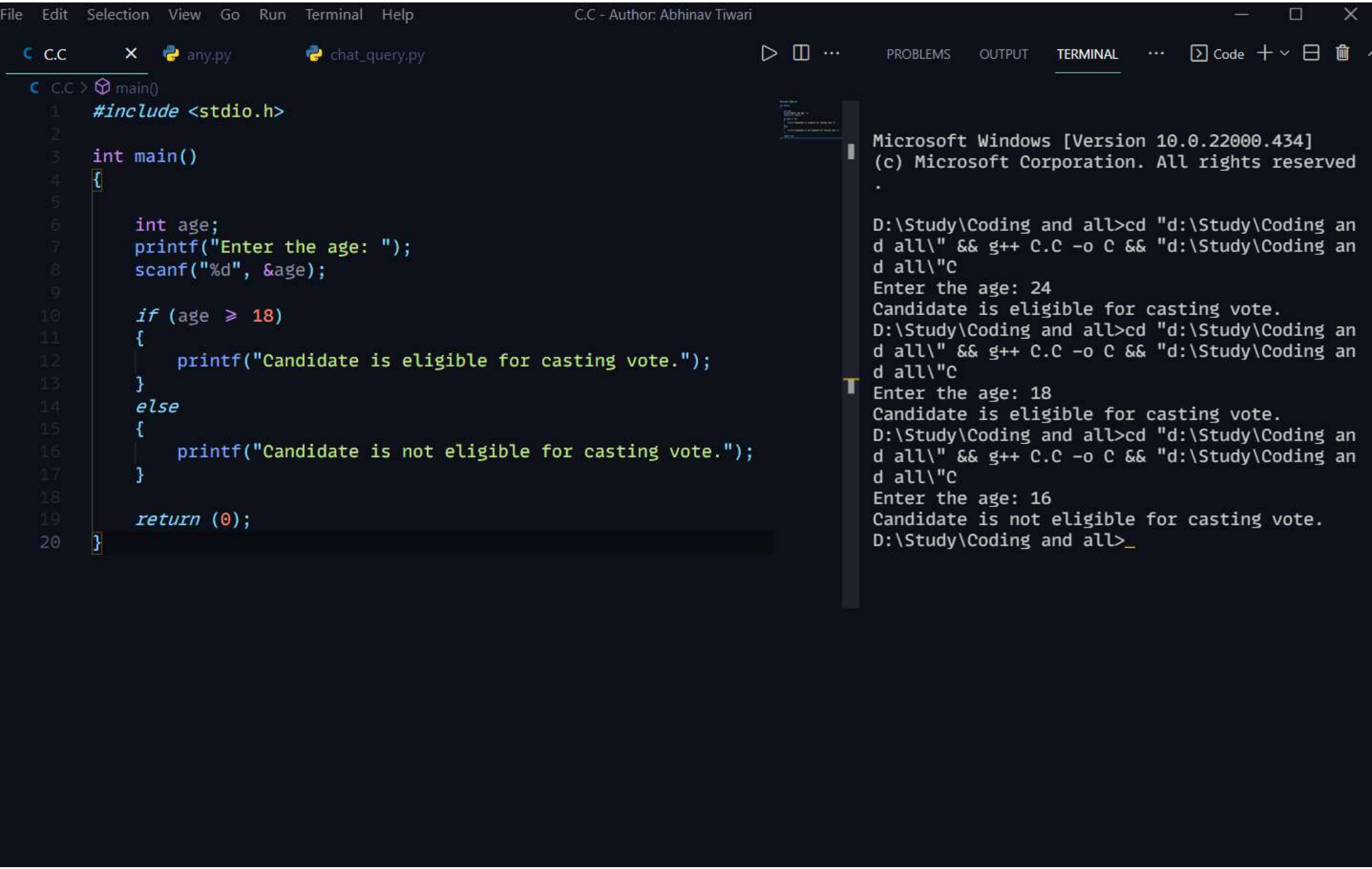
1. Write a C program to read the age of a candidate and determine whether it is eligible for casting his/her own vote.


