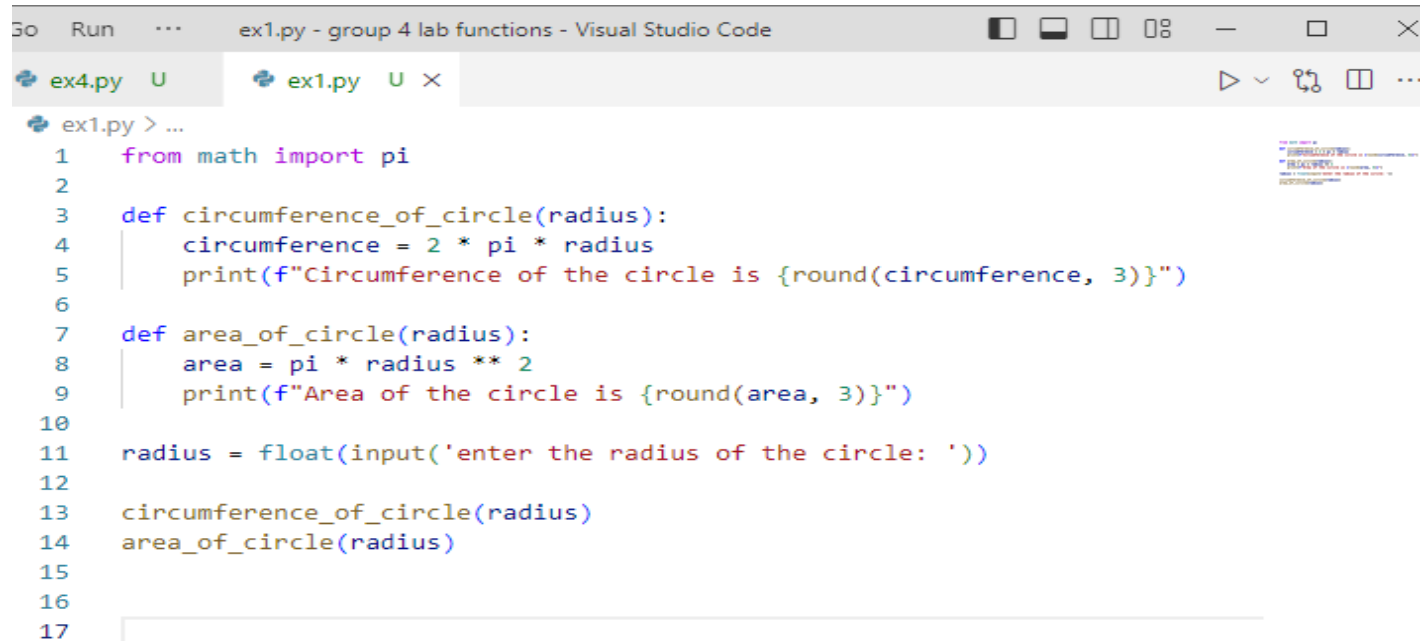



## Ex1 and solution



The screenshot shows the Visual Studio Code editor with a file named 'ex1.py' open. The code defines two functions: 'circumference\_of\_circle' and 'area\_of\_circle'. Both functions take a 'radius' parameter. The first function calculates the circumference using the formula  $C = 2 * \pi * r$  and prints the result rounded to 3 decimal places. The second function calculates the area using the formula  $A = \pi * r^2$  and prints the result rounded to 3 decimal places. The main part of the script prompts the user to enter the radius, converts it to a float, and then calls both functions with the entered radius.

