i<=*p;i+=2){
    *p2=*p2+i;}
    cout<<"SUM IS = "<<*p2;
return 0;}
```

OUTPUT:

```
Enter a number : 7
SUM IS = 12
Process returned 0 (0x0)   execution time
Press any key to continue.
```