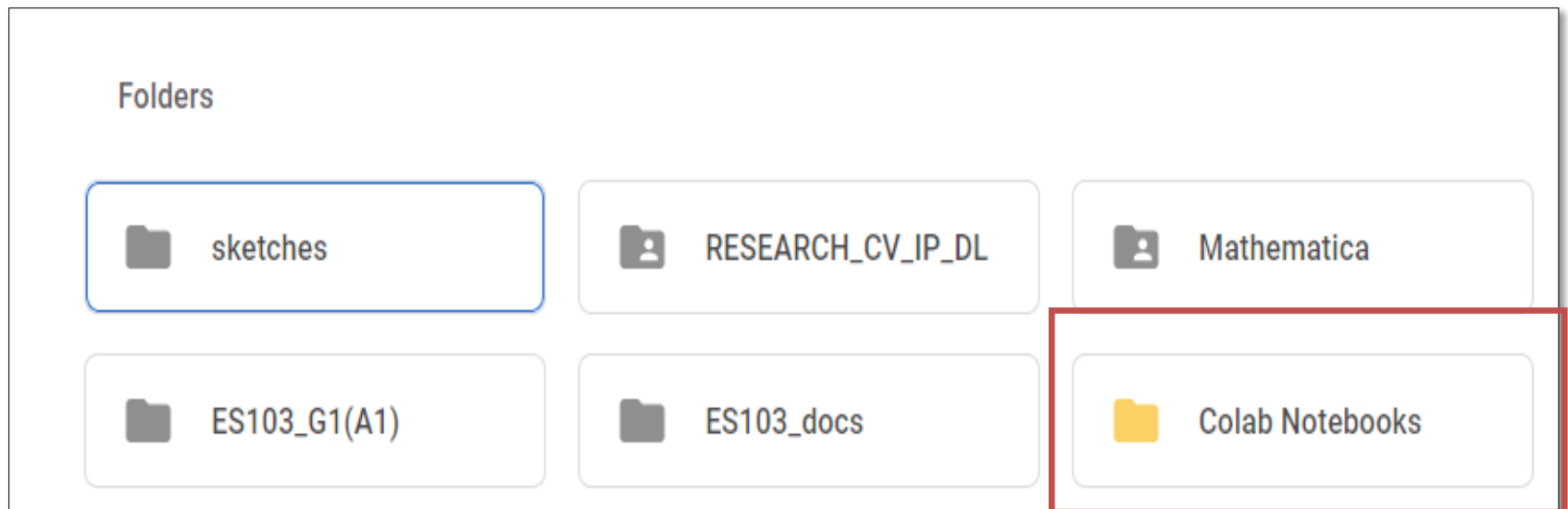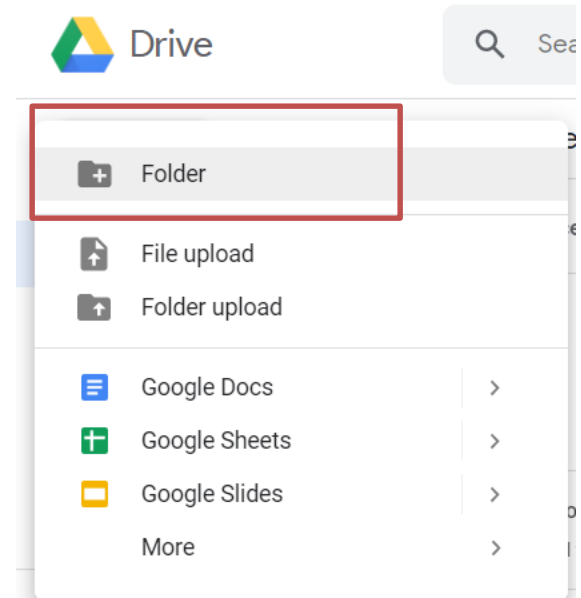# How to use Google Colab