File Edit Selection View Go Run Terminal Help
C.C - Author: Abhinav Tiwari
C.C
any.py
chat_query.py
PROBLEMS
OUTPUT
TERMINAL
Code
C.C > main()
#include <stdio.h>
int main()
{
int age;
printf("Enter the age: ");
scanf("%d", &age);
if (age ⩾ 18)
{
printf("Candidate is eligible for casting vote.");
}
else
{
printf("Candidate is not eligible for casting vote.");
}
return (0);
}
Microsoft Windows [Version 10.0.22000.434]
(c) Microsoft Corporation. All rights reserved
.
D:\Study\Coding and all>cd "d:\Study\Coding an
d all\" && g++ C.C -o C && "d:\Study\Coding an
d all\"C
Enter the age: 24
Candidate is eligible for casting vote.
D:\Study\Coding and all>cd "d:\Study\Coding an
d all\" && g++ C.C -o C && "d:\Study\Coding an
d all\"C
Enter the age: 18
Candidate is eligible for casting vote.
D:\Study\Coding and all>cd "d:\Study\Coding an
d all\" && g++ C.C -o C && "d:\Study\Coding an
d all\"C
Enter the age: 16
Candidate is not eligible for casting vote.
D:\Study\Coding and all>_

2. Write a C program to find whether a given year is a leap year or not.

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C.C any.py chat_query.py

C.C > main()

```c
#include <stdio.h>

int main()
{

    int year;
    printf("Enter year: ");
    scanf("%d", &year);

    if (year % 4 == 0)
    {
        if ((year % 100 == 0) && (year % 400 != 0))
        {
            printf("%d", year);
            printf(" is a not leap year.");
        }
        else
        {
            printf("%d", year);
            printf(" is a leap year.");
        }
    }
    else
    {
        printf("%d", year);
        printf(" is not a leap year.");
    }

    return (0);
}
```

PROBLEMS OUTPUT TERMINAL Code

```
Microsoft Windows [Version 10.0.22000.434]
(c) Microsoft Corporation. All rights reserved
.

D:\Study\Coding and all>cd "d:\Study\Coding an
d all\" && g++ C.C -o C && "d:\Study\Coding an
d all\"C
Enter year: 400
400 is a leap year.
D:\Study\Coding and all>cd "d:\Study\Coding an
d all\" && g++ C.C -o C && "d:\Study\Coding an
d all\"C
Enter year: 300
300 is a not leap year.
D:\Study\Coding and all>cd "d:\Study\Coding an
d all\" && g++ C.C -o C && "d:\Study\Coding an
d all\"C
Enter year: 2020
2020 is a leap year.
D:\Study\Coding and all>cd "d:\Study\Coding an
d all\" && g++ C.C -o C && "d:\Study\Coding an
d all\"C
Enter year: 2022
2022 is not a leap year.
D:\Study\Coding and all>
```

3. Write a C program to read the value of an integer m and display the value of n is 1 when m is larger than 0, 0 when m is 0 and -1 when m is less than 0.

Test Data : -5

Expected Output :

The value of n = -1

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C.C any.py chat_query.py PROBLEMS TERMINAL Code

C.C > main()

```c
#include <stdio.h>

int main()
{

    int m, n;
    printf("Enter number: ");
    scanf("%d", &m);

    if (m > 0)
    {
        n = 1;
    }
    else if (m < 0)
    {
        n = -1;
    }
    else
    {
        n = 0;
    }

    printf("The value of n is: %d", n);

    return (0);
}
```

```
Microsoft Windows [Version 10.0.22000.434]
(c) Microsoft Corporation. All rights reserved.

D:\Study\Coding and all>cd "d:\Study\Coding and all
\" &&
 g++ C.C -o C && "d:\Study\Coding and all\"C
D:\Study\Coding and all>cd "d:\Study\Coding and all
\" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter number: 42
The value of n is: 1
D:\Study\Coding and all>cd "d:\Study\Coding and all
\" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter number: 0
The value of n is: 0
D:\Study\Coding and all>cd "d:\Study\Coding and all
\" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter number: -100
The value of n is: -1
D:\Study\Coding and all>_
```

