Lab Session #2

Programming with Python in Jupyter Notebook / Google Colab

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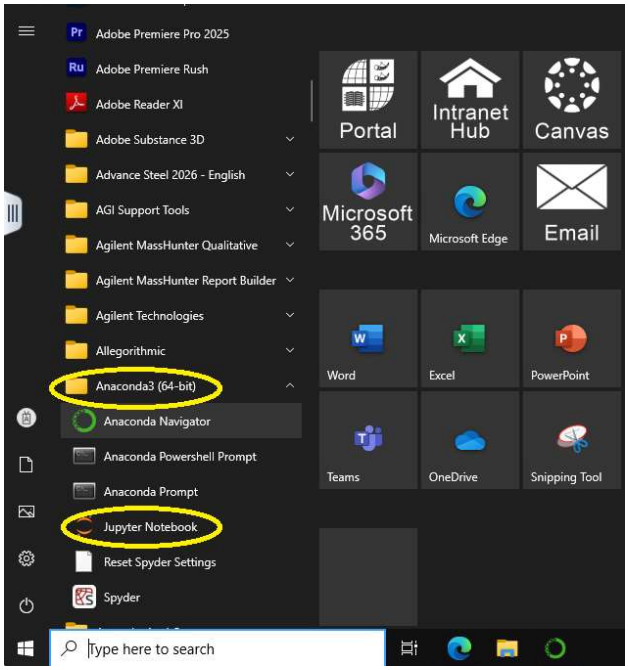
Introduction

To use Python notebooks, you can use Google Colab or **Jupyter Notebook**.

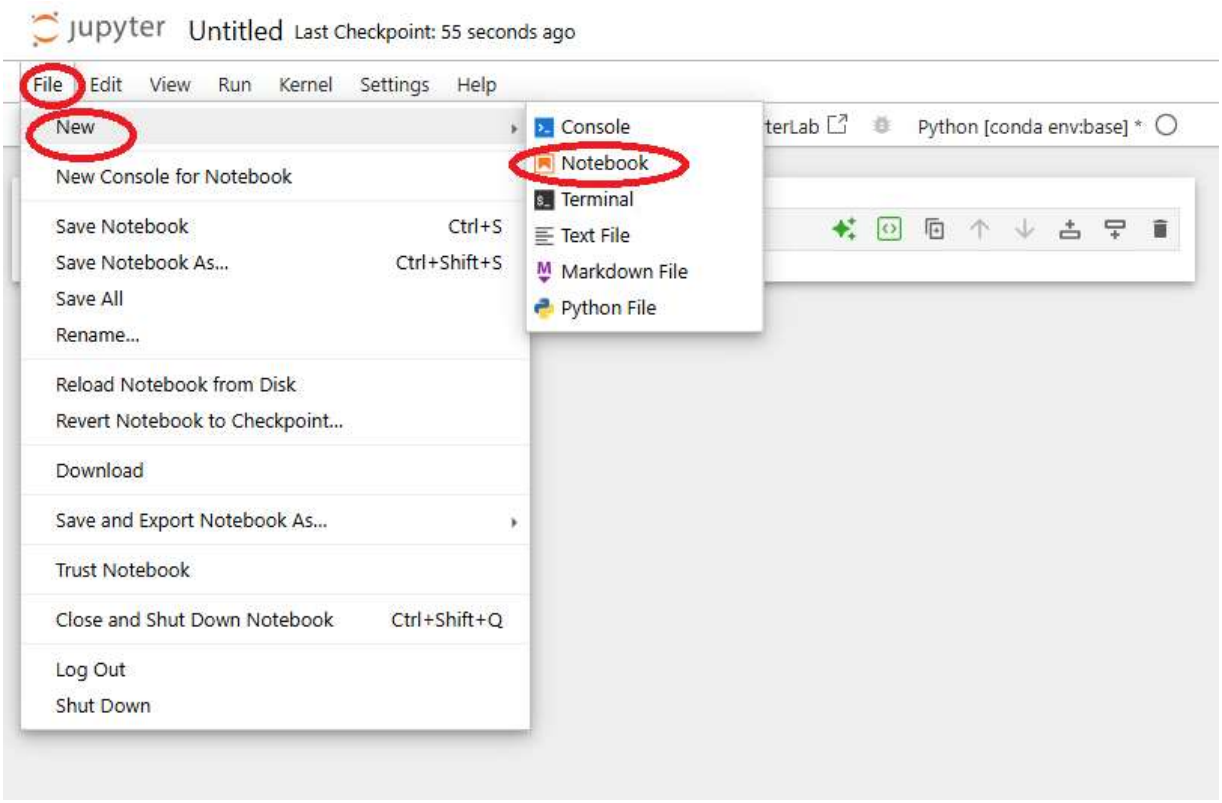
Option 1- Google Colab: Log in with a Google account. To see how to open a new notebook or upload an existing one, see the document **Colab_Tutorial.pdf** on Canvas),

