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| Logbook for ISD |
| Issa Alhashi ID No 21388970 |
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Logbook for ISD

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# 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.

# Week 1

Exercises 1

What is a code repository (often also called version control system) used for? Version control is used to manage multiple versions of computer files and programs. A version control system, or VCS, provides two primary data management capabilities. It allows users to 1) lock files so they can only be edited by one person at a time, and 2) track changes to files

## Exercises 2

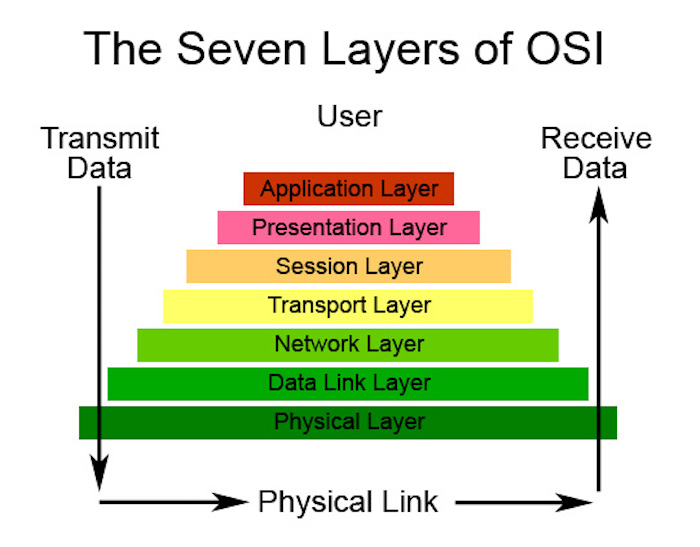
Why is it advantageous to use a code repository?

A source code repository is a file archive and web hosting facility where a large total of source code, for software or for web pages, is kept, either publicly or secretly. They are often used by open-source software projects and other multi-developer plans to handle various versions.

## Exercises 3

Describe the different “layers” of Software that exist on a typical computer and explain why there are different layers of software.

* network
* • 6. Presentation: The presentation layer is layer 6 of the 7-layer Open Systems Interconnection (OSI) model
* • 5. Session: In computer science, in particular networking, a session is a semi-permanent interactive information interchange
* • 4. Transport: In computer networking, the transport layer is a conceptual division of methods in the layered architecture of protocol
* • 3. Network: The network layer is the third level of the Open Systems Interconnection Model (OSI Model) and the layer
* • 2. Data Link: The data link layer or layer 2 is the second layer of the seven-layer OSI model of computer networking
* 1. Physical: The physical layer is the first layer of the Open System Interconnection Model (OSI Model).



* why there are different layers of software?

In telecommunications, a communication protocol is a system of rules that allow two or more entities of a communications system to transmit information via any kind of variation of a physical quantity. The protocol defines the rules syntax, semantics and synchronization of communication and possible error recovery methods. Protocols may be implemented by hardware, software, or a combination of both. Communicating systems use well-defined formats (protocol) for exchanging various messages. Each message has an exact meaning intended to elicit a response from a range of possible responses pre-determined for that particular situation.

## Exercises 4

Describe what an algorithm is and explain why it is a useful “tool” to translate from a human level problem (we can think of) to a computer program

An algorithm (pronounced AL-go-rith-um) is a procedure or formula for solving a problem, based on conducting a sequence of specified actions. A computer program can be viewed as an elaborate algorithm. In mathematics and computer science, an algorithm usually means a small procedure that solves a recurrent problem.

# Week 2

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

## Exercises 1

1) Write an algorithm that describes how to make scrambled eggs, try to use

control words, like IF, WHEN, UNTIL, WHILE, WAIT, AND, OR.

1. Get cup
2. Put water in cup
3. Leave water in cup until be clear
4. add some sugar **If** the water is cold
5. Hold for 7minutes
6. While you waiting, after 7 minutes grip the orange juice flavour
7. Put some orange flavour in cup
8. Add Ice to the cup
9. Roll the cup with spoon for 3 minutes
10. Then drink the orange juice

## Exercises 2

Is Idle (the Python language shell) an Interpreter or an Compiler or both?

Explain your answer.