4. Write a program to compute grade of students using if else ladder. The grades are assigned as followed:

    a. **Marks Grade**
    b. **marks<50 F**
    c. **50≤marks< 60 C**
    d. **60≤marks<70 B**
    e. **70≤marks<80 B+**
    f. **80≤marks<90 A**
    g. **90≤mars≤ 100 A+**

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C.C • any.py chat_query.py

PROBLEMS OUTPUT TERMINAL ... Code

C.C > main()

```c
#include <stdio.h>

int main()
{

    int marks;

    printf("Enter obtained marks: ");
    scanf("%d", &marks);

    if (marks ⩾ 90 && marks ⩽ 100)
    {
        printf("The assigned grade is: A+");
    }
    else if (marks < 90 && marks ⩾ 80)
    {
        printf("The assigned grade is: A");
    }
    else if (marks < 80 && marks ⩾ 70)
    {
        printf("The assigned grade is: B+");
    }
    else if (marks < 70 && marks ⩾ 60)
    {
        printf("The assigned grade is: B");
    }
    else if (marks < 60 && marks ⩾ 50)
    {
        printf("The assigned grade is: C");
    }
    else if (marks < 50 && marks ⩾ 0)
    {
        printf("The assigned grade is: F");
    }
    else
    {
        printf("Invalid Marks");
    }

    return (0);
}
```

```
Microsoft Windows [Version 10.0.22000.434]
(c) Microsoft Corporation. All rights reserved.

D:\Study\Coding and all>cd "d:\Study\Coding and all\" &&
g++ C.C -o C && "d:\Study\Coding and all\"C
Enter obtained marks: 98
The assigned grade is: A+
D:\Study\Coding and all>cd "d:\Study\Coding and allD:\Stu
dy\Coding and all>cd "d:\Study\Coding and all
\" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter obtained marks: 98
The assigned grade is: A+
      D:\Study\Coding and all>cd "d:\Study\Coding and all
\" && g++ C.
C -o C && "d:\Study\Coding and all\"C
Enter obtained marks: 82
D:\Study\Coding and all>cd "d:\Study\Coding and all\" &&
The assigned grade is: A
D:\Study\Coding and all>cd "d:\Study\Coding and all\" &&
g++ C.C -o C && "d:\Study\Coding and all\"C
Enter obtained marks: 76
The assigned grade is: B+
D:\Study\Coding and all>cd "d:\Study\Coding and all\" &&
g++ C.C -o C && "d:\Study\Coding and all\"C
Enter obtained marks: 68
The assigned grade is: B
D:\Study\Coding and all>cd "d:\Study\Coding and all\" &&
g++ C.C -o C && "d:\Study\Coding and all\"C
Enter obtained marks: 20
The assigned grade is: F
D:\Study\Coding and all>_
```

5. When three angle of triangle enter from key board, check the triangle is valid or not.

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C.C any.py chat_query.py

C.C > main()

```c
#include <stdio.h>

int main()
{

    float angle1, angle2, angle3;

    printf("Enter the first angle: ");
    scanf("%f", &angle1);

    printf("Enter the second angle: ");
    scanf("%f", &angle2);

    printf("Enter the third angle: ");
    scanf("%f", &angle3);

    if (angle1 + angle2 + angle3 == 180)
    {
        printf("the triangle is VALID");
    }
    else
    {
        printf("the triangle is INVALID");
    }

    return (0);
}
```

PROBLEMS OUTPUT TERMINAL ... Code

```
Microsoft Windows [Version 10.0.22000.434]
(c) Microsoft Corporation. All rights reserved.

D:\Study\Coding and all>cd "d:\Study\Coding and all\"
&& g++ C.C -o C && "d:\Study\Coding and all\"C
Enter the first angle: 54
Enter the second angle: 36
Enter the third angle: 90
the triangle is VALID
D:\Study\Coding and all>cd "d:\Study\Coding and all\"
&& g++ C.C -o C && "d:\Study\Coding and all\"C
Enter the first angle: 50
Enter the second angle: 40
Enter the third angle: 60
the triangle is INVALID
D:\Study\Coding and all>_
```

