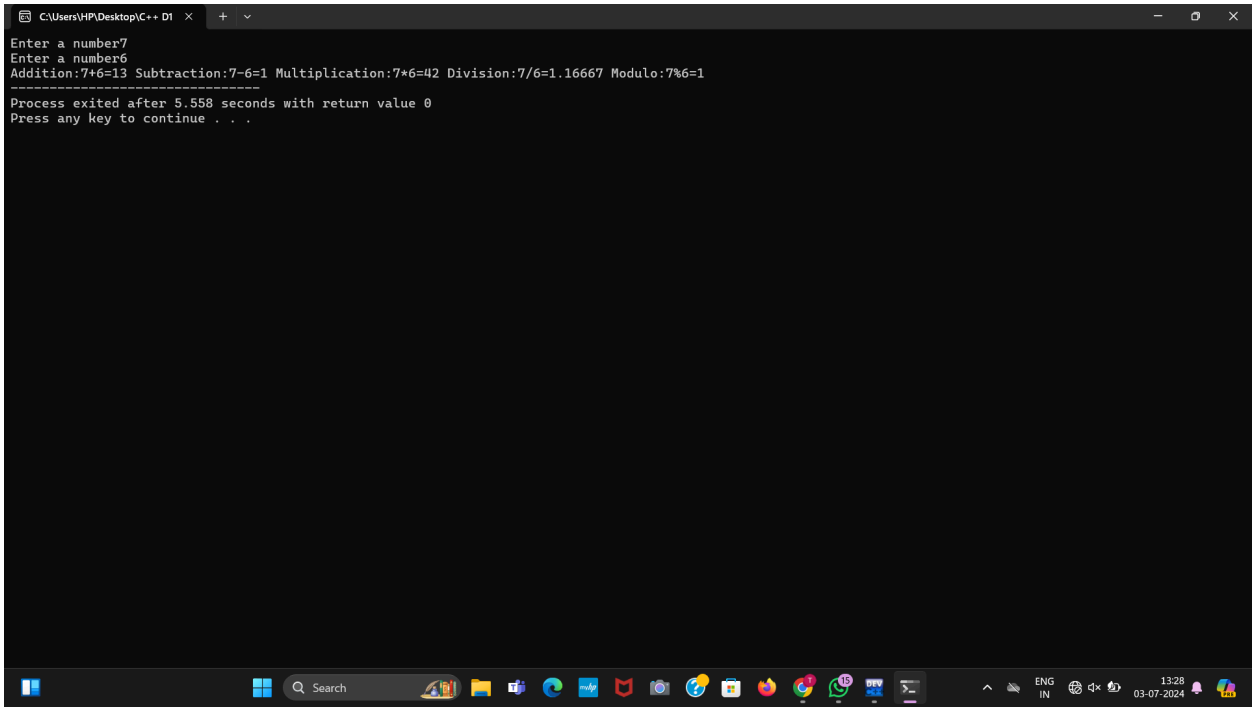
1. **C++ program to read in two integers and perform the following operations on them: addition, subtraction, multiplication, division, and modulo.**

```
#include<iostream>
using namespace std;
int main(){
	int num1,num2;
	cout<<"Enter a number";
	cin>>num1;
	cout<<"Enter a number";
	cin>>num2;

	int addition=num1+num2;
	int subtraction=num1-num2;
	int multiplication=num1*num2;
	if(num2!=0){
			double division=static_cast<double>(num1)/num2;
		int modulo=num1%num2;


		cout<<"\nAddition:"<<num1<<"+"<<num2<<"="<<addition;
		cout<<"\nSubtraction:"<<num1<<"-"<<num2<<"="<<subtraction;
		cout<<"\nMultiplication:"<<num1<<"*"<<num2<<"="<<multiplication;
		cout<<"\nDivision:"<<num1<<"/"<<num2<<"="<<division;
		cout<<"\nModulo:"<<num1<<"%"<<num2<<"="<<modulo;

	}
	else{
		cout<<"\nAddition:"<<num1<<"+"<<num2<<"="<<addition<<" ";
		cout<<"\nSubtraction:"<<num1<<"-"<<num2<<"="<<subtraction<<" ";
		cout<<"\nMultiplication:"<<num1<<"*"<<num2<<"="<<multiplication<<" ";
		cout<<"\nDivision::Division by Zero undefined"<<" ";
		cout<<"\nModulo::Modulo by Zero undefined";

	}
	return 0;
}
```

