

LAB 1:

1. Setting up Python,
2. Jupyter as front-end,
3. Downloading Github codes.

INSTALLING PYTHON VERSION 3.9.2

STEP 1:

Google search install python (www.python.org)

Google search results for "install python". The search bar shows "install python". Below it, there are filters for All, Videos, Images, Books, News, and More. It says "About 402,000,000 results (0.64 seconds)". The first result is a link to "www.python.org › downloads" titled "Download Python | Python.org". Below the link, it says "Looking for Python with a different OS? Python for Windows, Linux/UNIX, Mac OS X, Other. Want to help test development versions of Python? Prereleases ...". There are two main sections: "Python Releases for Windows" and "Python 3.8.8". Under "Python Releases for Windows", it lists "Stable Releases · Python 3.9.2 - Feb. 19, 2021 · Python 3.8.8 ...". Under "Python 3.8.8", it says "Python 3.8.8. Release Date: Feb. 19, 2021. This is the eight ...". Below these are links for "Python 3.9.2" and "Python 3.7.10", each with a brief description and a "More results from python.org »" link.

Step 2:

Install latest version of Python (3.9.2)

The Python.org homepage features a large "python™" logo. At the top, there are links for "About", "Downloads", "Documentation", "Community", "Success Stories", "News", and "Events". A prominent yellow button labeled "Download Python 3.9.2" is highlighted with a red arrow. Below it, text reads "Looking for Python with a different OS? Python for Windows, Linux/UNIX, Mac OS X, Other. Want to help test development versions of Python? Prereleases, Docker images. Looking for Python 2.7? See below for specific releases". To the right, there's a cartoon illustration of two boxes with parachutes falling from the sky.

Optional: Any other version of Python is available. Scroll down the same page and you will see many versions is available.

Looking for a specific release?

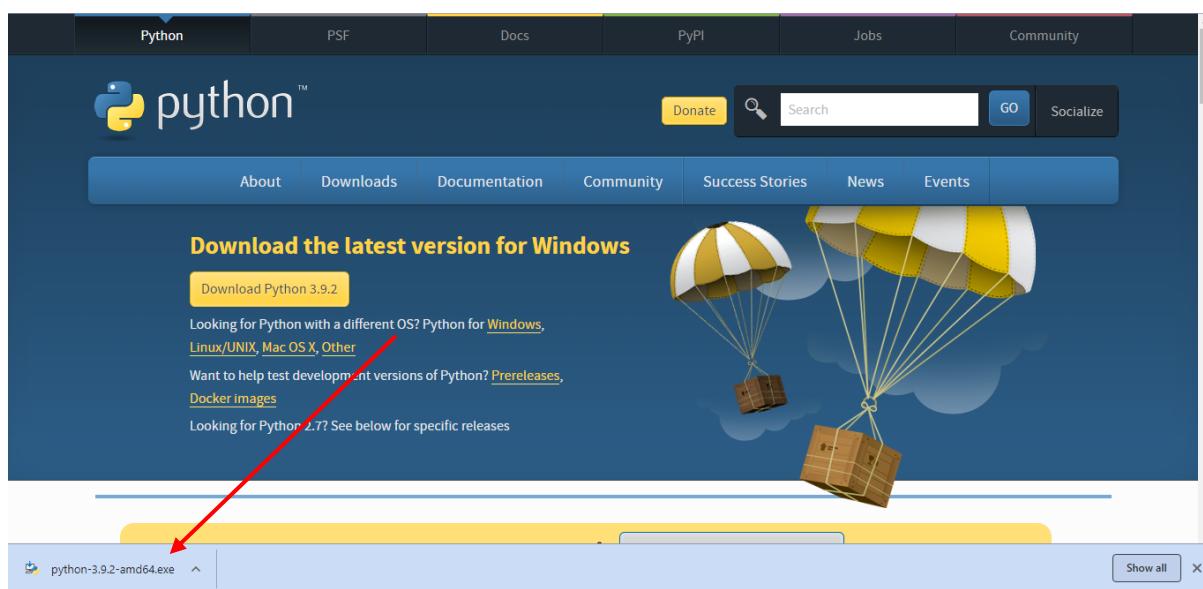
Python releases by version number:

Release version	Release date		Click for more
Python 3.9.2	Feb. 19, 2021	Download	Release Notes
Python 3.8.8	Feb. 19, 2021	Download	Release Notes
Python 3.6.13	Feb. 15, 2021	Download	Release Notes
Python 3.7.10	Feb. 15, 2021	Download	Release Notes
Python 3.8.7	Dec. 21, 2020	Download	Release Notes
Python 3.9.1	Dec. 7, 2020	Download	Release Notes
Python 3.9.0	Oct. 5, 2020	Download	Release Notes
Python 3.8.6	Sent. 24, 2020	Download	Release Notes

[View older releases](#)

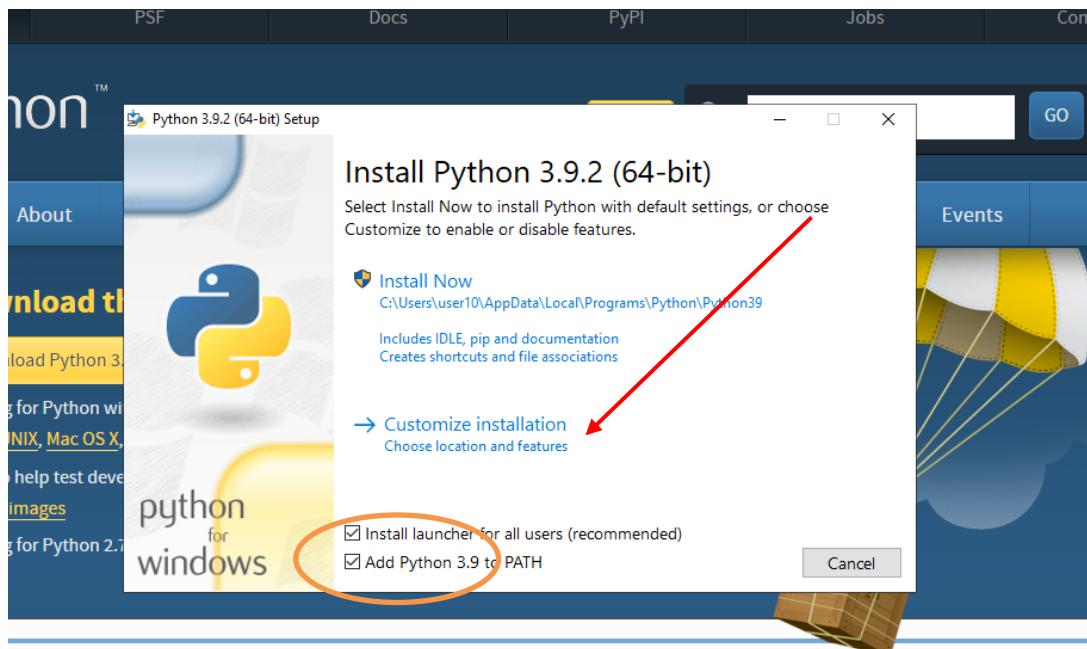
Step 3:

After downloading, check at the bottom of the page. Click the downloaded file.

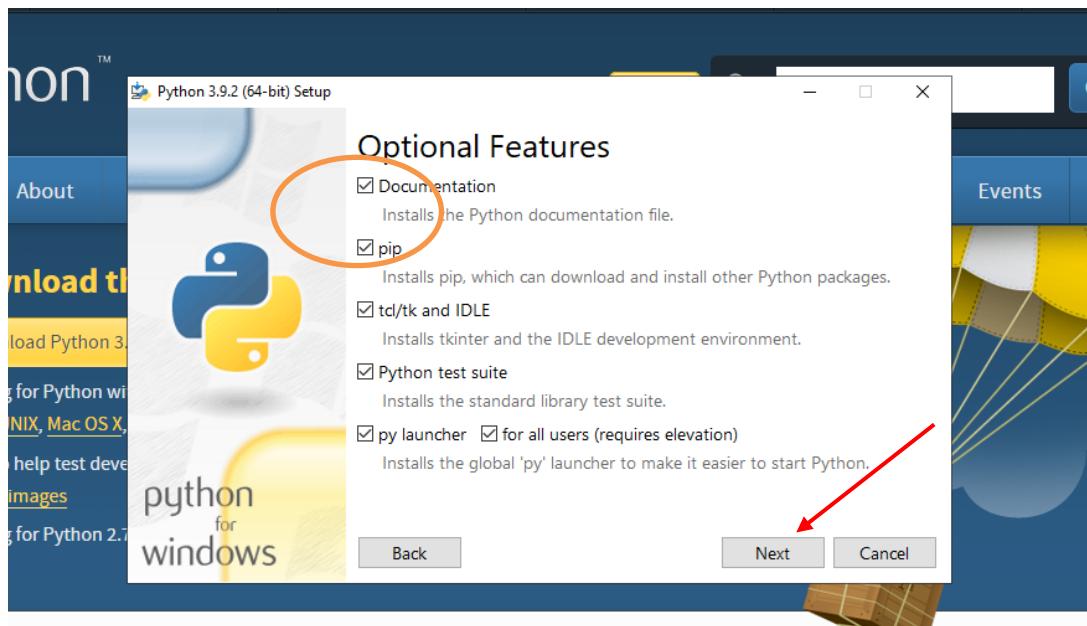


Step 4:

After opening the downloaded file, a pop-up notification just like in the picture will appear. Make sure to tick both boxes and click “customize installation”.

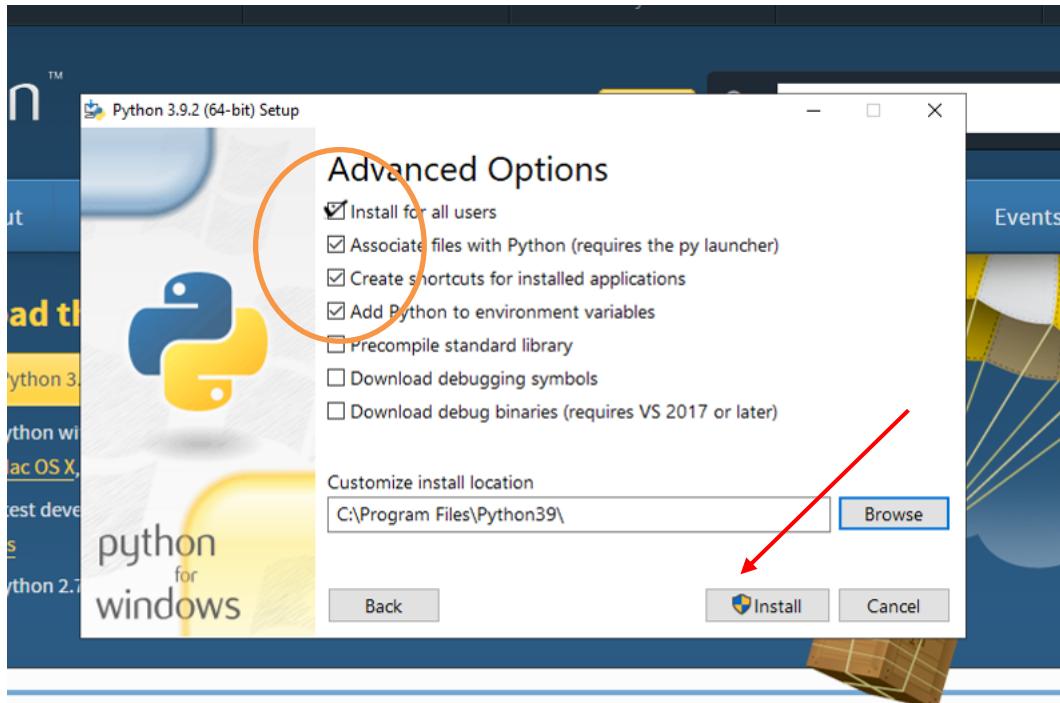
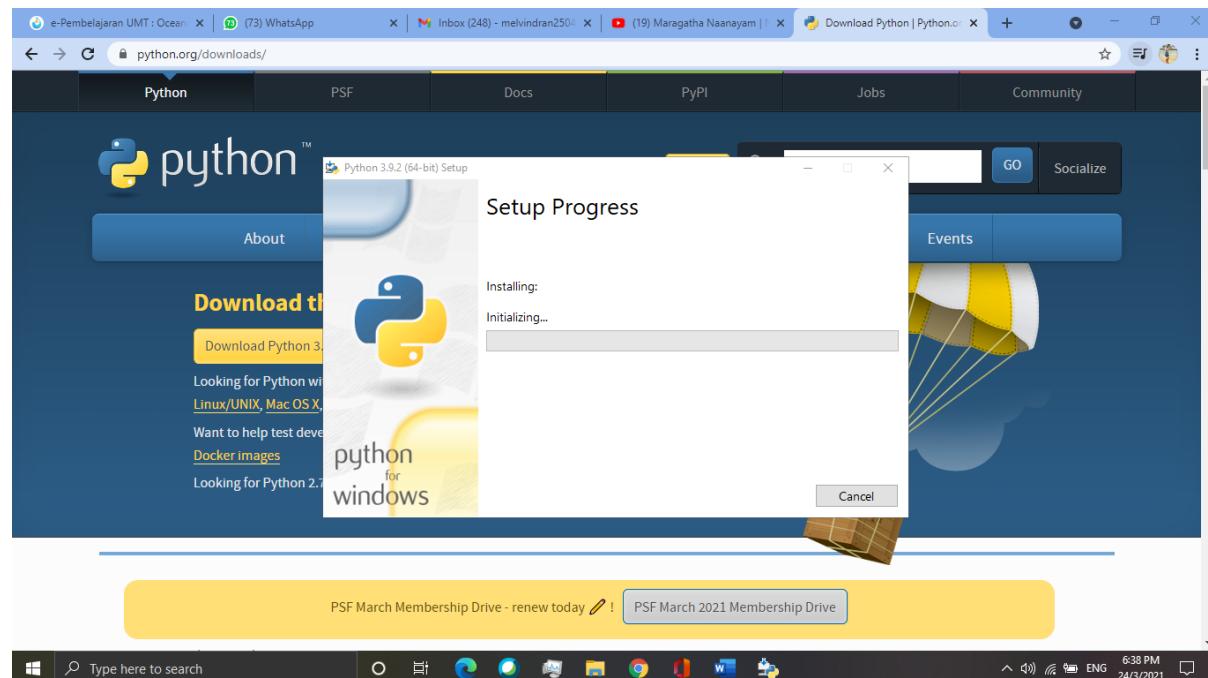
**Step 5:**