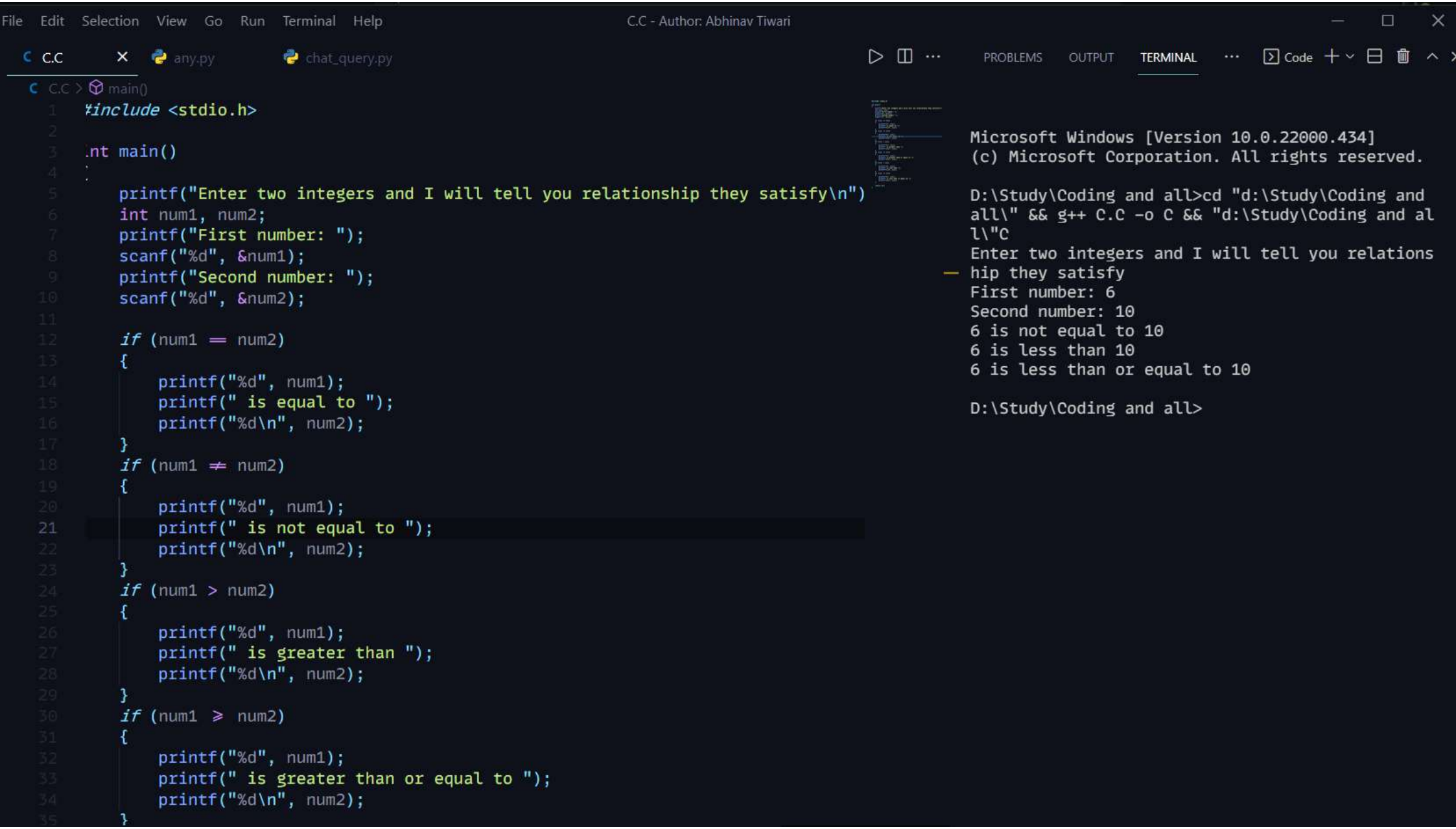
6. Using six if statements (equality & relational operators) to compare two numbers input by user. If the condition in any of these if statement is satisfied, the printf statement associated with that if is executed.

