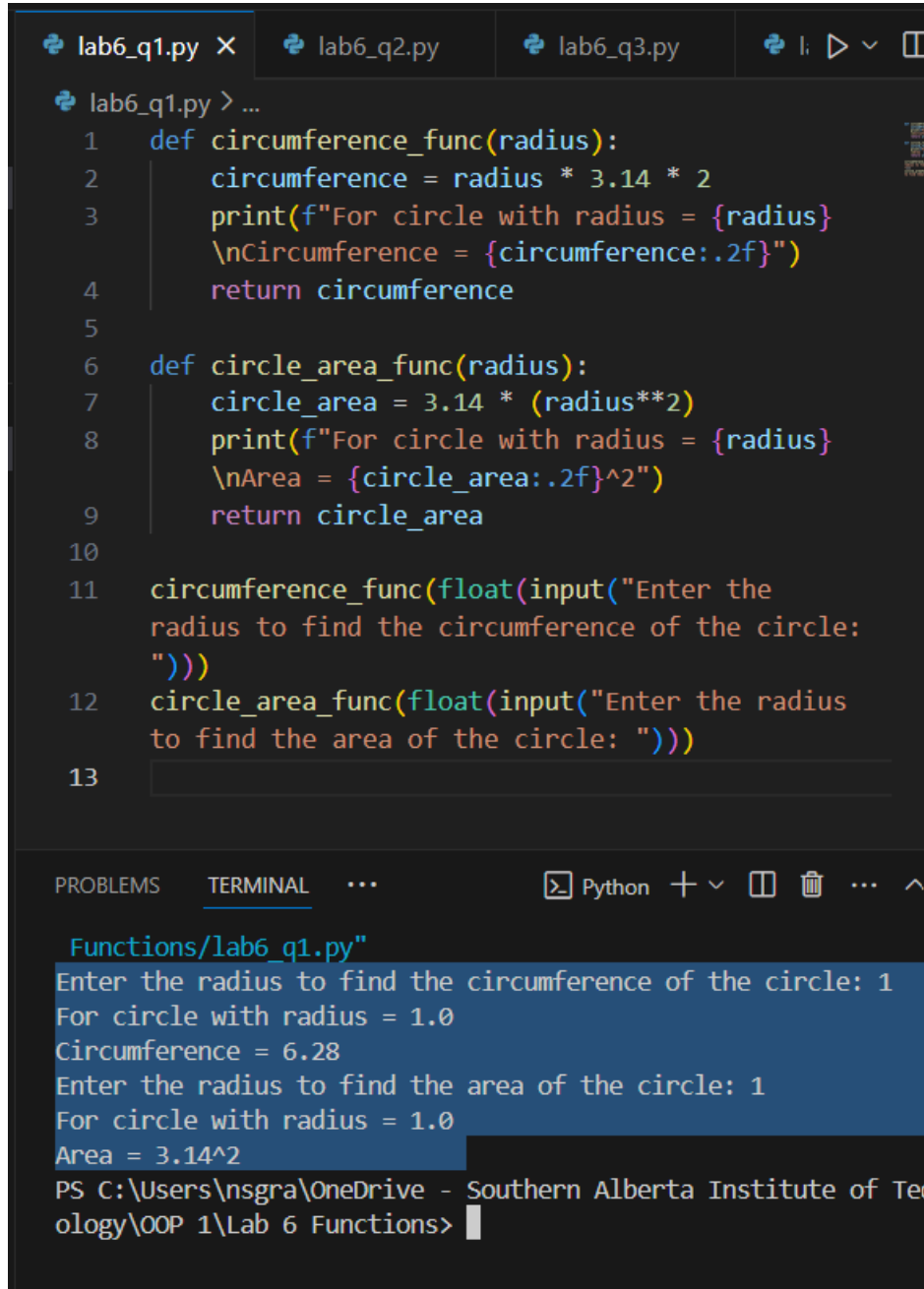


OOP1 Lab 6 – Functions

Nicholas Graham

1)



```
lab6_q1.py X lab6_q2.py lab6_q3.py | ▶ ▼ □  
lab6_q1.py > ...  
1 def circumference_func(radius):  
2     circumference = radius * 3.14 * 2  
3     print(f"For circle with radius = {radius}  
4         \nCircumference = {circumference:.2f}")  
5     return circumference  
6  
7 def circle_area_func(radius):  
8     circle_area = 3.14 * (radius**2)  
9     print(f"For circle with radius = {radius}  
10        \nArea = {circle_area:.2f}^2")  
11     return circle_area  
12  
13 circumference_func(float(input("Enter the  
radius to find the circumference of the circle:  
")))  
14 circle_area_func(float(input("Enter the radius  
to find the area of the circle: ")))  
15  
  
PROBLEMS TERMINAL ... Python + v □ □ ... ^  
Functions/lab6_q1.py"  
Enter the radius to find the circumference of the circle: 1  
For circle with radius = 1.0  
Circumference = 6.28  
Enter the radius to find the area of the circle: 1  
For circle with radius = 1.0  
Area = 3.14^2  
PS C:\Users\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions> |
```

