Logbook for ISD

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Contents

Introduction

A brief introduction to what you have done within the module and how your experience was with the exercises and the overall module. Probably up to half a page.

I have come to most of the lectures, looked at the presentation slides for the weeks gone by in the learning material section of Blackboard and checked my email for announcements. …

Began coding on the Python 3.5.2 during lesson time and looked at the exercises for each week. I have attempted the exercises during the lesson but yet have to complete most of them. To be honest my experience with the exercises weren't immediately easy for me to understand. It would take me time to understand them but I slowly learned what was going on and how to run them…

Week 1

Some overview of the topics covered by the lecture and the exercises. Not too much, may be a paragraph.

The overview:

The first week of the module has begun. Attend lecture number 1. I don't fully know the program itself and the coding immediately as it's the first lecture but I am familiar with the words being used since I have experience of this from before.
Introduced to an online repository known as Github and create an account on that, in the next lesson. Have no experience in this whatsoever so I decide to learn more about it by looking at a ReadMe type of page that explains what this Github online repo is about and how it is used.

Exercises 1

Provide the exercises description and your answers. Where applicable use source code excerpts, explanations of these, represent your results, for example by showing screenshots of your program and, where applicable, display the use of your code repository (github) either by screenshots or by providing log data from your code repository.

Exercises 2

Provide the exercises description and your answers. Where applicable use source code excerpts, explanations of these, represent your results, for example by showing screenshots of your program and, where applicable, display the use of your code repository (github) either by screenshots or by providing log data from your code repository.

Exercises …

Week 2

Some overview of the topics covered by the lecture and the exercises. Not too much, may be a paragraph.

Exercises 1

Provide the exercises description and your answers. Where applicable use source code excerpts, explanations of these, represent your results, for example by showing screenshots of your program and, where applicable, display the use of your code repository (github) either by screenshots or by providing log data from your code repository.

1) Write an algorithm that describes how to make scrambled eggs, try to use control words, like IF, WHEN, UNTIL, WHILE, WAIT, AND, OR.

Get eggs
Get some butter
Get pan
Get forks
Get spoons
Put pan on cooker
If cooker is off, turn on cooker
Put butter in pan

Exercises 2

Provide the exercises description and your answers. Where applicable use source code excerpts, explanations of these, represent your results, for example by showing screenshots of your program and, where applicable, display the use of your code repository (github) either by screenshots or by providing log data from your code repository.

2) Is Idle (the Python language shell) an Interpreter or a Compiler or both? Explain your answer.

Idle is not both. It is an interpreter since it lets one command to be executed(evaluated) at a time. The editor becomes a compiler as you can write programs with more than 1 command that are compiled and executed by idle.

Exercises …

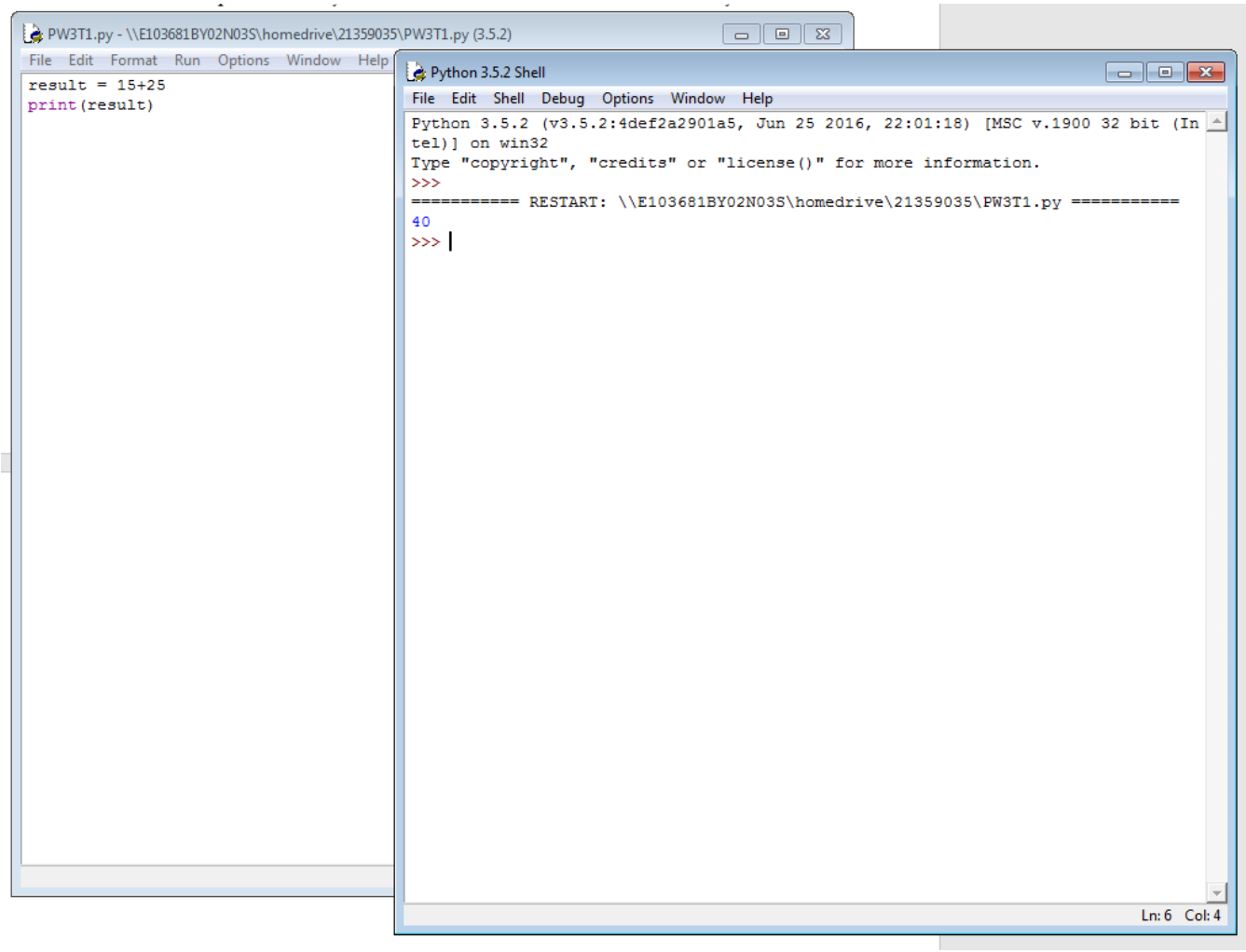
Week 3

Some overview of the topics covered by the lecture and the exercises. Not too much, may be a paragraph.

Exercises 1

Provide the exercises description and your answers. Where applicable use source code excerpts, explanations of these, represent your results, for example by showing screenshots of your program and, where applicable, display the use of your code repository (github) either by screenshots or by providing log data from your code repository.

```
1

result = 15+25

print(result)
```