CPU understands only machine language instruc4ons

Programs that are written in a high-level language must be

translated into machine language

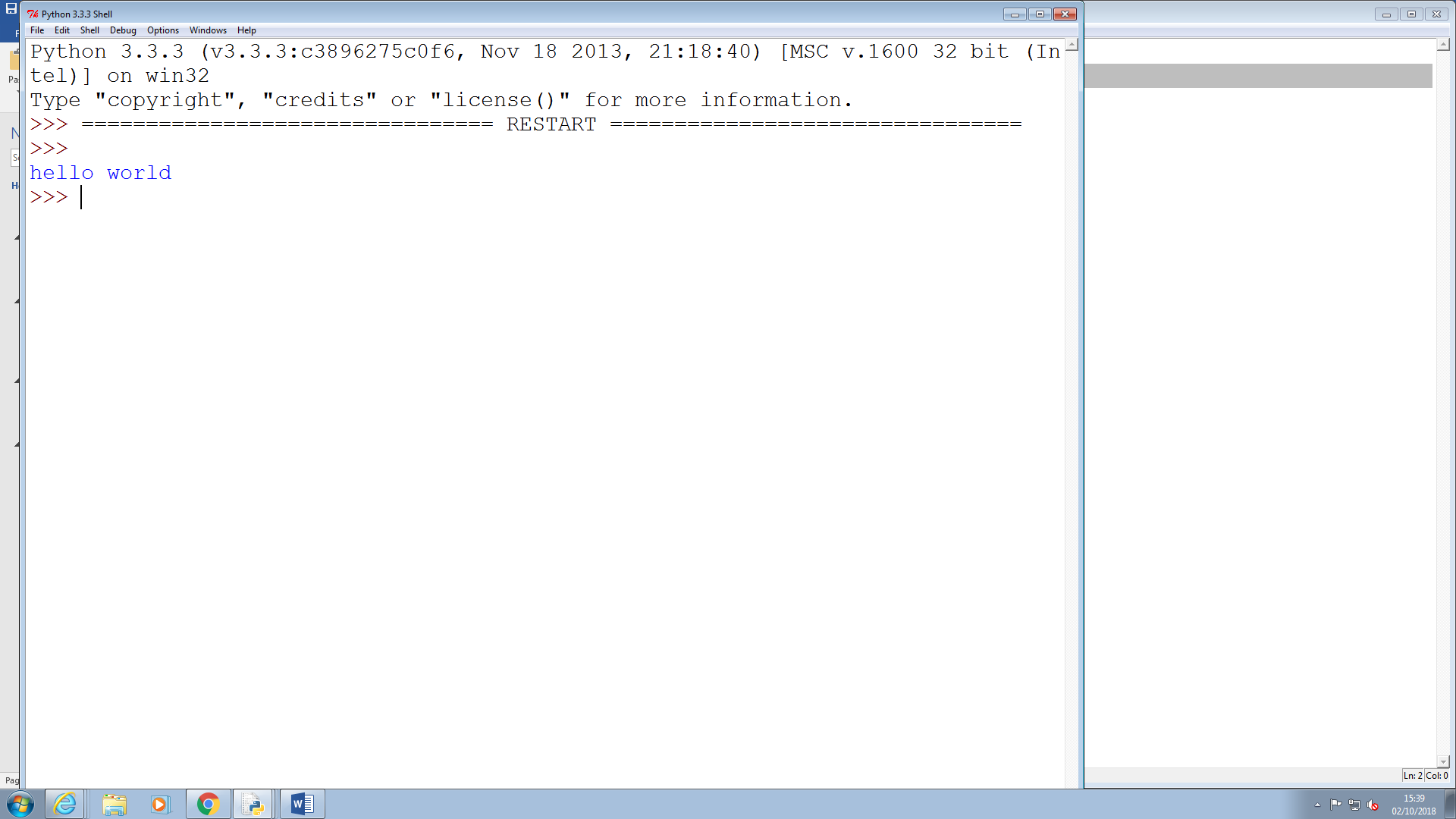
Depending on the language that a program has been written in, the

programmer will use either a compiler or an interpreter to make the

transla4on.