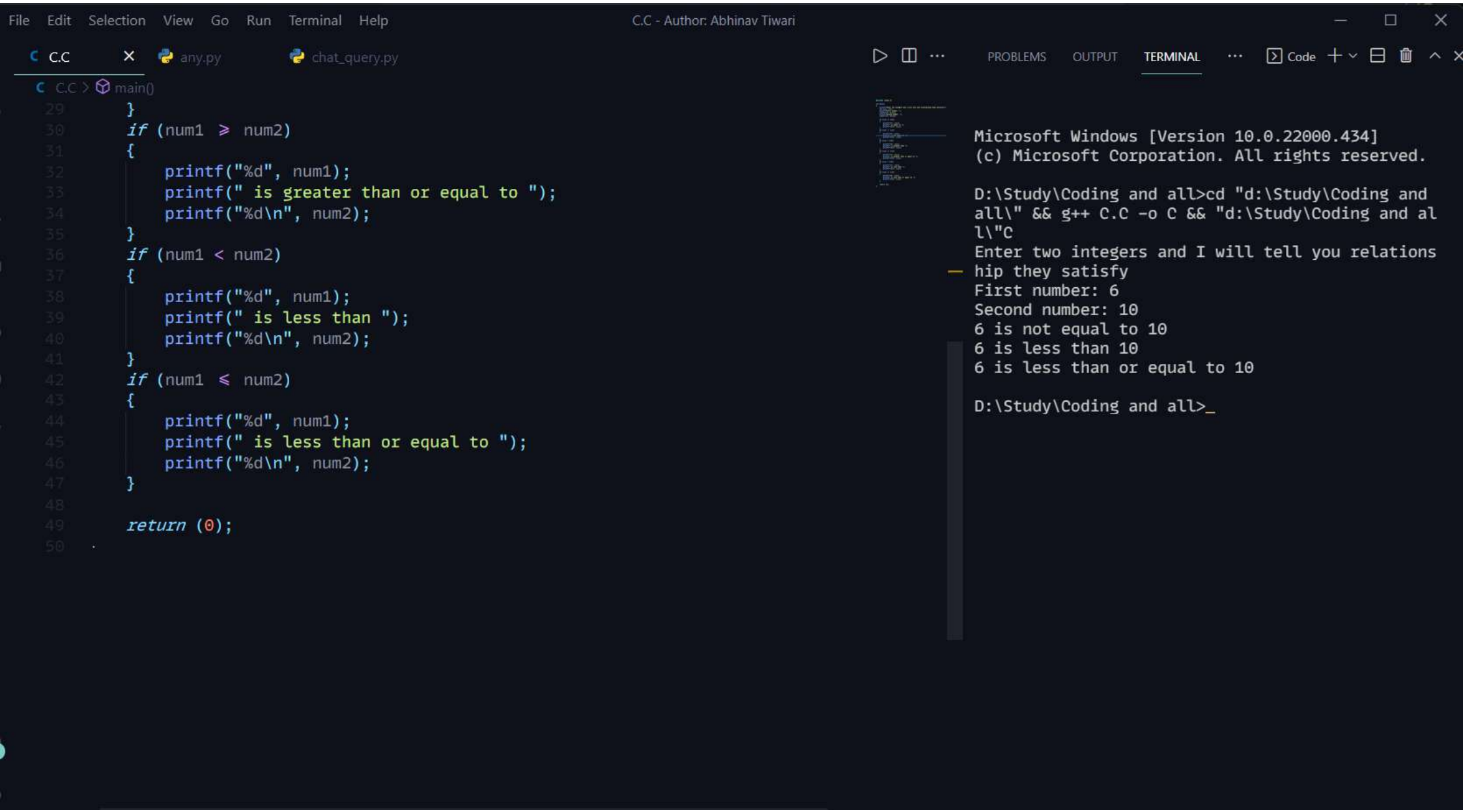
Enter two integers, and I will tell you
The relationship they satisfy: 3 7