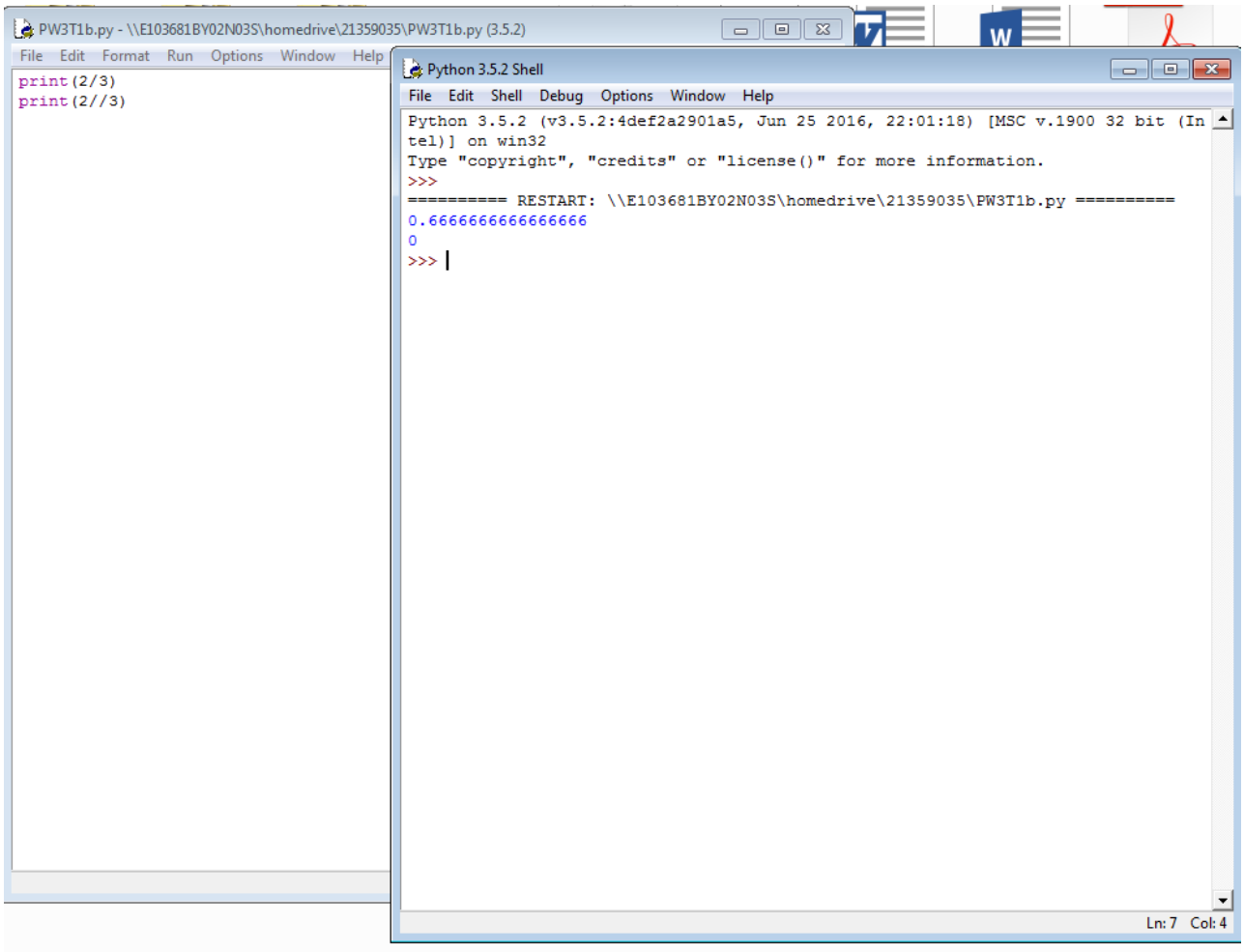


Exercises 2

Provide the exercises description and your answers. Where applicable use source code excerpts, explanations of these, represent your results, for example by showing screenshots of your program and, where applicable, display the use of your code repository (github) either by screenshots or by providing log data from your code repository.

2
b.
What do the following lines of code output? Why do they give a different answer?

```
print(2 / 3)
print(2 // 3)
```



Exercises 3 & 4…

3. area or Area are probably the better variable to use.

4. account.number account_number

   great.big.variable return_value

Week 4

Exercises

1 radius = int(input("Radius")

