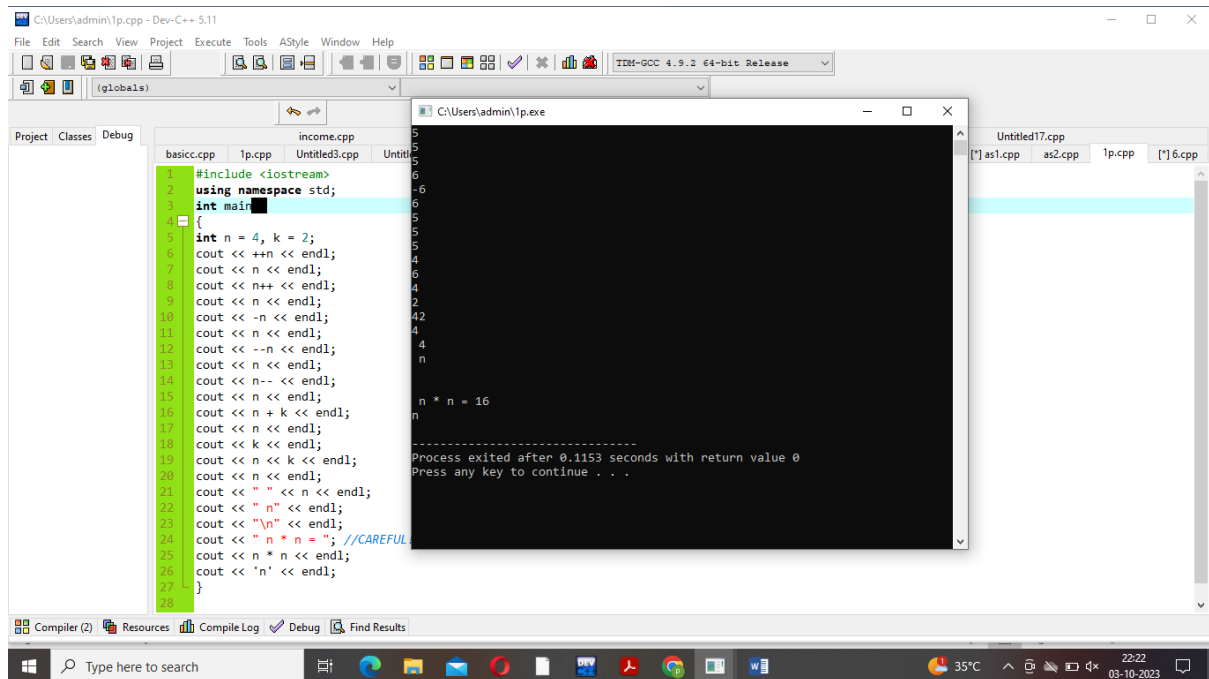


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1. What is the exact output of the program below?



