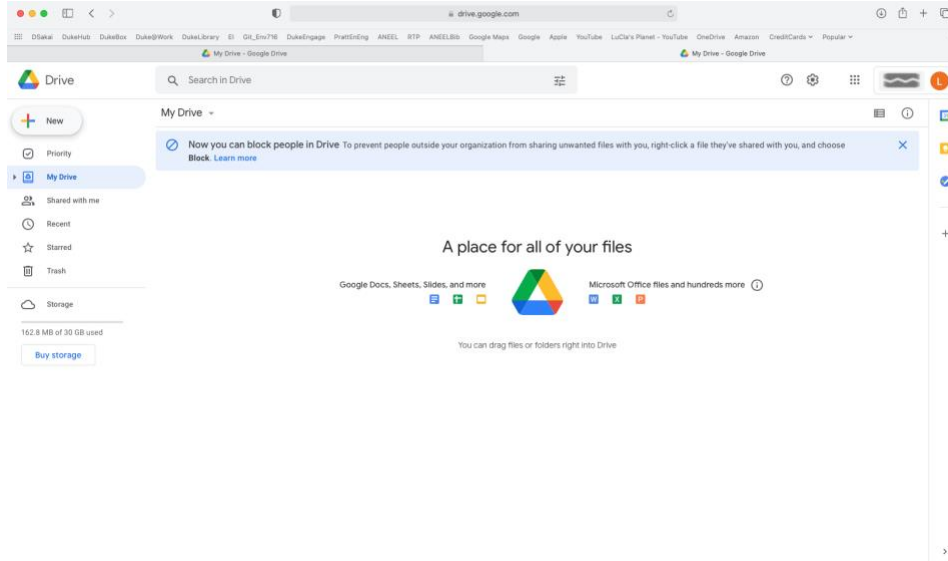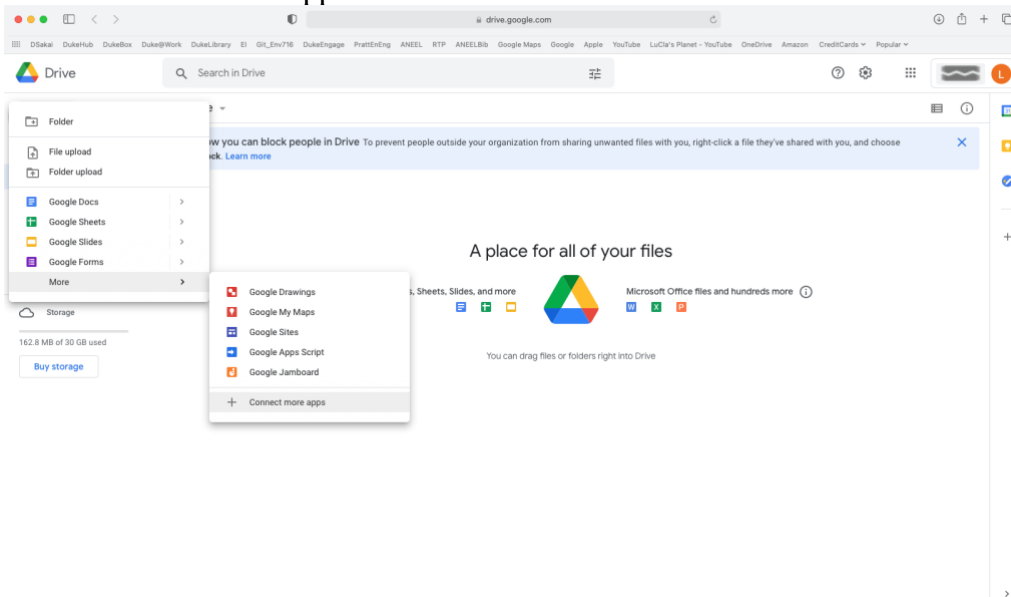## Using Python and Google Colaboratory