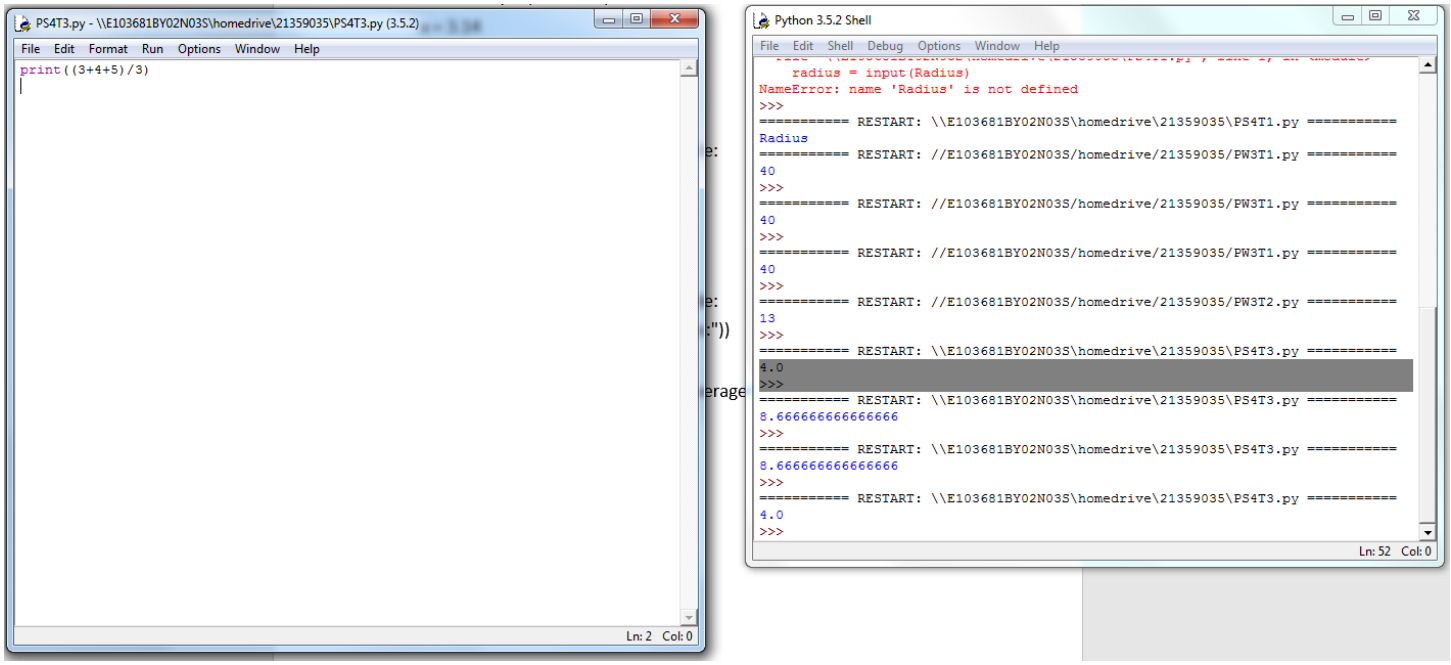
x = 3.14

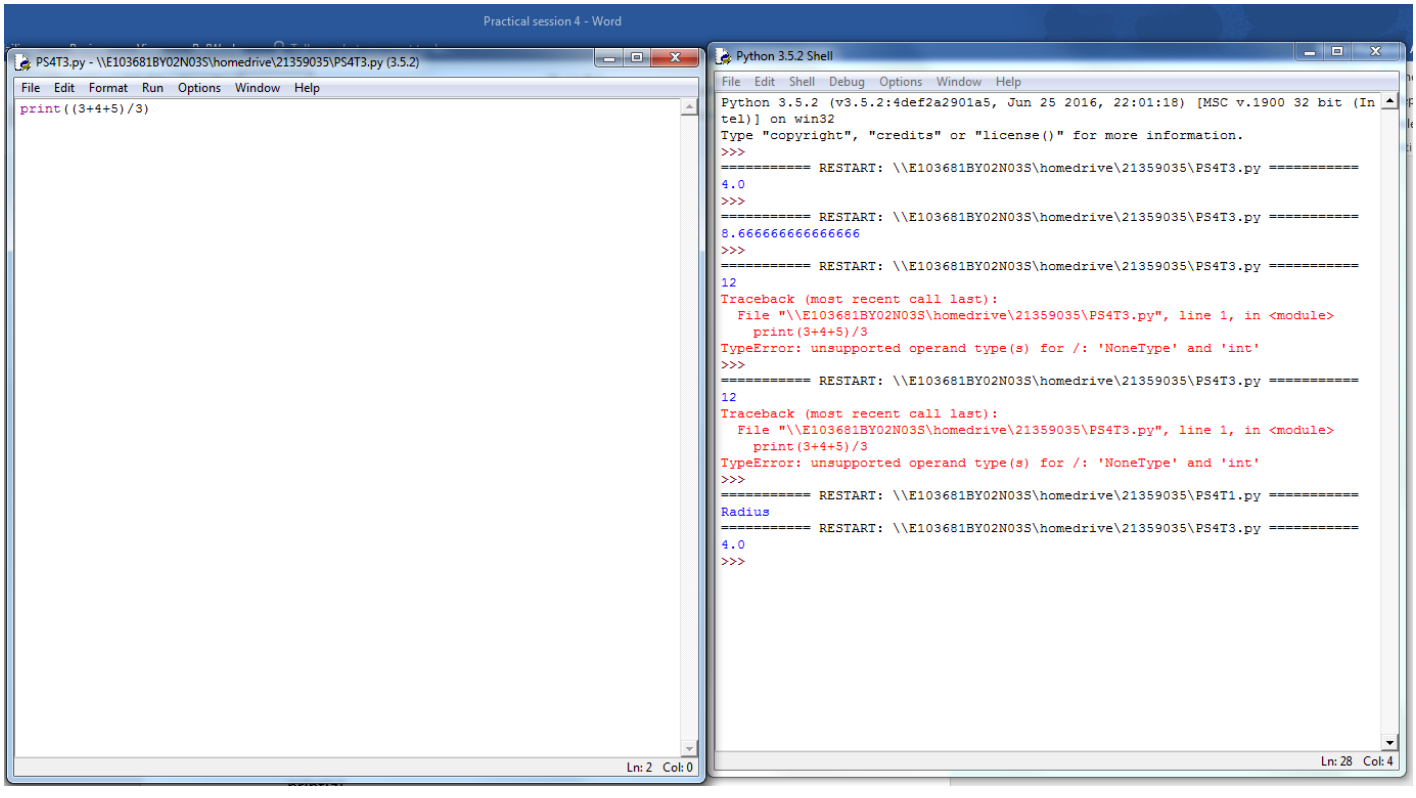
pi = x

area = pi*radius**2

print(area)

4 This code print(3 + 4 + 5 / 3)does not calculate the average because it needs two more brackets. One before (3+4+5/3) and one after the number 5 for the code to be ((3+4+5)/3) i.e. print((3+4+5)/3).

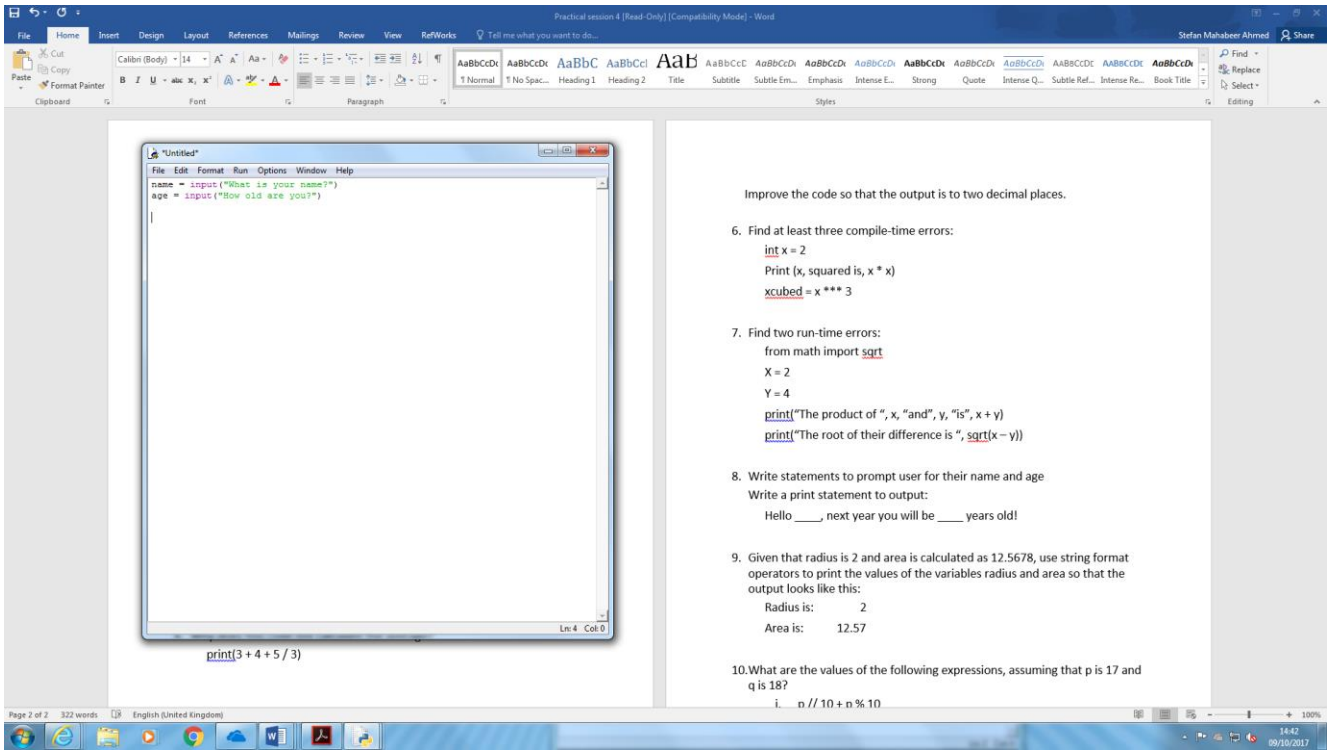

PS4T3.py - \\E103681BY02N03S\homedrive\21359035\PS4T3.py (3.5.2)
File Edit Format Run Options Window Help
print((3+4+5)/3)
Ln: 2 Col: 0
Python 3.5.2 Shell
File Edit Shell Debug Options Window Help
radius = input(Radius)
NameError: name 'Radius' is not defined
>>>
========== RESTART: \\E103681BY02N03S\homedrive\21359035\PS4T1.py ==========
Radius
========== RESTART: //E103681BY02N03S/homedrive/21359035/PW3T1.py ==========
40
>>>
========== RESTART: //E103681BY02N03S/homedrive/21359035/PW3T1.py ==========
40
>>>
========== RESTART: //E103681BY02N03S/homedrive/21359035/PW3T1.py ==========
40
>>>
========== RESTART: //E103681BY02N03S/homedrive/21359035/PW3T2.py ==========
13
>>>
========== RESTART: \\E103681BY02N03S\homedrive\21359035\PS4T3.py ==========
4.0
>>>
========== RESTART: \\E103681BY02N03S\homedrive\21359035\PS4T3.py ==========
8.666666666666666
>>>
========== RESTART: \\E103681BY02N03S\homedrive\21359035\PS4T3.py ==========
8.666666666666666
>>>
========== RESTART: \\E103681BY02N03S\homedrive\21359035\PS4T3.py ==========
4.0
>>>
Ln: 52 Col: 0

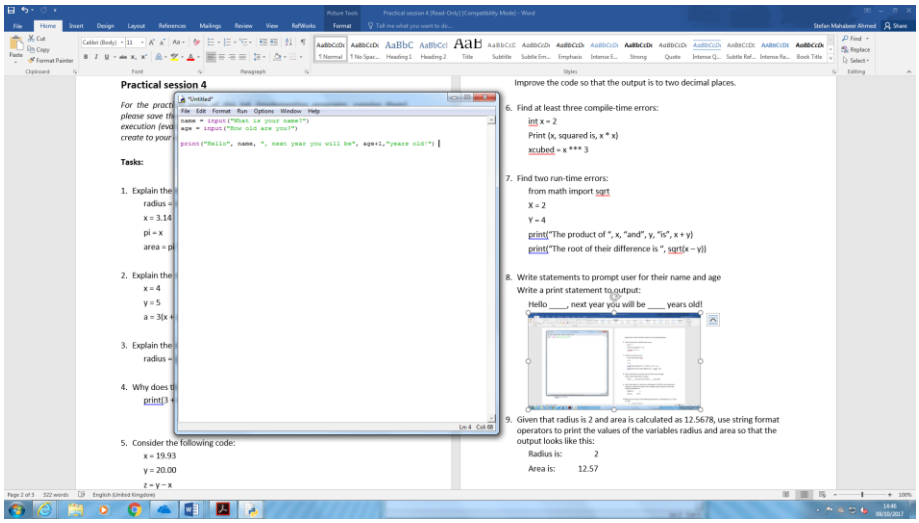

Practical session 4 - Word
PS4T3.py - \\E103681BY02N03S\homedrive\21359035\PS4T3.py (3.5.2)
File Edit Format Run Options Window Help
print((3+4+5)/3)
Ln: 2 Col: 0
Python 3.5.2 Shell
File Edit Shell Debug Options Window Help
Python 3.5.2 (v3.5.2:4def2a2901a5, Jun 25 2016, 22:01:18) [MSC v.1900 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: \\E103681BY02N03S\homedrive\21359035\PS4T3.py ==========
4.0
>>>
========== RESTART: \\E103681BY02N03S\homedrive\21359035\PS4T3.py ==========
8.666666666666666
>>>
========== RESTART: \\E103681BY02N03S\homedrive\21359035\PS4T3.py ==========
12
Traceback (most recent call last):
File "\\E103681BY02N03S\homedrive\21359035\PS4T3.py", line 1, in <module>
print(3+4+5)/3
TypeError: unsupported operand type(s) for /: 'NoneType' and 'int'
>>>
========== RESTART: \\E103681BY02N03S\homedrive\21359035\PS4T3.py ==========
12
Traceback (most recent call last):
File "\\E103681BY02N03S\homedrive\21359035\PS4T3.py", line 1, in <module>
print(3+4+5)/3
TypeError: unsupported operand type(s) for /: 'NoneType' and 'int'
>>>
========== RESTART: \\E103681BY02N03S\homedrive\21359035\PS4T1.py ==========
Radius
========== RESTART: \\E103681BY02N03S\homedrive\21359035\PS4T3.py ==========
4.0
>>>
Ln: 28 Col: 4

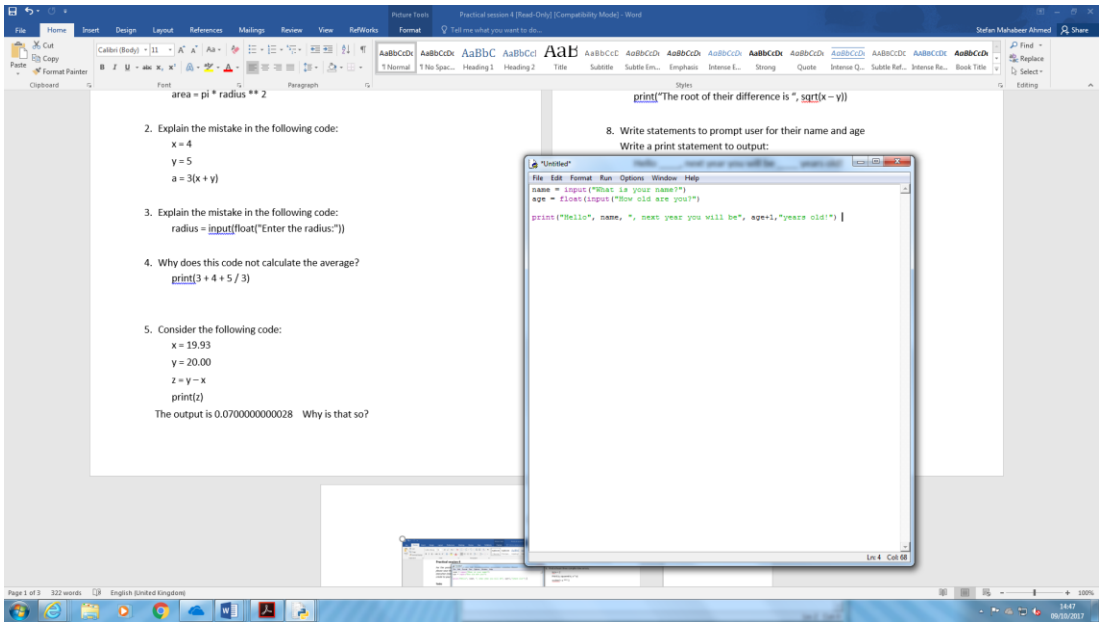
```
x = 19.93
y =
"%.2f"

x =2
print(x)

print(x,"squared is", x*x)

xcubed = x*x*x
print(xcubed)

from math import sqrt
x =2
y =4
print("The root of their difference is",sqrt(abs(x-y)))
```

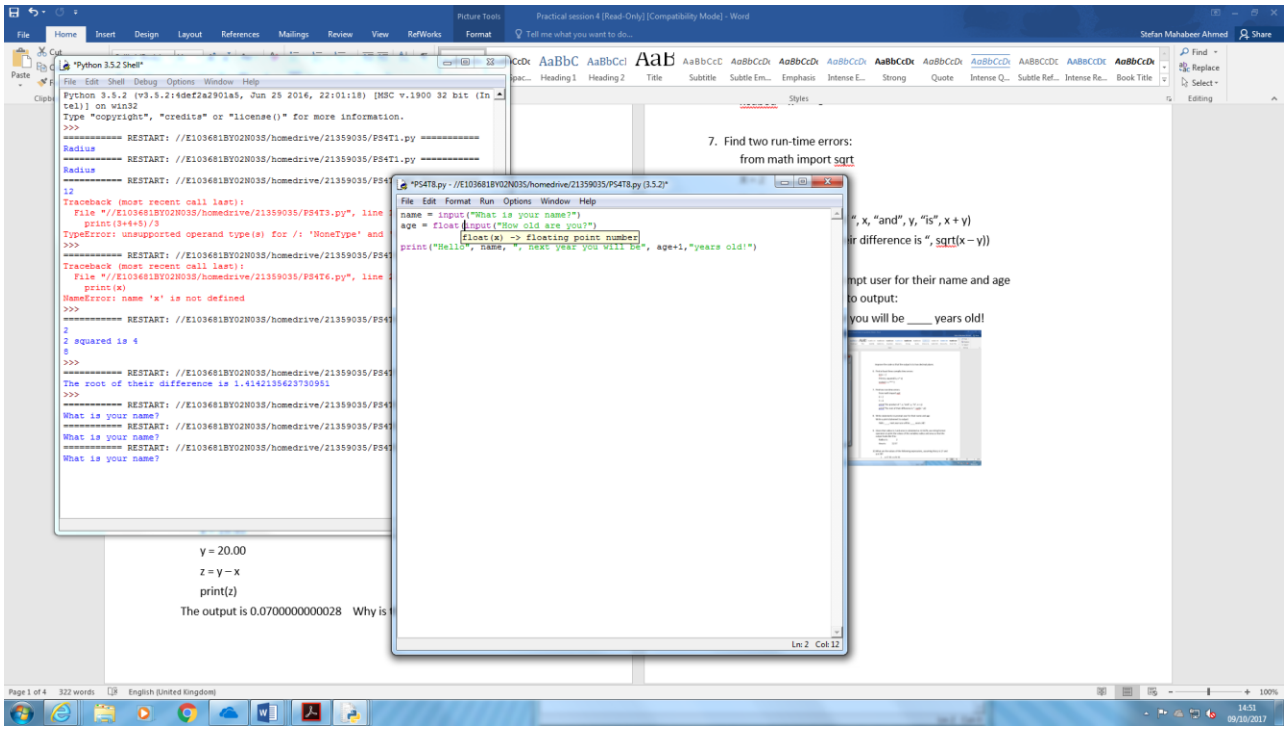
8. Write statements to prompt user for their name and age
   Write a print statement to output:
   Hello ____, next year you will be ____ years old!

