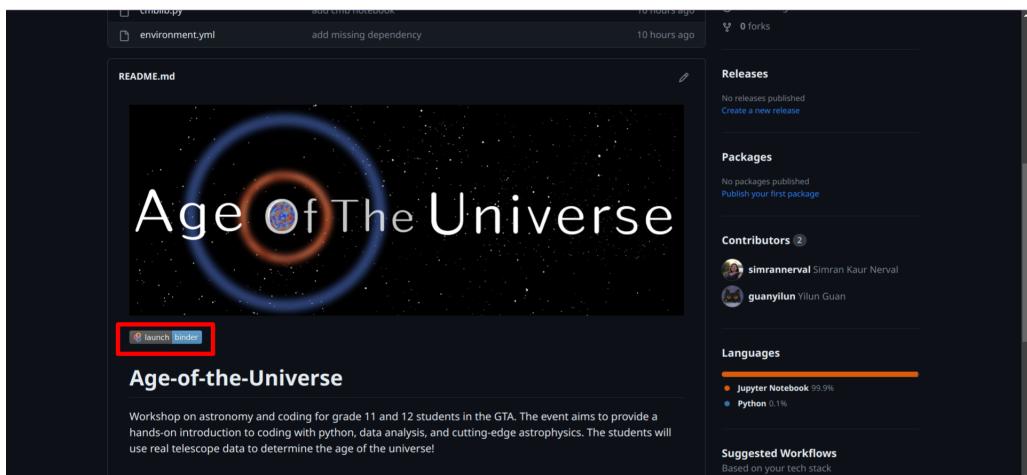


Age of the Universe Workshop

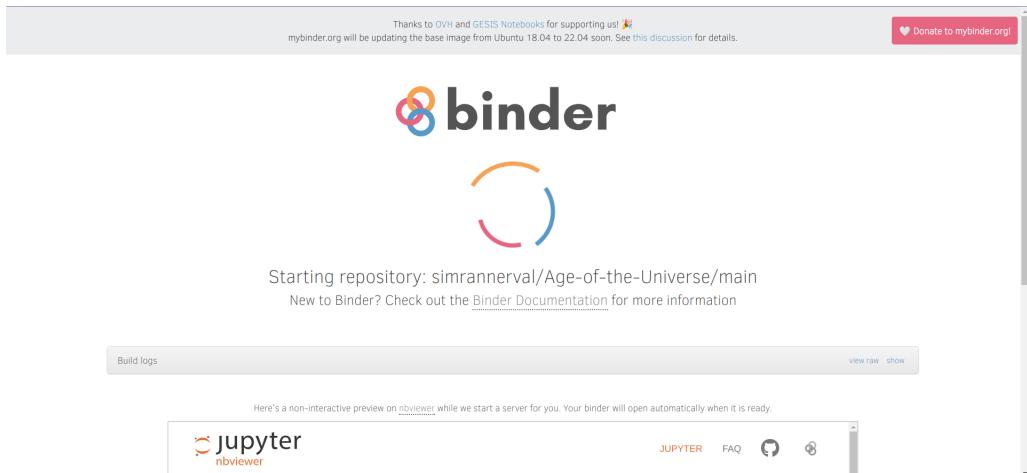
Opening the Activities

Binder

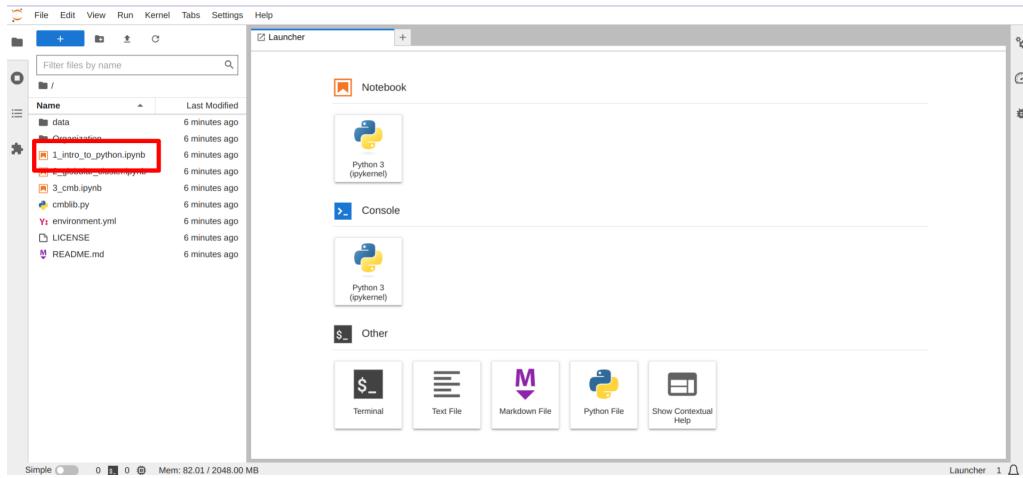
1. Go to: <https://github.com/simrannerval/Age-of-the-Universe>
2. Click the “launch binder” shown in the red box below:



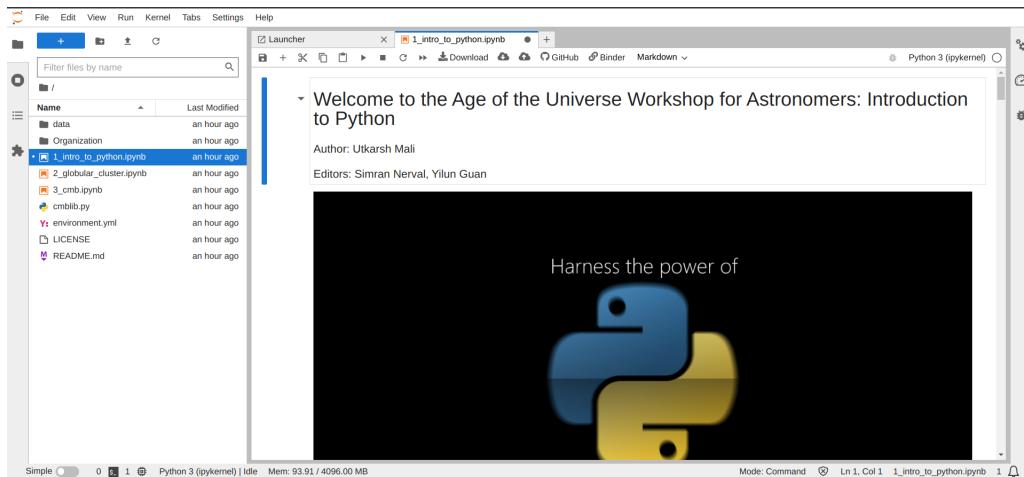
3. This will take a while to load the first few times. The screen should look like the image below:



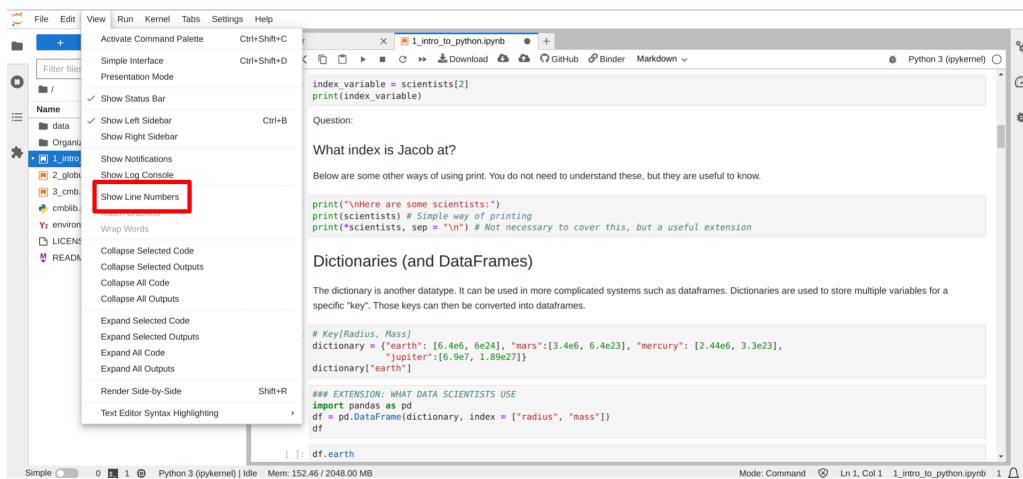
4. Once it is finished loading, the screen will look like this image below. Please click on one of the notebooks, such as 1_intro_to_python.ipynb shown in the red box:



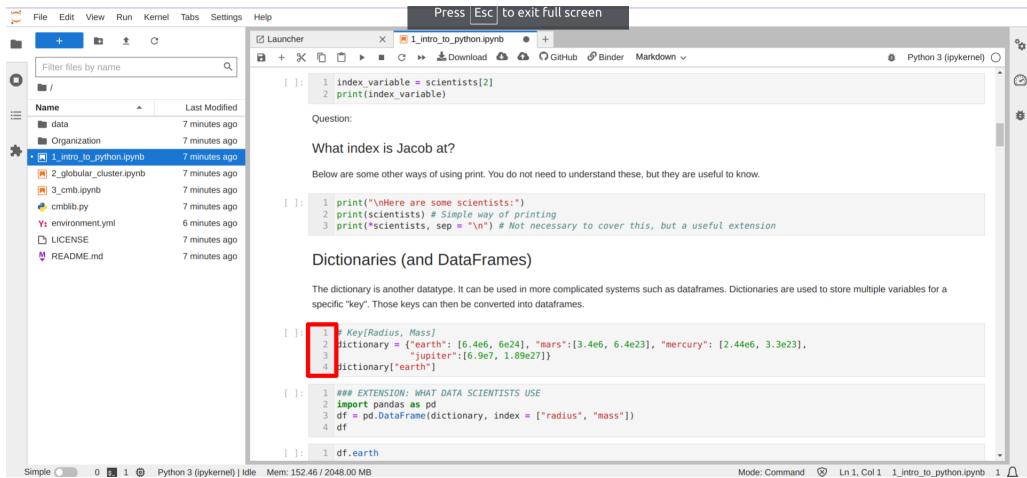
5. The Jupyter Notebook should open and look like the image below:



6. Then go to “View” and click “Toggle Line Numbers” as shown in the red box below:



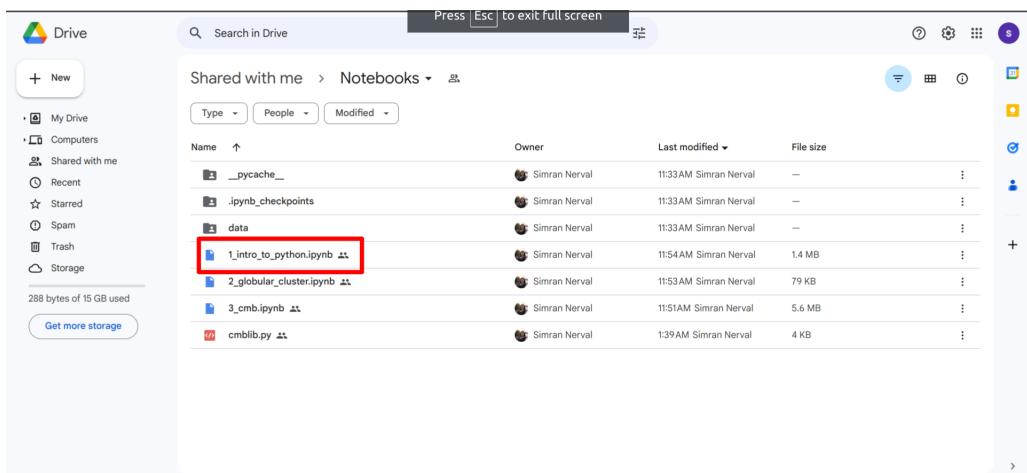
7. Then there should be line numbers in the left of the cells as shown in the red box below:



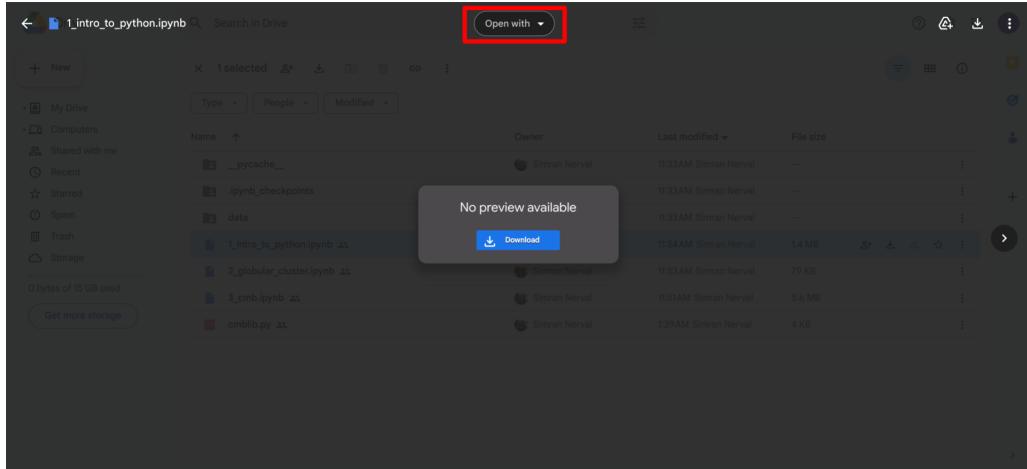
The screenshot shows a Jupyter notebook interface. On the left, a file tree displays several files: 1_intro_to_python.ipynb (selected), 2_globular_cluster.ipynb, 3_cmb.ipynb, cmlib.py, environment.yml, LICENSE, and README.md. The main area shows a code cell with line numbers. The first two lines are: 1 index_variable = scientists[2] 2 print(index_variable). Below this, a question is asked: "What index is Jacob at?". A note follows: "Below are some other ways of using print. You do not need to understand these, but they are useful to know." Three additional lines of code are shown: 1 print("\nHere are some scientists:") 2 print(scientists) # Simple way of printing 3 print(*scientists, sep = "\n") # Not necessary to cover this, but a useful extension. The code cell is titled "Dictionaries (and DataFrames)". A note states: "The dictionary is another datatype. It can be used in more complicated systems such as dataframes. Dictionaries are used to store multiple variables for a specific 'key'. Those keys can then be converted into dataframes." Below this, a code cell contains: 1 # Key[Radius, Mass] 2 dictionary = {"earth": [1.4e6, 6e24], "mars": [3.4e6, 6.4e23], "mercury": [2.44e6, 3.3e23], 3 "jupiter": [1.9e7, 1.89e27]} 4 dictionary["earth"]. The code cell is titled "DataFrames". At the bottom, it says "Mode: Command" and "Ln 1, Col 1 1_intro_to_python.ipynb 1".

Google Colaboratory

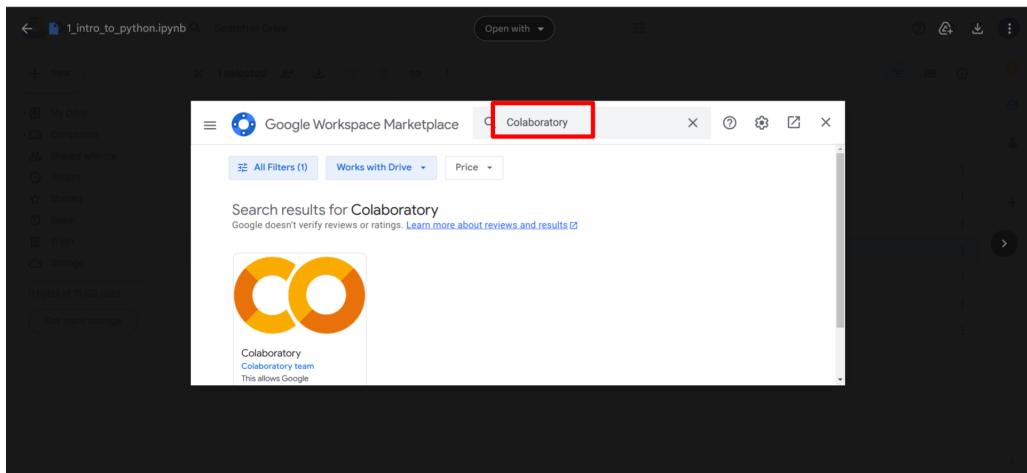
1. Go to: https://drive.google.com/drive/folders/1Q1yhHJ4PLaH54HEavygXHgNa4tUgsWjd?usp=drive_link
2. The screen will look like this image below. Please click on one of the notebooks, such as 1_intro_to_python.ipynb shown in the red box:



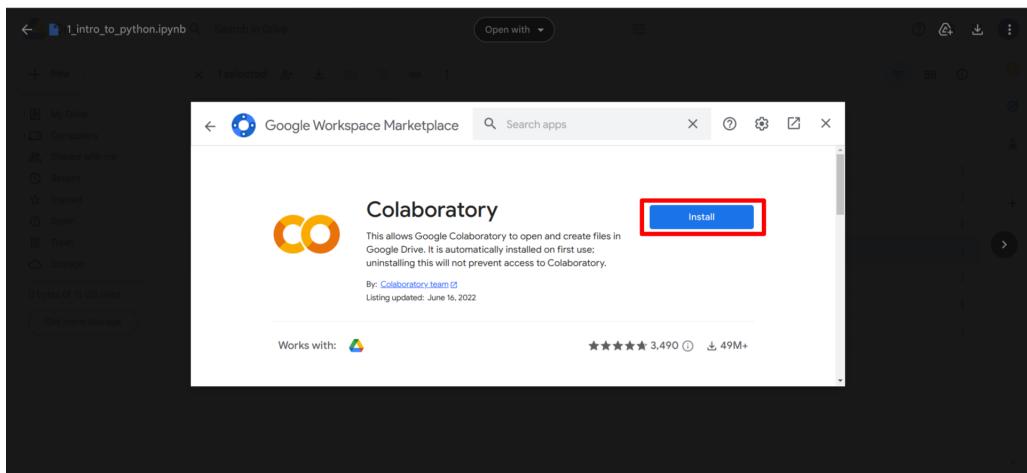
3. The Jupyter Notebook will open like the image below, click “Open with” shown in the red box:



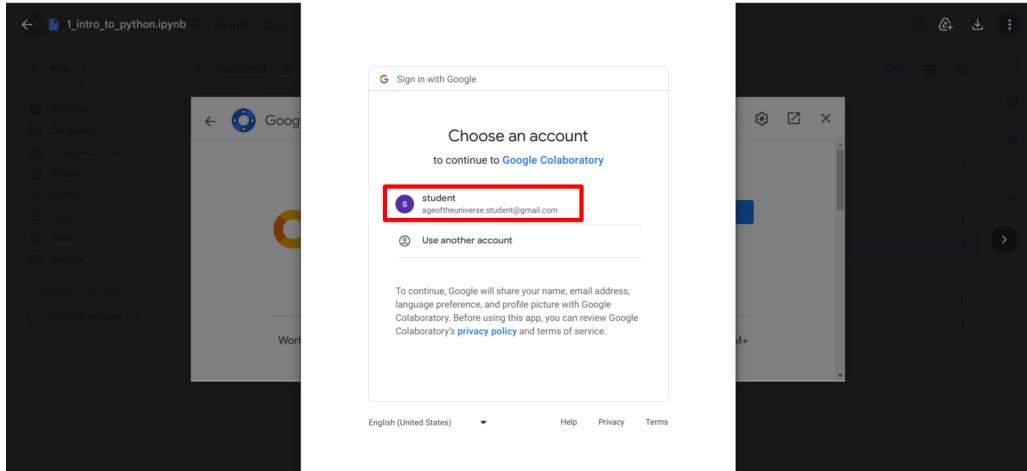
4. Then click “Google Colaboratory” or if you don’t have it installed, search for it as shown in the red box below:



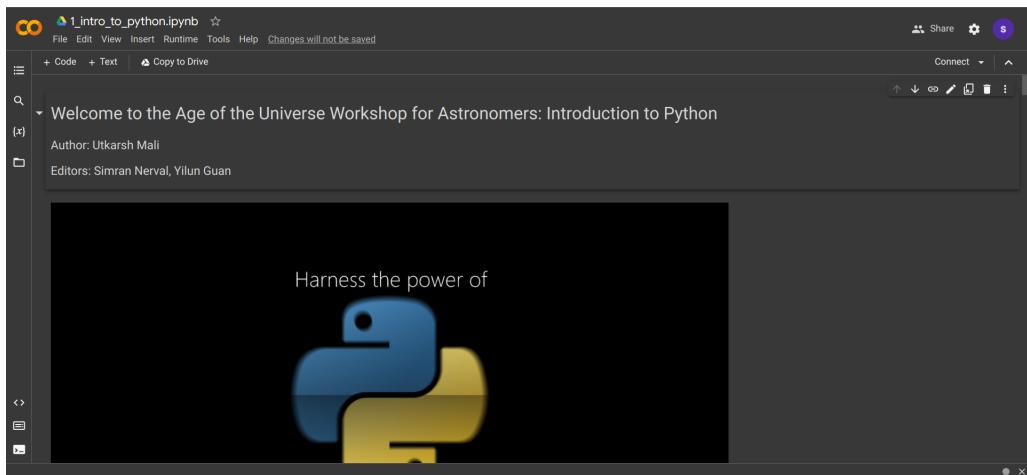
5. Then click “Install”:



6. If you are not logged into your Gmail, you will need to click on your account:



7. Once the notebook is opened, it should look like the image below:



8. When you go to save your notebook it will prompt you to save a copy in your own drive as shown below:

