

Wrestling With Python (2014) Lab 3: Extra Exercises

Aim

This lab is supplementary to other labs. The aim is to give you the opportunity to practice some of the things you have learnt already, test your understanding and challenge you. You should complete previous labs before attempting these exercises.

Header

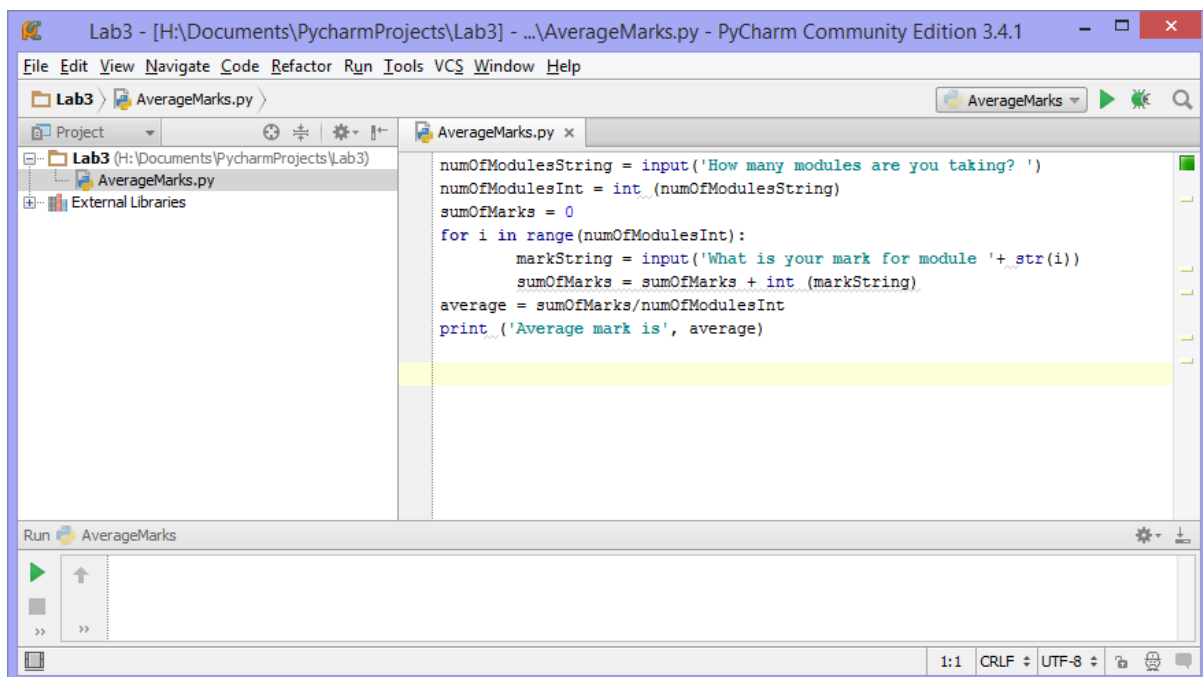
Throughout the labs it is assumed that you will follow a similar folder hierarchy to the one shown in the labs. Your code will be stored in a folder C:\Users\<<Your Login>>\PycharmProjects\.

Remember, if you are struggling ask for help!

Calculating your average mark

The goal for this exercise is to write a program that asks you how many modules you are taking, then asks you for a mark for each module, and then prints the result.

Start with this code:



The screenshot shows the PyCharm IDE interface. The main editor window displays the following Python code:

```
numOfModulesString = input('How many modules are you taking? ')
numOfModulesInt = int(numOfModulesString)
sumOfMarks = 0
for i in range(numOfModulesInt):
    markString = input('What is your mark for module '+ str(i))
    sumOfMarks = sumOfMarks + int(markString)
average = sumOfMarks/numOfModulesInt
print('Average mark is', average)
```

The code is written in a file named 'AverageMarks.py' within a project folder 'Lab3'. The IDE also shows a 'Run' window at the bottom, which is currently empty.

Read it and make sure you understand what is happening.

Run it and see if you can make any improvements. Tell the program that you are taking 4 modules. Why does it ask for marks for module 0 -3 and not 1 – 4? Can you fix this?

Tell the program that you have marks of 74, 58, 75 and 72. What mark does the program report? Is it correct? How could you fix this?

Investigation into the height of couples

This time the goal is to write a program to test the hypothesis that couples are often of a similar height.

Write a program that asks how many couples will be involved in the study, then for each couple asks for the man and the woman's height in turn, and calculates the difference. The program should calculate and report heights for the average man, the average woman and the average difference between partners.

Test the hypothesis using this data:

Couple Number	Man's Name	Man's Height (inches)	Woman's Name	Woman's Height (inches)
1	Fred	73	Claire	71
2	Bob	66	Tracey	64
3	Paul	70	Sarah	68
4	David	76	Paula	75
5	Peter	67	Davina	65
6	Tim	60	Cindy	58
7	Steve	60	Michelle	59
8	Gray	65	Julie	63

Is the hypothesis accurate?