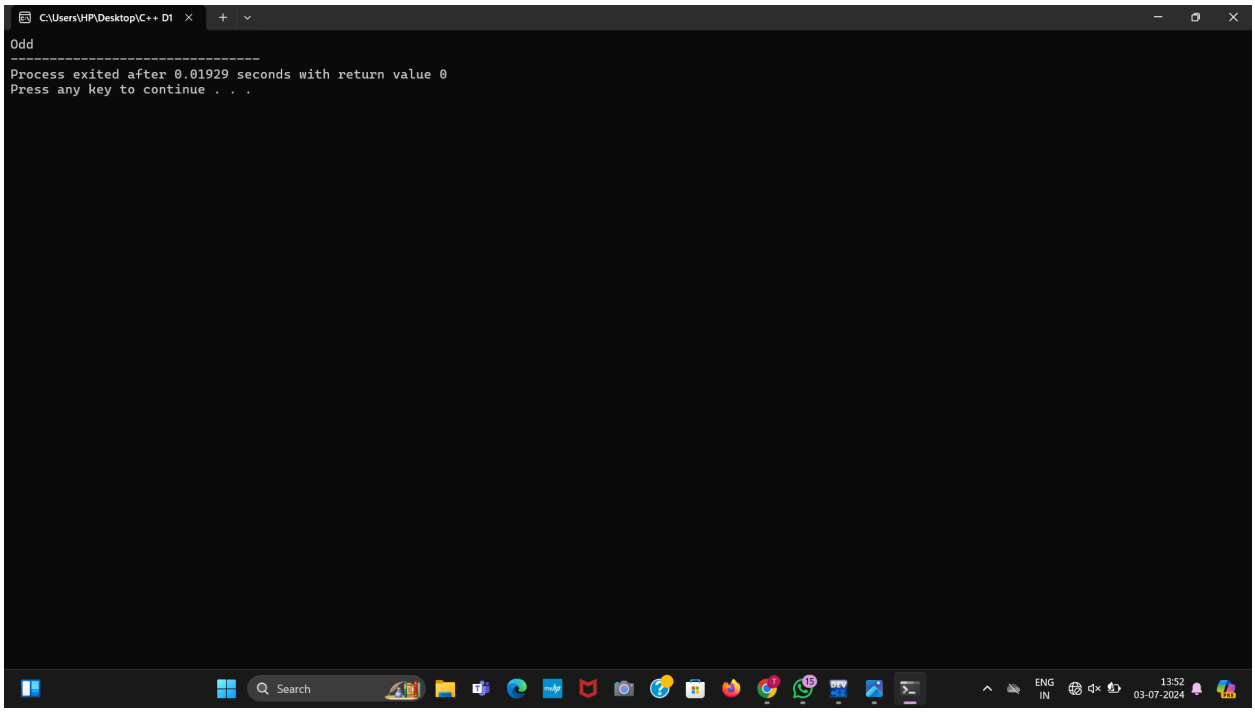
Output:



2. C++ program to determine the integer is odd or even

```
#include <iostream>
using namespace std;
bool isEven(int n) { return (n % 2 == 0); }

int main()
{
   int n = 101;
   if (isEven(n))
      cout << "Even";
   else
      cout << "Odd";

   return 0;
}
```

Output:

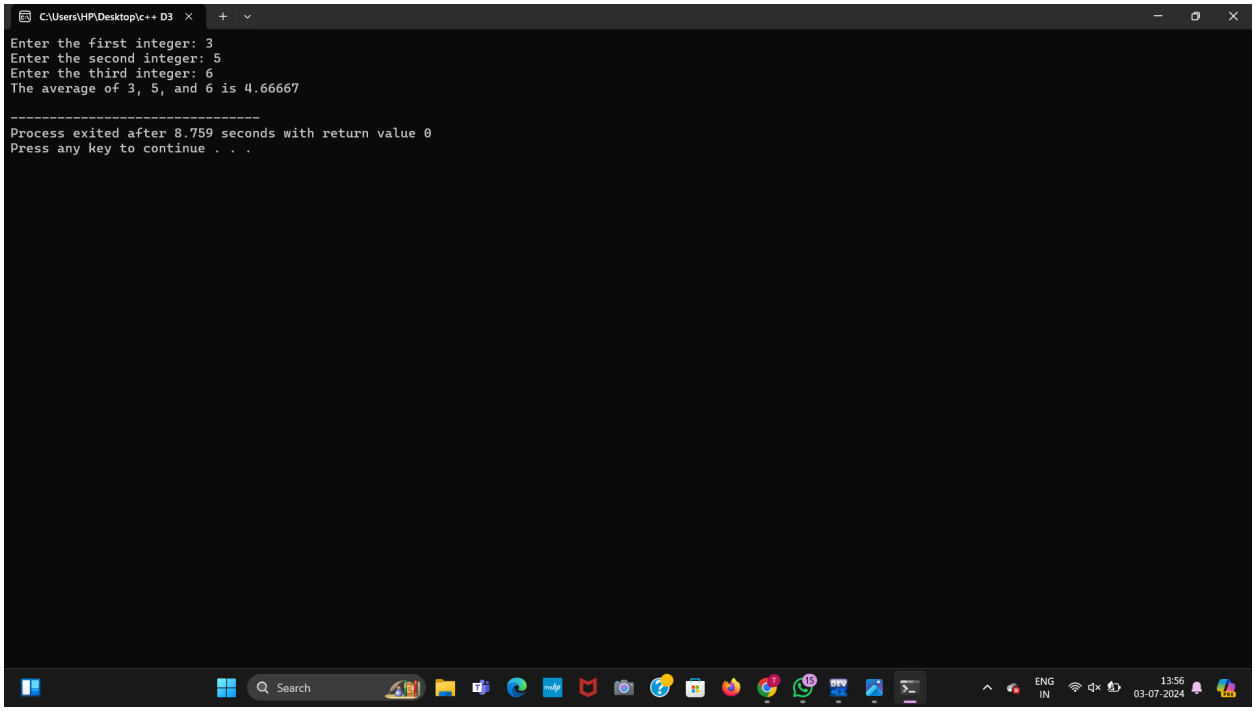


3. Program to compute the average of three integers

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

int main() {
    int num1, num2, num3;
    double average;

    cout << "Enter the first integer: ";
    cin >> num1;
    cout << "Enter the second integer: ";
    cin >> num2;
    cout << "Enter the third integer: ";
    cin >> num3;

    average = (num1 + num2 + num3) / 3.0;

    cout << "The average of " << num1 << ", " << num2 << ", and " << num3 << " is " <<
average << endl;