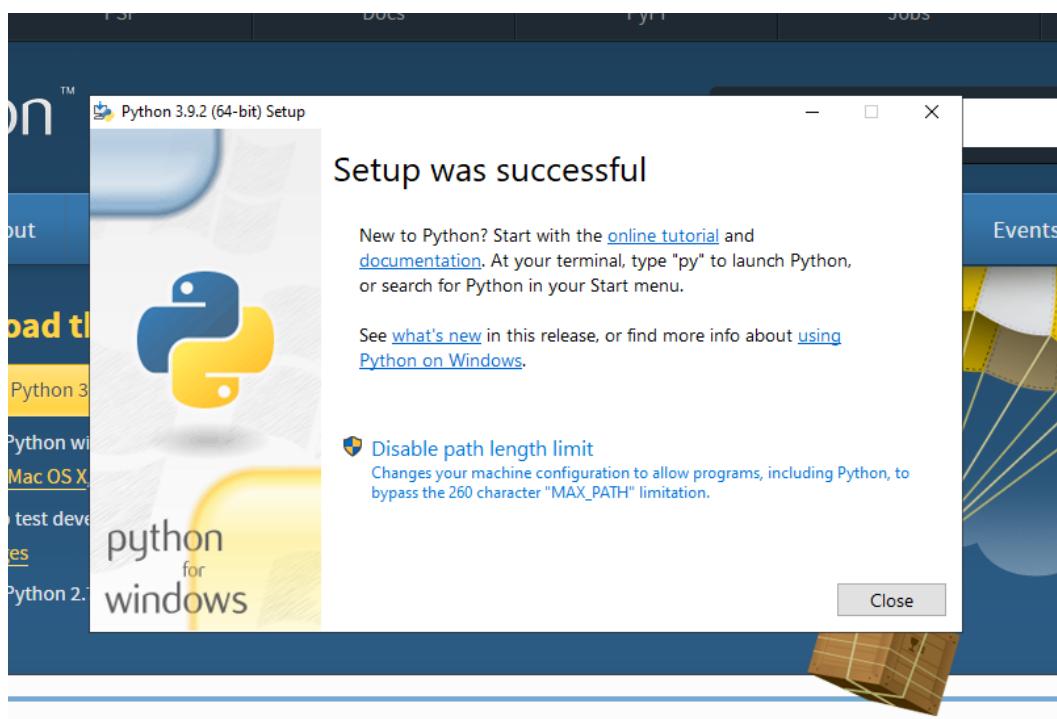
After clicking “customize installation”,



Step 6:

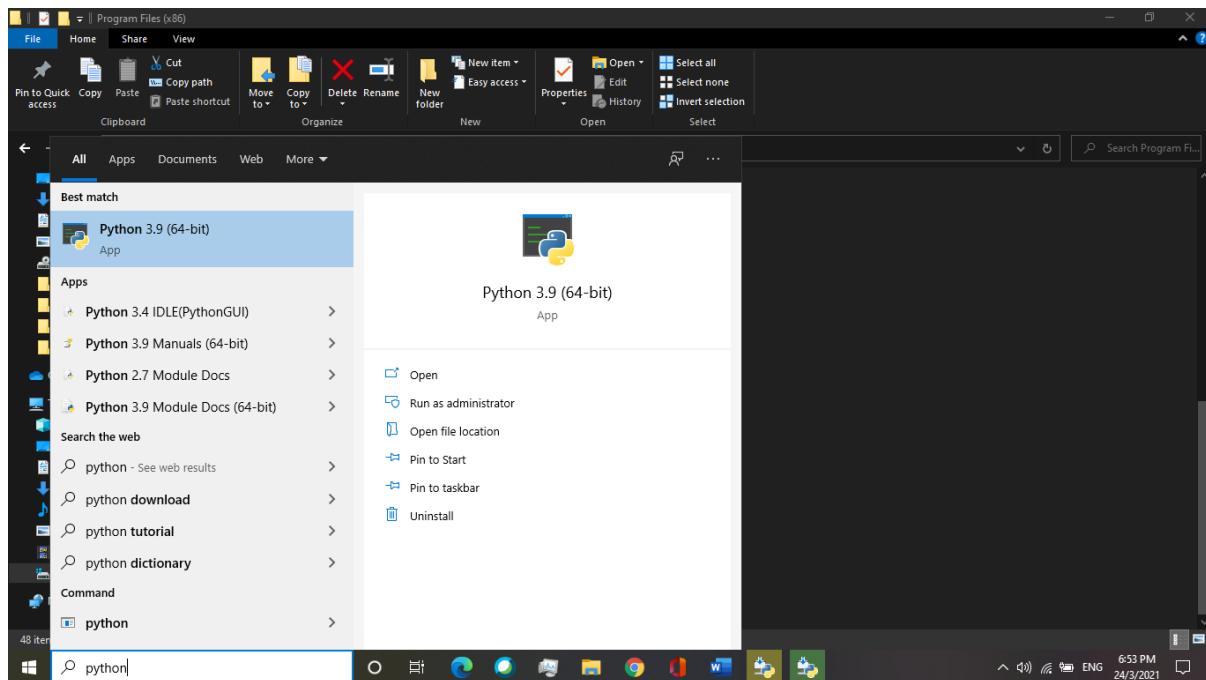
Choose a place where it is easy for you to find.

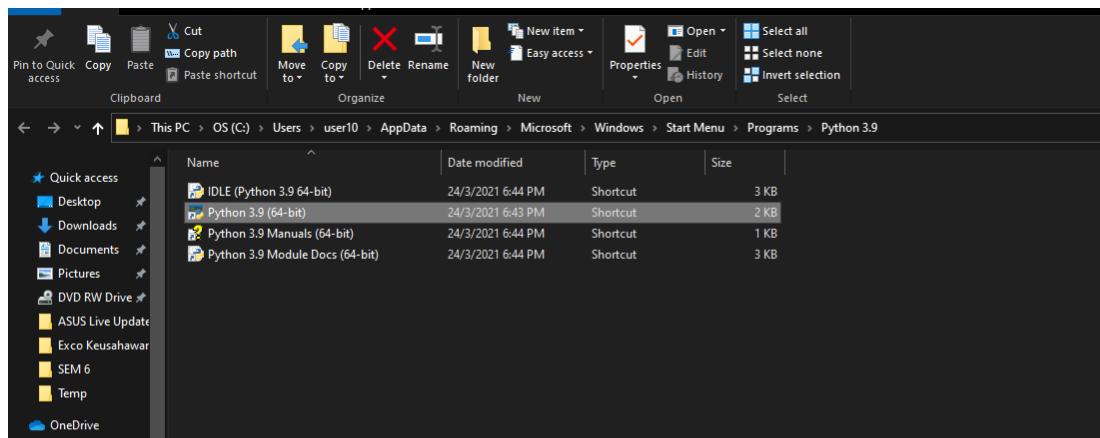
**Step 7:**



Step 8:

Identifying the Python 3.9 location.

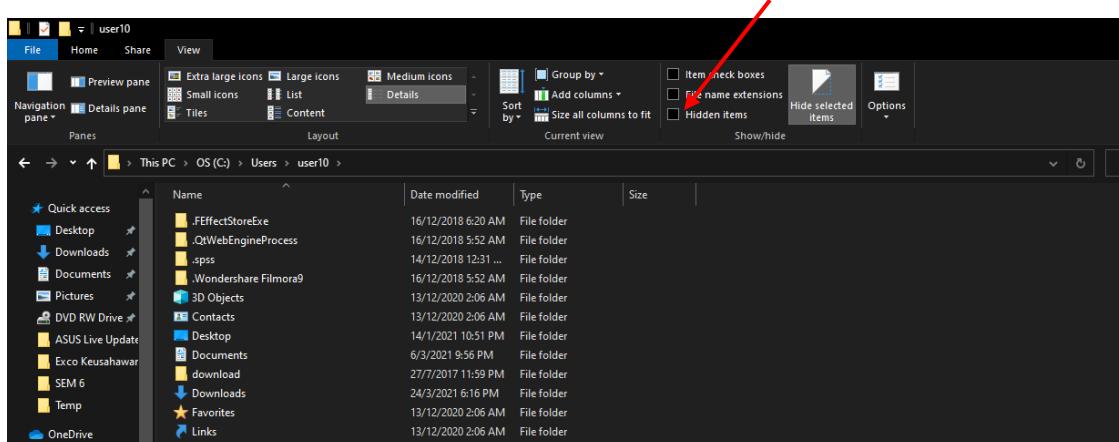


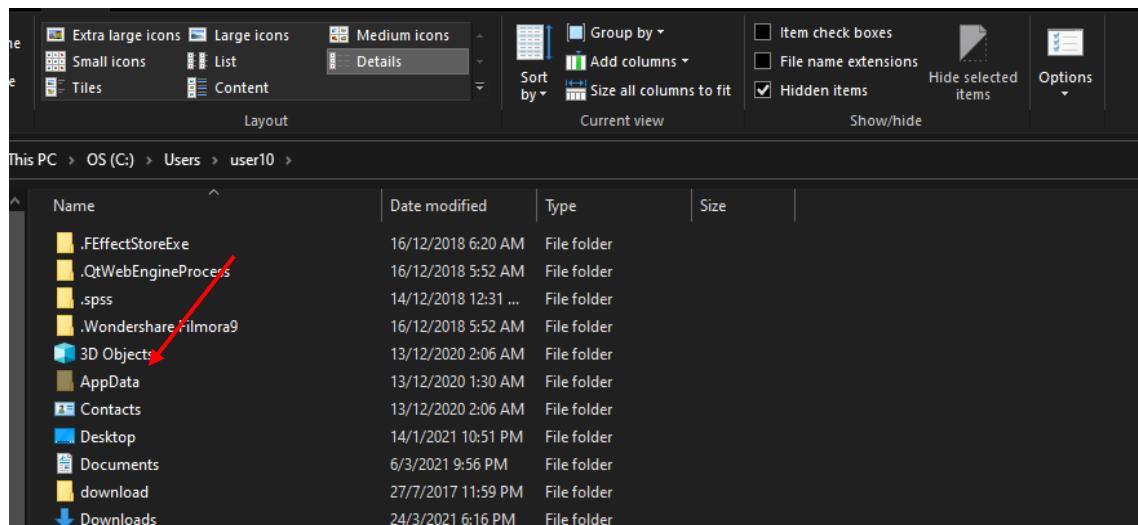


INSTALLING JUPYTER NOTEBOOK

Step 1:

Trace the AppData folder. Tick the hidden items

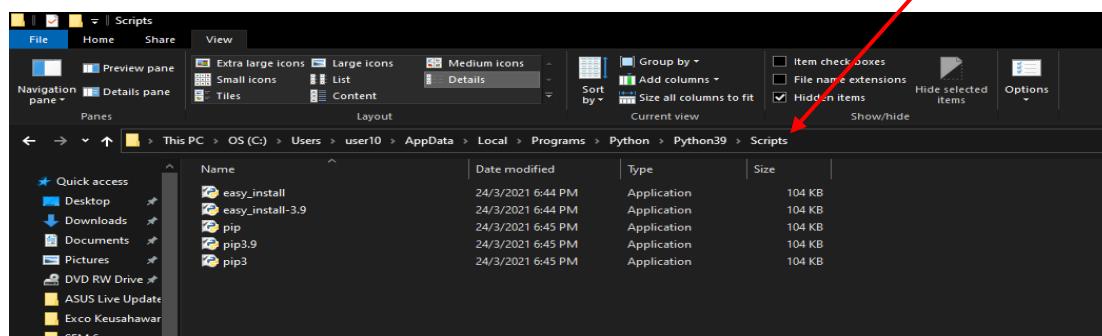




Step 2:

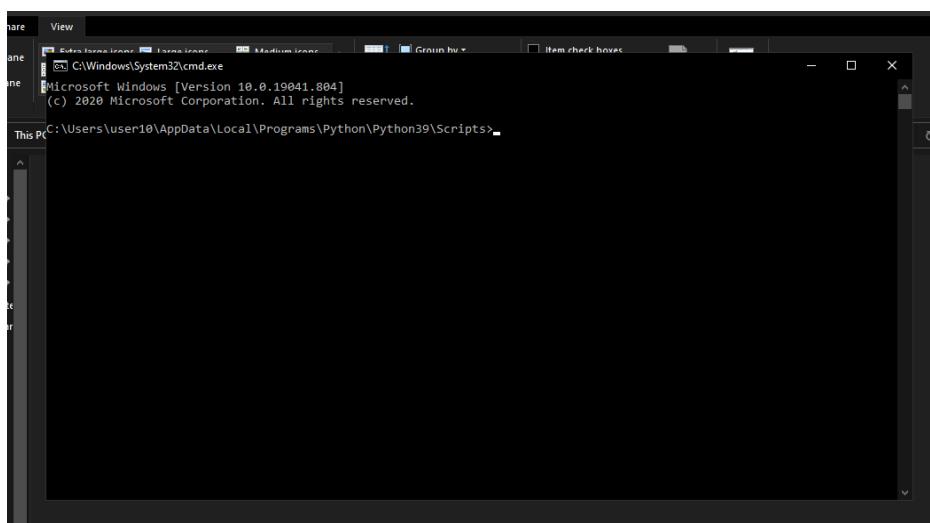
From AppData > Local > Programs > Python > Python 39 > Scripts

At the column with the red arrow place in the picture, type “cmd”.

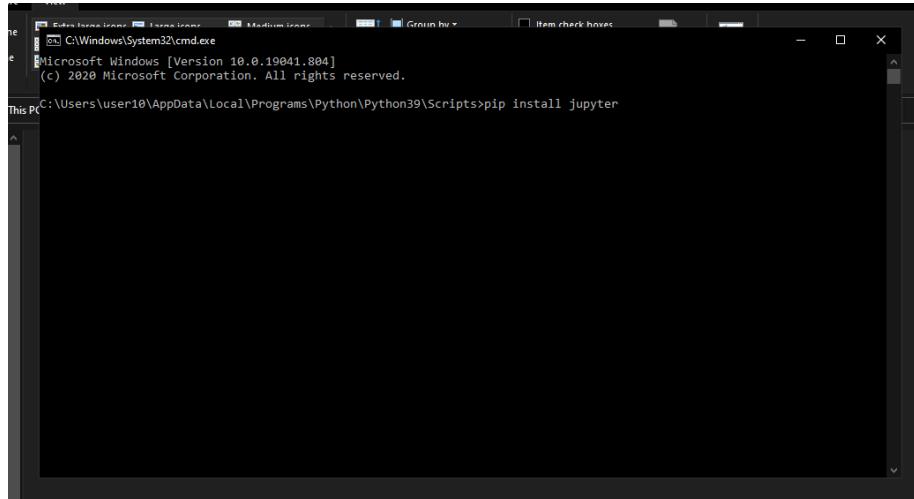


Step 3:

A black screen will pop out.



Type the command “**pip install jupyter**” and enter to run the command. You may also install jupyterlab by typing the command “**pip install jupyterlab**” and enter to run the command.

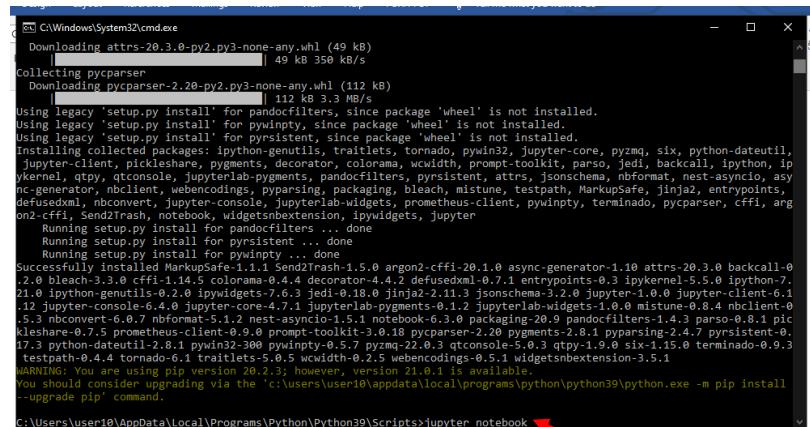


```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19041.804]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\user10\AppData\Local\Programs\Python\Python39\Scripts>pip install jupyter
```

Step 4:

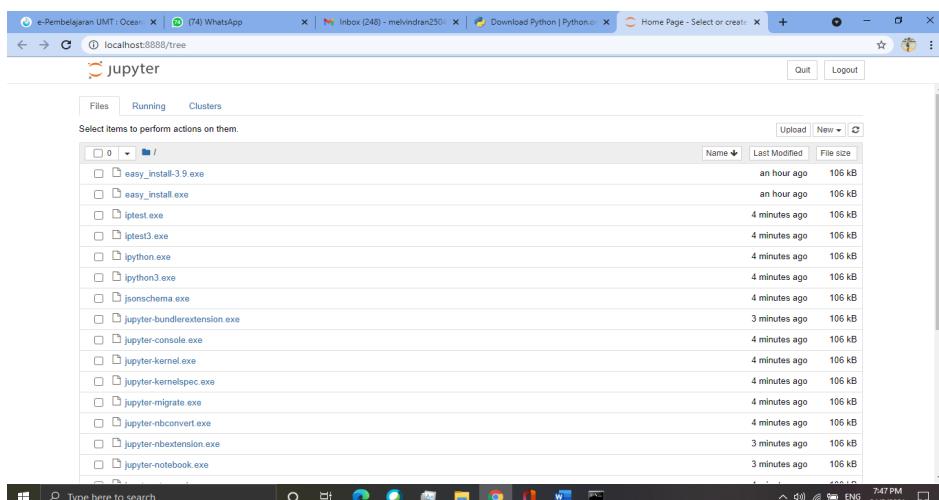
After downloading, open jupyter notebook by typing in command “**jupyter notebook**” or you may run jupyter lab by typing “**“jupyter-lab”**”.



```
C:\Windows\System32\cmd.exe
Downloaded attrs-20.3.0-py2.py3-none-any.whl (49 kB)
Collecting pycparser
  Downloading pycparser-2.20-py3-none-any.whl (112 kB)
Using legacy 'setup.py install' for pandocfilters, since package 'wheel' is not installed.
Using legacy 'setup.py install' for pywinpty, since package 'wheel' is not installed.
Using legacy 'setup.py install' for persistent, since package 'wheel' is not installed.
Installing collected packages: ipython-genutils, traitlets, tornado, pywin32, jupyter-core, pyzmq, six, python-dateutil, jupyter-client, pickleshare, pygments, decorator, colorama, wcwidth, prompt-toolkit, parso, jedi, backcall, ipython, ipkernel, qtpy, qtconsole, jupyterlab-pygments, pandocfilters, persistent, attrs, jsonschema, nbformat, nest-asyncio, asy-nc-generator, nbclient, webencodings, pygments, packaging, bleach, mistune, testpath, MarkupSafe, jinja2, entrypoints, defusedxml, nbconvert, Jupyter-console, Jupyterlab-widgets, prometheus-client, pywinpty, terminado, pycparser, cffi, argon2-19.2.0, Send2Trash, nbclient, nbconvert, ipywidgets, jupyter
  Running setup.py install for pandocfilters ... done
  Running setup.py install for pywinpty ... done
  Running setup.py install for persistent ... done
  Running setup.py install for ipython-client ... done
Successfully installed MarkupSafe-1.1.1 Send2Trash-1.5.0 argon2-cffi-20.1.0 async-generator-1.10 attrs-20.3.0 backcall-0.2.0 bleach-3.3.0 cffi-1.14.5 colorama-0.4.4 decorator-4.4.2 defusedxml-0.7.1 entrypoints-0.3 ipykernel-5.5.0 ipython-7.21.0 ipython-genutils-0.2.0 ipywidgets-7.6.3 jedi-0.18.0 jinja2-2.11.3 jsonschema-3.2.0 jupyter-client-6.1.12 jupyter-console-6.4.0 jupyter-core-4.7.1 jupyterlab-pygments-0.1.2 jupyterlab-widgets-1.0.0 mistune-0.8.4 nbclient-0.5.3 nbconvert-6.0.7 nbformat-5.1.0 nest-asyncio-1.5.1 notebook-6.3.0 packaging-20.9 pandocfilters-1.4.3 parso-0.8.1 pic-kleshar-0.7.5 prometheus-client-0.9.0 prompt-toolkit-3.0.18 pygments-2.8.1 pyParsing-2.4.7 pyrsistent-0.17.3 python-dateutil-2.8.1 pywin32-300 pywinpty-0.5.7 pyzmq-22.0.3 qtconsole-5.0.3 qtpy-1.9.0 six-1.15.0 terminado-0.9.3 testpath-0.4.4 tornado-6.1 traitlets-5.0.5 wcwidth-0.2.5 webencodings-0.5.1 widgetsnbextension-3.5.1
WARNING: You are using pip version 20.2.3; however, version 21.0.1 is available.
You should consider upgrading via the 'c:\users\user10\appdata\local\programs\python\python39\python.exe -m pip install --upgrade pip' command.

C:\Users\user10\AppData\Local\Programs\Python\Python39\Scripts>jupyter notebook
```