Option 2- To use **Jupyter Notebook**, follow these steps-

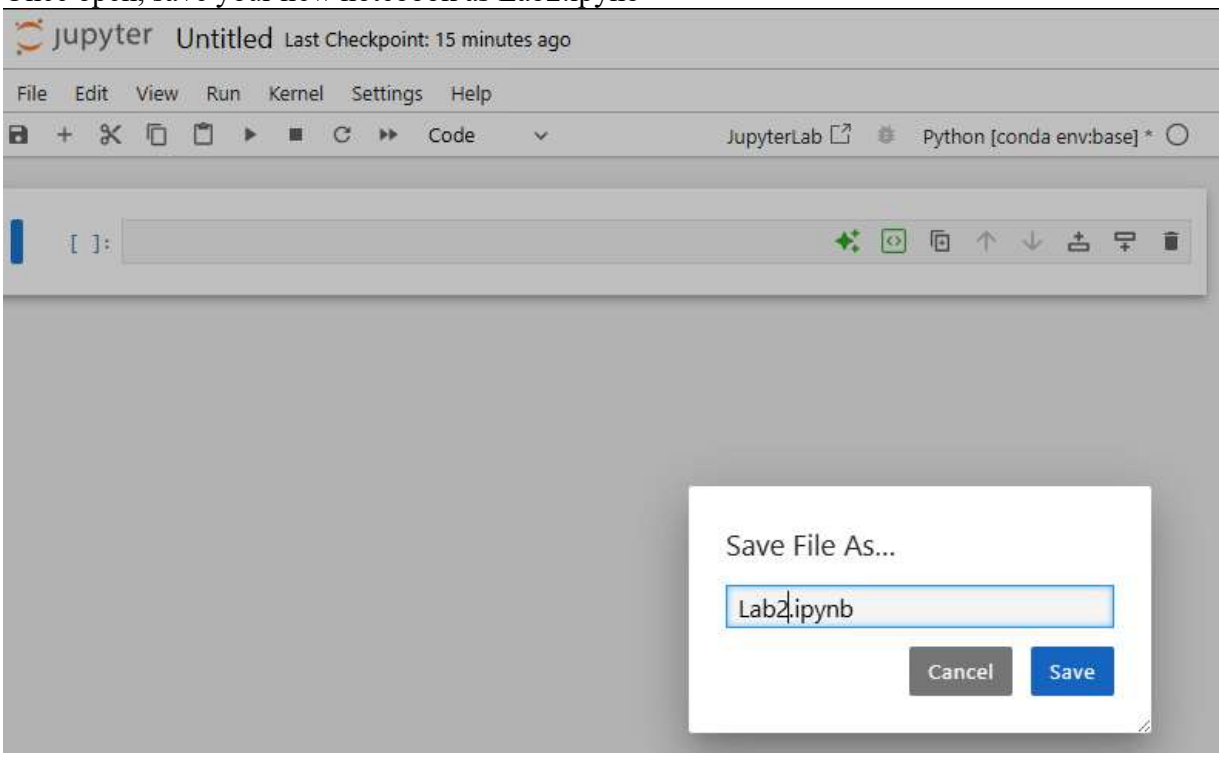
1. Log into Horizon using your Bradford account
2. In programs (in Horizon session), go to Anaconda3 (64-bit) and choose **Jupyter Notebook**