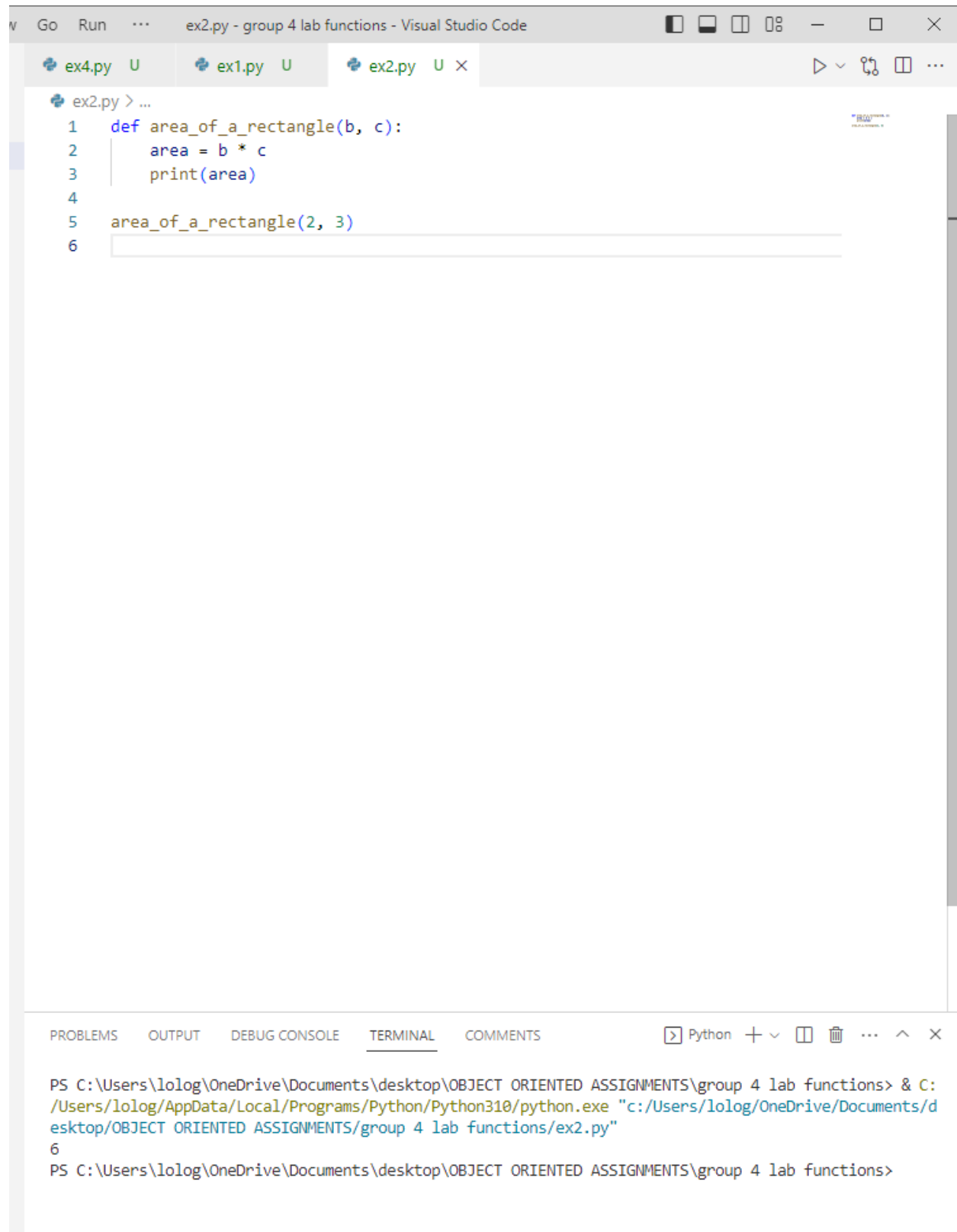
```
1 from math import pi
2
3 def circumference_of_circle(radius):
4     circumference = 2 * pi * radius
5     print(f"Circumference of the circle is {round(circumference, 3)}")
6
7 def area_of_circle(radius):
8     area = pi * radius ** 2
9     print(f"Area of the circle is {round(area, 3)}")
10
11 radius = float(input('enter the radius of the circle: '))
12
13 circumference_of_circle(radius)
14 area_of_circle(radius)
15
16
17
```



The terminal window shows the command prompt running the Python script. The user enters '1' for the radius, and the program outputs the circumference and area of the circle.

```
PS C:\Users\lolog\OneDrive\Documents\desktop\OBJECT ORIENTED ASSIGNMENTS\group 4 lab functions> & C:
:/Users/lolog/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/lolog/OneDrive/Documents/d
esktop/OBJECT ORIENTED ASSIGNMENTS/group 4 lab functions/ex1.py"
enter the radius of the circle: 1
Circumference of the circle is 6.283
Area of the circle is 3.142
PS C:\Users\lolog\OneDrive\Documents\desktop\OBJECT ORIENTED ASSIGNMENTS\group 4 lab functions>
```

## Ex2 and solution



The image shows a Visual Studio Code window with the file 'ex2.py' open. The code defines a function 'area\_of\_a\_rectangle' and calls it with arguments (2, 3). The terminal at the bottom shows the command to run the script, which outputs the number 6.

```
ex2.py > ...
1 def area_of_a_rectangle(b, c):
2     area = b * c
3     print(area)
4
5 area_of_a_rectangle(2, 3)
6
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL COMMENTS Python + - [ ] [X] ... ^ X