    return 0;
```

```
}
```

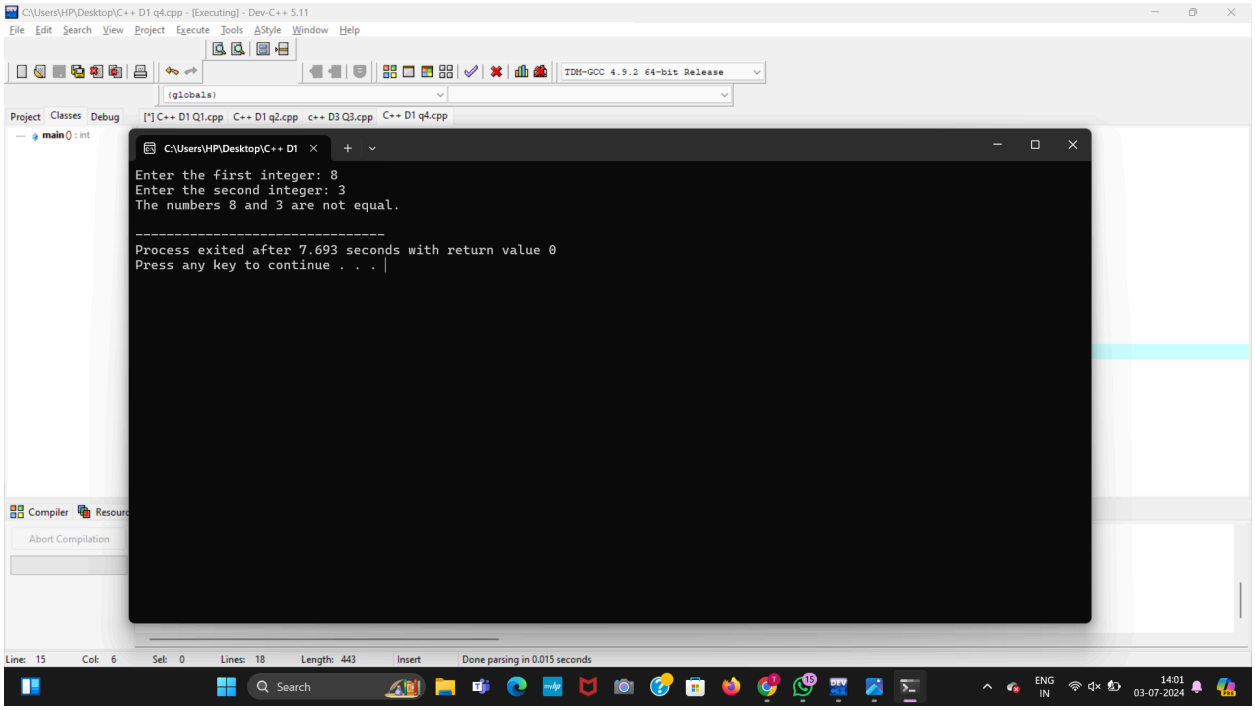
Output:



4. Program to check two numbers are equal or not

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

int main() {
   int num1, num2;
   cout << "Enter the first integer: ";
   cin >> num1;
   cout << "Enter the second integer: ";
   cin >> num2;

   if (num1 == num2) {
      cout << "The numbers " << num1 << " and " << num2 << " are equal." << endl;
   } else {
      cout << "The numbers " << num1 << " and " << num2 << " are not equal." << endl;
   }
   return 0;
}
```

Output:

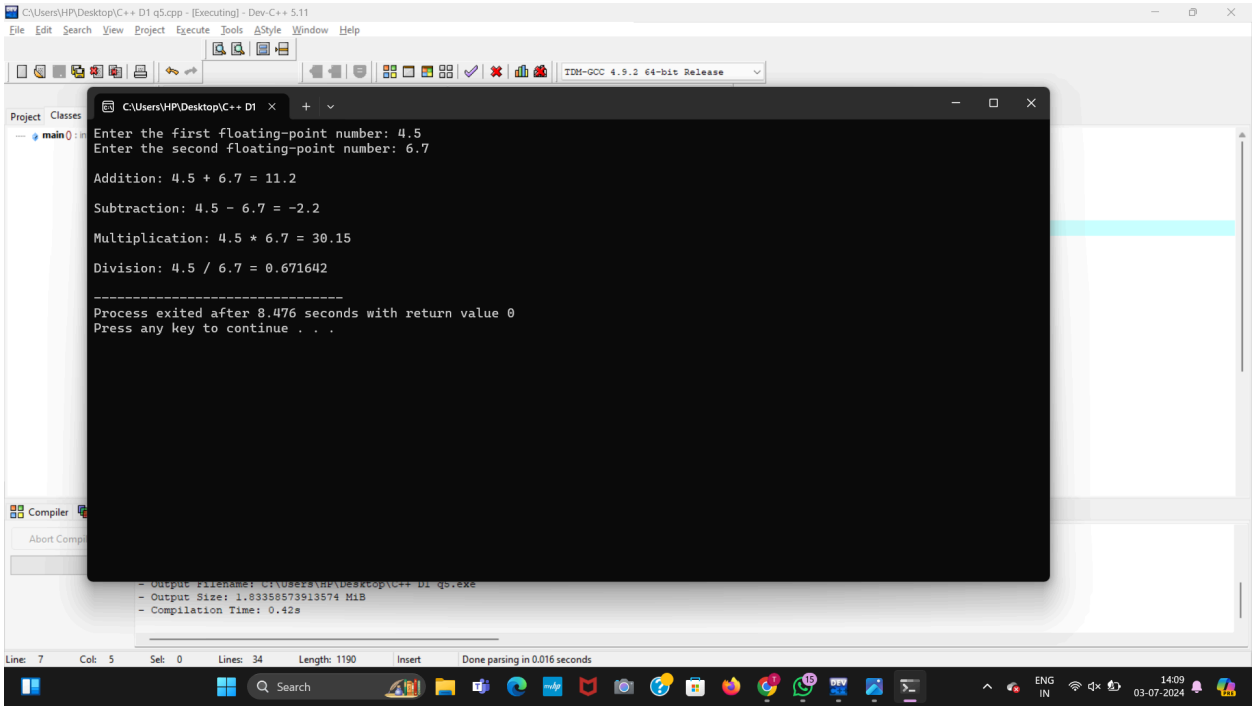


5. **Write a C++ program to read in two Floating numbers and perform the following operations on them: addition, subtraction, multiplication, division, and modulo.**

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

int main() {
    float num1, num2;
    cout << "Enter the first floating-point number: ";
    cin >> num1;
    cout << "Enter the second floating-point number: ";
    cin >> num2;
    float addition = num1 + num2;
    float subtraction = num1 - num2;
    float multiplication = num1 * num2;

    if (num2 != 0) {
        float division = num1 / num2;
```

```
        cout << "\nAddition: " << num1 << " + " << num2 << " = " << addition << endl;
        cout << "\nSubtraction: " << num1 << " - " << num2 << " = " << subtraction << endl;
        cout << "\nMultiplication: " << num1 << " * " << num2 << " = " << multiplication << endl;
        cout << "\nDivision: " << num1 << " / " << num2 << " = " << division << endl;
    } else {
        cout << "\nAddition: " << num1 << " + " << num2 << " = " << addition << endl;
        cout << "\nSubtraction: " << num1 << " - " << num2 << " = " << subtraction << endl;
        cout << "\nMultiplication: " << num1 << " * " << num2 << " = " << multiplication << endl;
        cout << "\nDivision: Division by zero is undefined" << endl;
    }

    return 0;
}
```

Output:

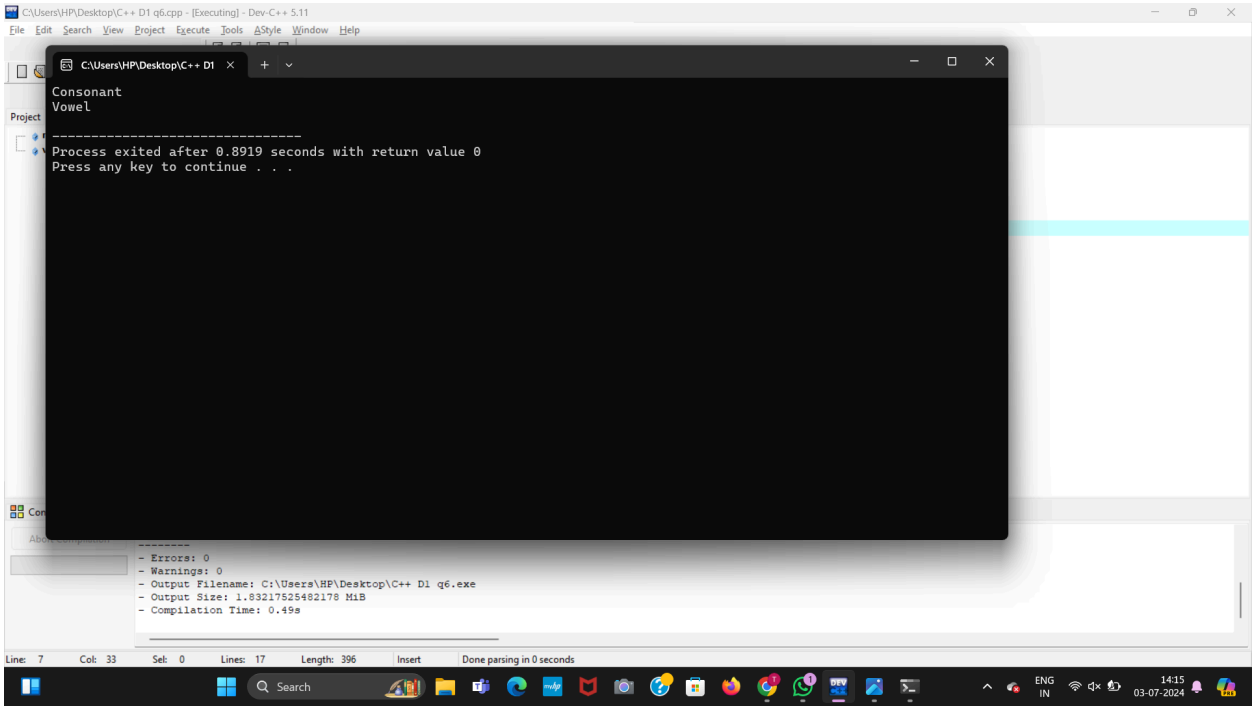


6. C++ Program to check the character is a vowel or consonant

