CO1102 Programming Fundamentals - Workshop Week 1

Objectives

- To get familiar with the python interpreter.
- To be able to execute a file using jupyter
- To be able to perform basic string and numerical manipulation
- To be able to import from the math and random packages.
- To be able to do simple input/output.

Useful Material

Introduction to Numbers and Python: https://docs.python.org/3.0/tutorial/introduction.html

Task 0:

How to lunch Linux Terminal:

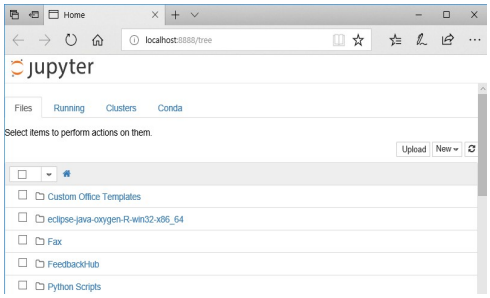
After login to the PC using your **Linux credential**, then you can open the terminal by

- Right click the mouse, and select open terminal.
- Press CTRL+ALT+T together to open the terminal.

From the terminal prompt, launch jupyter by typing the following:

jupyter-notebook

This will take you to the web browser on the following address: http://localhost:8888.



- The “Files” tab is where all your files are kept

- The "Running" tab keeps track of all your processes
- The "Clusters" tab is a parallel computing framework enabling to control individual engines.

Perform the following tasks:

(a) Create a folder CO1102Labs: **click on the "New" button in the "Files" tab and select "Folder"**. Then rename the folder as it will appear as a folder with name 'Untitled Folder' as 'CO1102Labs'.

(b) Create a new notebook as follows: **click on the "New" button in the "Files" tab and select "Python3"**. Then rename the file 'Untitled' as 'Lab1'.

(c) Close the notebook Lab1.ipynbby going to the 'File' tab and selecting 'Close and Halt'; then move the note book to the folder CO1102Labs.

Task 1:

Compute the first column in following table by using the jupyter-notebook that is local to your computer. Compute the other columns by creating a program that takes as input **x** and **y** and performs the operation. What does each of these operations do?

Operator	X = 2, Y = 5	X = 5 , Y = 7	X = 8 , Y = 4
X + Y			
X * Y			
X – Y			
X / Y			
X // Y			
X % Y			
X ** Y			

Task 2:

Write a program to **get 2 inputs** from user based on the following and print the output for each one of the operation.

operator	Input 1	Input 2
+	5	7
*	3	"Python"
+	7	"Programming"
+	'7'	"Programming"

Task 3:

Write a program that converts the temperature in Fahrenheit to the temperature in Celsius. Your program should prompt the user for the temperature and then print the following.

For example:

Give the temperature in Fahrenheit? 100

The conversion of 100 degrees Fahrenheit is 37.7777777778 degrees Celsius.

Task 4:

Write a program that takes an input as string representing a user's name. Your program should output the length of the name and the number of times each vowel occurs in it.

Hint: you may use the count() function. It is an inbuilt function in python programming language that returns the number of occurrences of a substring in the given string.