3. In Jupyter Notebook, you can open a new notebook or upload an existing one

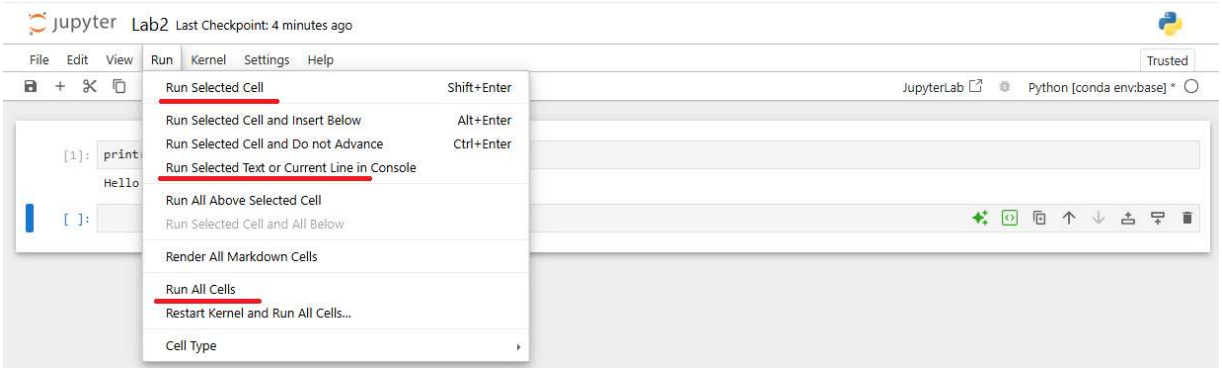


4. Once open, save your new notebook as Lab2.ipynb



5. Now you can start writing and running code at each section. You will see the results or the errors under each section.

Note! Either in Colab or Jupyter, you can run your code section by selection or by cell, or all cells together.



Exercise # 1

Tuple practice

Write a python script as:

1. Create an Empty Tuple
2. Create Tuple with Homogeneous Elements
3. Create Tuple with Heterogeneous Elements
4. Create Tuple with Single Element
5. Modify Elements of Tuple
6. Accessing Elements of Tuple – From the Front
7. Accessing Elements of Tuple – From the Back
8. Search Within a Tuple
9. Add Elements to a Tuple
10. Delete an Element from a Tuple
11. Iterate Over a Tuple
12. Concatenation of Tuples
13. Identify Length of a Tuple
14. Slice a Tuple
15. Count the Number of Elements in a Tuple
16. Identify the Index of an Element in a Tuple

Exercise # 2

Write a python program to print the multiplication table for the given number?

Exercise # 3

Write a python program to check whether the given number is prime or not

Exercise # 4

Write a python program to find factorial of the given number

Exercise # 5

Write a python program to implement simple Chatbot

Exercise # 6

Write a python program to implement list operations (Nested List, Length, Concatenation, Membership, Iteration, Indexing and Slicing)?

Exercise # 7

Write a python program to implement list operations (add, append, extend & delete)

Exercise # 8

Write a python program to Illustrate Different Set Operations?

Exercise # 9

Write a python program to generate Calendar for the given month and year?

Exercise # 10

Write a python program to implement Simple Calculator program?

Exercise # 11

Write a python program to Add Two Matrices.

Exercise # 12

Write a python program to Transpose a Matrix.