```
#include <iostream>
using namespace std;
void vowelOrConsonant(char x)
{
    if (x == 'a' || x == 'e' || x == 'i' || x == 'o'
        || x == 'u' || x == 'A' || x == 'E' || x == 'I'
```

```
        || x == 'O' || x == 'U')
        cout << "Vowel" << endl;
    else
        cout << "Consonant" << endl;
}
int main()
{
    vowelOrConsonant('c');
    vowelOrConsonant('E');
    return 0;
}
```

Output:

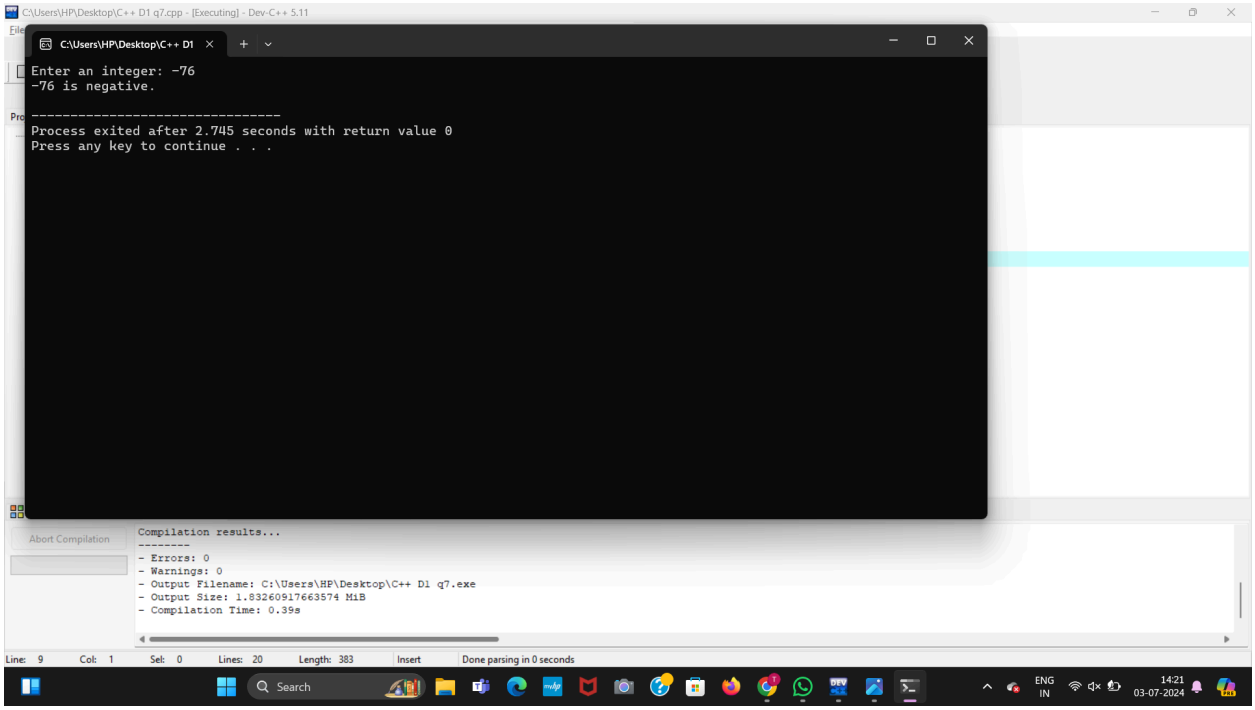


7. C++ Program to check the number is positive, negative or zero

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

int main() {
    int number;
    cout << "Enter an integer: ";
    cin >> number;
```

```
    if (number > 0) {
        cout << number << " is positive." << endl;
    } else if (number < 0) {
        cout << number << " is negative." << endl;
    } else {
        cout << number << " is zero." << endl;
    }
    return 0;
}
```