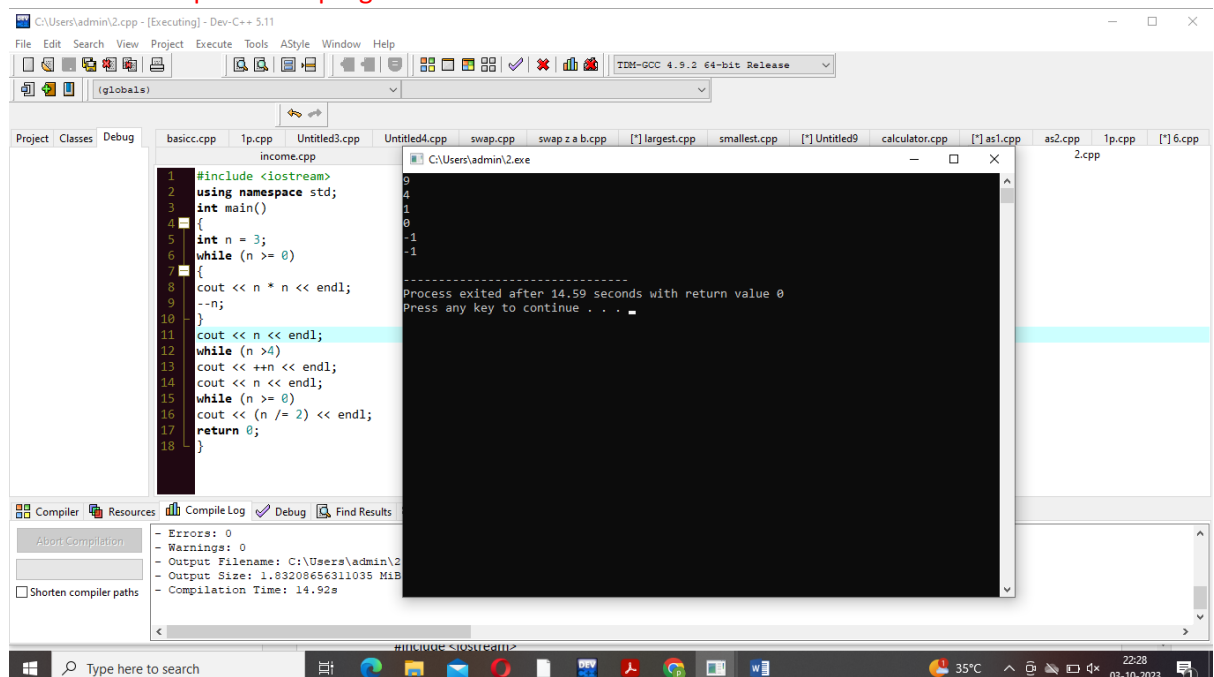
The screenshot shows a C++ IDE with a file named `1p.cpp`. The code defines a function `main` that calculates the sum of an arithmetic series. The series starts at `n = 4` and ends at `n = 16` with a common difference of `k = 2`. The output of the program is displayed in a console window.

```
#include <iostream>
using namespace std;
int main()
{
    int n = 4, k = 2;
    cout << ++n << endl;
    cout << n << endl;
    cout << n++ << endl;
    cout << n << endl;
    cout << -n << endl;
    cout << n << endl;
    cout << --n << endl;
    cout << n << endl;
    cout << n-- << endl;
    cout << n << endl;
    cout << n + k << endl;
    cout << n << endl;
    cout << k << endl;
    cout << n << k << endl;
    cout << n << endl;
    cout << "n" << endl;
    cout << "\n" << endl;
    cout << "n * n = "; //CAREFUL
    cout << n * n << endl;
    cout << 'n' << endl;
}
```

Output:

```
5
6
6
7
-4
2
4
n
n * n = 16
n
-----
Process exited after 0.1153 seconds with return value 0
Press any key to continue . . .
```

2. What is the output of the program below?



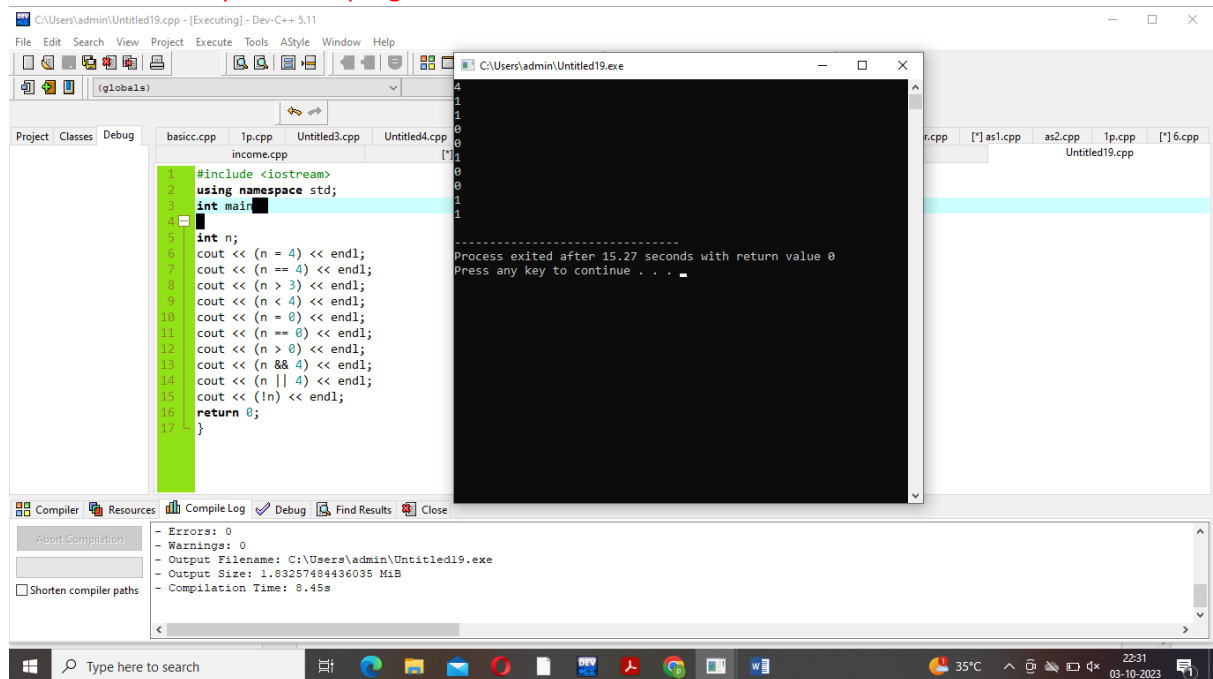
The screenshot shows a C++ IDE with a file named `2.cpp`. The code defines a function `main` that prints the sum of a series and the number of iterations. The series starts at `n = 3` and ends at `n = 0`. The output of the program is displayed in a console window.

```
#include <iostream>
using namespace std;
int main()
{
    int n = 3;
    while (n >= 0)
    {
        cout << n * n << endl;
        --n;
    }
    cout << n << endl;
    while (n > 4)
    {
        cout << ++n << endl;
        cout << n << endl;
    }
    while (n >= 0)
    {
        cout << (n / 2) << endl;
    }
    return 0;
}
```

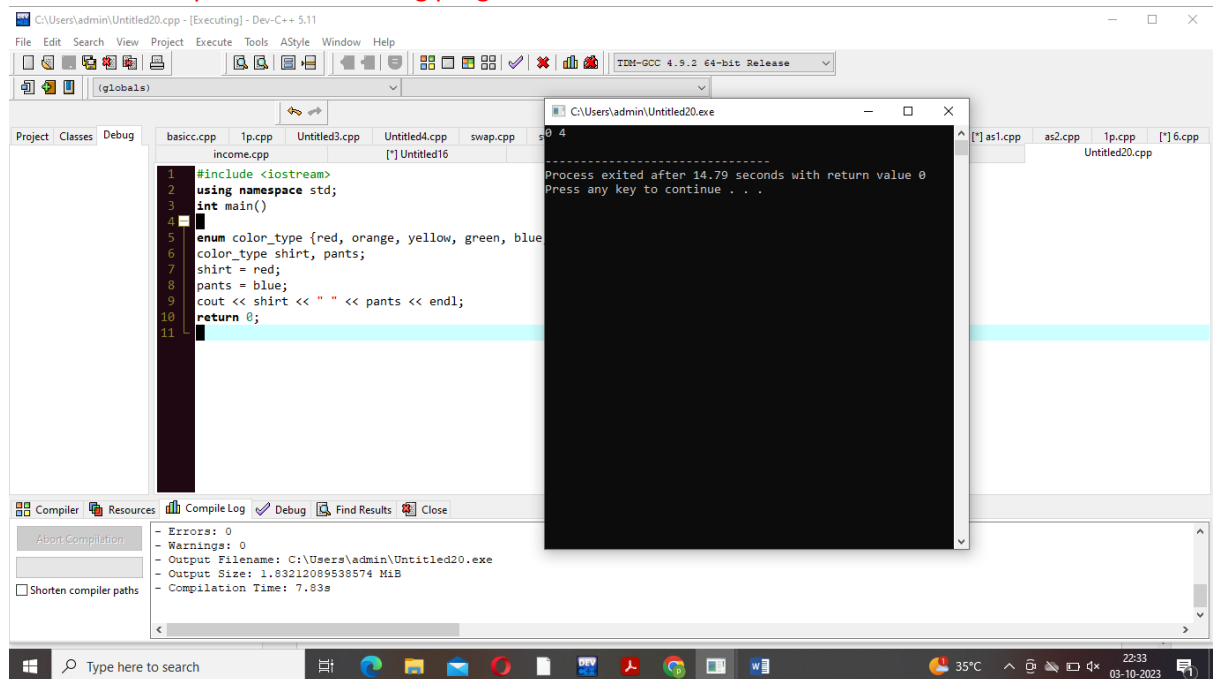
Output:

```
9
4
1
0
-1
-1
-----
Process exited after 14.59 seconds with return value 0
Press any key to continue . . .
```

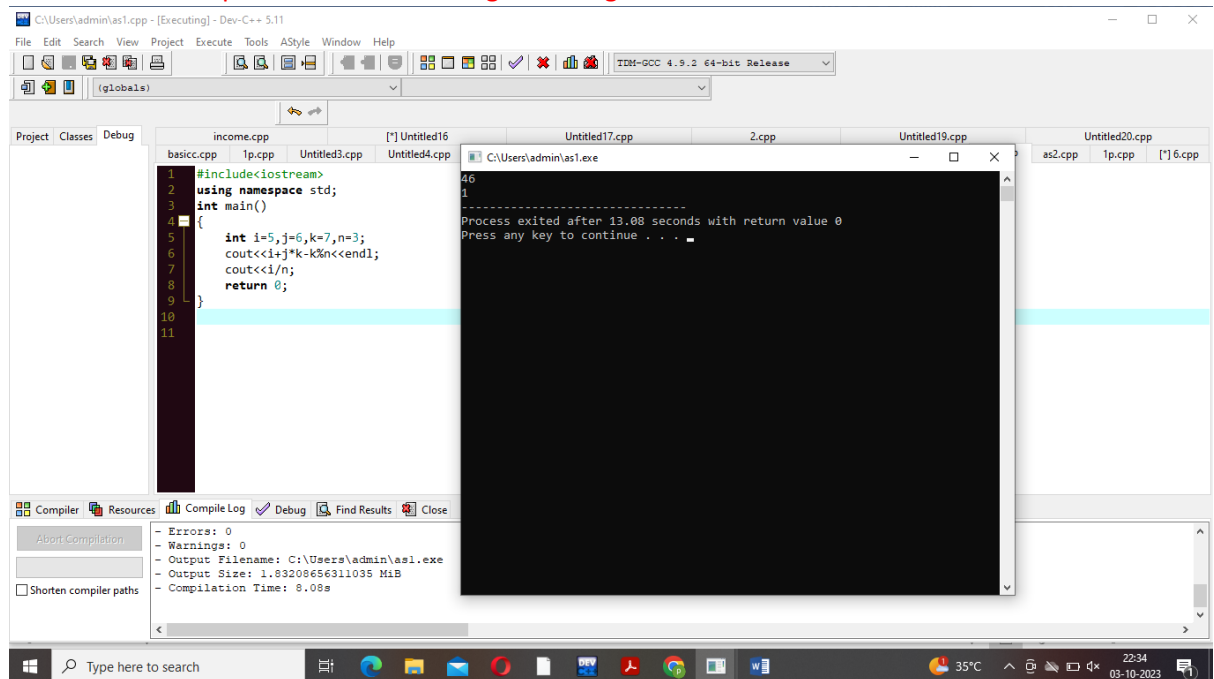
3. What is the output of the program below?



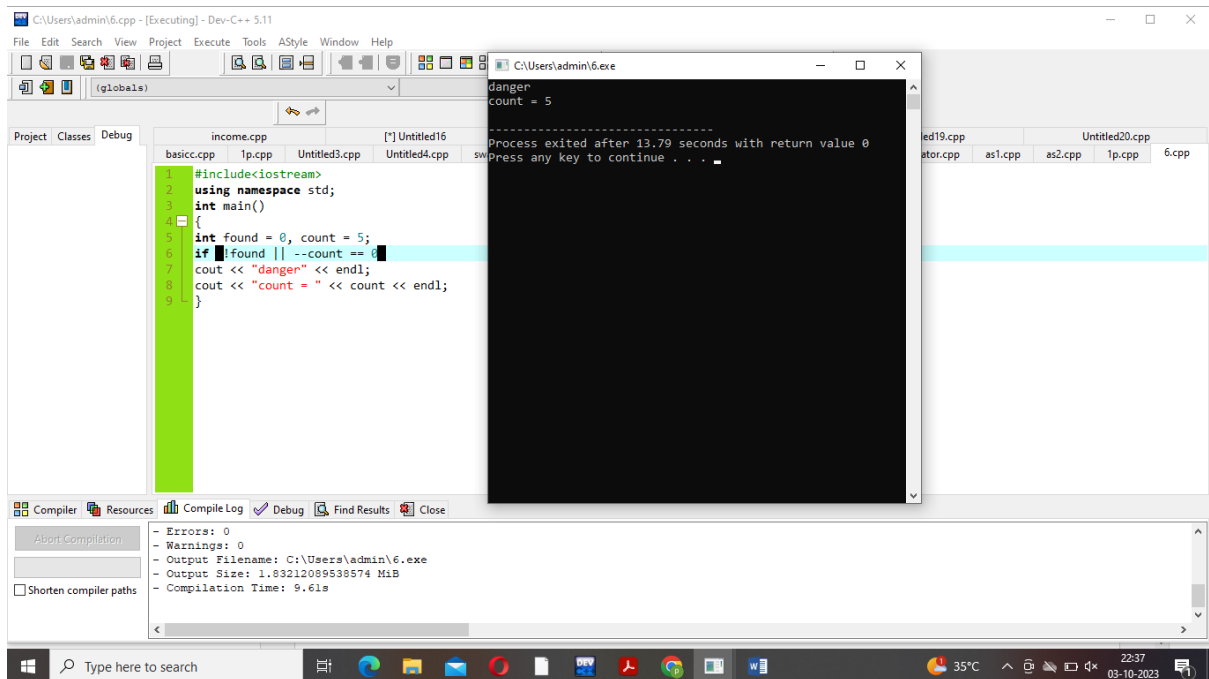
4. What is the output of the following program?



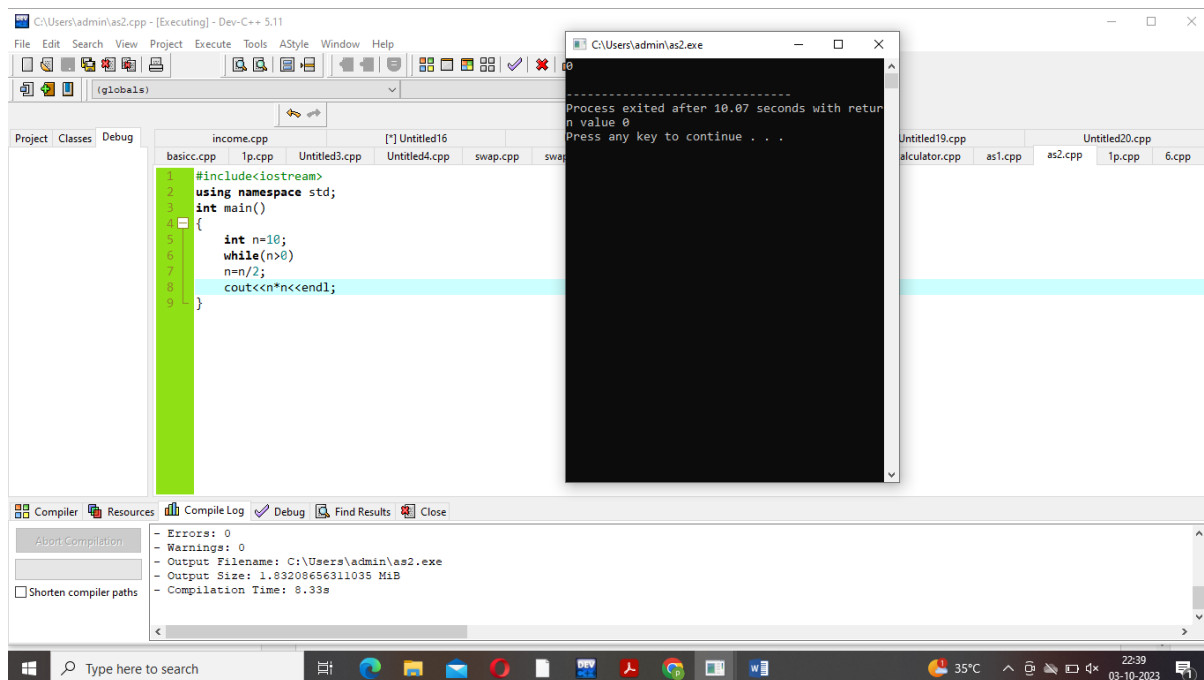
5. What is the output when the following code fragment is executed?



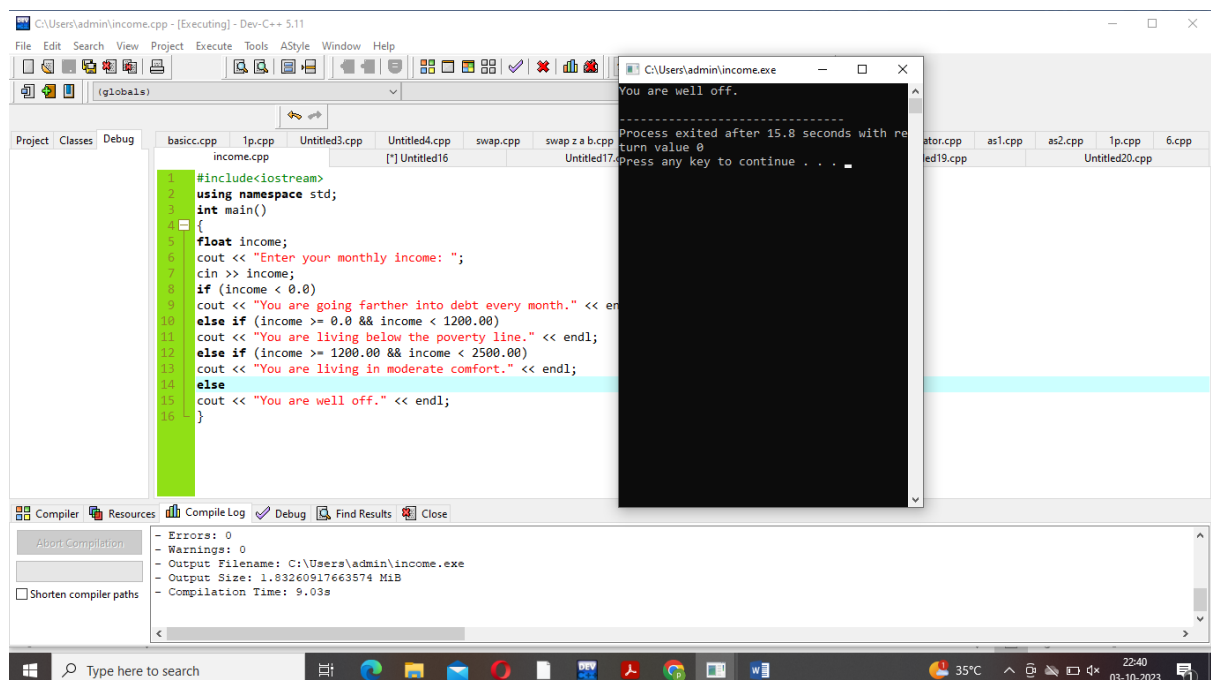
6. What is the output when the following code fragment is executed?