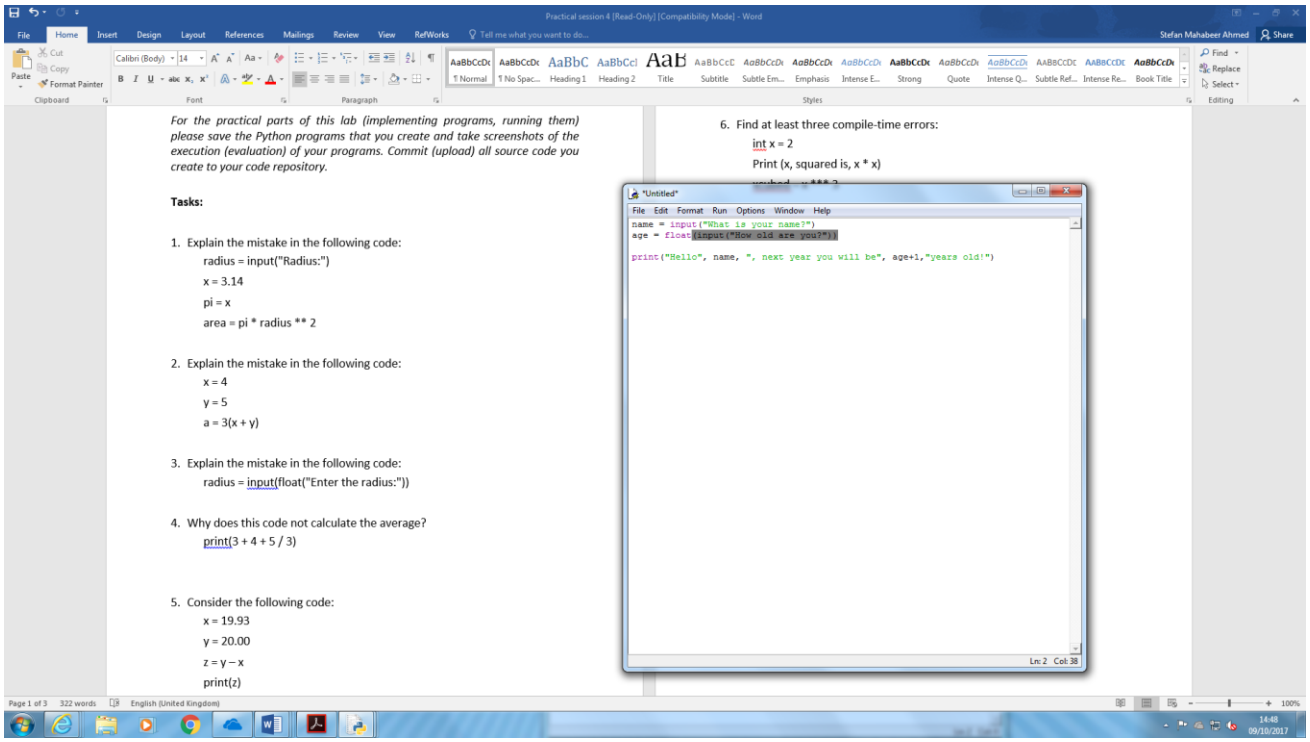
```
name = input("What is your name?")
age = int(input("How old are you?")
print("Hello",name,"next year you will be",age,"years old!")
```




Practical session 4
Tasks:
Improve the code so that the output is to two decimal places.
6. Find at least three compile-time errors:
7. Find two run-time errors:
8. Write statements to prompt user for their name and age
Write a print statement to output:
Hello ____, next year you will be ____ years old!
9. Given that radius is 2 and area is calculated as 12.5678, use string format operators to print the values of the variables radius and area so that the output looks like this:
Radius is: 2
Area is: 12.57


area = pi * radius ** 2
2. Explain the mistake in the following code:
x = 4
y = 5
a = 3(x + y)
3. Explain the mistake in the following code:
radius = input(float("Enter the radius:"))
4. Why does this code not calculate the average?
print(3 + 4 + 5 / 3)
5. Consider the following code:
x = 19.93
y = 20.00
z = y – x
print(z)
The output is 0.0700000000028 Why is that so?
print("The root of their difference is ", sqrt(x – y))
8. Write statements to prompt user for their name and age
Write a print statement to output:



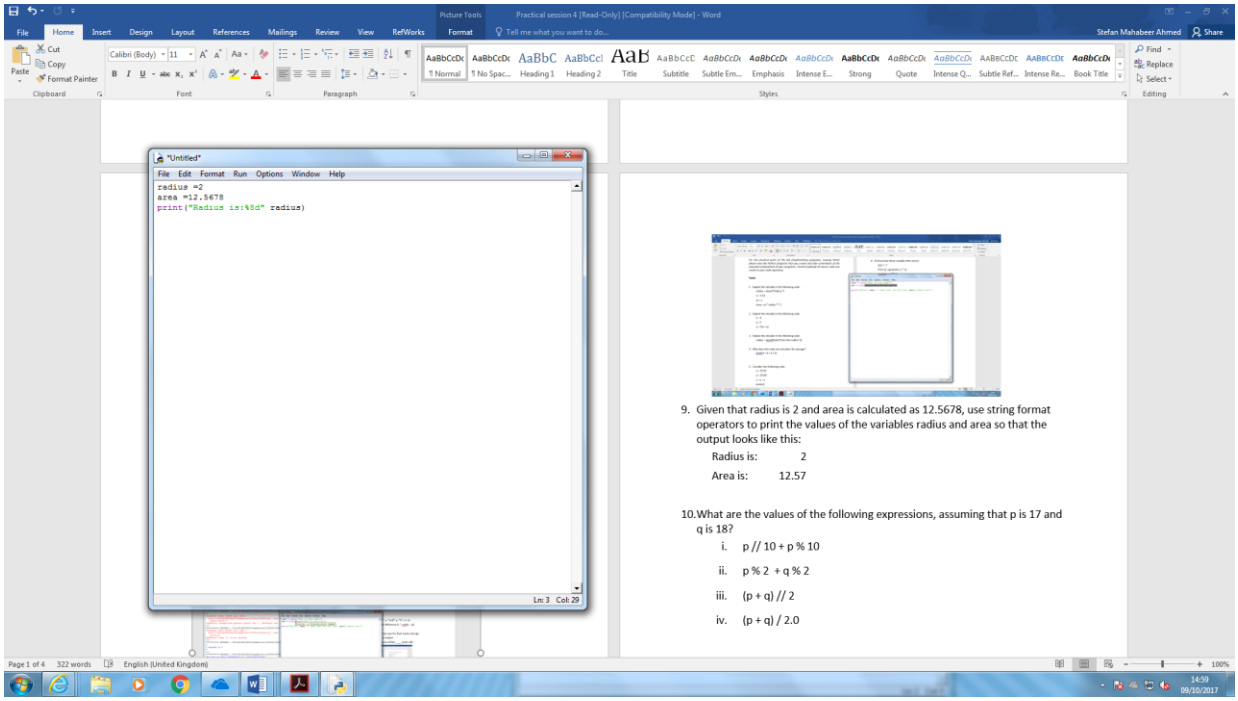


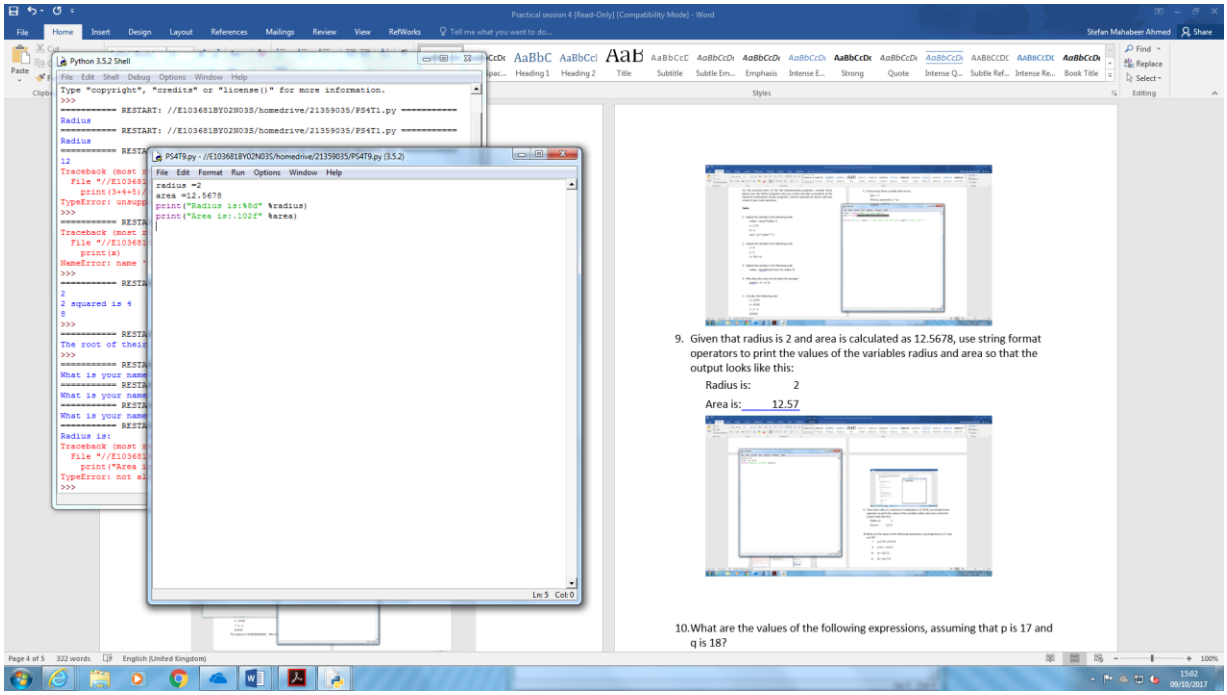
print("Hello", name, ", next year you will be", age+1, "years old!")