3 is not equal to 7

3 is less than 7

3 is less than or equal to 7


File Edit Selection View Go Run Terminal Help
C.C - Author: Abhinav Tiwari
C.C
any.py
chat_query.py
C.C > main()
PROBLEMS OUTPUT TERMINAL
Code
#include <stdio.h>
int main()
{
printf("Enter two integers and I will tell you relationship they satisfy\n")
int num1, num2;
printf("First number: ");
scanf("%d", &num1);
printf("Second number: ");
scanf("%d", &num2);
if (num1 == num2)
{
printf("%d", num1);
printf(" is equal to ");
printf("%d\n", num2);
}
if (num1 ≠ num2)
{
printf("%d", num1);
printf(" is not equal to ");
printf("%d\n", num2);
}
if (num1 > num2)
{
printf("%d", num1);
printf(" is greater than ");
printf("%d\n", num2);
}
if (num1 ⩾ num2)
{
printf("%d", num1);
printf(" is greater than or equal to ");
printf("%d\n", num2);
}
Microsoft Windows [Version 10.0.22000.434]
(c) Microsoft Corporation. All rights reserved.
D:\Study\Coding and all>cd "d:\Study\Coding and all\" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter two integers and I will tell you relationship they satisfy
First number: 6
Second number: 10
6 is not equal to 10
6 is less than 10
6 is less than or equal to 10
D:\Study\Coding and all>


File Edit Selection View Go Run Terminal Help
C.C - Author: Abhinav Tiwari
C.C
any.py
chat_query.py
C.C > main()
}
if (num1 ⩾ num2)
{
printf("%d", num1);
printf(" is greater than or equal to ");
printf("%d\n", num2);
}
if (num1 < num2)
{
printf("%d", num1);
printf(" is less than ");
printf("%d\n", num2);
}
if (num1 ⩽ num2)
{
printf("%d", num1);
printf(" is less than or equal to ");
printf("%d\n", num2);
}
return (0);
PROBLEMS
OUTPUT
TERMINAL
Code
Microsoft Windows [Version 10.0.22000.434]
(c) Microsoft Corporation. All rights reserved.
D:\Study\Coding and all>cd "d:\Study\Coding and all\" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter two integers and I will tell you relationship they satisfy
First number: 6
Second number: 10
6 is not equal to 10
6 is less than 10
6 is less than or equal to 10
D:\Study\Coding and all>_

7. Given the length and breadth of a rectangle, write a program to find whether the area of the rectangle is greater than its perimeter. **For example, the area of the rectangle with length = 5 and breadth = 4 is greater than its perimeter.**

File Edit Selection View Go Run Terminal Help C.C - Author: Abhinav Tiwari

C.C any.py chat_query.py

C.C > main()

```c
#include <stdio.h>

int main()
{
    float length, breadth;

    printf("Enter length: ");
    scanf("%f", &length);
    printf("Enter breadth: ");
    scanf("%f", &breadth);

    float area = length * breadth;
    float perimeter = 2 * (length + breadth);

    if (perimeter > area)
    {
        printf("Perimeter is greater than Area.");
    }
    else if (area > perimeter)
    {
        printf("Area is greater than Perimeter.");
    }
    else
    {
        printf("Area is equal to Perimeter.");
    }

    return (0);
}
```

PROBLEMS TERMINAL Code

```
Microsoft Windows [Version 10.0.22000.434]
(c) Microsoft Corporation. All rights reserved.

D:\Study\Coding and all>cd "d:\Study\Coding and a
ll\" && g++ C.C -o C && "d:\Study\Coding and all\
"C
Enter length: 3
Enter breadth: 7
Area is greater than Perimeter.
D:\Study\Coding and all>cd "d:\Study\Coding and a
ll\" && g++ C.C -o C && "d:\Study\Coding and all\
"C
Enter length: 1
Enter breadth: 2
Perimeter is greater than Area.
D:\Study\Coding and all>cd "d:\Study\Coding and a
ll\" && g++ C.C -o C && "d:\Study\Coding and all\
"C
Enter length: 4
Enter breadth: 4
Area is equal to Perimeter.
D:\Study\Coding and all>
```

8. Write a c program to read 3 numbers from keyboard and check the following conditions and print the output.
   1. **A is largest number**
   2. **B is largest number**
   3. **C is largest number**
   4. **All numbers are equal**
   5. **A, B are equal and greater than C**
   6. **A, C are equal and greater than B**
   7. **B, C are equal and greater than A**

