COMP1811 Lab 01

Python – Starting with Python

Aim

To write your first programs in Python. Please note that you will NOT be given all the code you need. We are aiming to make you independent of us.

Scenario

You have started work as a trainee programmer and have been told that the person in the post before you was fired! Apparently, they would only do what they wanted to do rather than follow PEP8 and produce code according to the specifications given. They would claim that their code was better. They were not a team player and so had to go. You do not intend to fall into that trap.

Core Concepts

Programming cannot be learned. You will learn many of the words that each programming language uses often, but that is not learning to program.

This is similar to learning a foreign language. Learning a list of words in a language does not make you fluent in that language. You need to master the grammar, be able to structure your thoughts logically and make yourself understandable.

The same is true for programming languages … except that computers are stupid! If I say that, "The book on the table is" you would understand (but question my fluency). But a computer would not understand. This is called a syntax error.

Worse, there are also logic errors. Let's suppose that you were sitting at a computer and I asked you to stand up. You would understand exactly what you were being asked to do. A computer program would not! This may sound bizarre, but a computer will take you literally and try to stand up … breaking it's imaginary leg because it was not asked to move the chair back first.

Your code may seem logical and correct to you, but it still may not run. The computer is ALWAYS right.

So, how do you get over these problems? Syntax errors (and working with new commands) can be cured by using the Internet. You may need to try several sites before you find one that explains the answer in a way that makes sense to you … but the answer is out there.

There are many excellent sites such as w3schools, stackoverflow and geeksforgeeks, but usually just googling using the name of the language and the problem works. For example, googling **`python \ characters`** will get you the answers that you need for the first question below.

Sorting out logic errors is covered in more detail later in this module. The general principle is that you do informal testing as you go. Write a bit of code. Test it and repeat these two steps as your

program grows. Formal testing is important and will get you marks in your coursework. This is where you prove to others that all paths through your program work.

Tasks

Attempt all exercises during your lab session and ask your tutor if you are stuck. **Remember check your code with others in your group before you leave and find positive ways in which both yours and theirs could be improved**.

Exercise 1

1. Create a new project in your COMP1811 folder called ***Week_1_Code*** on your D: or G: drive.
2. Create a file in this project called ***exercise_1***
3. In ***exercise_1*** create a program which starts with a triple code comment. The triple quote comments should start with your name and enrolment number.
4. You should then add a paragraph in the triple quote section which explains the use of \ characters in Python.
5. Add a print command which outputs each sentence the text "Python is easy. I just have to practice." On two separate lines with just one print command.

Exercise 2

1. Create a new file in this project called ***exercise_2***
2. Add a command which asks the user to enter their name. (Hint: Use the Internet)
3. Add commands which prints out the name and the number of characters in that name on separate lines. (Hint: Work together on this one.)
4. ** Optional ** Can you and those around you write a program which allows you to enter your date of birth and then displays the number of days old you are. (Hint: Look up the **`datediff`** command.)
5. Comment your code and name all variables appropriately.

Exercise 3

1. ** **IMPORTANT** ** If you have not already completed all the sections of the Induction Quiz, then please do so now. Just click here. The results are used to tweak our teaching at the right level. Thank you 😊