Google Colaboratory, or "Colab"for short, is a web-based iPython Notebook service for interactive coding. It allows you to write and execute Python in your browser, with zero configuration required, free access to GPUs and easy sharing. Zero configuration required means you do not need to have Python, Anaconda and libraries installed to your local machine. Google Colab is very similar to Jupyter Notebook.
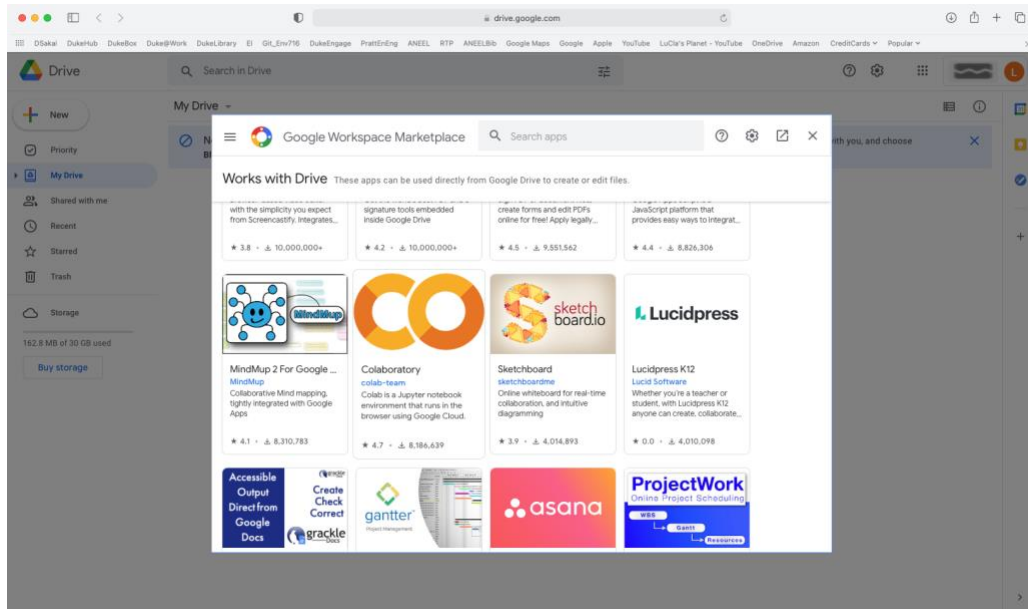
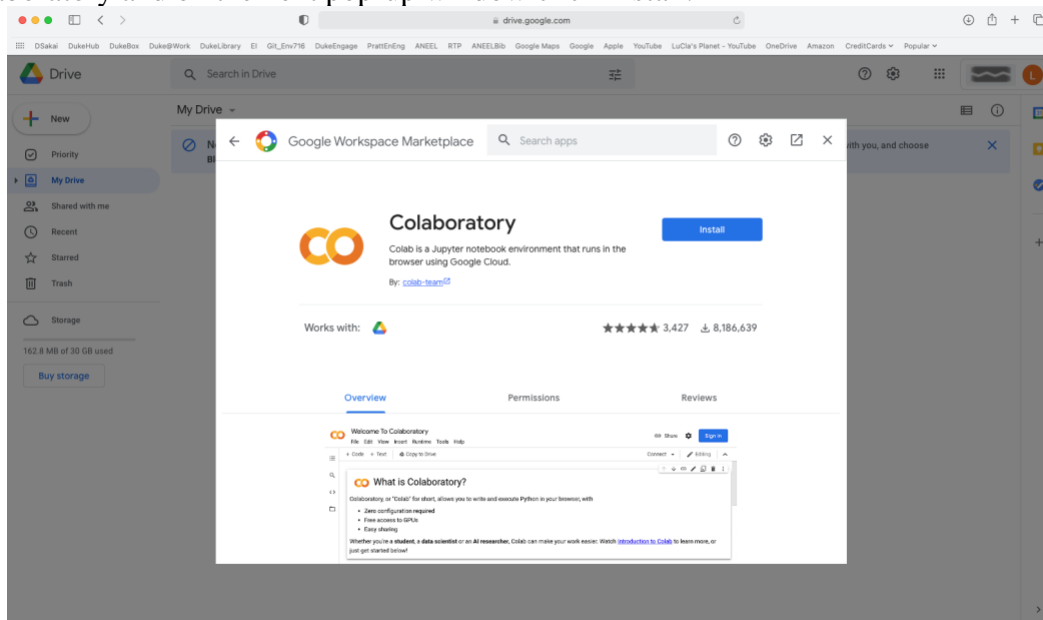To set up your Google Colab go to your Google Drive and select New.

Navigate to More > Connect more apps.

A pop-up window will appear. Scroll down until you find Colaboratory.

Select Colaboratory and on the next pop-up window click Install.

You are all set!

You can also mount Colab to your Google Drive by simply opening a colab window (e.g. https://colab.research.google.com/notebooks/intro.ipynb), locating the *MountGoogleColab.ipynb* available on our GitHub repository (https://github.com/lmmlima/ENV716_EnergyModeling_F2021) and running it.

The easiest way to save Colab notebooks is to save it in your Google Drive. Click File > Save a copy in Drive. Once you saved a copy, you can open it from your Google Drive or Colab dashboard.

Please create a folder for this course (e.g. ENV716) in your Google Drive and save all Colab notebook files in there for easy access.

Bash commands can be run in your notebook (similar to how you would do in your terminal) by prefixing the command with "!". For example, '!pwd' command prints out the pathway to the current working directory. '!ls' command prints out a list of contents in current directory.

Bash command can be used to install libraries. Most common libraries are already installed on Colab. If you need to install additional libraries you can use '!pip'

```
!pip install [library name]
```

To install other libraries available through Advanced Package Tool (apt) use '!apt-get'

```
!apt-get install [package name]
```
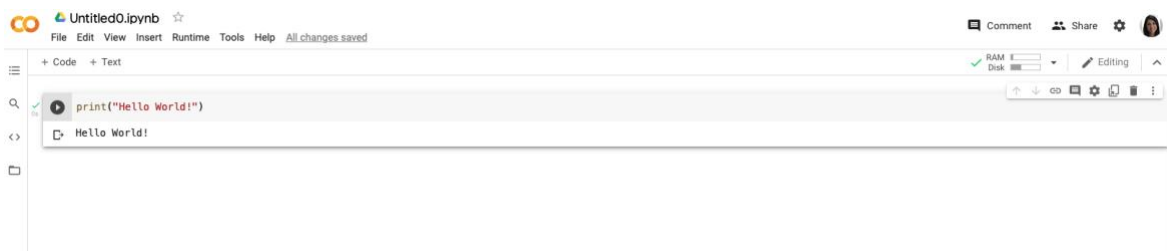
For more info visit

https://colab.research.google.com/drive/1YKHHLSlG-B9Ez2-zf-YFxXTVgfC_Aqtt#scrollTo=UTRJlO55LdKf

Your first code in Colab:

Now to check if everything is working, you can write a command to display a simple sentence "Hello World". Open a new notebook on Colab and type the following command.

```
print('Hello World')
```

This will output the following:

If you get the same output above, then you've finished your first, and probably the simplest program using Python! Feel free to play with it and write anything else you want!