```
PS C:\Users\lolog\OneDrive\Documents\desktop\OBJECT ORIENTED ASSIGNMENTS\group 4 lab functions> & C:
/Users/lolog/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/lolog/OneDrive/Documents/d
esktop/OBJECT ORIENTED ASSIGNMENTS/group 4 lab functions/ex2.py"
6
PS C:\Users\lolog\OneDrive\Documents\desktop\OBJECT ORIENTED ASSIGNMENTS\group 4 lab functions>
```

## Ex3 and solution

```
ex3.py > ...
1  def average(n):
2      numbers = 0
3      if n > 1:
4          for i in range(1, n + 1):
5              numbers = numbers + i
6          avg = numbers / n
7          print(f"The average of integers from 1 to {n} is {avg}")
8
9  average(5)
10
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL COMMENTS

Python + - [ ] [X] ... ^ X

```
PS C:\Users\lolog\OneDrive\Documents\desktop\OBJECT ORIENTED ASSIGNMENTS\group 4 lab functions> & C:
:/Users/lolog/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/lolog/OneDrive/Documents/d
esktop/OBJECT ORIENTED ASSIGNMENTS/group 4 lab functions/ex3.py"
```

```
The average of integers from 1 to 5 is 3.0
```

```
PS C:\Users\lolog\OneDrive\Documents\desktop\OBJECT ORIENTED ASSIGNMENTS\group 4 lab functions>
```

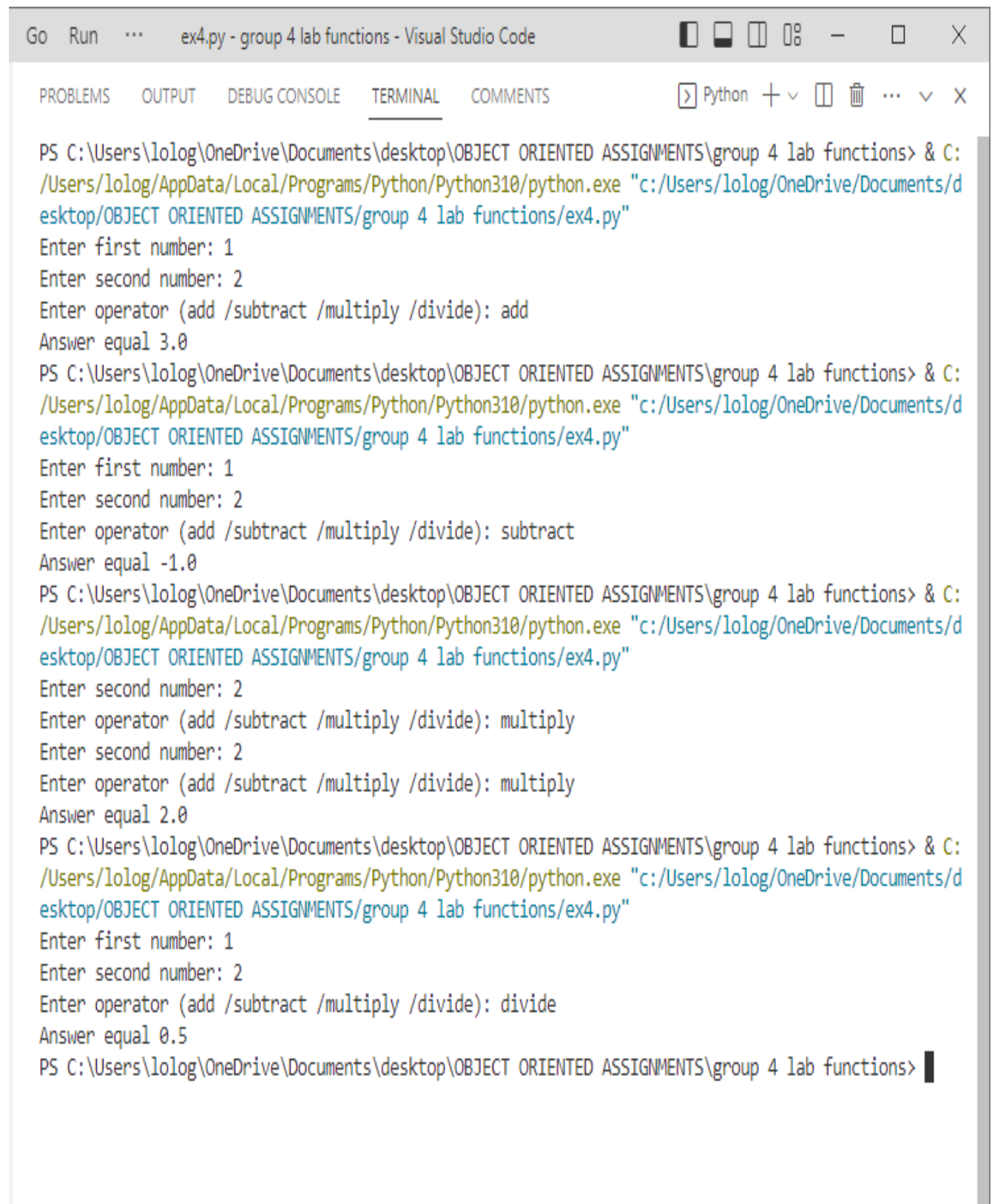
## Ex4

```
Go Run Terminal Help ex4.py - group 4

ex4.py U X

ex4.py > ...
1  # Function to add two numbers
2  def add(x, y):
3      |   return x + y
4
5  # Function to subtract two numbers
6  def subtract(x, y):
7      |   return x - y
8
9  # Function to multiply two numbers
10 def multiply(x, y):
11     |   return x * y
12
13 # Function to divide two numbers
14 def divide(x, y):
15     |   return x / y
16
17 num1 = float(input("Enter first number: "))
18 num2 = float(input("Enter second number: "))
19 operator = input("Enter operator (add /subtract /multiply /divide): ").lower()
20
21 if operator == 'add':
22     |   result = add(num1, num2)
23 elif operator == 'subtract':
24     |   result = subtract(num1, num2)
25 elif operator == 'multiply':
26     |   result = multiply(num1, num2)
27 elif operator == 'divide':
28     |   result = divide(num1, num2)
29 else:
30     |   print("Invalid operator")
31
32 print(f"Answer equal {result}")
33
```