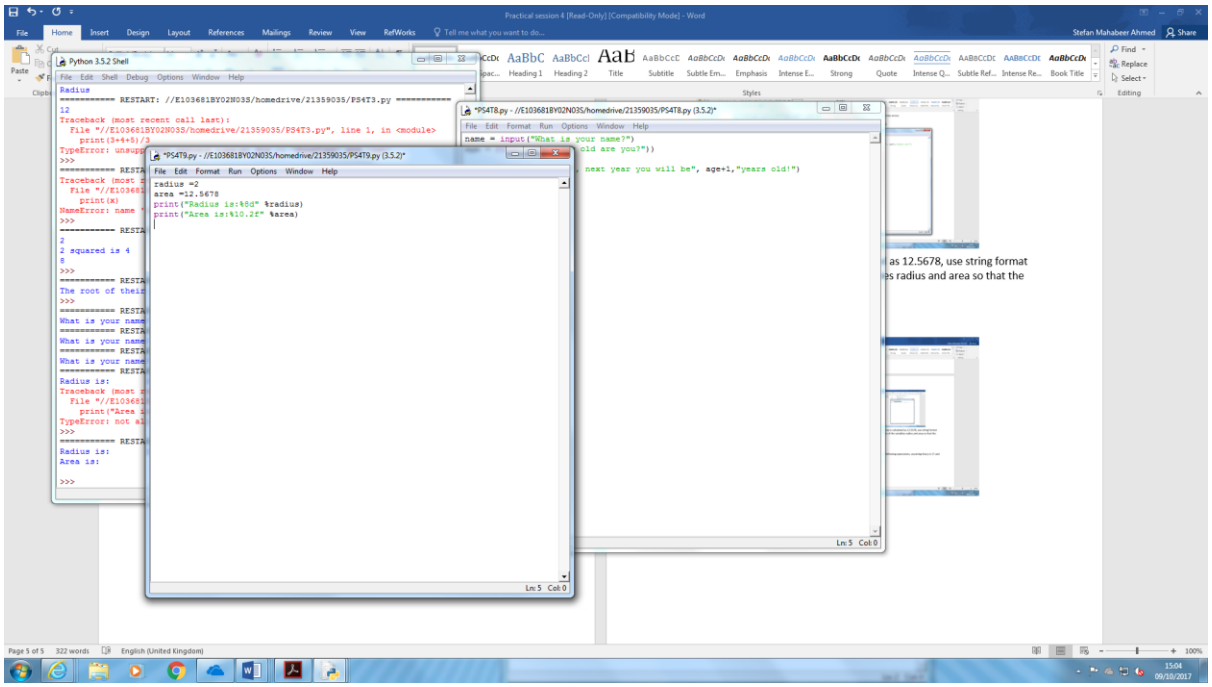
9. Given that radius is 2 and area is calculated as 12.5678, use string format operators to print the values of the variables radius and area so that the output looks like this:

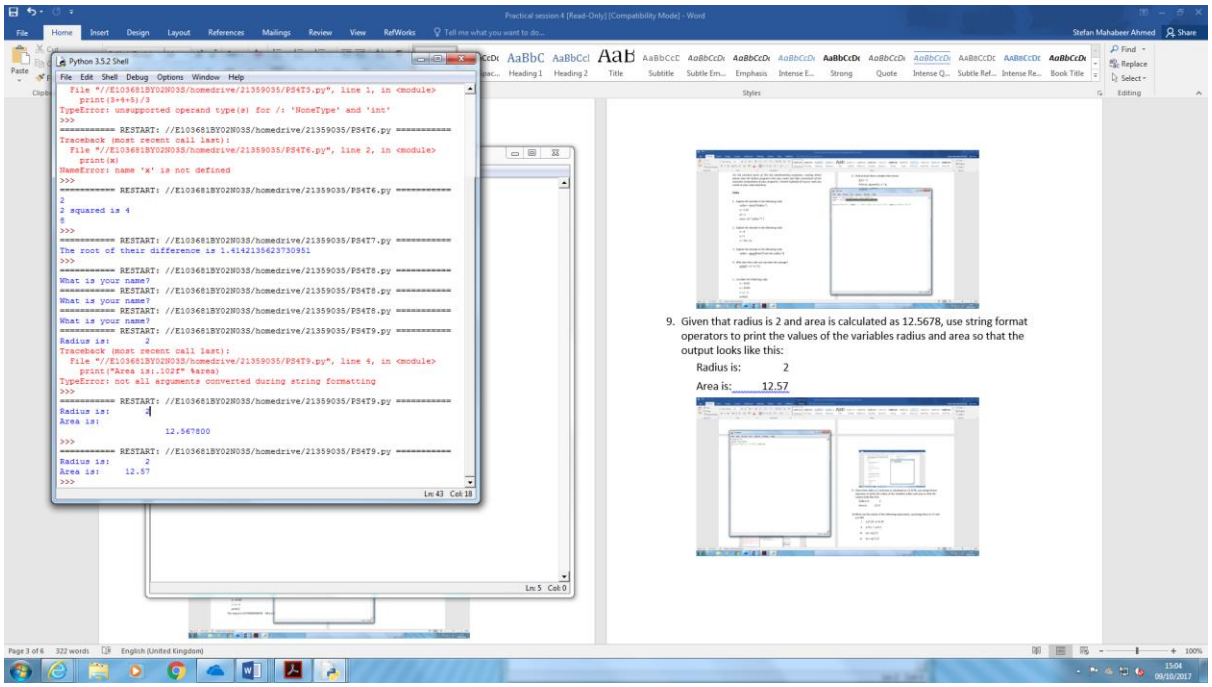
   Radius is: 2

   Area is: 12.57









radius =2

area =12.5678

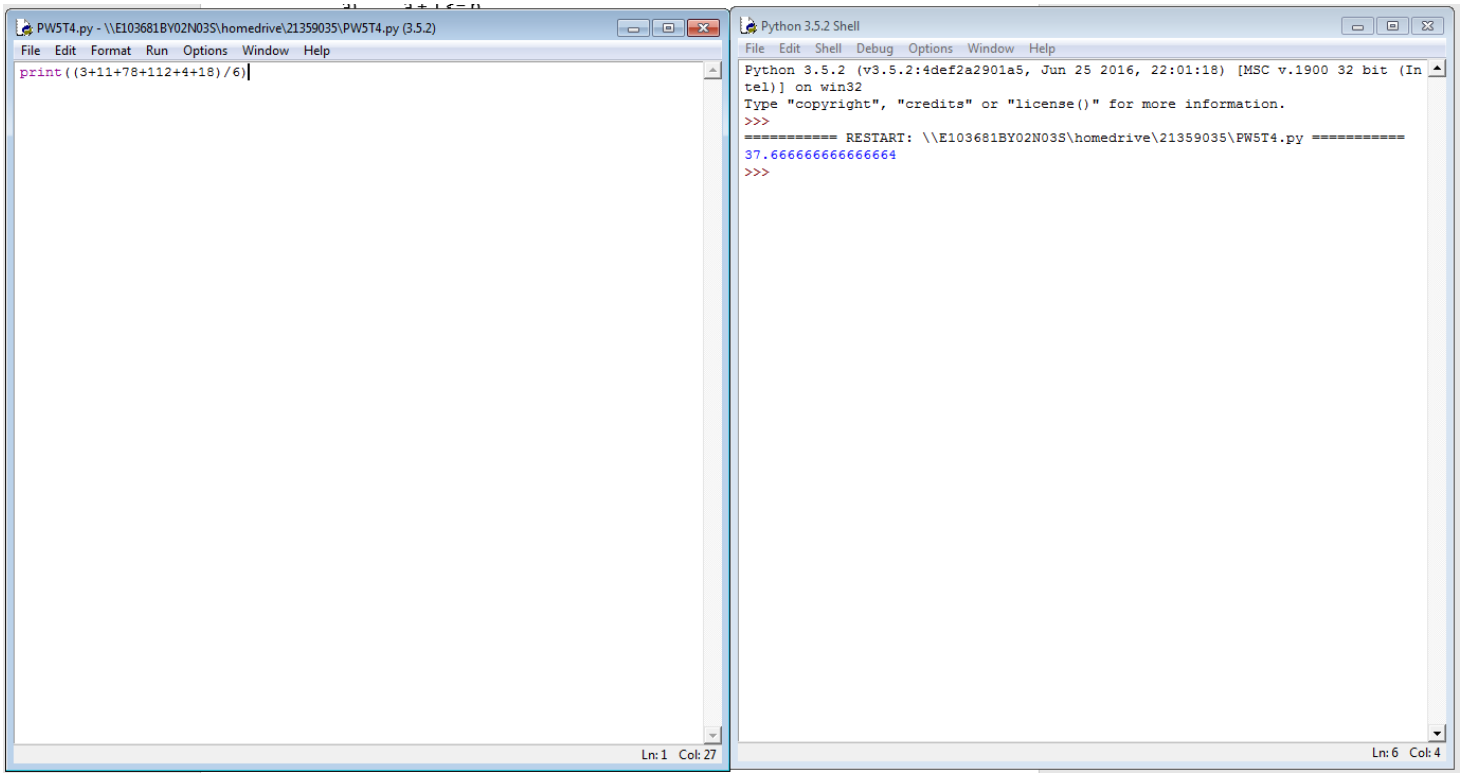
print("Radius is:%8d" %radius)

```
print("Area is:%10.2f" %area)

a = [66.25,333,333,1,1234.5]



a.insert(2,-1)
a.append(333)
print(a)

print(a.index(333))

squares = []

for i in range(10):
    squares.append(i**2)

print(squares)

>> sentence1 = input("type a sentence: ")
>>> sentence2 = input("type another sentence: ")
>>> sentencelist1 =
```

