PPL Lab 2:

Import, first order functions, docstrings, math functions.

Using Import

◈ Before we can use certain modules/functions – we need to import them

◈ Use "import ___" statement in the top part of your program

◈ For example, to use math functions you need to declare:

    import math

◈ If you don't need the whole lib, you can import specific functions:

    from math import sqrt

Using Import

◈ You can also import several functions:

from math import sqrt,log

◈ Full math lib doc can by found here:
https://docs.python.org/3/library/math.html

String Formatting

◈ You can create a string out of texts and variables.

◈ If we want to print the results in a specific format:
print('sqrt of {0} = {1}'.format(n,math.sqrt(n)))

◈ Or we can print in the following way: print("x=",x)

◈ If n=4, this prints: sqrt of 4 = 2

◈ Note that both double quotes – " and single quote ' are allowed. But be consistent!

Simple functions

◈ To define a function in python we use the **<u>def</u>** keyword

◈ Usage:

```python
def plus(a, b):
    return a+b
```

◈ Need to double press enter to exit

First-order Functions

◈ Simple functions which accept data as arguments and return data.

◈ You can define a function using the "def" statement.
def FunctionName():

    <body>

◈ Note the indentation at the newline – here comes the code. Use 4 spaces for indentation or Tab.

◈ It's possible to nest a function inside another function!
def func1(x):

    def power2(x):

        return x*x

◈   **return power2(x)*3**

Docstrings

◈ It is always recommended to document your code!

◈ <u>Single line comments (not docstring) start with "#"</u>

◈ Triple quotes are used for multi-line docstrings:
"""these are my comments

These too

◈ **"""**

◈ You should always add docstrings <u>inside</u> a new function and whenever you implement an algorithm – so that another programmer can understand your intentions.