## Ex4 solution



```
Go Run ... ex4.py - group 4 lab functions - Visual Studio Code

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL COMMENTS Python + - [ ] [ ] ... v x

PS C:\Users\lolog\OneDrive\Documents\desktop\OBJECT ORIENTED ASSIGNMENTS\group 4 lab functions> & C:
/Users/lolog/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/lolog/OneDrive/Documents/d
esktop/OBJECT ORIENTED ASSIGNMENTS/group 4 lab functions/ex4.py"
Enter first number: 1
Enter second number: 2
Enter operator (add /subtract /multiply /divide): add
Answer equal 3.0
PS C:\Users\lolog\OneDrive\Documents\desktop\OBJECT ORIENTED ASSIGNMENTS\group 4 lab functions> & C:
/Users/lolog/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/lolog/OneDrive/Documents/d
esktop/OBJECT ORIENTED ASSIGNMENTS/group 4 lab functions/ex4.py"
Enter first number: 1
Enter second number: 2
Enter operator (add /subtract /multiply /divide): subtract
Answer equal -1.0
PS C:\Users\lolog\OneDrive\Documents\desktop\OBJECT ORIENTED ASSIGNMENTS\group 4 lab functions> & C:
/Users/lolog/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/lolog/OneDrive/Documents/d
esktop/OBJECT ORIENTED ASSIGNMENTS/group 4 lab functions/ex4.py"
Enter second number: 2
Enter operator (add /subtract /multiply /divide): multiply
Enter second number: 2
Enter operator (add /subtract /multiply /divide): multiply
Answer equal 2.0
PS C:\Users\lolog\OneDrive\Documents\desktop\OBJECT ORIENTED ASSIGNMENTS\group 4 lab functions> & C:
/Users/lolog/AppData/Local/Programs/Python/Python310/python.exe "c:/Users/lolog/OneDrive/Documents/d
esktop/OBJECT ORIENTED ASSIGNMENTS/group 4 lab functions/ex4.py"
Enter first number: 1
Enter second number: 2
Enter operator (add /subtract /multiply /divide): divide
Answer equal 0.5
PS C:\Users\lolog\OneDrive\Documents\desktop\OBJECT ORIENTED ASSIGNMENTS\group 4 lab functions> 
```