File Edit Selection View Go Run Terminal Help C.C - Author: Abhinav Tiwari

C.C any.py chat_query.py

C.C > main()

```c
#include <stdio.h>

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

    printf("Enter first number: ");
    scanf("%d", &num1);
    printf("Enter second number: ");
    scanf("%d", &num2);
    printf("Enter third number: ");
    scanf("%d", &num3);

    if (num1 == num2 && num1 == num3)
    {
        printf("All numbers are equal.");
    }
    else if (num1 == num2 && num3 != num1)
    {
        if (num1 < num3)
        {
            printf("%d", num1);
            printf(", %d", num2);
            printf(" are equal and less than ");
            printf("%d", num3);
        }
        else
        {
            printf("%d", num1);
            printf(", %d", num2);
            printf(" are equal and greater than ");
            printf("%d", num3);
        }
    }
    else if (num3 == num2 && num3 != num1)
    {
        if (num1 > num3)
```

PROBLEMS OUTPUT TERMINAL Code

```
Microsoft Windows [Version 10.0.22000.434]
(c) Microsoft Corporation. All rights reserved.

D:\Study\Coding and all>cd "d:\Study\Coding and all\
" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter first number: 4
Enter second number: 3
Enter third number: 8
8 is the largest.
D:\Study\Coding and all>cd "d:\Study\Coding and all\
" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter first number: 6
Enter second number: 6
Enter third number: 9
6, 6 are equal and less than 9
D:\Study\Coding and all>cd "d:\Study\Coding and all\
" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter first number: 5
Enter second number: 5
Enter third number: 5
All numbers are equal.
D:\Study\Coding and all>_
```

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C.C any.py chat_query.py

C.C > main()

```c
    else if (num3 == num2 && num3 != num1)
    {
        if (num1 > num3)
        {
            printf("%d", num3);
            printf(", %d", num2);
            printf(" are equal and less than ");
            printf("%d", num1);
        }
        else
        {
            printf("%d", num3);
            printf(", %d", num2);
            printf(" are equal and greater than ");
            printf("%d", num1);
        }
    }
    else if (num1 == num3 && num3 != num2)
    {
        if (num2 > num3)
        {
            printf("%d", num3);
            printf(", %d", num1);
            printf(" are equal and less than ");
            printf("%d", num2);
        }
        else
        {
            printf("%d", num3);
            printf(", %d", num1);
            printf(" are equal and greater than ");
            printf("%d", num2);
        }
    }
    else if (num1 > num2 && num1 > num3)
    {
        printf("%d", num1);
```

PROBLEMS OUTPUT TERMINAL Code

```
Microsoft Windows [Version 10.0.22000.434]
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D:\Study\Coding and all>cd "d:\Study\Coding and all\
" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter first number: 4
Enter second number: 3
Enter third number: 8
8 is the largest.
D:\Study\Coding and all>cd "d:\Study\Coding and all\
" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter first number: 6
Enter second number: 6
Enter third number: 9
6, 6 are equal and less than 9
D:\Study\Coding and all>cd "d:\Study\Coding and all\
" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter first number: 5
Enter second number: 5
Enter third number: 5
All numbers are equal.
D:\Study\Coding and all>
```