Week 5

4. Write code to calculate the average of: {3, 11, 78, 112, 4, 18} in one single line of code.

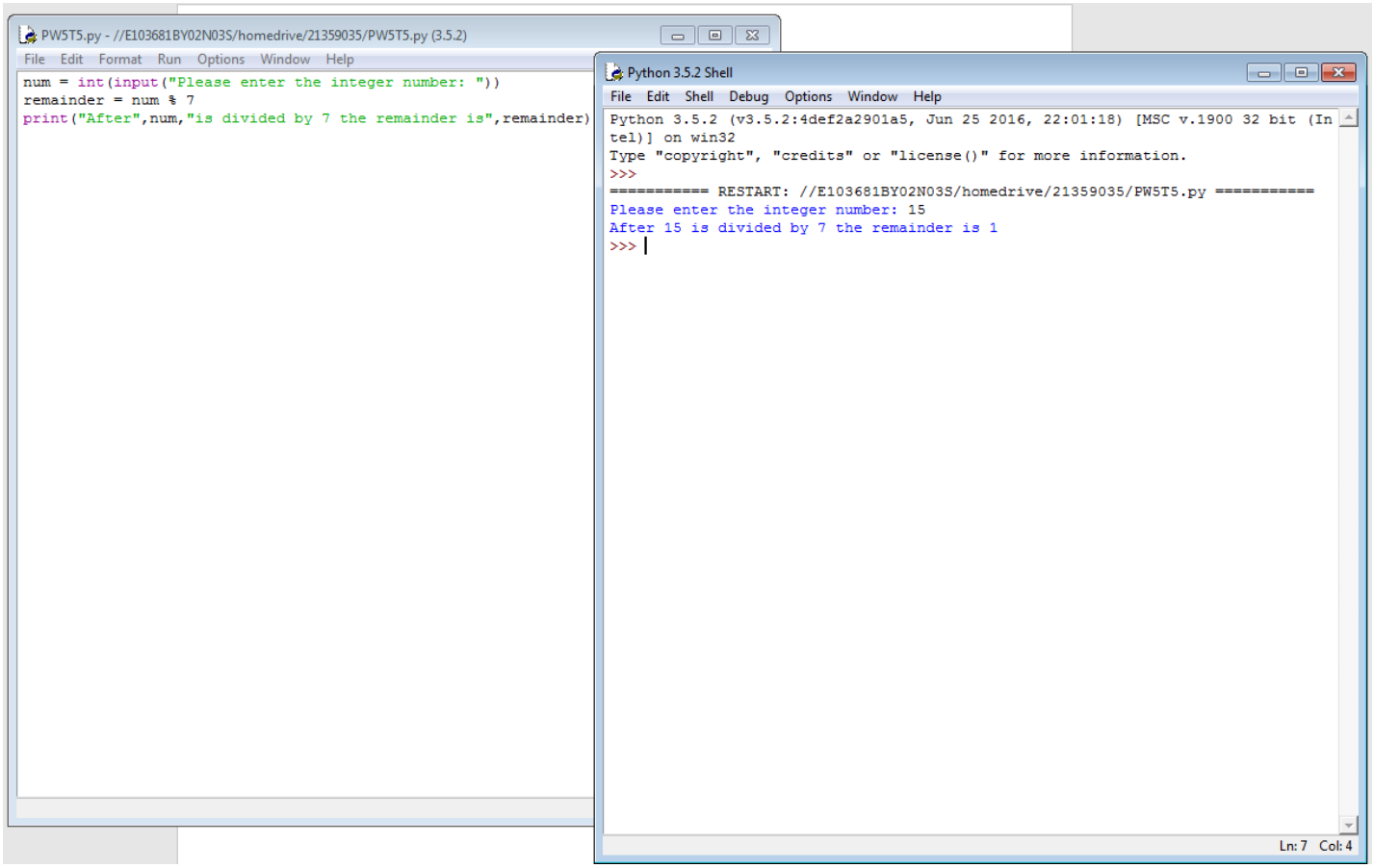
print((3+11+78+112+4+18)/6)