2)

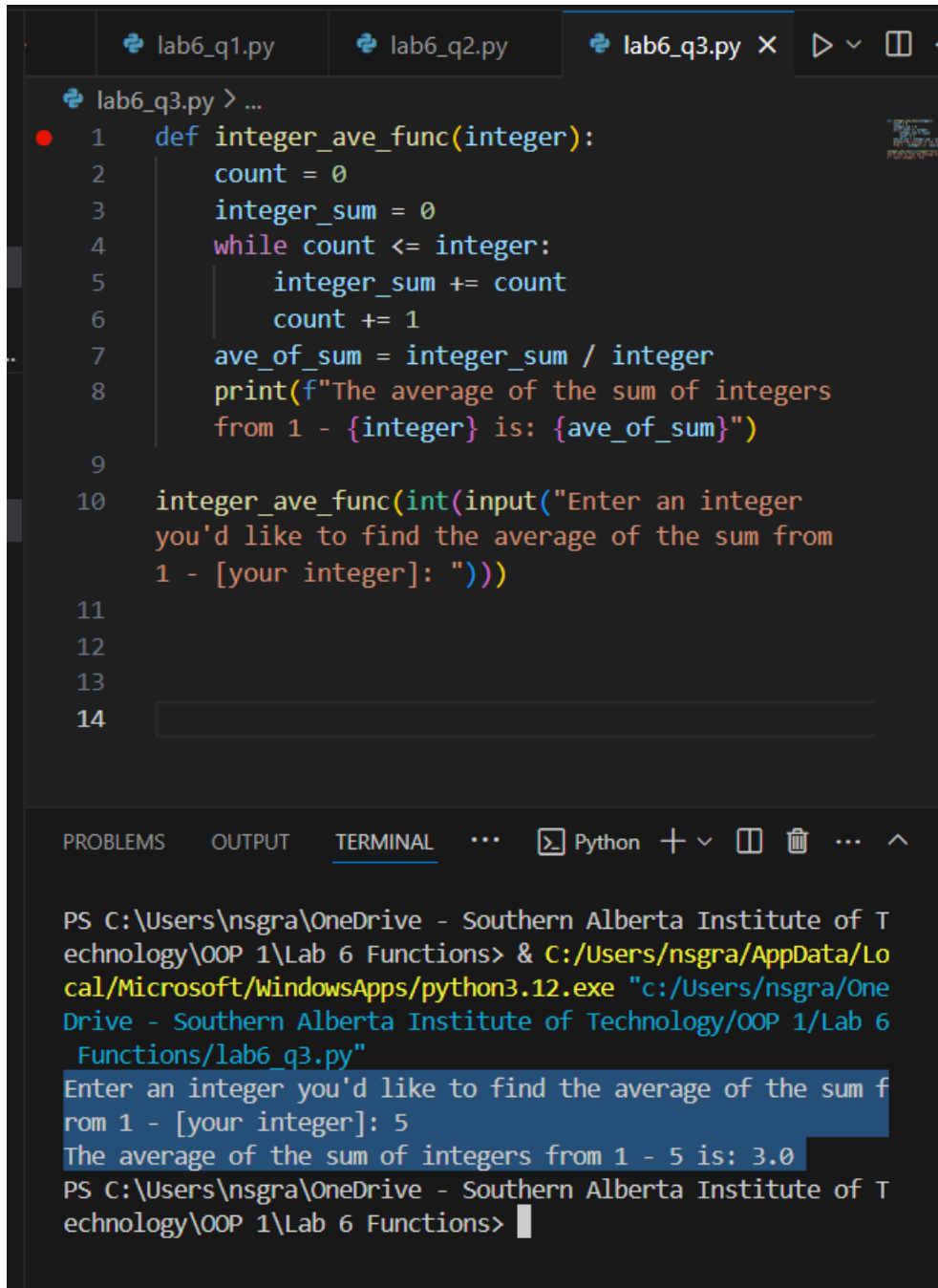
```
lab6_q2.py > ...
1 def rectangle_area_func(length, width):
2     rectangle_area = length * width
3     print(f"For a rectangle with:\nLength =
4     {length:.2f}\nwidth = {width:.2f}\nArea =
5     {rectangle_area:.2f}")
6     return rectangle_area

rectangle_area_func(float(input("Enter the
length of the rectangle you'd like to find the
area of: ")), float(input("Enter the width of
the rectangle you'd like to find the area of:
"))))
```