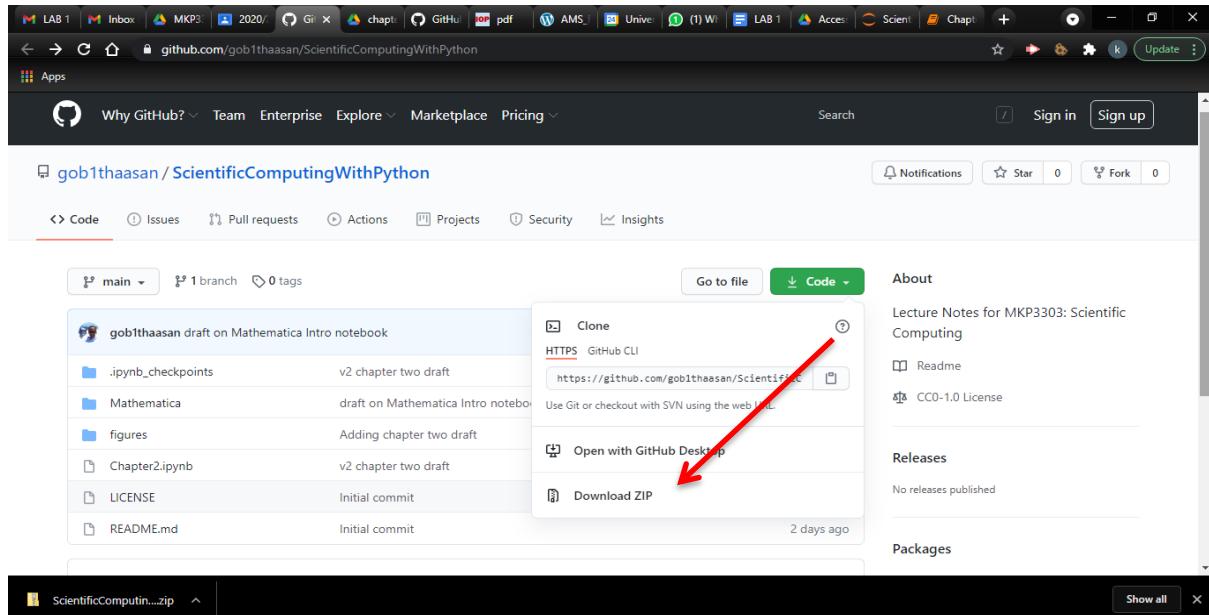
Below is the view of jupyter notebook.



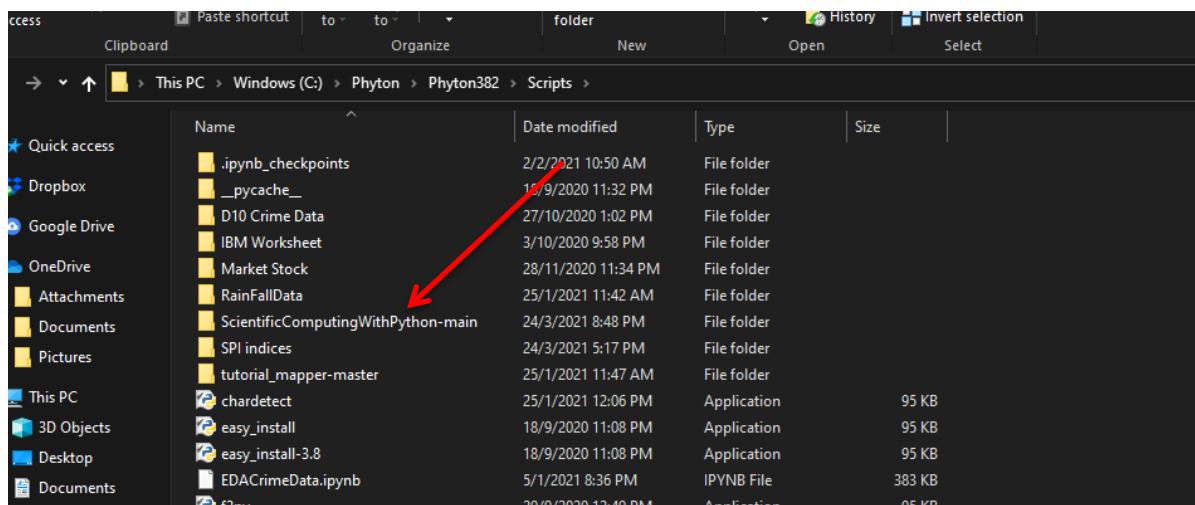
DOWNLOAD AND RUN NOTEBOOK FROM GITHUB

Step 1: Download notebook from:

<https://github.com/gob1thaasan/ScientificComputingWithPython>



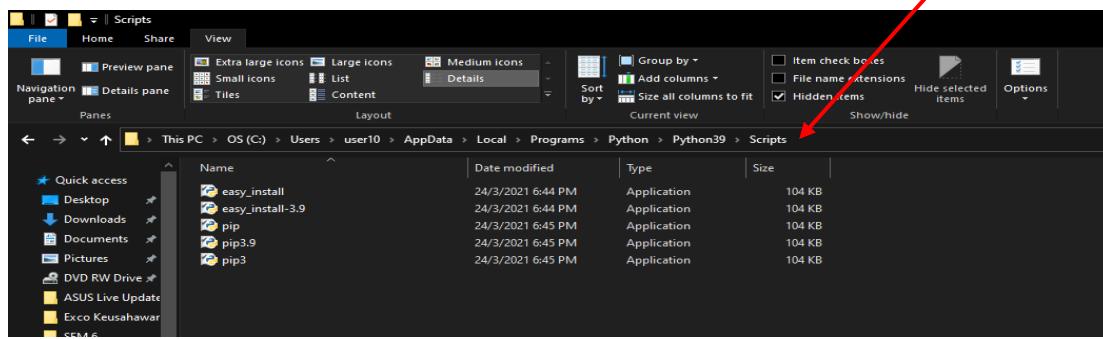
Step 2: Unzip the file from downloads and copy paste the file into Scripts in Python folder.



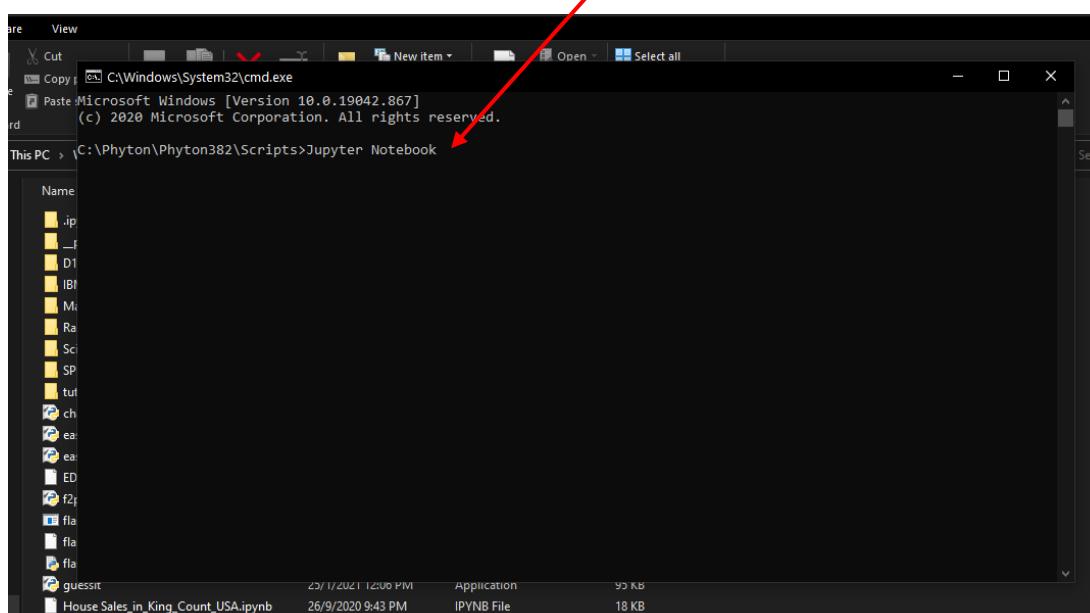
Step 3:

From AppData > Local > Programs > Python > Python 39 > Scripts

At the column with the red arrow place in the picture, type “cmd”.

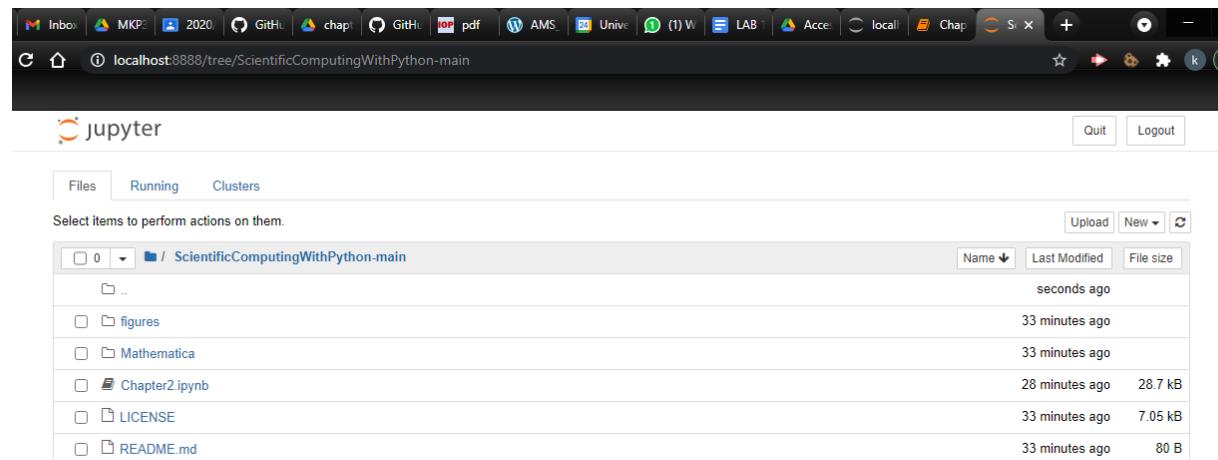
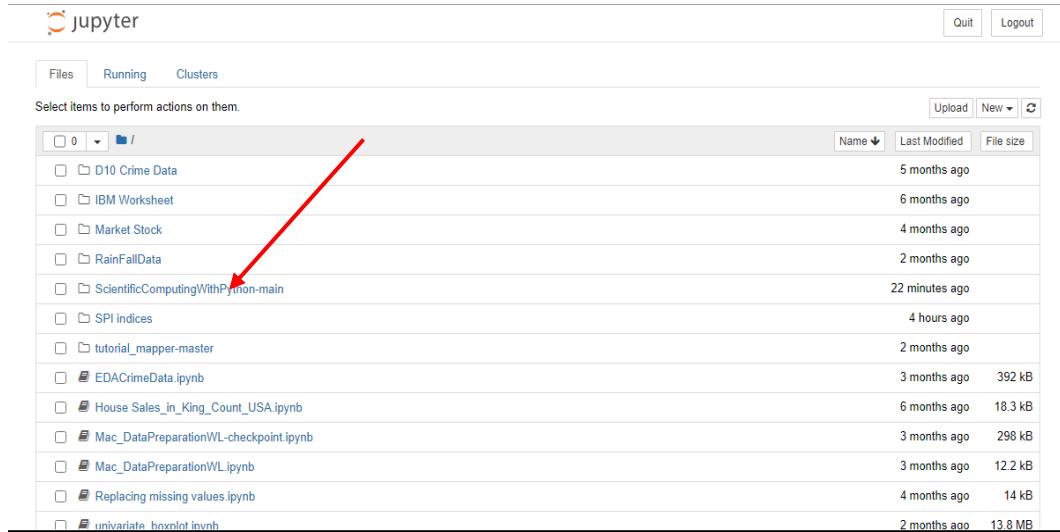
**Steps 4:**

A black screen will pop out. Type the command “Jupyter Notebook” and enter to run the command.



Steps 5:

After Jupyter Notebook open in Google Chrome, click on **ScientificComputingWithPython** file to look and run the code.



The screenshot shows a Jupyter Notebook interface running on a local host. The title bar indicates the URL is `localhost:8888/notebooks/ScientificComputingWithPython-main/Chapter2.ipynb`. The notebook header includes the title "Jupyter Chapter2 Last Checkpoint: 34 minutes ago (autosaved)", a Python logo icon, and a "Logout" button. The menu bar has options: File, Edit, View, Insert, Cell, Kernel, Widgets, Help. Below the menu is a toolbar with icons for file operations like Open, Save, and Run. A status bar at the bottom right shows "Not Trusted" and "Python 3". The main content area contains a section titled "Scientific Computation (MKP3303)" with a subtitle "R.U.Gobithaasan (2021), Scientific Computing, Lectures for Undergraduate Degree Program B Sc (Applied Mathematics), Faculty of Ocean Engineering Technology, University Malaysia Terengganu. <https://sites.google.com/site/gobithaasan/LearnTeach>". It also includes a copyright notice "© 2021 R.U. Gobithaasan All Rights Reserved." and a command line entry: `$ jupyter nbconvert --to html NOTEBOOK-NAME.ipynb`. A section titled "Scientific Python Stack" lists a source: "source: Robert Johansson August, Introduction to Scientific Computing in Python Continuum Analytics, (2015)". A code cell In [42] displays an image tag: ``.