## Exercises 3

Write a command in the Idle shell that says “Hello world

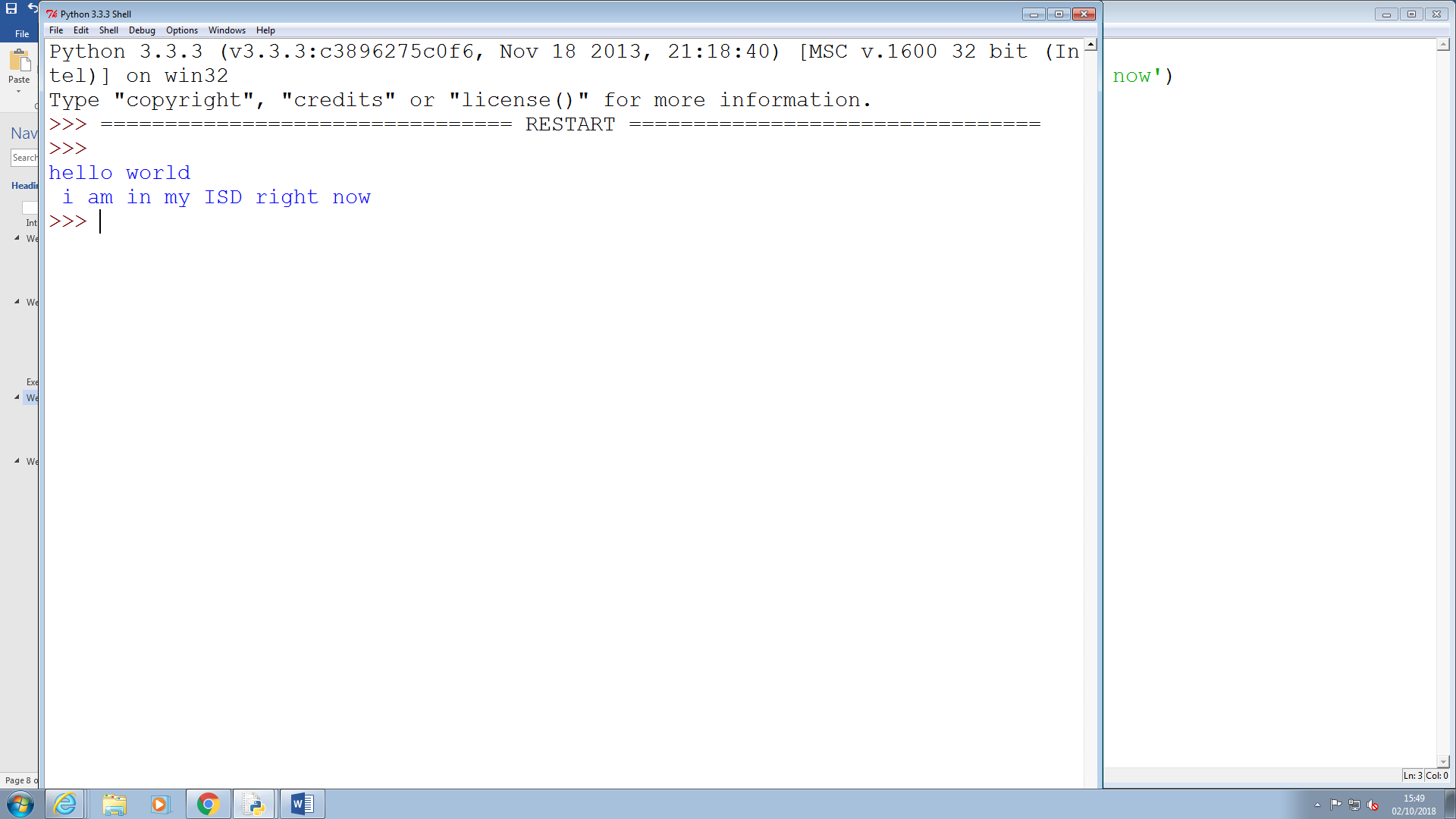


# Exercises 4

4) Write a program that produces the following output:

Hello World

I am in my ISD class right now



# Exercises 5

5) Write a program that asks the user for his/her name and produces an output

like:

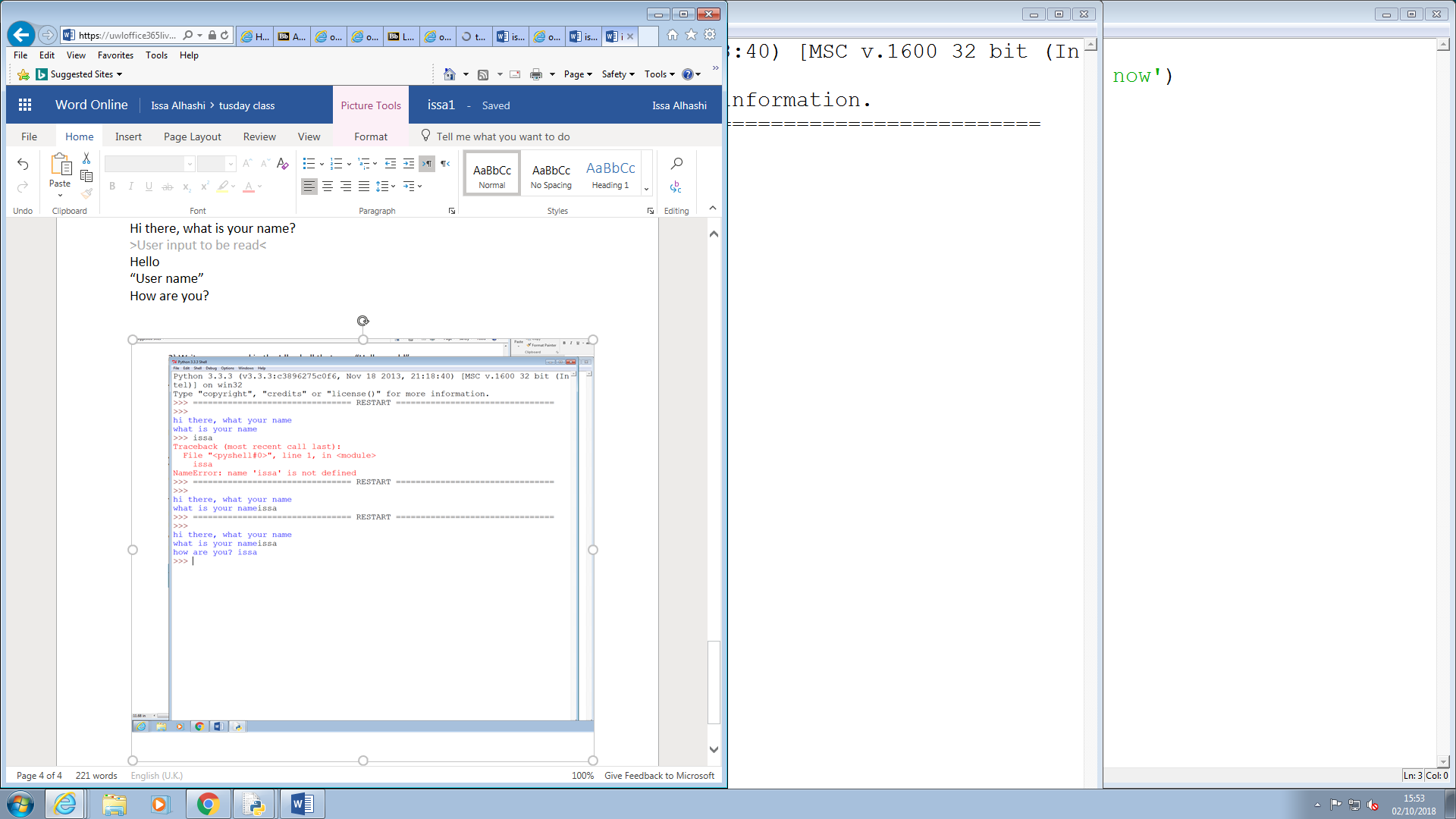
Hi there, what is your name?

>User input to be read<

Hello

“User name”

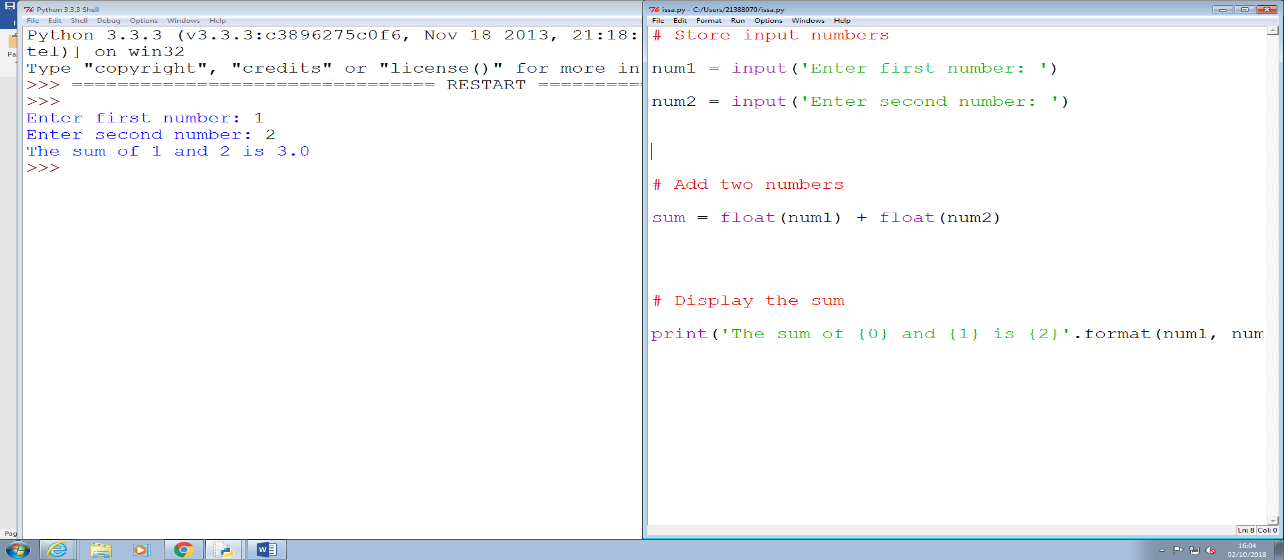
How are you?