PROBLEMS OUTPUT TERMINAL ... Python + - [] [X] ... ^

```
PS C:\Users\nsgra\OneDrive - Southern Alberta Institute of T
echnology\OOP 1\Lab 6 Functions> & C:/Users/nsgra/AppData/Lo
cal/Microsoft/WindowsApps/python3.12.exe "c:/Users/nsgra/One
Drive - Southern Alberta Institute of Technology/OOP 1/Lab 6
Functions/lab6_q2.py"
Enter the length of the rectangle you'd like to find the are
a of: 2
Enter the width of the rectangle you'd like to find the area
of: 3
For a rectangle with:
Length = 2.00
Width = 3.00
Area = 6.00
PS C:\Users\nsgra\OneDrive - Southern Alberta Institute of T
echnology\OOP 1\Lab 6 Functions> |
```

3)



The image shows a Python IDE with three tabs: lab6_q1.py, lab6_q2.py, and lab6_q3.py. The lab6_q3.py tab is active, displaying a Python script. The script defines a function `integer_ave_func(integer)` that calculates the average of integers from 1 to `integer`. It uses a `while` loop to calculate the sum and then divides it by `integer`. The function is called with `int(input("Enter an integer you'd like to find the average of the sum from 1 - [your integer]: "))`. The terminal output shows the command to run the script, the input `5`, and the output `The average of the sum of integers from 1 - 5 is: 3.0`.

```
lab6_q3.py > ...
1 def integer_ave_func(integer):
2     count = 0
3     integer_sum = 0
4     while count <= integer:
5         integer_sum += count
6         count += 1
7     ave_of_sum = integer_sum / integer
8     print(f"The average of the sum of integers
9         from 1 - {integer} is: {ave_of_sum}")
10
11 integer_ave_func(int(input("Enter an integer
12 you'd like to find the average of the sum from
13 1 - [your integer]: ")))
14
```

PROBLEMS OUTPUT TERMINAL Python + -

```
PS C:\Users\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions> & C:/Users/nsgra/AppData/Local/Microsoft/WindowsApps/python3.12.exe "c:/Users/nsgra/OneDrive - Southern Alberta Institute of Technology/OOP 1/Lab 6 Functions/lab6_q3.py"
Enter an integer you'd like to find the average of the sum from 1 - [your integer]: 5
The average of the sum of integers from 1 - 5 is: 3.0
PS C:\Users\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions>
```

4)

```
lab6_q4.py > ...
1
2 def add(num1, num2):
3     return num1 + num2
4 def subtract(num1, num2):
5     return num1 - num2
6 def multiply(num1, num2):
7     return num1 * num2
8 def divide(num1, num2):
9     return num1 / num2
10
11 operation = input("Enter the operation (add, subtract, multiply, divide) you'd like to perform: ")
12
13 if operation == "add":
14     num1 = float(input("Enter your first number: "))
15     num2 = float(input("Enter your second number: "))
16     print(f"{num1} + {num2} = {add(num1, num2)}")
17 elif operation == "subtract":
18     num1 = float(input("Enter your first number: "))
19     num2 = float(input("Enter your second number: "))
20     print(f"{num1} - {num2} = {subtract(num1, num2)}")
21 elif operation == "multiply":
22     num1 = float(input("Enter your first number: "))
23     num2 = float(input("Enter your second number: "))
24     print(f"{num1} * {num2} = {multiply(num1, num2)}")
25 elif operation == "divide":
26     num1 = float(input("Enter your first number: "))
27     num2 = float(input("Enter your second number: "))
28     print(f"{num1} / {num2} = {divide(num1, num2)}")
29 else:
30     print("Invalid operation input")
31
```

```
PS C:\Users\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions\lab6_q4.py'
Enter the operation (add, subtract, multiply, divide) you'd like to perform: add
Enter your first number: 2
Enter your second number: 3
2.0 + 3.0 = 5.0
PS C:\Users\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions\lab6_q4.py'
Enter the operation (add, subtract, multiply, divide) you'd like to perform: subtract
Enter your first number: 5
Enter your second number: 4
5.0 - 4.0 = 1.0
PS C:\Users\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions\lab6_q4.py'
Enter the operation (add, subtract, multiply, divide) you'd like to perform: multiply
Enter your first number: 2
Enter your second number: 5
2.0 * 5.0 = 10.0
PS C:\Users\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions\lab6_q4.py'
Enter the operation (add, subtract, multiply, divide) you'd like to perform: divide
Enter your first number: 12
Enter your second number: 4
12.0 / 4.0 = 3.0
PS C:\Users\nsgra\OneDrive - Southern Alberta Institute of Technology\OOP 1\Lab 6 Functions
```