Output:

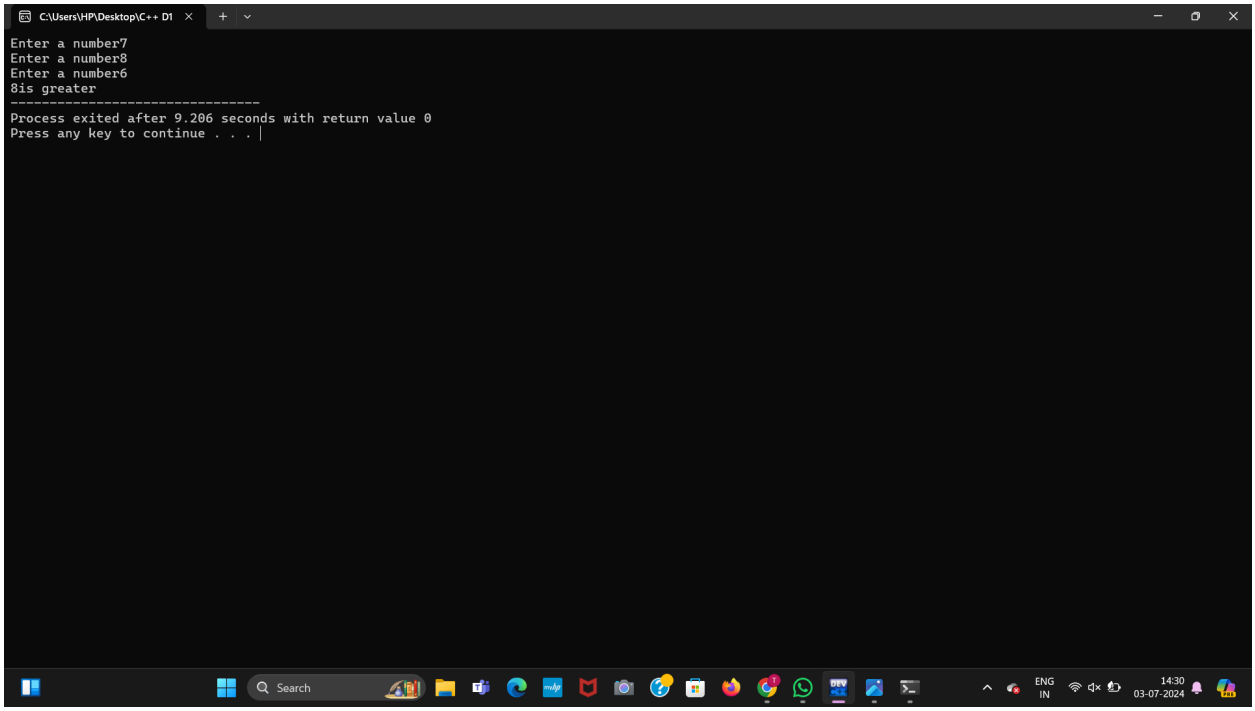


8. C++ Program to determine which number is greater among two integers

```
#include<iostream>
using namespace std;
int main(){
        int num1,num2,num3;
        cout<<"Enter a number";
        cin>>num1;
    cout<<"Enter a number";
        cin>>num2;
    cout<<"Enter a number";
```

```
        cin>>num3;
        if(num1>=num2 && num1>=num3){
                cout<<num1<<"is greater"<<" ";

        }
        else if(num2>=num3 && num2>=num3){
                cout<<num2<<"is greater"<<" ";
        }
        else{
                cout<<num3<<"is greater"<<" ";
        }
        return 0;
}
```

