Python Lab 1

Create a new Python project, called lab1 and add a python file, called lab1exercises to it. Follow the instructions in **Getting started with Python** to do this.

1. **Type** the following lines of code in the lab1exercises file: (do **not** copy and paste the following lines as the quotes used in Word below will cause errors!)
   After you enter each line of code, run your program and check if the output is as you expect it.
   You can see Python executes/runs each instruction in sequence, one after another.

   ```
   print("Hello World")

   print("Hello Again")

   print("Welcome to Software Development 1")

   print('Hello World inside a "single" quote')

   print("Hello World inside  double 'quotes'- why?")
   ```

   You may use double " or single ' quotes to enclose what you want printed, but if you want to print out a double or single quote use the other type of quotes to enclose the entire output, see last two exercises.

2. Type the following line of code in the lab1exercises file: (do **not** copy and paste the following lines!)
   Run your program and check if the output is as you expect it.

   ```
   primt("Why is this incorrect?")
   ```

   Notice that the above will have the primt underlined in red to indicate an error and when you try to run your program it generates an error:

   NameError: name 'primt' is not defined

   This is because there is an error in the spelling of print, go back and change the spelling to be correct and re-run your program.

3. Type the following line of code in the lab1exercises file:

   (do **not** copy and paste it – type it in)

   Run your program and check if the output is as you expect it.

   ```
   print("Software Development 1 Lab"
   ```

   you will notice that you get the following error:

SyntaxError: unexpected EOF while parsing
Try to see where your error is … notice that there is no closing parenthesis) at the end of the print, correct this and re-run the code.
Take notice of the error for future reference.

4. Type the following line of code in the lab1exercises file:

   (do **not** copy and paste it – type it in)

   Run your program and check if the output is as you expect it.

   print(“Software Development 1 Exercise 4)

   you will notice that you get the following error:

   File "C:/Users/ecostelloe/PycharmProjects/sem1/lab1exercises.py", line 1
   print("Software Development 1 Exercise 4)
   ^
   SyntaxError: EOL while scanning string literal

   Try to see where your error is … notice that there is no closing “ before the), correct this and re-run the code. Take notice of the error for future reference.
   Notice that PyCharm tells you the line number where the error occurred and you can click on the first line of the error message and it will take you to the place in the code where the error occurred for you to correct it. In this example it is online 1 in my file.

   Python is telling us that the file lab1exercises.py has an error on line 1
   It prints the line of code with the error for us to see
   It puts a caret ^ character to point to where the error is.
   Finally it prints a SyntaxError message to tell us what the error is, EOL stands for End of Line and means, in this instance, you hit the end of the line but the string(i.e. the text in the print() statement was not terminated correctly with quotes.

5. Type the following line of code in the lab1exercises file:

   (do **not** copy and paste it – type it in)

   Run your program and check if the output is as you expect it.

   # print(“Software Development 1 Exercise 5”)

   You should notice that you did not get any output from the above line.
   The reason for this is that by placing a # (hash) followed by a space before a line of code you effectively make that line of code a comment, which is then ignored by Python and not executed.
   Comments are for documenting your code so that it is clear what you are coding.
   You should also place comments at the start of your program with your name, date and a line describing the function of the program.

Delete the previous lines in your program (by selecting them and hitting the delete button) and type in the following lines into your program,

```
# Your name
# October 2020
# Lab 1 Exercises – printing and comments

print("Software Development 1 Lab 1")
# This is a comment so will be ignored by Python

print("This should be the next line of output")
```

Run your program:

This is what you should see:

```
Software Development 1 Lab 1
This should be the next line of output
```

Notice that any lines with the # at the start of lines are ignored and not output to the screen

Having completed this lab make sure that you are comfortable with:

- creating a project,
- adding a file to it
- entering code in the file/program
- printing to the screen
- using comments i.e. #
- running the program
- fixing errors

We will be covering these in more detail this week and looking at more examples.

If you are unsure of any of the above from today's lab – **make sure to ask the supervisor today**.