# Week 3

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

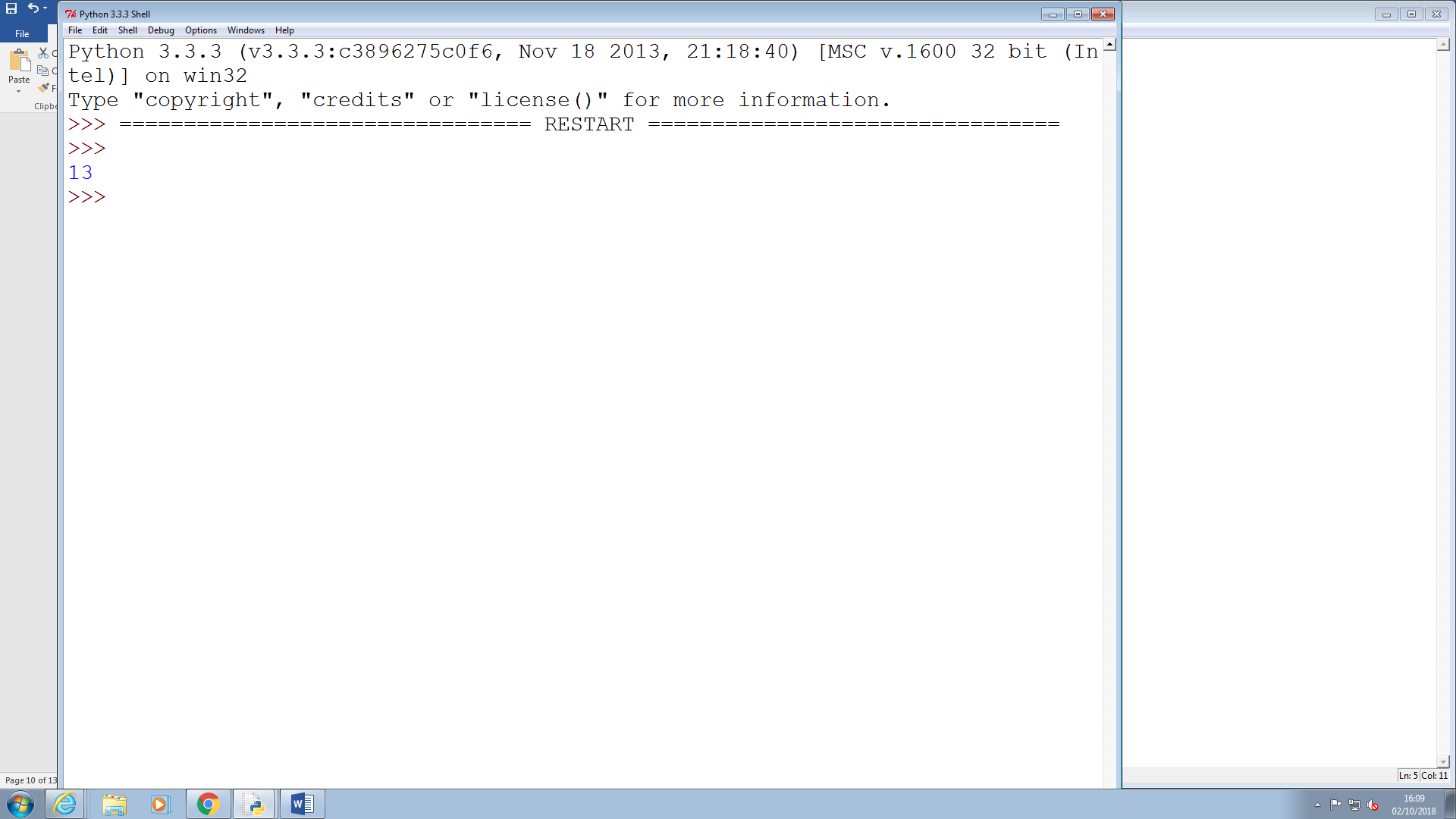
## Exercises 2

* 1. Write a program that asks for two numbers (Python has all the basic mathematical functions in place, like +,- etc.), adds them up and displays the result.

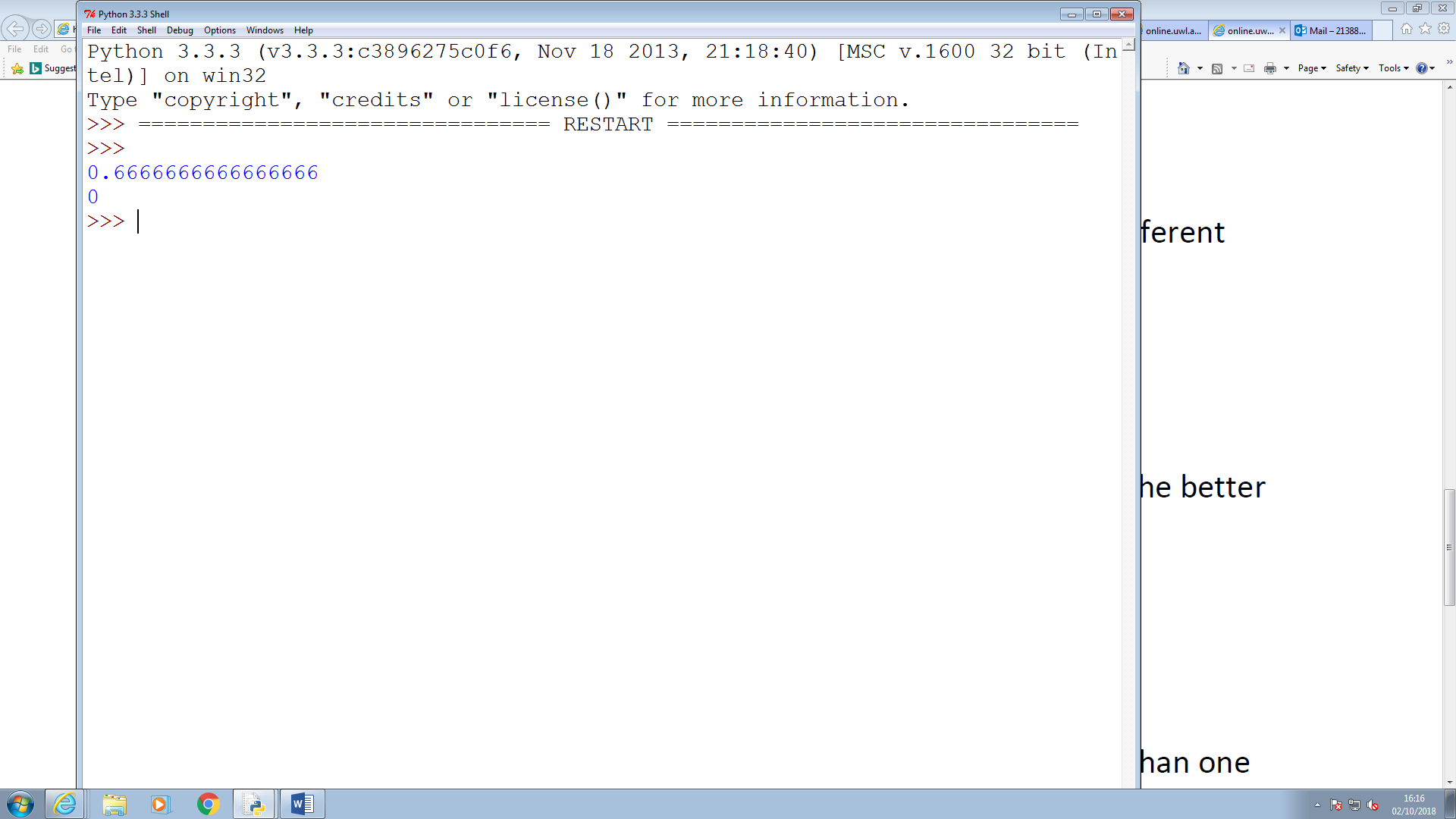
2) Answer the questions by implementing the code and run it.

1. a) What will the output be from the following code?

num = 4



## Exercises 2



Single number

Is show the decimal point

## Exercises 3

## AreaOfRectangle: Is better one to was because is using camel case which were the first letter variable lower case and the word start with up case letter

## Exercises 4

apple APPLE Apple2 1Apple account number account\_number account.number accountNumber fred Fred return return\_value 5Return GreatBigVariable greatBigVariable great\_big\_variable great.big.variable

the highlight is not allowed because everything start with number or start with caplet letter is can’t be used or can’t be accepted.

# Week4

## Exercises 1

1. Explain the mistake in the following code:

radius = input("Radius:")

x = 3.14

pi = x

area = pi \* radius \*\* 2

the error code between the number 2

## Exercises 2

x = 4

y = 5

## a = 3(x + y)

the code mistake between number 3

## Exercises 3

Explain the mistake in the following code:

radius = input (float ("Enter the radius:"))

The mistake is the float meant to be before the input.

## Exercises 4

Why does this code not calculate the average?

print (3 + 4 + 5) / 3

The brackets in wrong place.

## Exercises 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?

Improve the code so that the output is to two decimal places.

Answer ? “%.2f”

## Exercises 6

6. Find at least three compile-time errors:

int x = 2

Print (x, squared is, x \* x)

xcubed = x \*\*\* 3

when I type them in Phthon the program gives me error, whishes I highlight them.

## Exercises 7

7. Find two run-time errors:

from math import sqrt

X = 2

Y = 4

print(“The product of “, x, “and”, y, “is”, x + y)

print(“The root of their difference is “, sqrt(x – y))

The got the problem with this error I highlight.

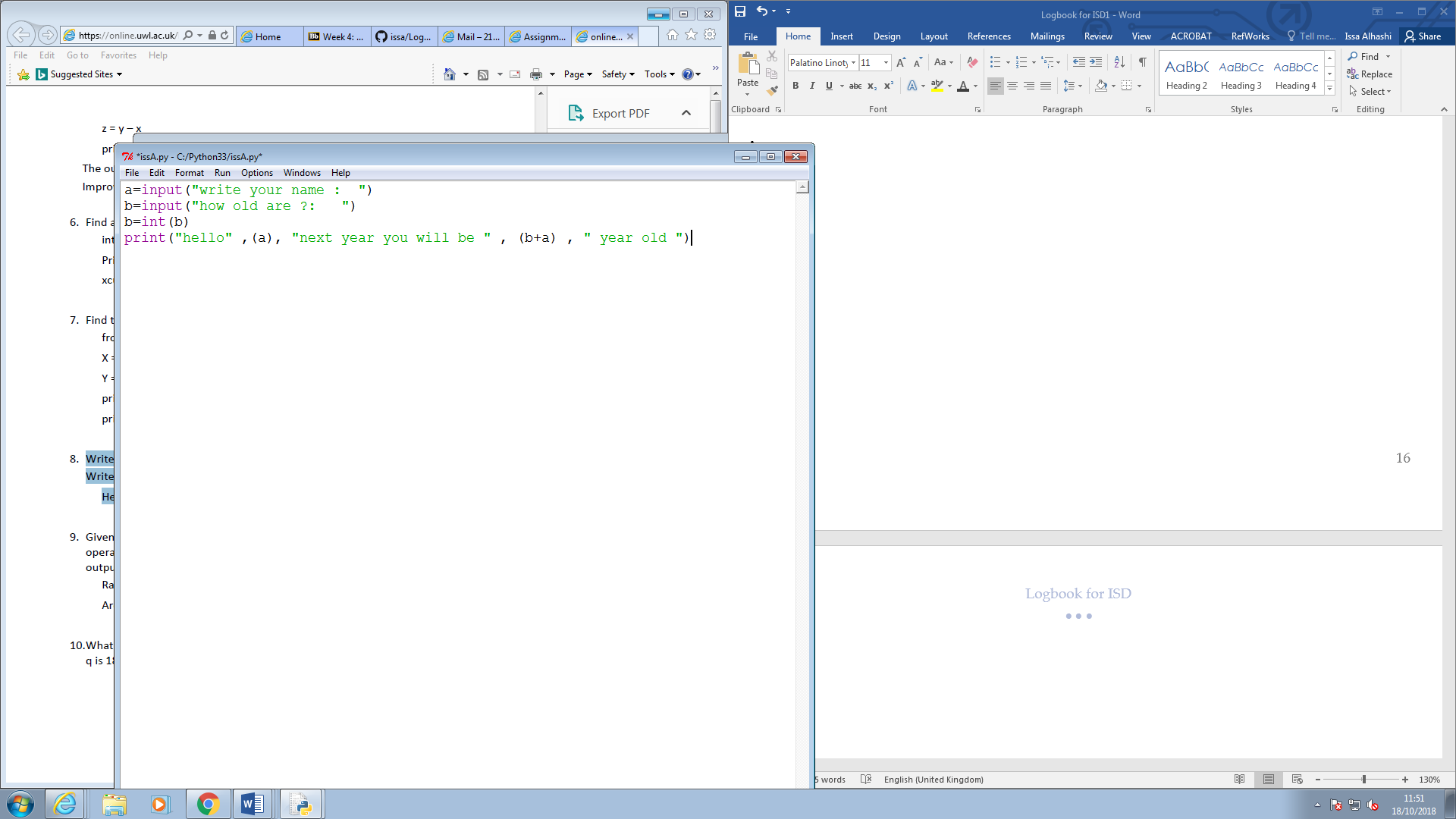
## Exercises 8

Write statements to prompt user for their name and age

Write a print statement to output:

Hello \_\_\_\_, next year you will be \_\_\_\_ years old!

Answer:



## Exercises 9

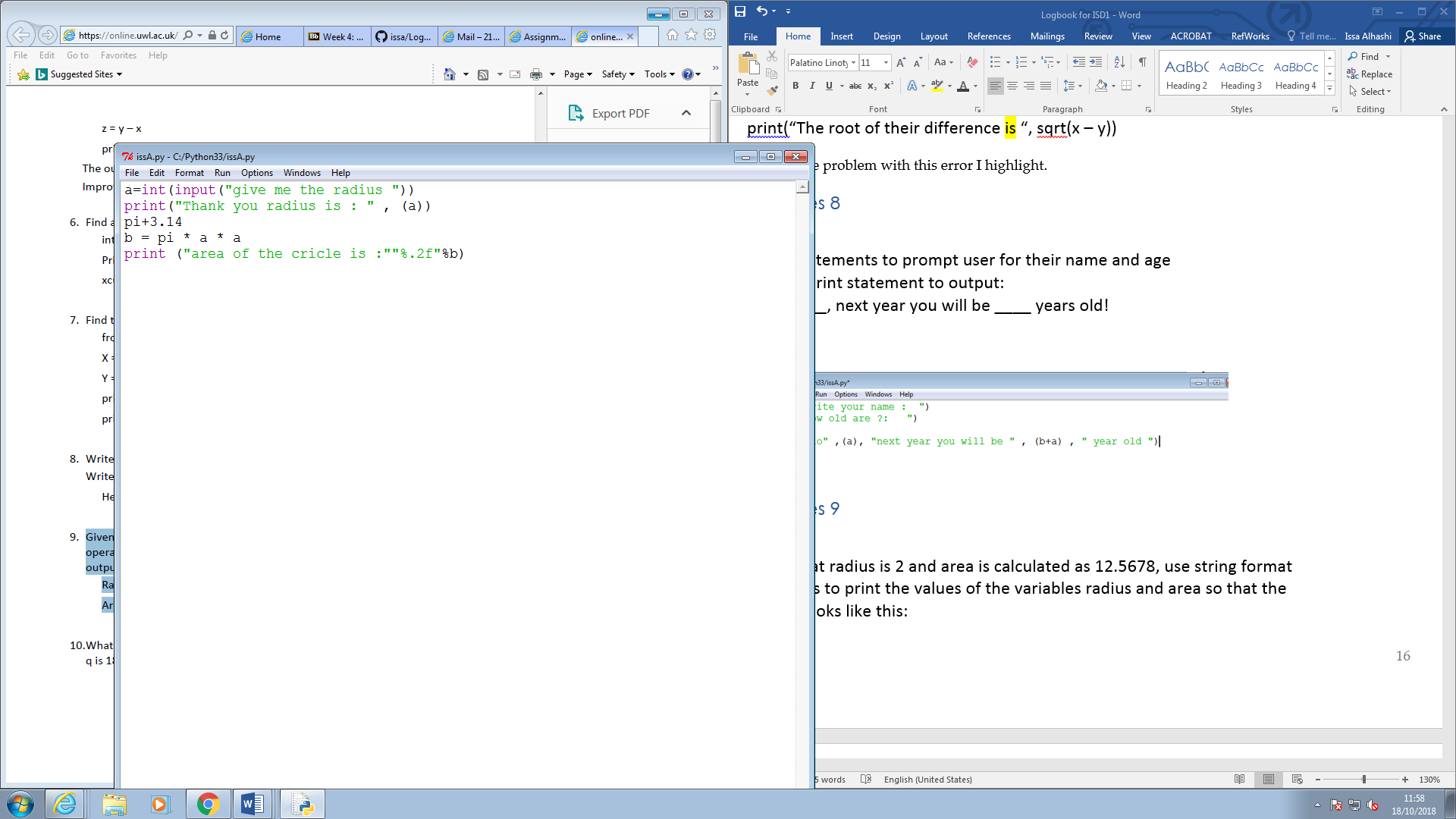
Given that radius is 2 and area is calculated as 12.5678, use string format

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



## Exercises 10

What are the values of the following expressions, assuming that p is 17 and

q is 18?

a. p // 10 + p % 10

b. p % 2 + q % 2

c. (p + q) // 2

d. (p + q) / 2.0