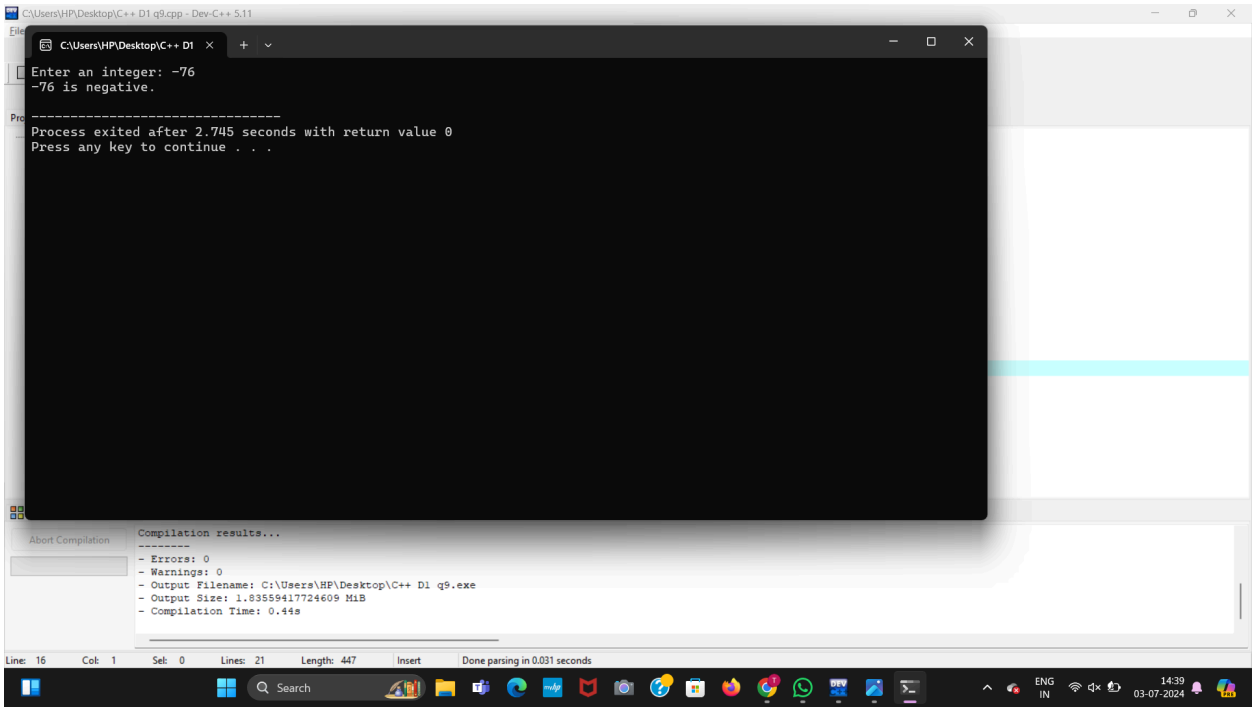
Output:



9. **C++ Program to read a floating-number and round it to the nearest integer using the floor and ceil functions.**

```
#include <iostream>
#include <math>
using namespace std;
int main() {
   float number;
   cout << "Enter a floating-point number: ";
   cin >> number;
   int roundedNumber;
   if (number >= 0) {
      roundedNumber = floor(number + 0.5);
   } else {
      roundedNumber = ceil(number - 0.5);
   }
   cout << "The rounded number is: " << roundedNumber << endl;
   return 0;
}
```

Output:



10. Program to swap two numbers using bitwise XOR operator

```
#include <bits/stdc++.h>
using namespace std;

int main()
{
   int x = 10, y = 5;

   x = x + y;
   y = x - y;
   x = x - y;
   cout << "After Swapping: \nx =" << x << "\ny=" << y;
}
```

Output: