

## CLASS WORK PROGRAMMS-2

1. Write a program to enter the marks of a student in four subjects. Then calculate the total and aggregate, display the grade obtained by the student. If the student scores an aggregate greater than 75%, then the grade is Distinction. If aggregate is  $60 \geq$  and  $< 75$ , then the grade is First Division. If aggregate is  $50 \geq$  and  $< 60$ , then the grade is Second Division. If aggregate is  $40 \geq$  and  $< 50$ , then the grade is Third Division. Else the grade is Fail.

Sample Input & Output:

Enter the marks in python: 90

Enter the marks in c programming: 91

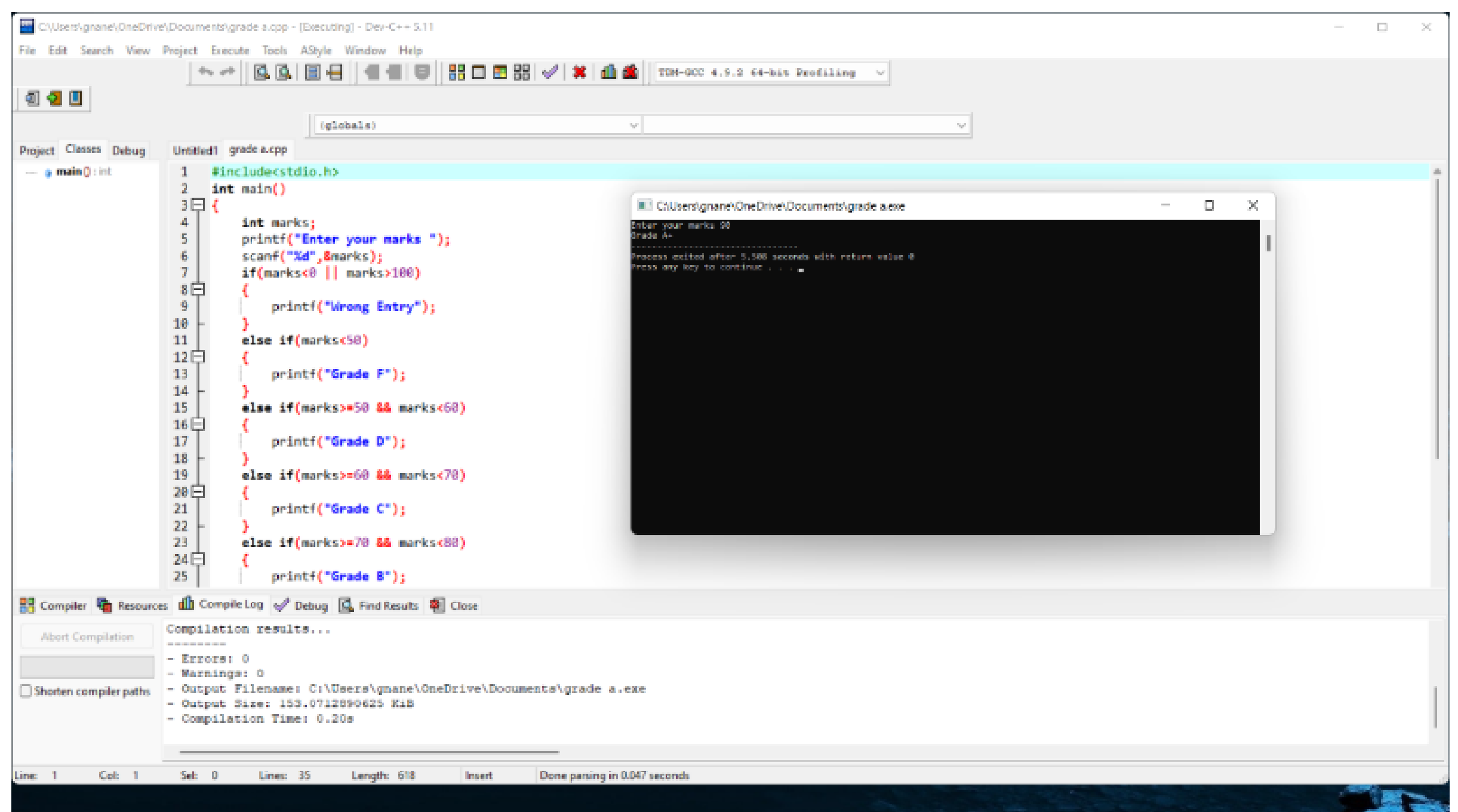
Enter the marks in Mathematics: 92

Enter the marks in Physics: 93

Total= 366

Aggregate = 91.5

DISTINCTION



2. Mr. Johnson would like to know how many As, Bs, Cs, Ds, and Fs his students received on a test. He has  $n$  students who took the test. He would like to enter the student number and the number grade for the test for each student using structure. Develop the solution to print out each student's student number, number grade and the total number of As, Bs, Cs, Ds, and Fs.

His grading scale is as follows: 90– 100 is an A, 78– 89 is a B, 65– 77 is a C, 50– 64 is a D, and below 50 is an F.

Sample Input :

Enter No.Students: 1

Enter student 1 Number , Grade : 2001, A

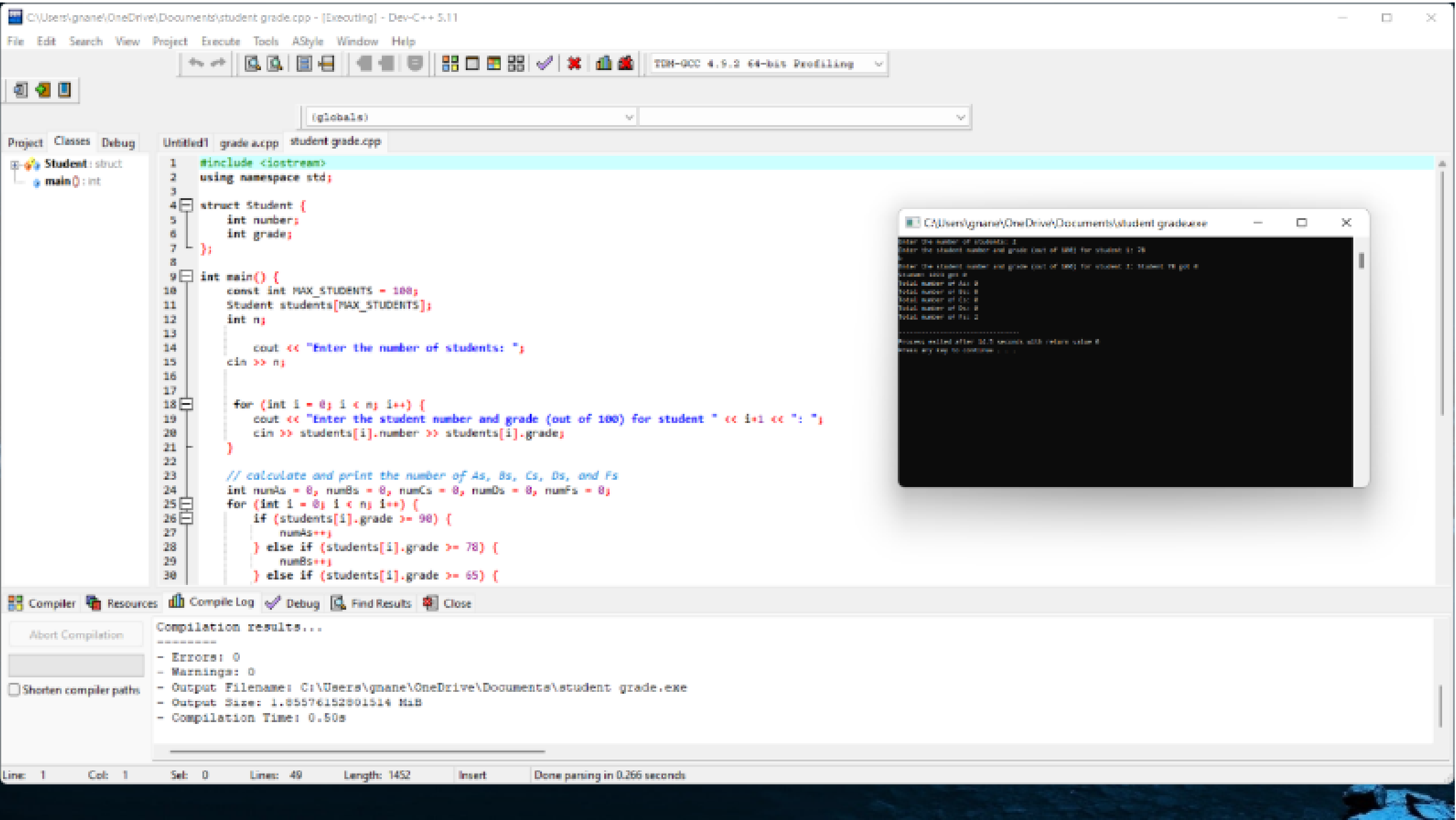
Sample Output:

Student 1 details:

Number : 2001

Grade : A

Total no. A: 1, B:0, c=0, D=0, F=0,



3. Write a program to print n prime numbers then find the n<sup>th</sup> Prime number

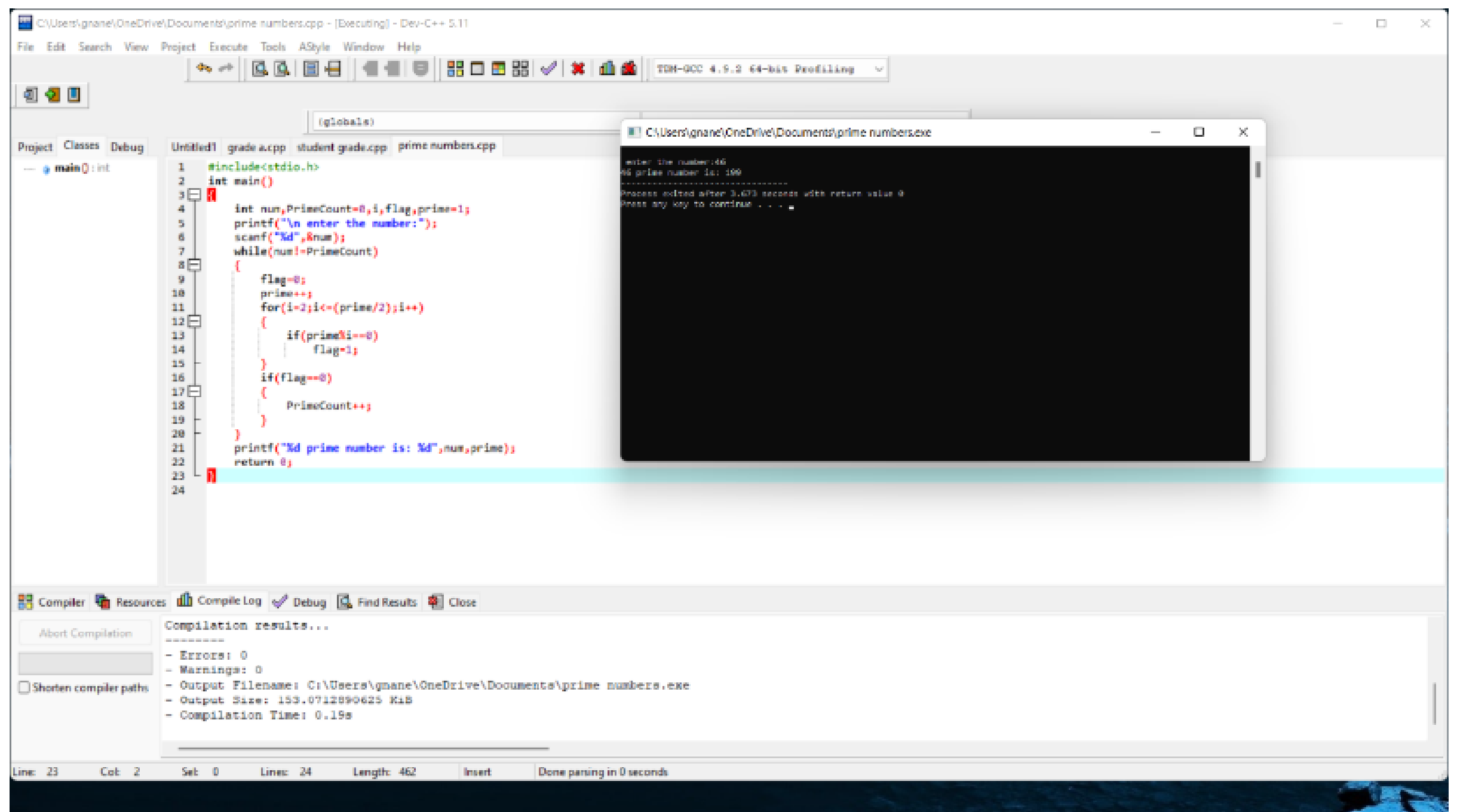
Sample Input:

N = 3

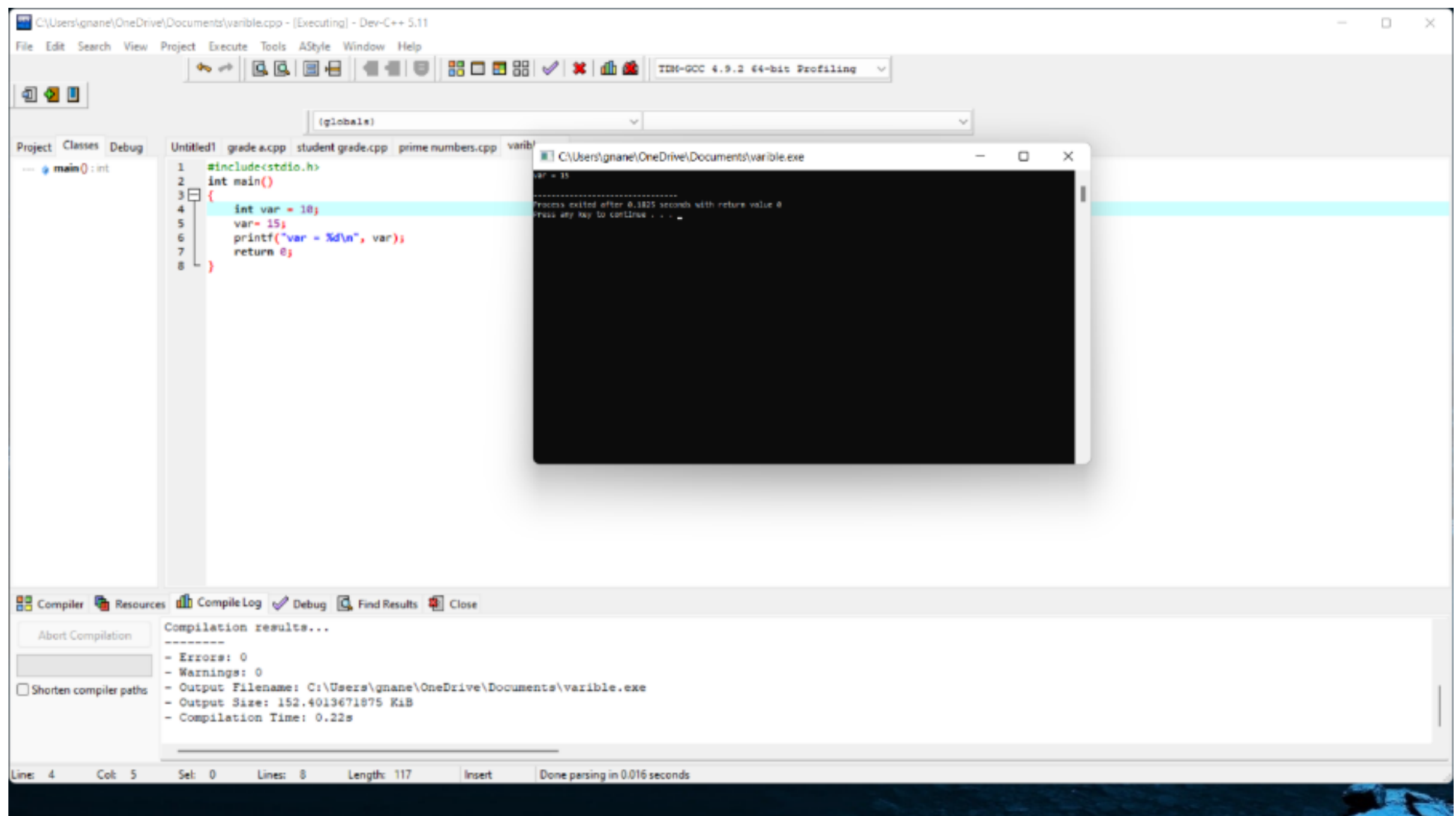
Sample Output:

3<sup>rd</sup> Prime number is 5

3 prime numbers after 5 are: 7, 11, 13



4. Write a c program to modify the constant variable in c.?

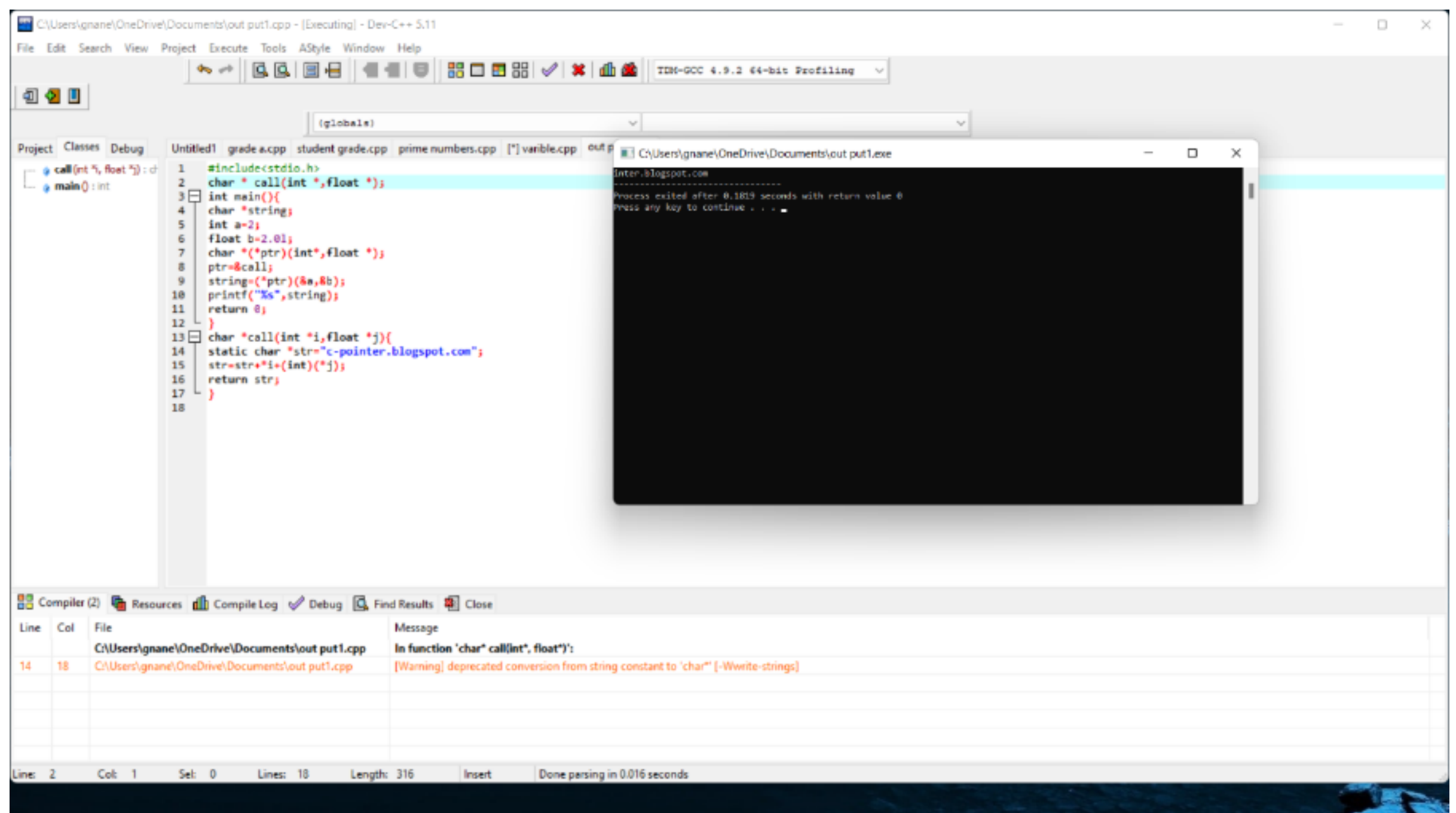


5. What will be output if you will execute following code?

```

char * call(int *,float *);
int main(){
char *string;
int a=2;
float b=2.0l;
char *(*ptr)(int*,float *);
ptr=&call;
string=(*ptr>(&a,&b);
printf("%s",string);
return 0;
}
char *call(int *i,float *j){
static char *str="c-pointer.blogspot.com";
str=str+*i+(int)(*j);
return str;
}

```

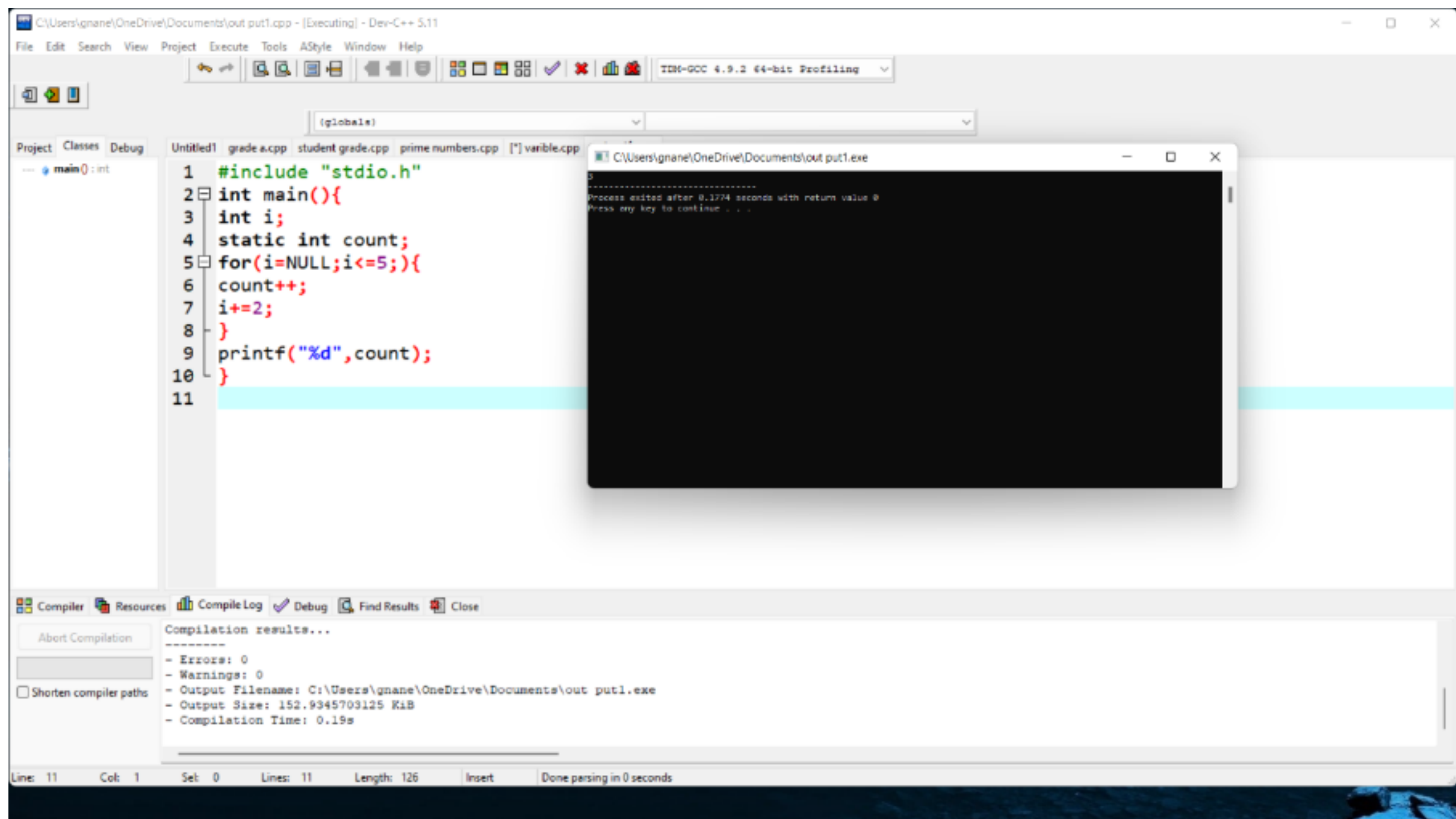


6.What will be the output of following c program?

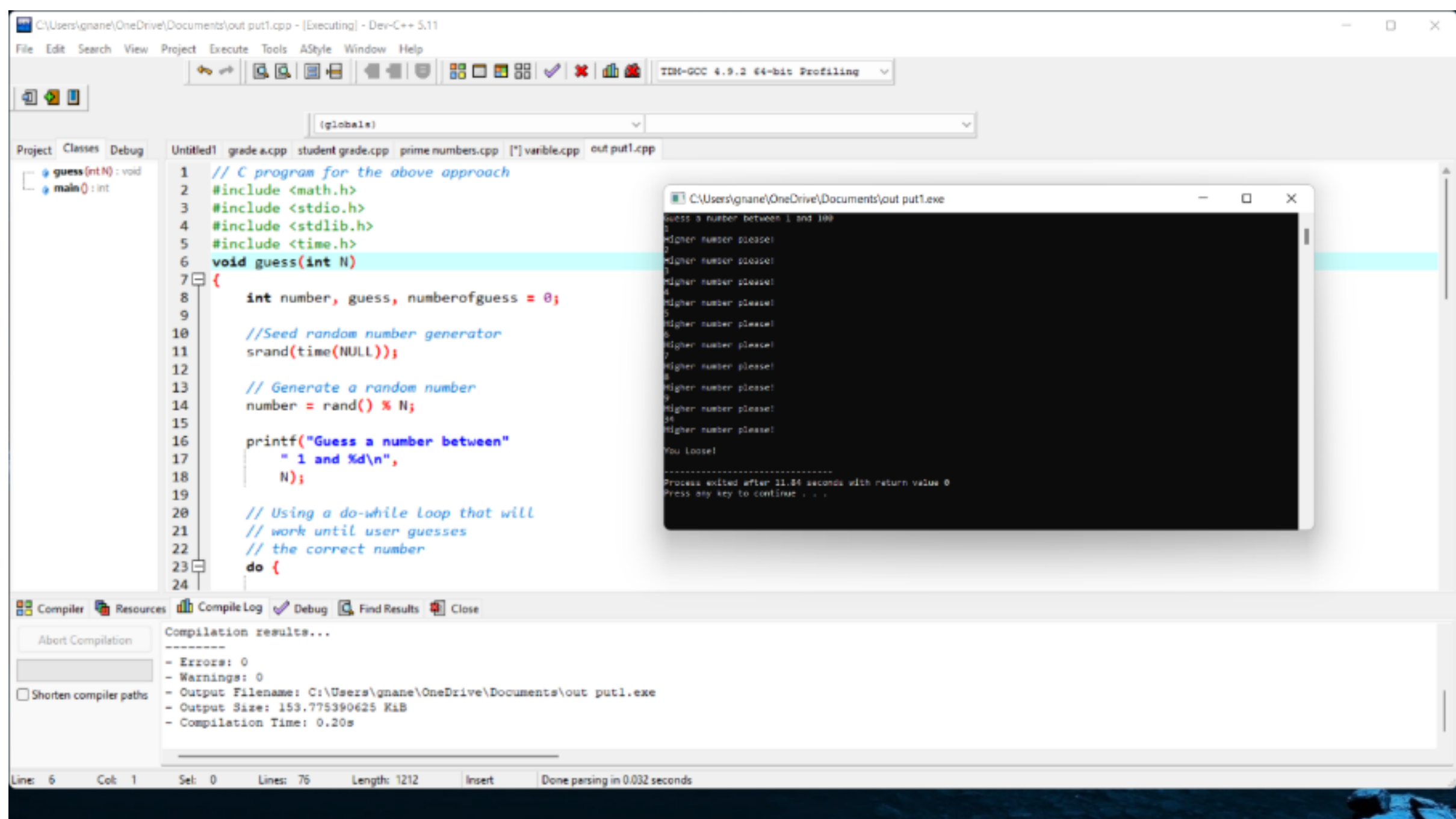
```

#include "stdio.h"
int main(){
    int i;
    static int count;
    for(i=NULL;i<=5;){
        count++;
        i+=2;
    }
    printf("%d",count);
}

```

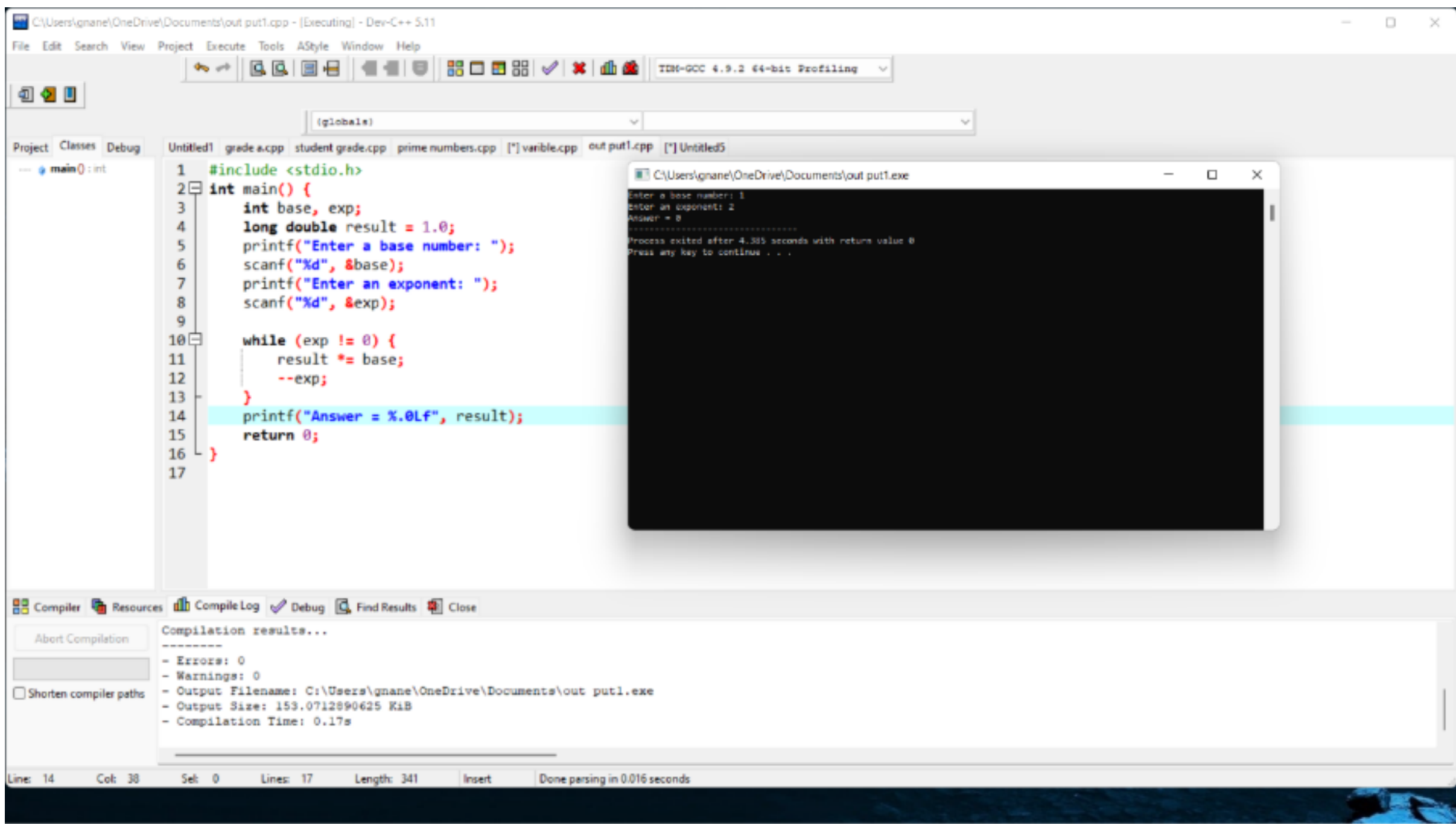


7. Write a program to guessing a number by the user against computer generated one using do while loop

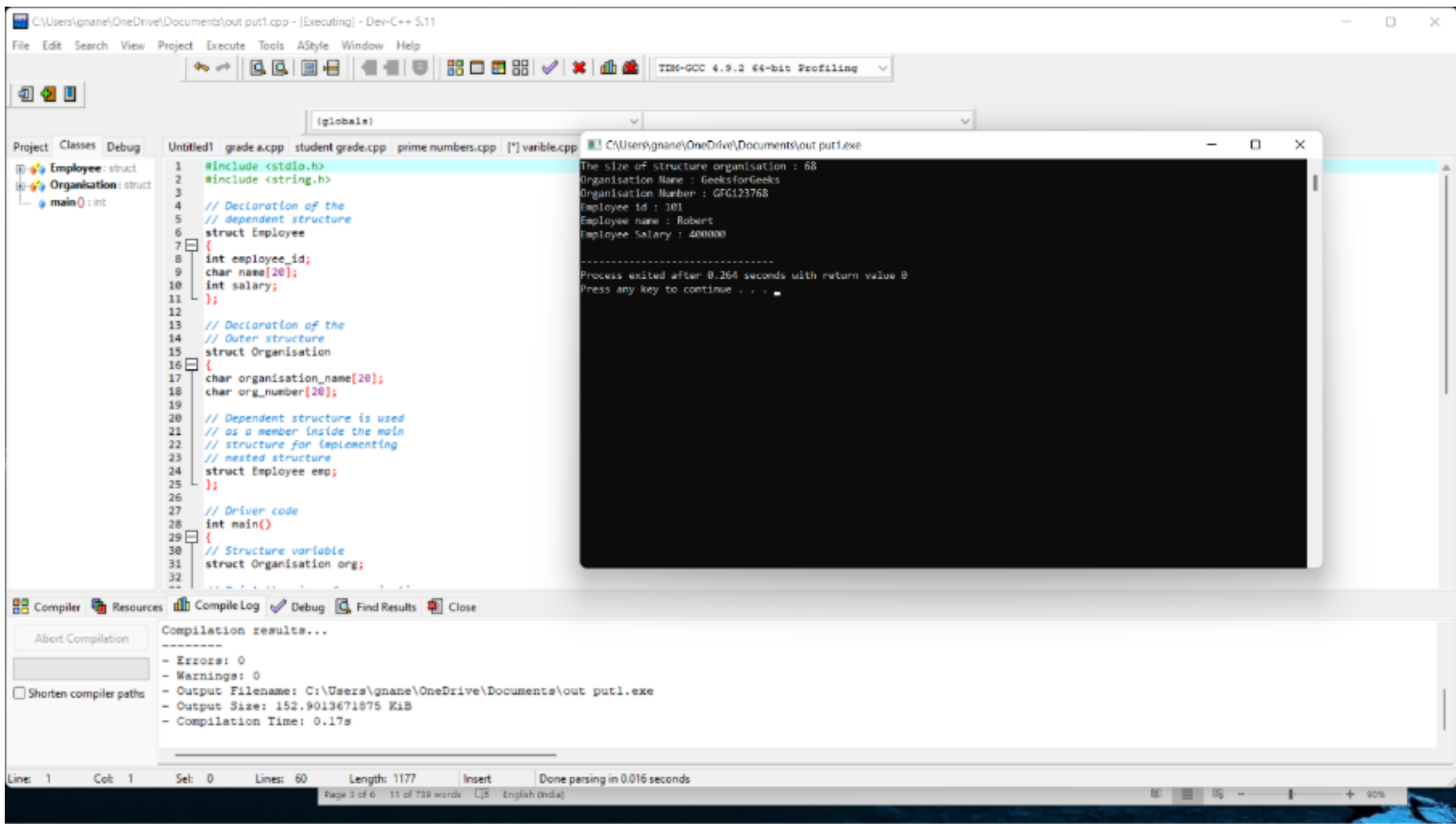




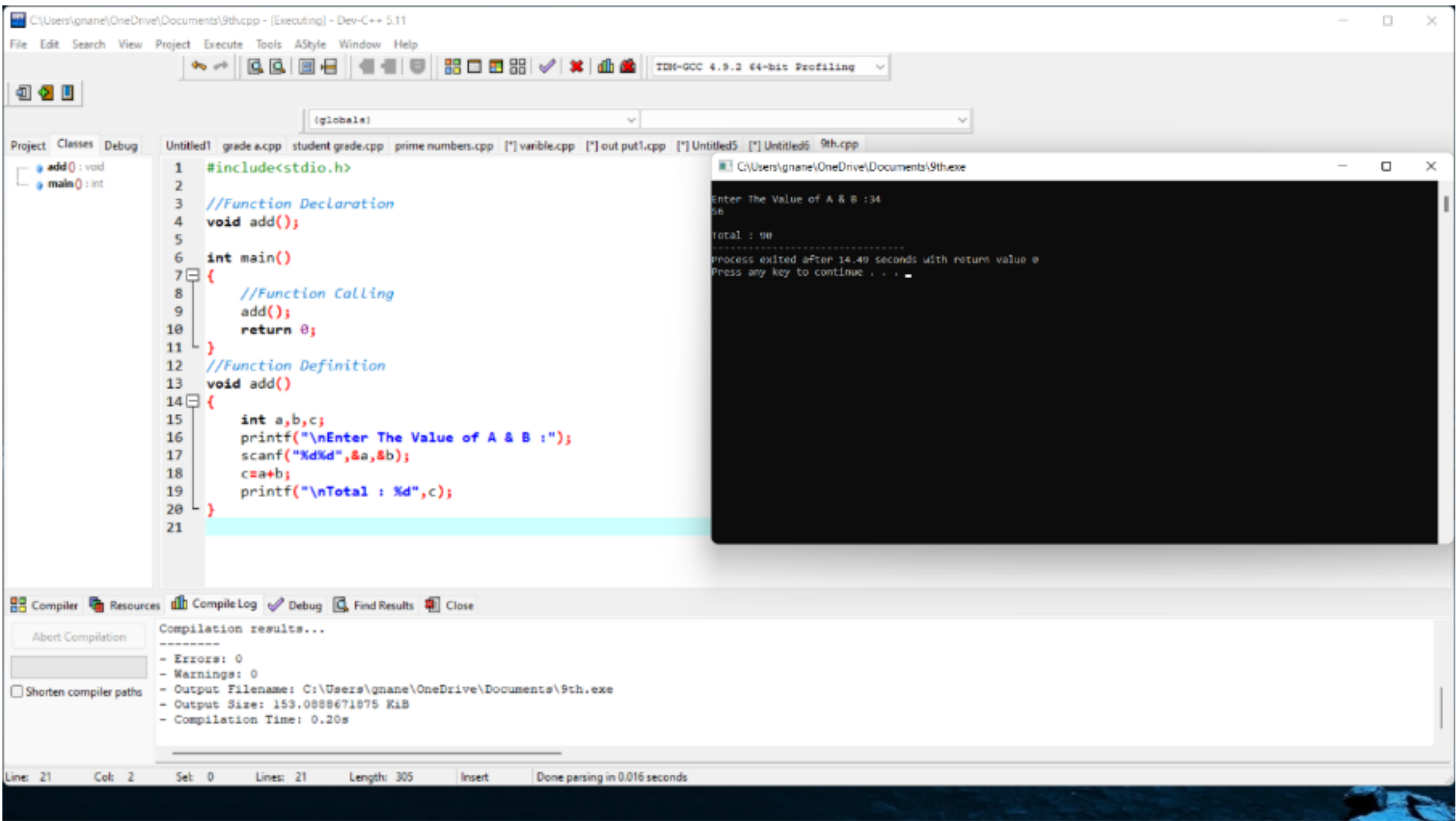
8.To write a C code to implement a function to compute power of a value



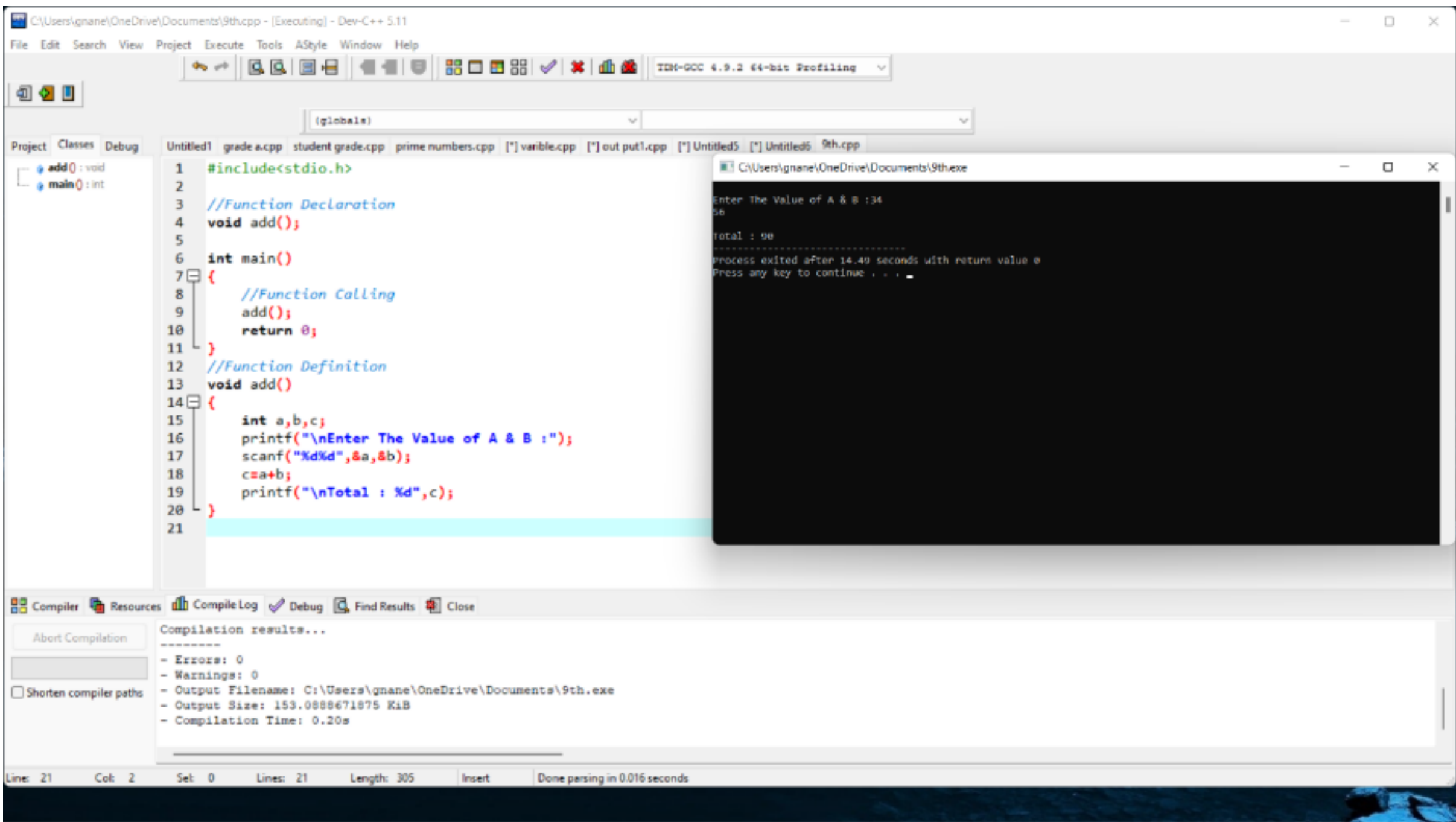
9.To write a C code to implement Nested Structure concept



10.Program to add two numbers using Function with no arguments and no return value

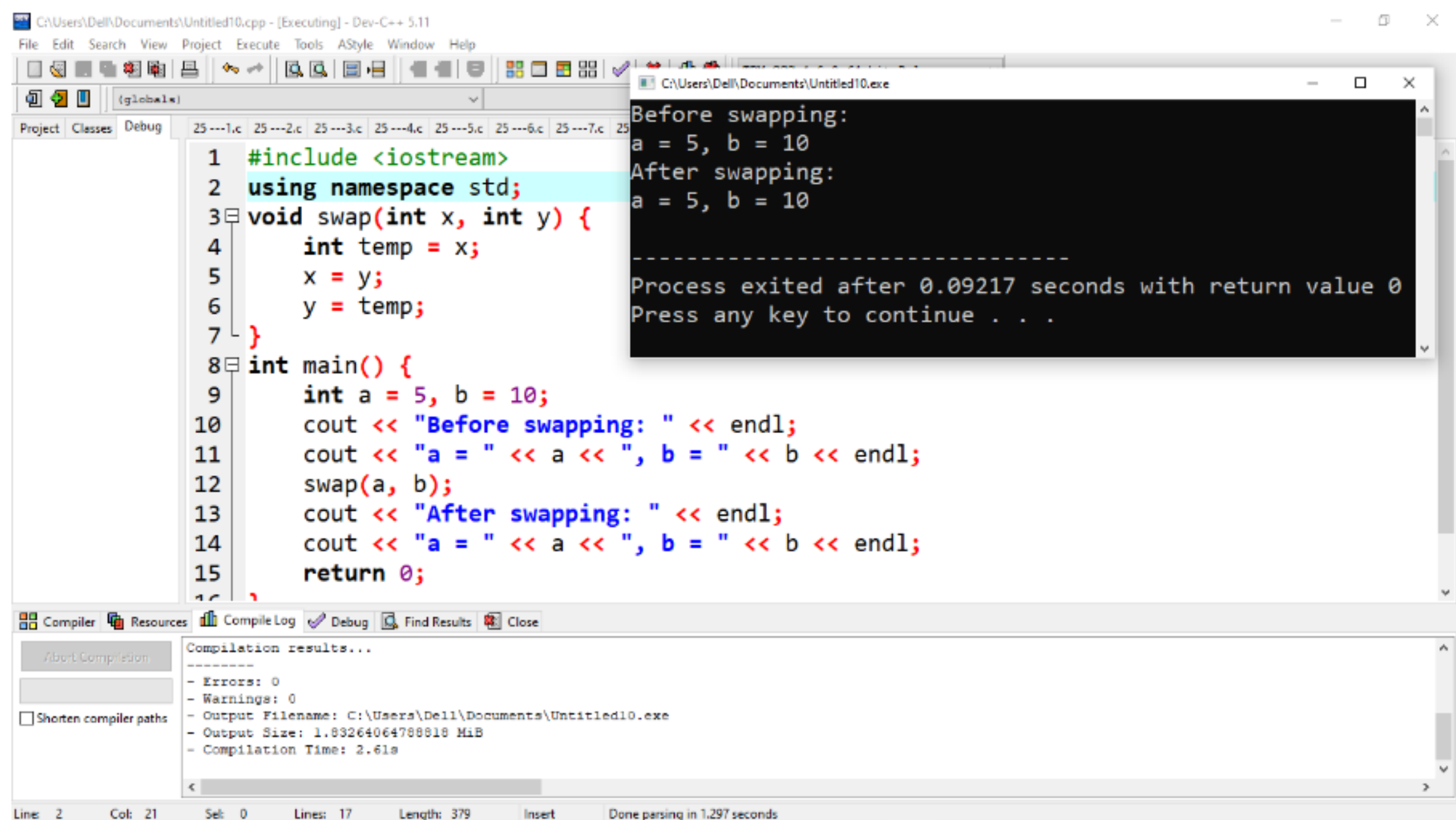


11.Program to add two numbers using Function with arguments and with return value





## 12. Program to swap two numbers using call by value



The screenshot shows a C++ IDE with a project named 'Untitled10'. The main code file '25---1.c' contains the following code:

```
1 #include <iostream>
2 using namespace std;
3 void swap(int x, int y) {
4     int temp = x;
5     x = y;
6     y = temp;
7 }
8 int main() {
9     int a = 5, b = 10;
10    cout << "Before swapping: " << endl;
11    cout << "a = " << a << ", b = " << b << endl;
12    swap(a, b);
13    cout << "After swapping: " << endl;
14    cout << "a = " << a << ", b = " << b << endl;
15    return 0;
16 }
```

The output window shows the following output:

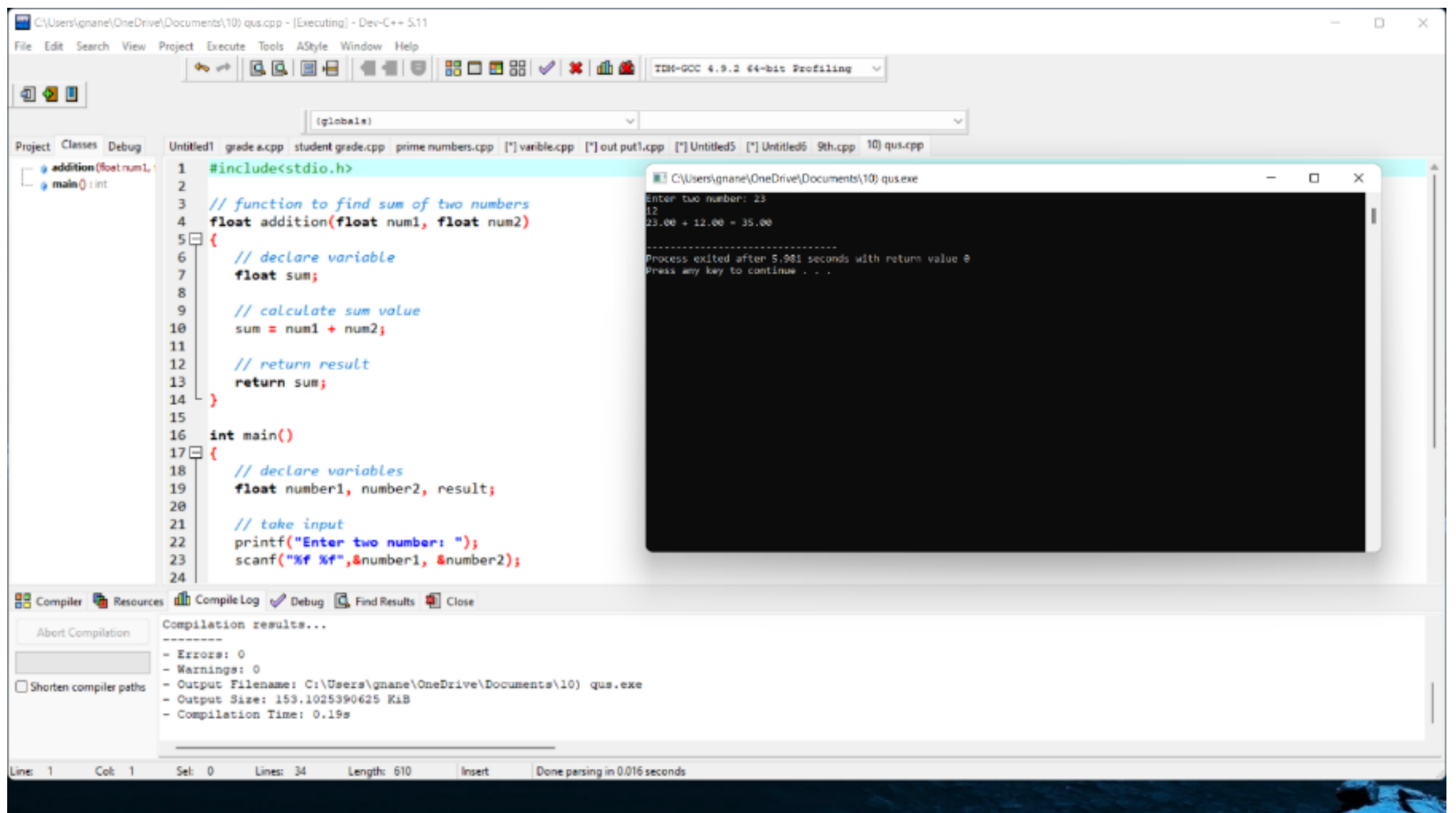
```
Before swapping:
a = 5, b = 10
After swapping:
a = 5, b = 10
-----
Process exited after 0.09217 seconds with return value 0
Press any key to continue . . .
```

The compilation results window shows the following information:

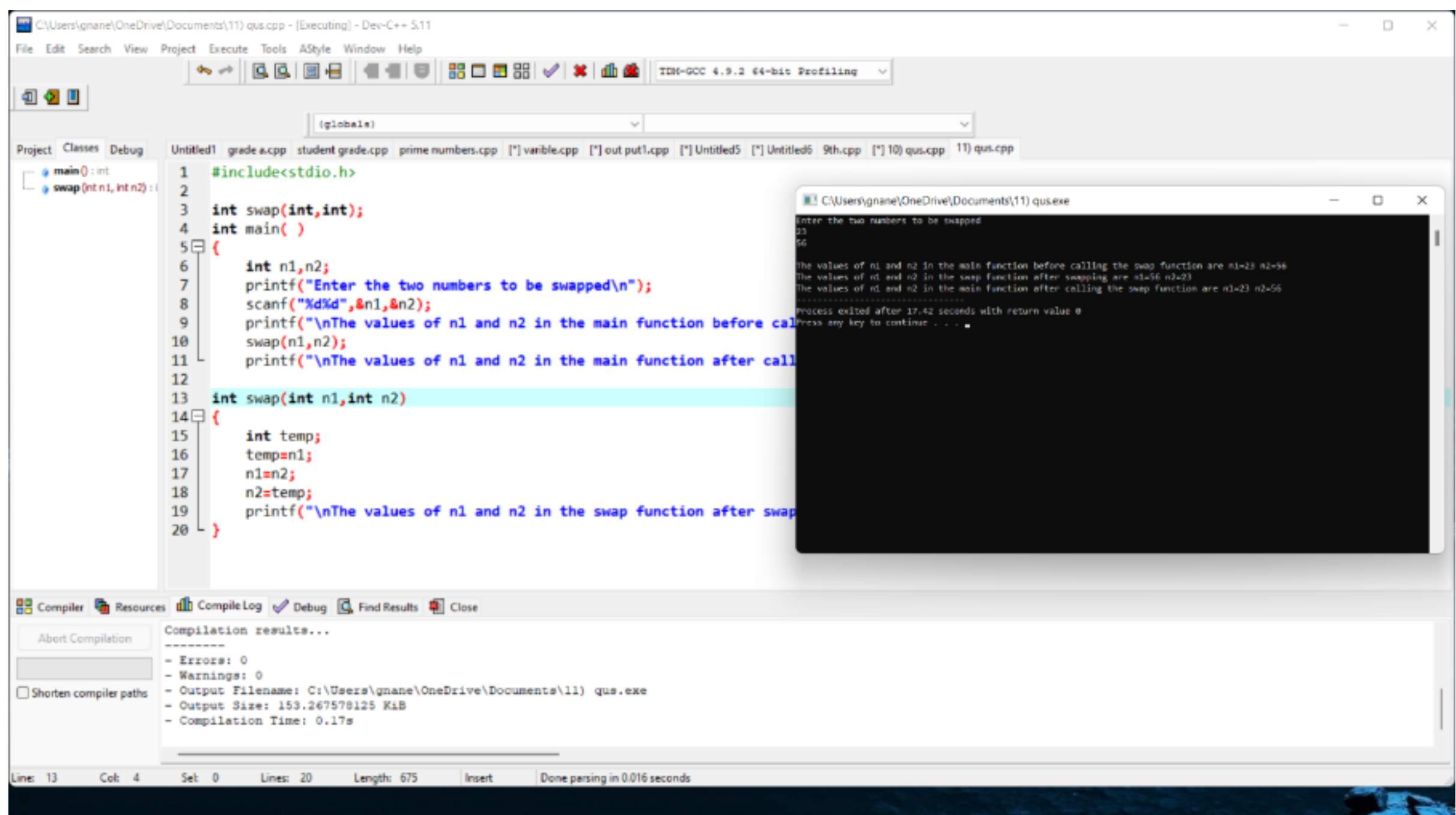
```
Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\De11\Documents\Untitled10.exe
- Output Size: 1.83264064788818 MiB
- Compilation Time: 2.61s
```

## 13. Find out the error and show the output

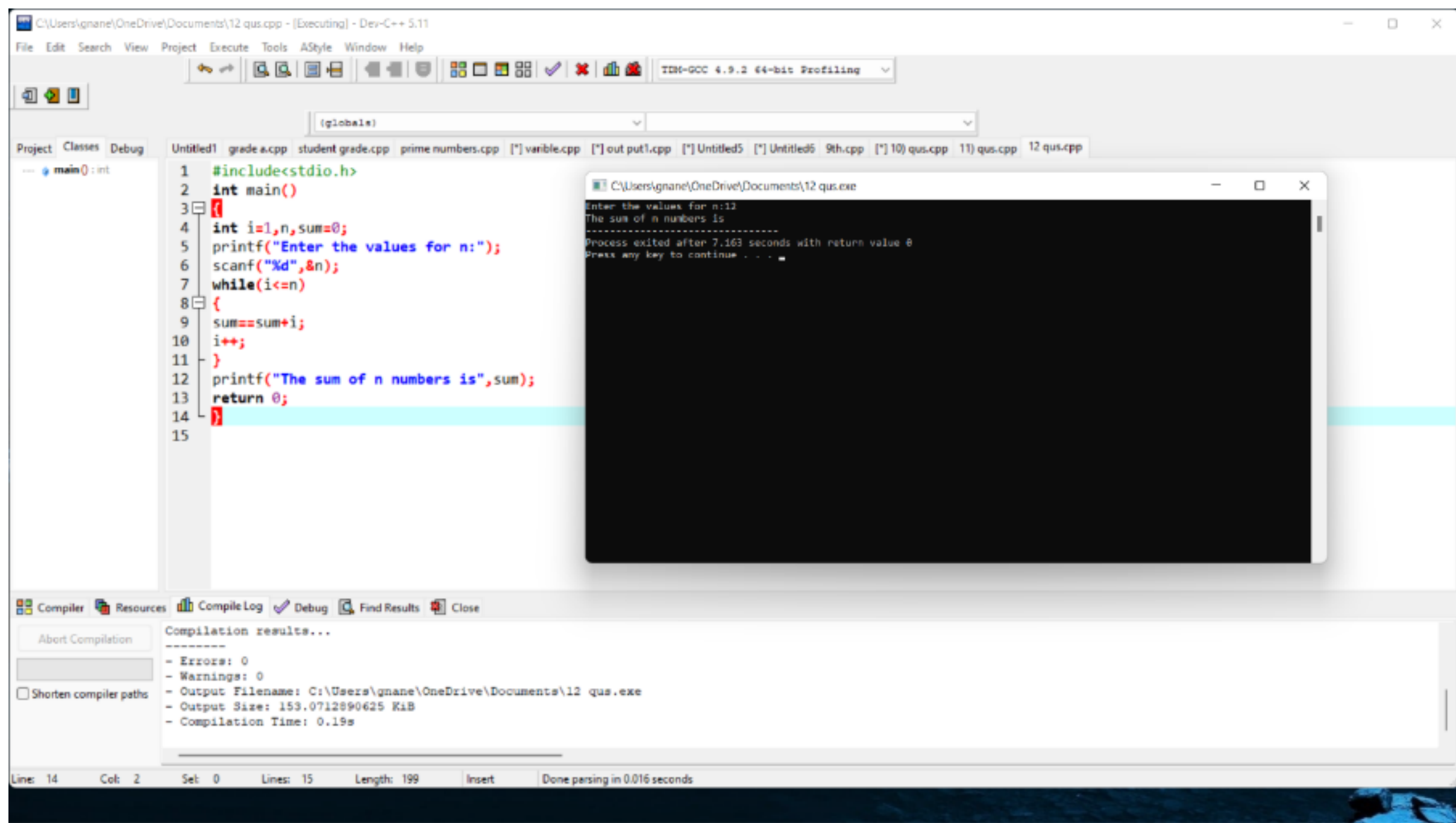
```
main()
{
    int i=1,sum=0;
    clrscr();
    printf(" Enter the values for n:" );
    scanf(" %d" ,n);
    while(i<=n)
    {
        sum==sum+i;
        i++;
    }
    printf(" The sum of n numbers is" ,sum);
}
```



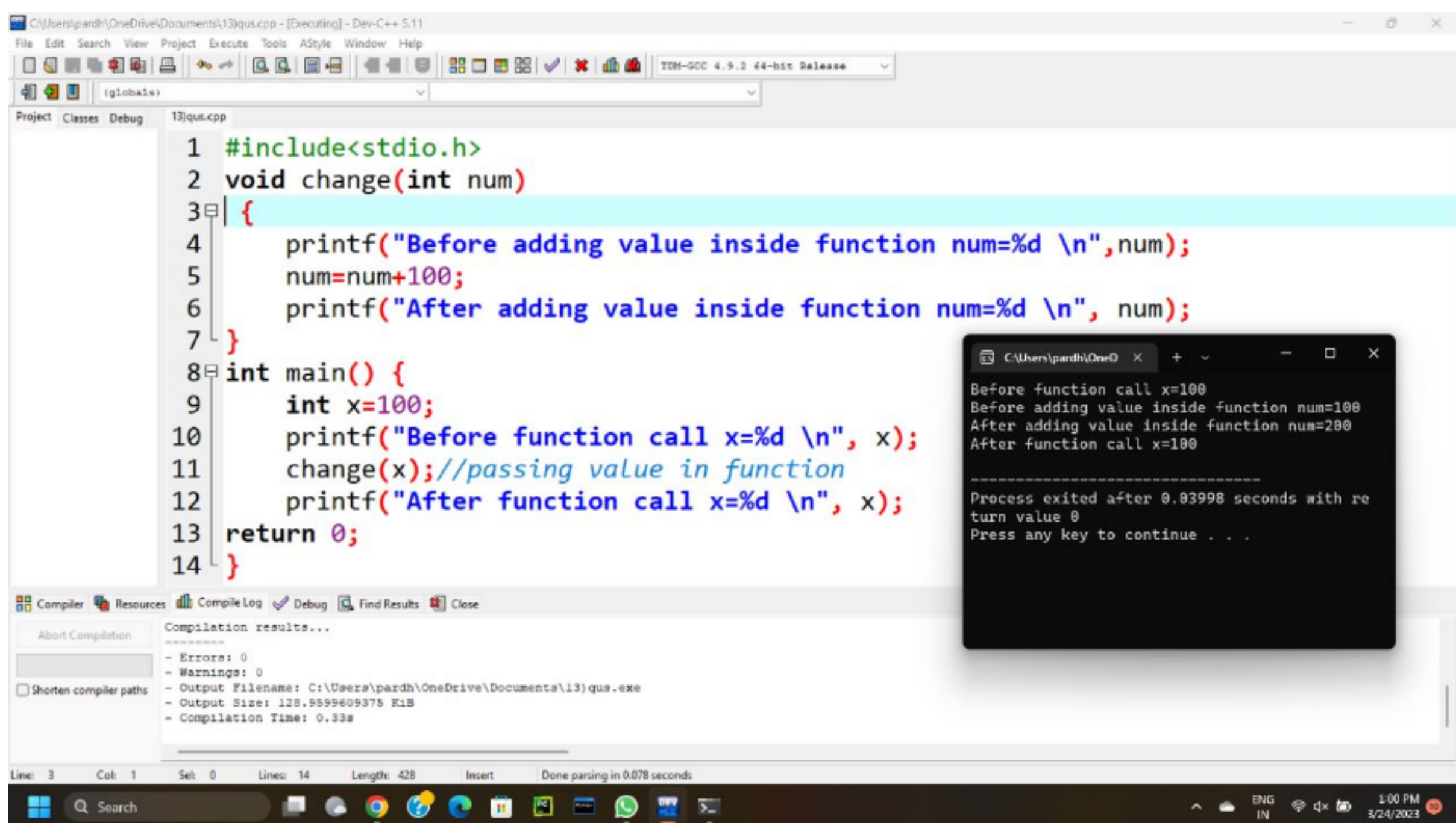
#### 14. Program to swap two numbers using call by reference



#### 15. Write a program for Binary Search using recursive functions

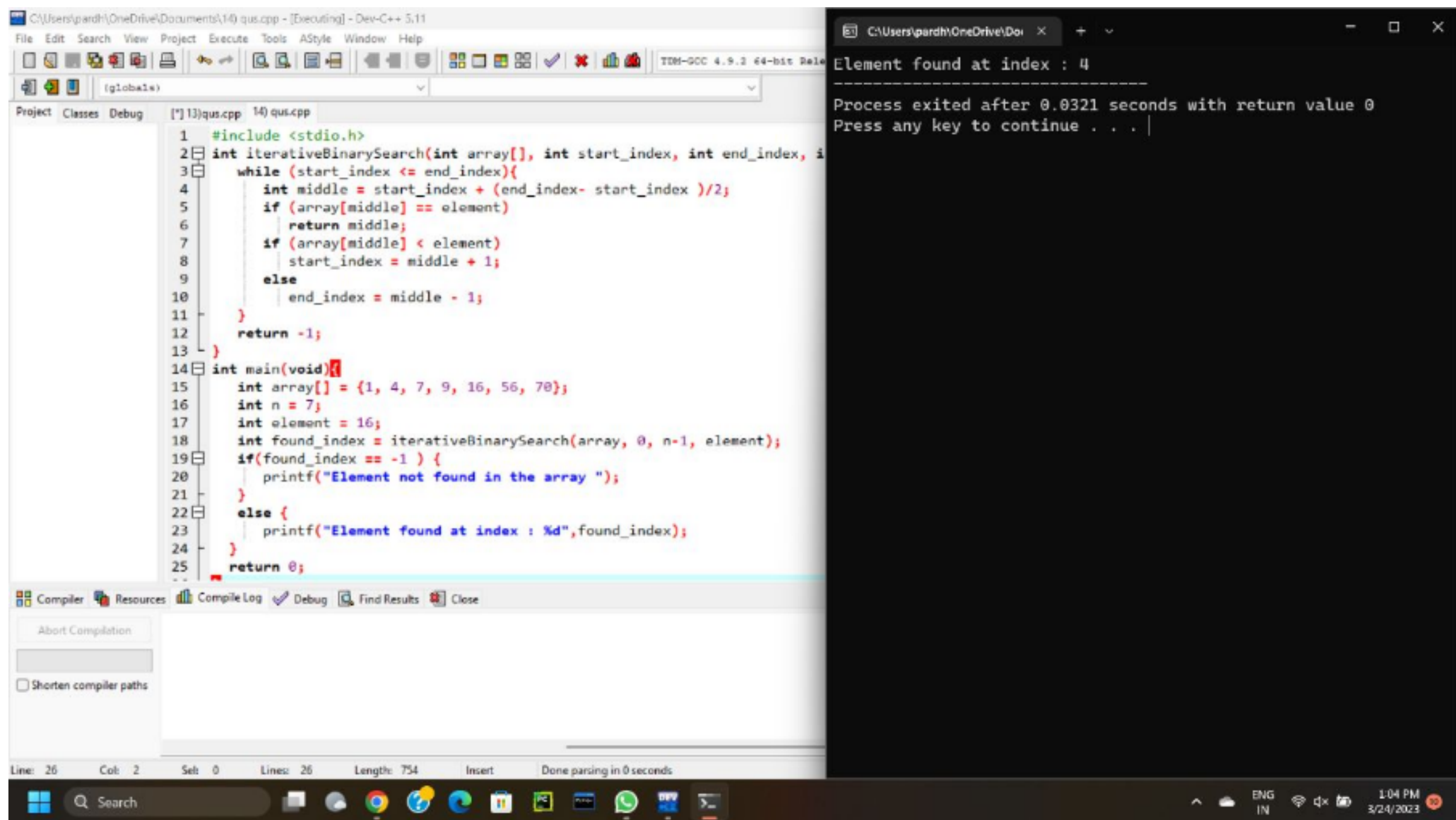


16. Program to find Employee no, name, salary, doj using nested structure

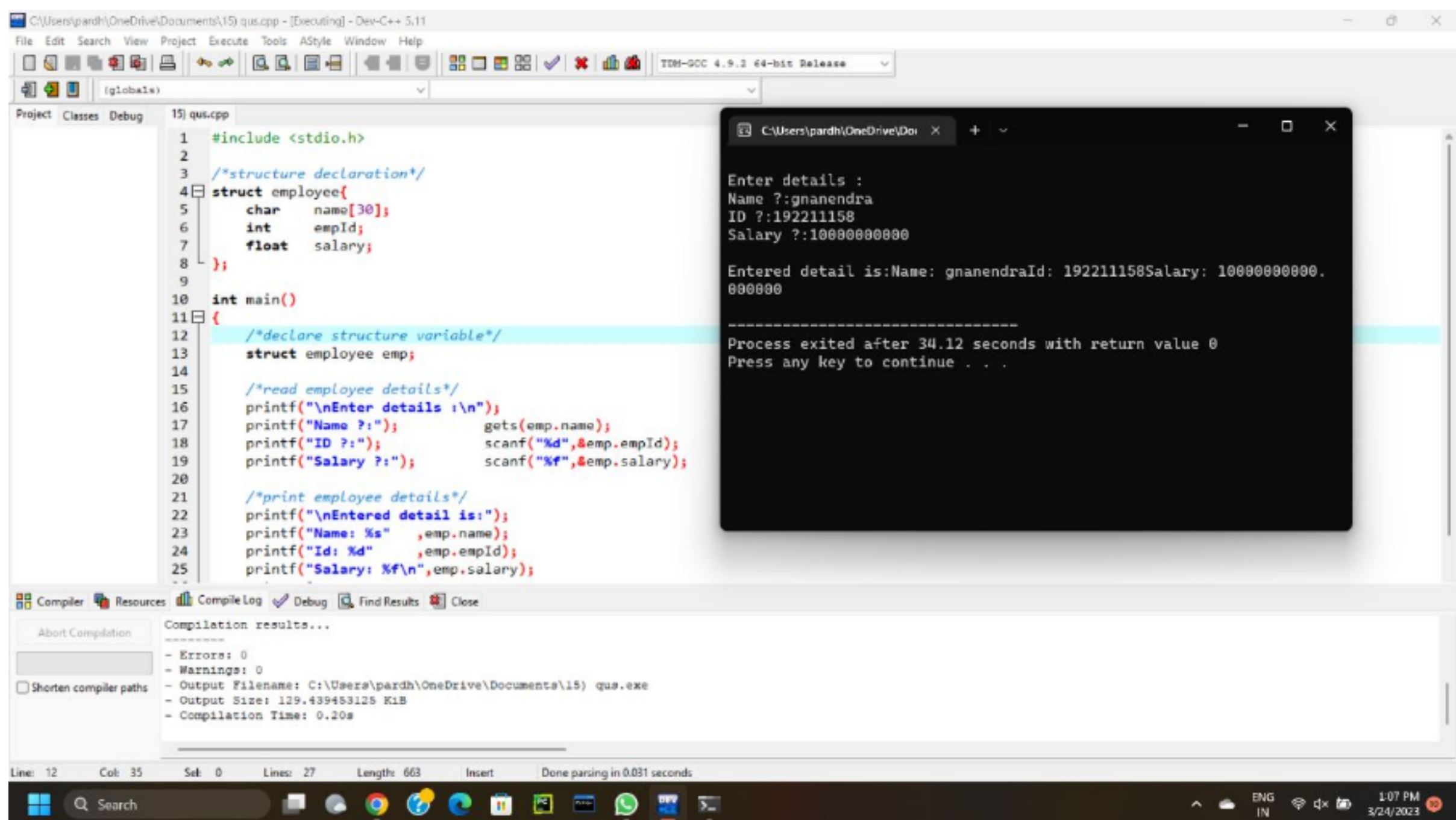


17. Program to find student details using nested structure





## 18. Program to store 3 book records in one structure / using array of structure



19. Find out the error and show the output

```
void main()
{
    intarr[3][4];
    inti,j,k;
    printf("Enter array element");
    for(i=0;i<3;i++)
    {
        for(j=0; j < 4; j++)
        {
            scanf("%d",arr[i][j]);
        }
    }
    for(i=1; i < 3; i++)
    {
        for(j=0; j < 4; j++)
        {
            printf(" %c" ,arr[i][j]);
        }
    }
    getch();
}
```

The screenshot shows the Dev-C++ IDE with a C++ program in the editor and its output in the console window. The program defines two structures: 'address' and 'student'. The 'student' structure is nested, containing a 'name' array, a 'roll' integer, and an 'address' structure. The 'main' function creates a 'student' variable and prompts the user to enter their name and roll number, street name, house number, and state number. It then prints the student details and the address information.

```
1  #include<stdio.h>
2
3  /* Declaration of structure */
4  struct address
5  {
6      int houseno;
7      char street[20];
8      int stateno;
9  };
10
11 /* Declaration of structure */
12 struct student
13 {
14     char name[30];
15     int roll;
16     struct address adrs; /* Nested structure */
17 };
18
19 int main()
20 {
21     struct student stud;
22
23     printf("Enter name and roll number of student:\n");
24     scanf("%s%d",stud.name, &stud.roll);
25     printf("Enter street name, house number and state number:\n");
26     scanf("%s%d%d",stud.adrs.street, &stud.adrs.houseno, &stud.adrs.stateno);
27     printf("Student detail is:\n");
28     printf("Name: %s\tRoll: %d\n", stud.name, stud.roll);
29     printf("Address:%s, House no. %d, state: %d",stud.adrs.street, stud.adrs.houseno, stud.adrs.stateno);
30
31     return 0;
32 }
```

Output:

```
Enter name and roll number of student:
gnanendra
192211158
Enter street name, house number and state number:
srikalahastri
34
andhar pradesh
Student detail is:
Name: gnanendra Roll: 192211158
Address:srikalahastri, House no. -34, state: 0
-----
Process exited after 73.24 seconds with return value 0
Press any key to continue . . .
```

Compilation results:

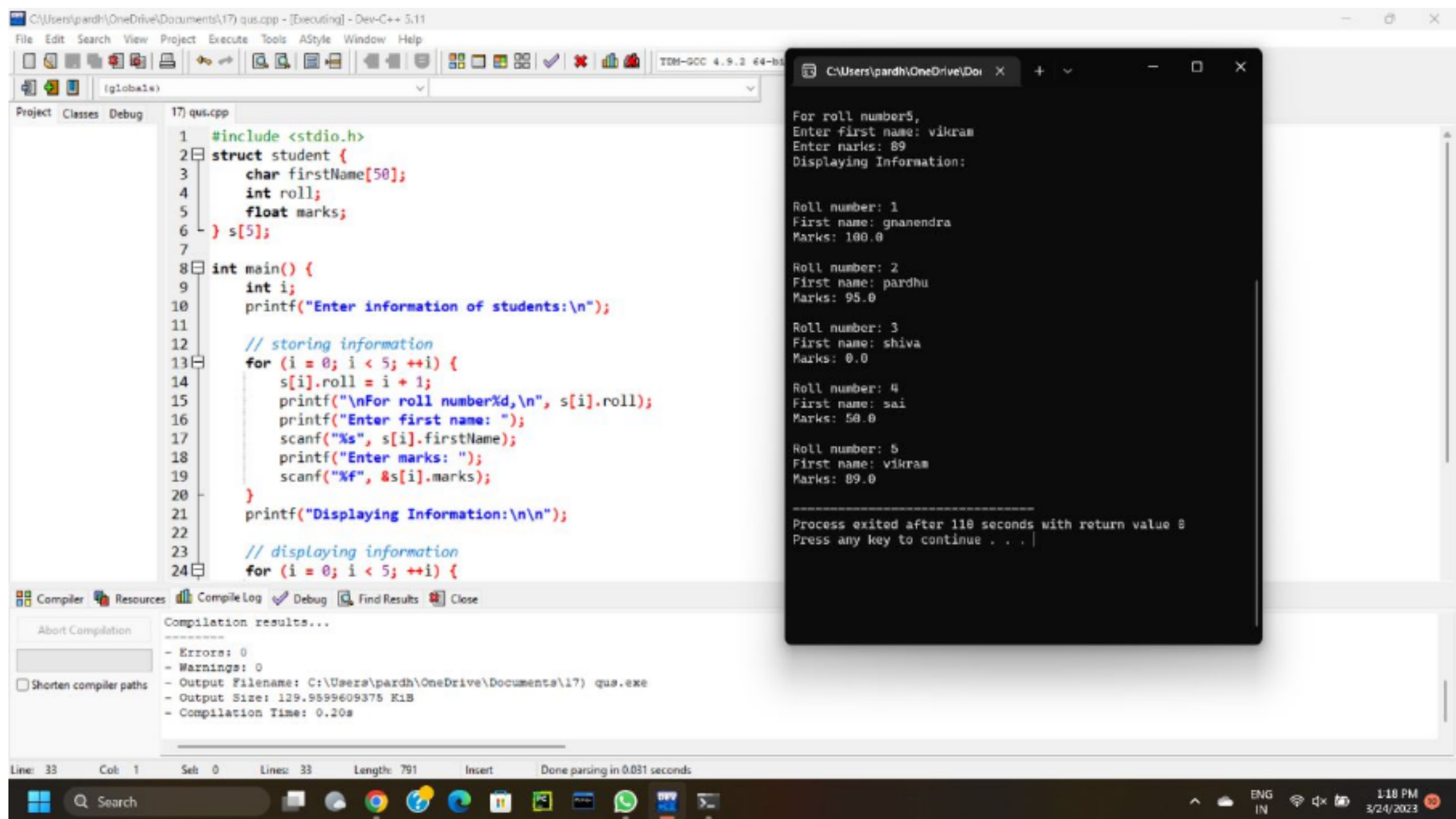
```
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\pardh\OneDrive\Documents\16\qus.exe
- Output Size: 128.7708078128 KiB
- Compilation Time: 0.19s
```



## 20. Find out the error and show the output

```
void main()
{
    int a[20][20],c[20][20],i,j,r1,c1;
    clrscr();
    printf("\n Enter the number of rows and column of a matrix: \n");
    scanf("%d",&r1,&c1);
    printf("Enter the elements of matrix :");
    for(i=0;i<r1;i++)
    {
        for(j=0;j<r1;j++)
            scanf("%d",&a[i][j]);
    }
    printf("The elements of matrix are :");

    for(i=0;i<r1;i++)
    {
        Printf {" \n" );
        for(j=0;j<c1;j++)
            printf("\t%d",&a[i][j]);
    }
    printf("\n Transpose Matrix is\n");
    for(i=0;i<r1;i++)
    {
        printf("\n");
        for(j=0;j<c2;j++)
        {
            c[i][j]=a[j][i]; /* inverse rows and column */
            printf("%d\t",c[i][j]);
        }
    }
    getch();
}
```

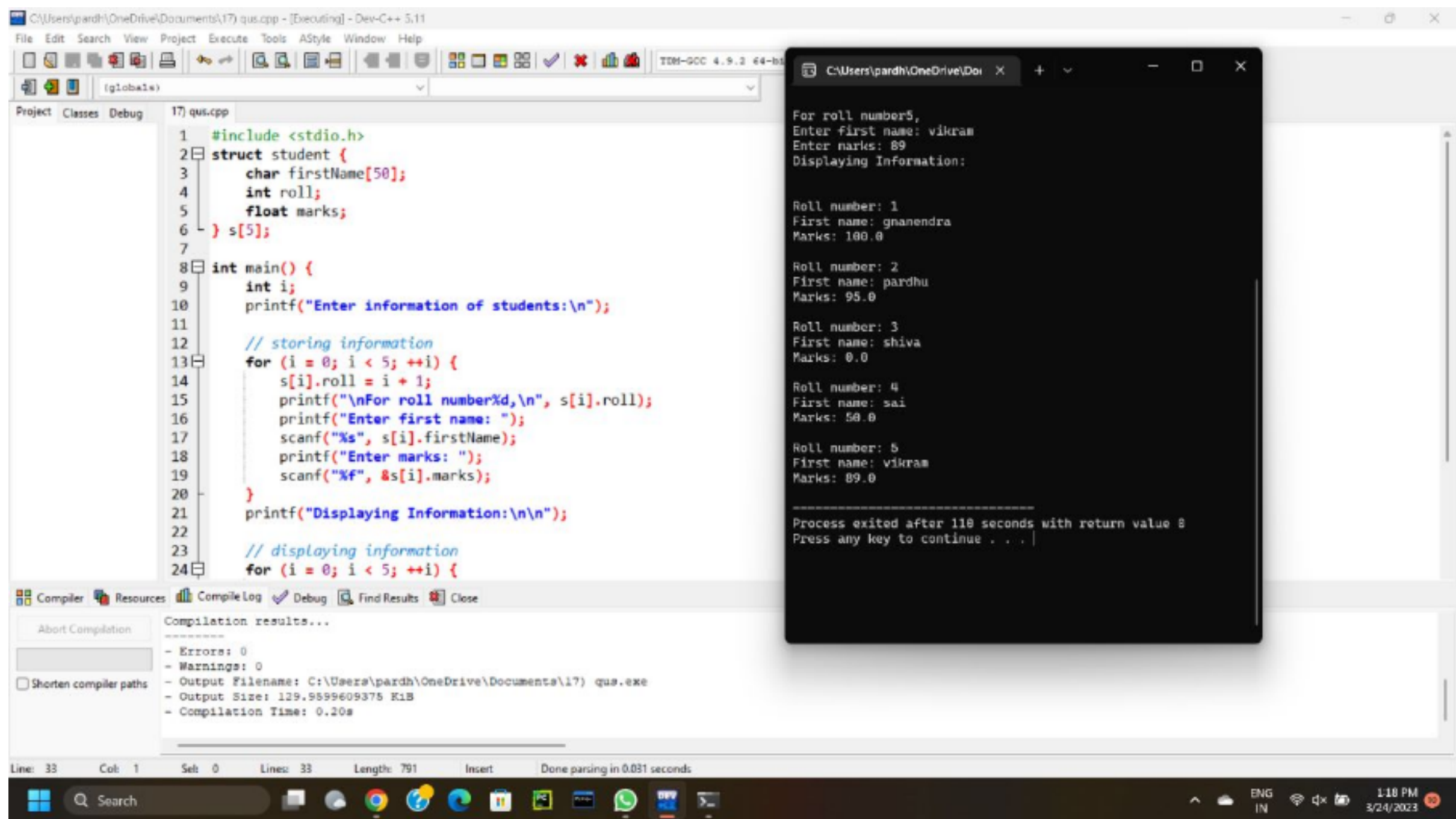


## 21. Find out the error and show the output

```

void main()
{
    char str[50];
    int i, length = 0;
    clrscr();
    printf("\nEnter the String: ");
    get(str);
    for(i=0; str[i]!='\0'; i++)
    {
        length++;
    }
    printf("\nThe length of the string is %d.", length);
    getch();
}

```



## 22. Find out the error and show the output

```
void main()
{
    char str1[30],str2[30];
    printf("Enter first string: ");
    gets(str1);
    printf("Enter second string: ");
    get(str2);
    if(strcmp(str1,str2)=0)
    {
        print("Both strings are equal");
    }
    else
        printf("Strings are unequal");
}
```