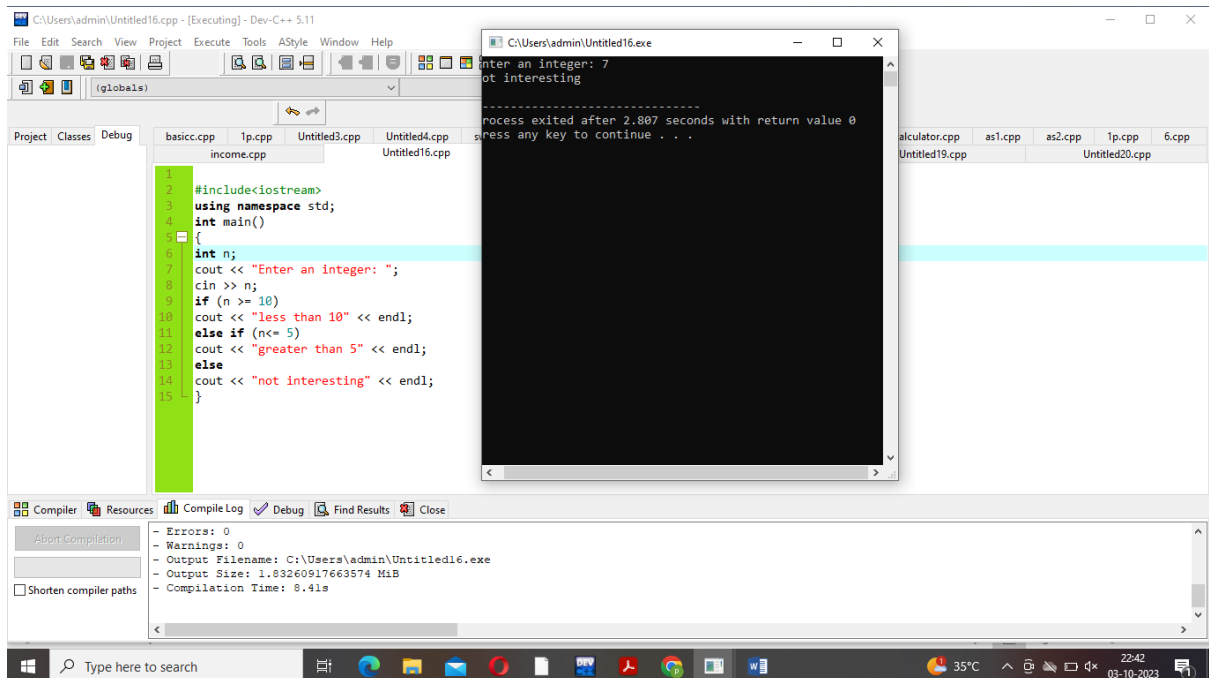
7. The loop shown below has been written by an inexperienced C++ programmer. The behavior of the loop is not correctly represented by the formatting.



8. Remove all the unnecessary tests from the nested conditional statement below.



9. Answer the questions below concerning the following fragment of code.



10. Rewrite the following code fragment so that it uses a "do...while..." loop to accomplish the same task.