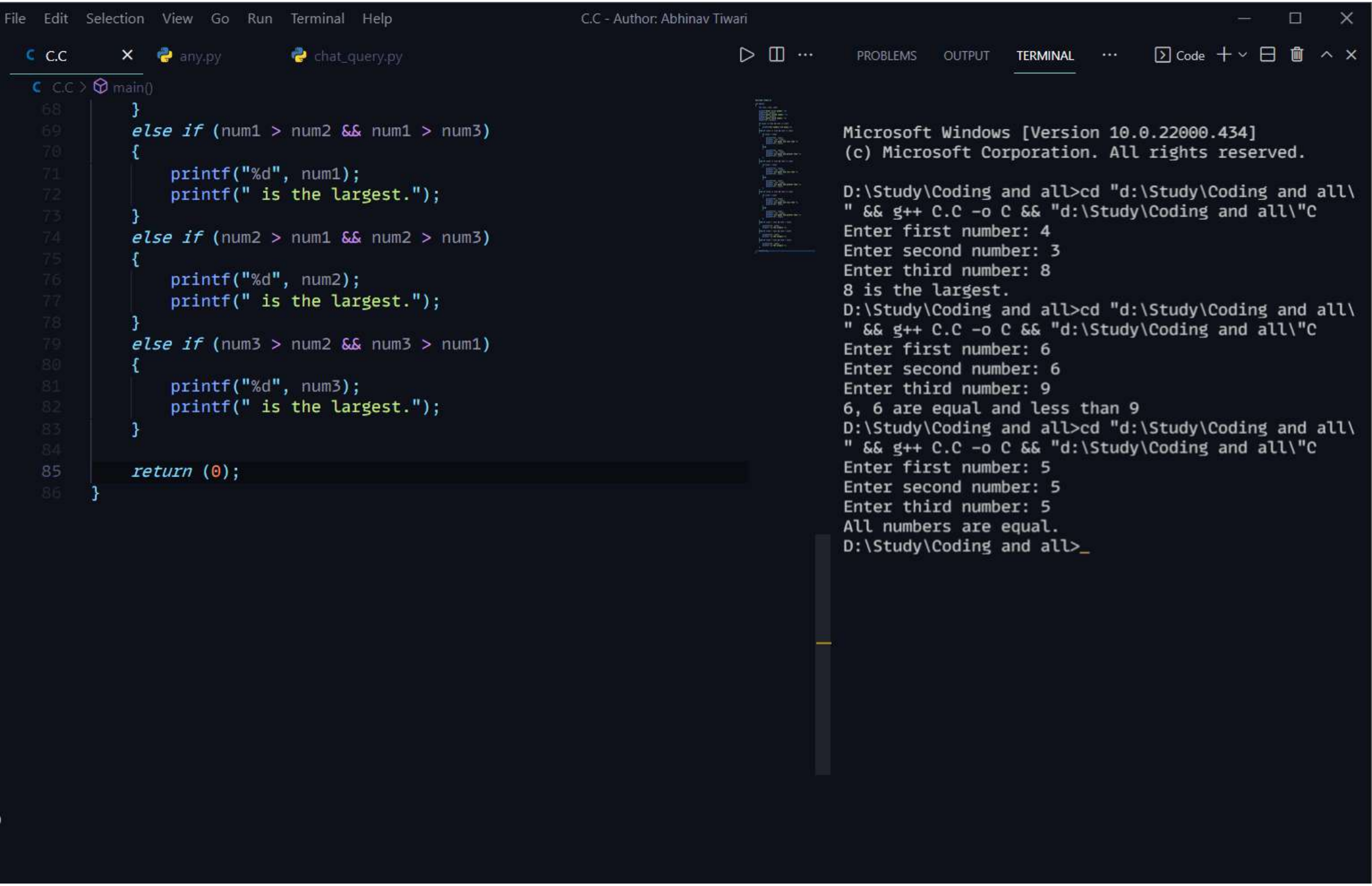
File Edit Selection View Go Run Terminal Help
C.C - Author: Abhinav Tiwari
C.C
any.py
chat_query.py
C.C > main()
}
else if (num1 > num2 && num1 > num3)
{
printf("%d", num1);
printf(" is the largest.");
}
else if (num2 > num1 && num2 > num3)
{
printf("%d", num2);
printf(" is the largest.");
}
else if (num3 > num2 && num3 > num1)
{
printf("%d", num3);
printf(" is the largest.");
}
return (0);
}
PROBLEMS
OUTPUT
TERMINAL
Code
Microsoft Windows [Version 10.0.22000.434]
(c) Microsoft Corporation. All rights reserved.
D:\Study\Coding and all>cd "d:\Study\Coding and all\
" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter first number: 4
Enter second number: 3
Enter third number: 8
8 is the largest.
D:\Study\Coding and all>cd "d:\Study\Coding and all\
" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter first number: 6
Enter second number: 6
Enter third number: 9
6, 6 are equal and less than 9
D:\Study\Coding and all>cd "d:\Study\Coding and all\
" && g++ C.C -o C && "d:\Study\Coding and all\"C
Enter first number: 5
Enter second number: 5
Enter third number: 5
All numbers are equal.
D:\Study\Coding and all>

9. If cost price and selling price of an item is input through the keyboard, write a program to determine whether the seller has made profit or incurred loss. Also determine how much profit he made or loss he incurred.