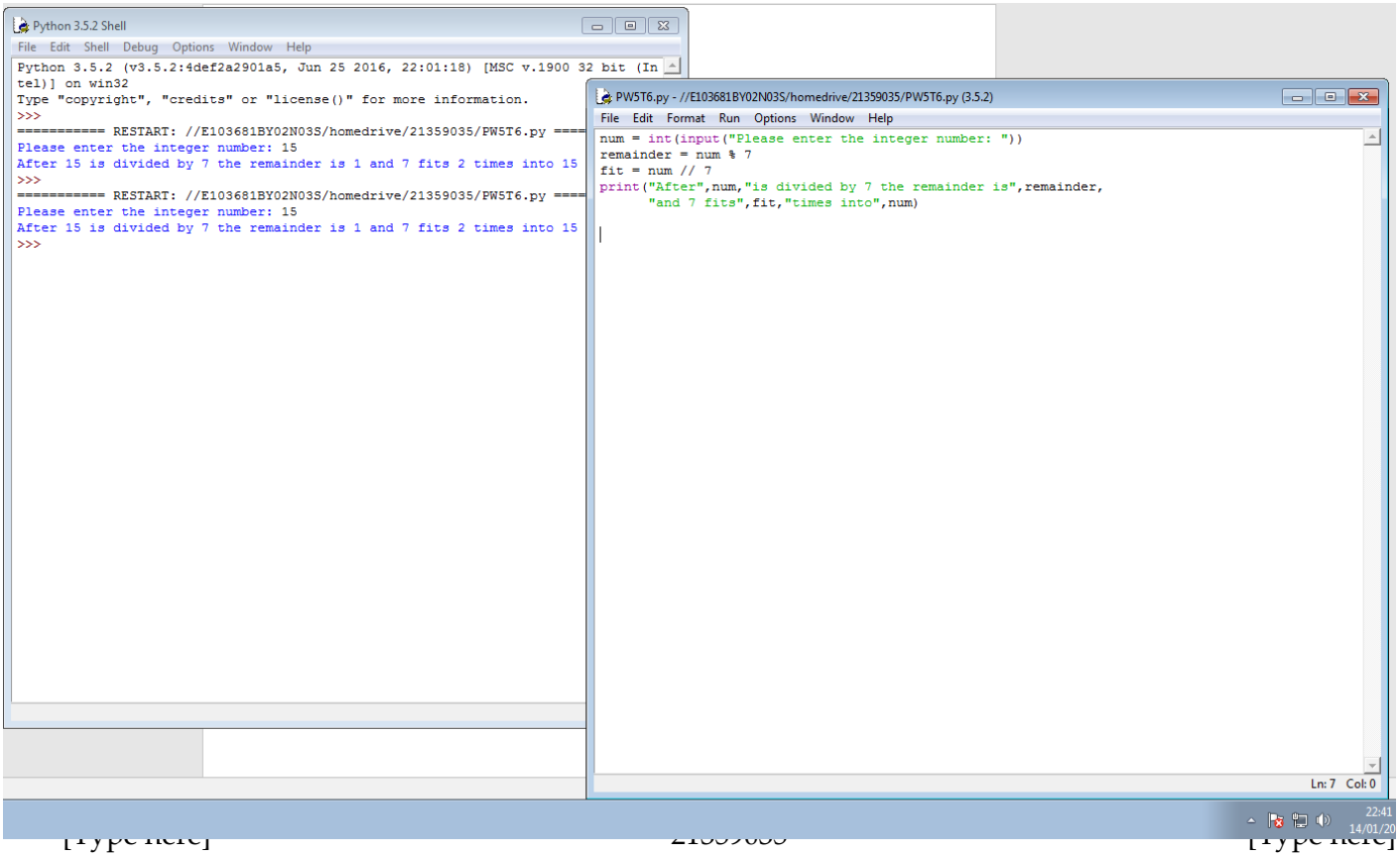


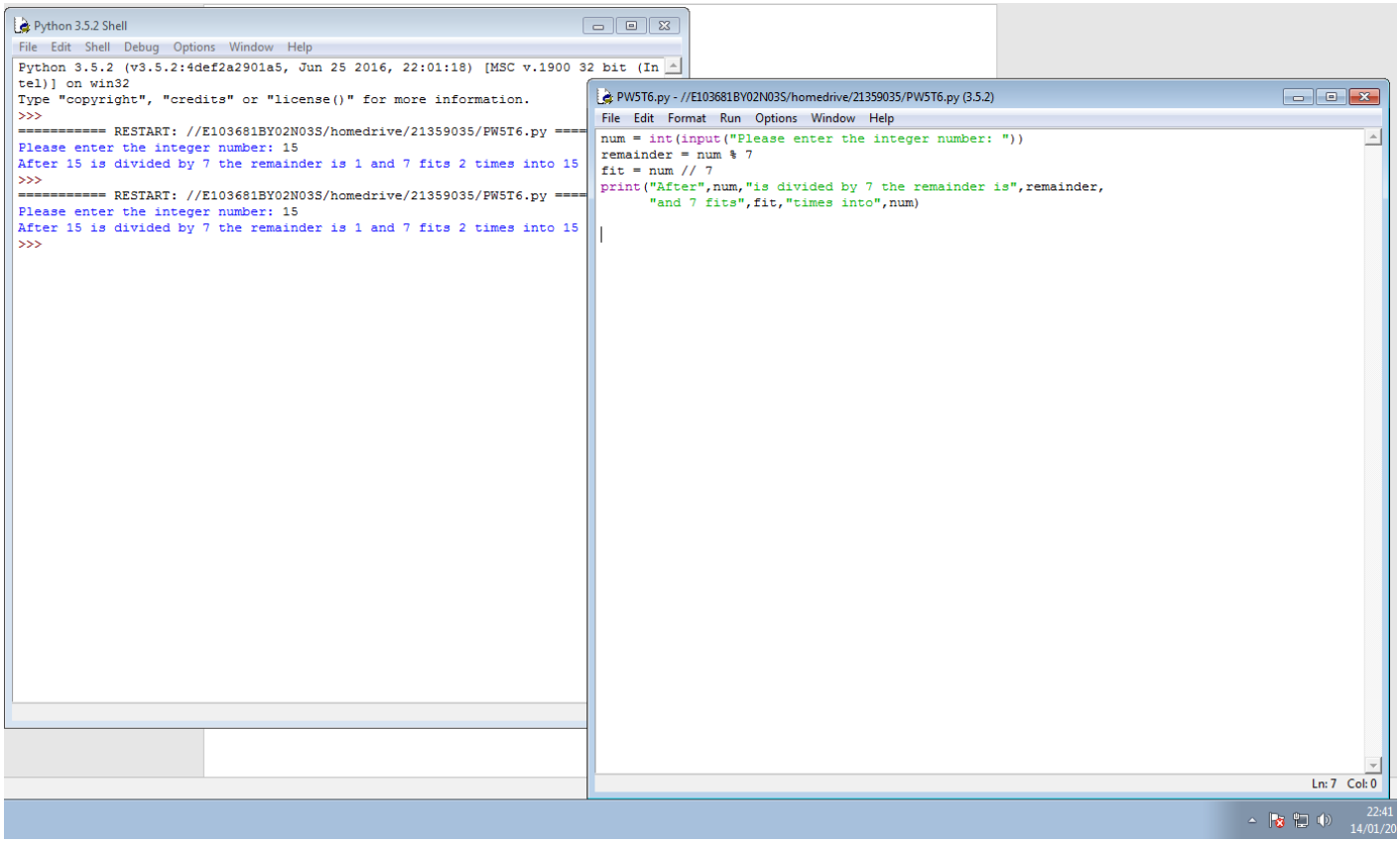
5. num = int(input("Please enter the integer number: "))

remainder = num % 7

print("After",num,"is divided by 7 the remainder is",remainder)


PW5T5.py - //E103681BY02N03S/homedrive/21359035/PW5T5.py (3.5.2)
File Edit Format Run Options Window Help
num = int(input("Please enter the integer number: "))
remainder = num % 7
print("After",num,"is divided by 7 the remainder is",remainder)
Python 3.5.2 Shell
File Edit Shell Debug Options Window Help
Python 3.5.2 (v3.5.2:4def2a2901a5, Jun 25 2016, 22:01:18) [MSC v.1900 32 bit (In
tel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: //E103681BY02N03S/homedrive/21359035/PW5T5.py ==========
Please enter the integer number: 15
After 15 is divided by 7 the remainder is 1
>>>
Ln: 7 Col: 4


Python 3.5.2 Shell
File Edit Shell Debug Options Window Help
Python 3.5.2 (v3.5.2:4def2a2901a5, Jun 25 2016, 22:01:18) [MSC v.1900 32 bit (In
tel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: //E103681BY02N03S/homedrive/21359035/PW5T6.py ====
Please enter the integer number: 15
After 15 is divided by 7 the remainder is 1 and 7 fits 2 times into 15
>>>
========== RESTART: //E103681BY02N03S/homedrive/21359035/PW5T6.py ====
Please enter the integer number: 15
After 15 is divided by 7 the remainder is 1 and 7 fits 2 times into 15
>>>
PW5T6.py - //E103681BY02N03S/homedrive/21359035/PW5T6.py (3.5.2)
File Edit Format Run Options Window Help
num = int(input("Please enter the integer number: "))
remainder = num % 7
fit = num // 7
print("After",num,"is divided by 7 the remainder is",remainder,
"and 7 fits",fit,"times into",num)
Ln: 7 Col: 0
22:41
14/01/20



6. Expand the above program (5.) by also printing out how often the number 7 “fits” into the number the user entered.

```
num = int(input(“Please enter the integer number:  ”))
remainder = num % 7
fit = num//7
print("After",num,"is divided by 7 the remainder is",remainder,
      "and 7 fits",fit,"times into",num))
```

Week…13

Continue this structure for the remaining weeks up until week 13

Some overview of the topics covered by the lecture and the exercises. Not too much, may be a paragraph.

Exercises 1

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Exercises 2

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Exercises …

Example description of an exercise:

Screenshot

Explanation

This exercise shows the use variables and calculations

Exercise 1

Description

The following task and self-review table is an example format that you could possibly use in your logbook in addition to adding the code/highlighting/commenting, etc.

Exercise 1

Write a program that will display a joke.

Don't display the punchline until the reader hits the enter key.

Challenge task:

Display the punchline in a different colour.

Code

raw_input method only accepts strings

```
answer = raw_input("Would you like to hear a joke? (yes or no) ")

if (answer == "yes"):
    print "Why did the chicken cross the road"
    print "To get to the other side"
else:
    print "You need a sense of humour"
```

Indentation is key in control flow structures in python.

Commented [YR1]: raw_input method only accepts strings

Commented [YR2]: Indentation is key in control flow structures in python

Explanation

This exercise makes use of raw_input and if/else expressions.