Google Colab

- Google provides a free & fast way to work on notebook.
  - We can use GPU as a backend for free for 12 hours at a time.
  - The GPU used in the backend is K80.
  - The 12-hour limit is for a continuous assignment of VM. It means we can use GPU compute even after the end of 12 hours by connecting to a different VM.
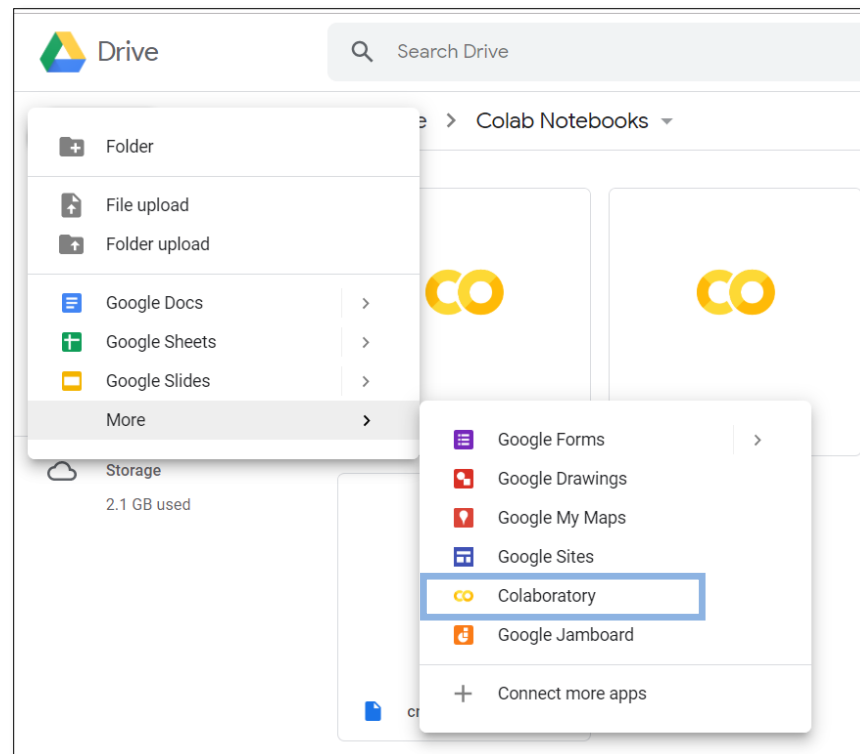
Step 1: Setting up drive

Drive   🔍 Sea

- Create a folder for your notebooks

  - 📁 Folder
  - 📄 File upload
  - 📁 Folder upload
  - 📄 Google Docs   ❯
  - 📊 Google Sheets   ❯
  - 📙 Google Slides   ❯
  - More   ❯

Folders

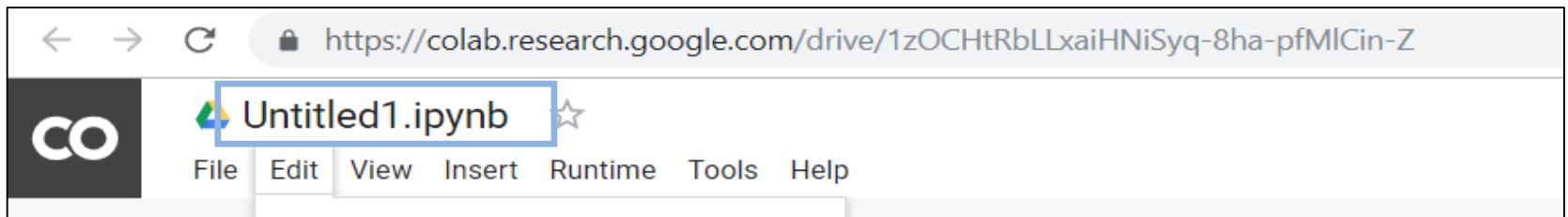| 📁 sketches	📁 RESEARCH_CV_IP_DL	📁 Mathematica
📁 ES103_G1(A1)	📁 ES103_docs	📁 Colab Notebooks

Step 2: Create New Google Colab notebook

- Once we have created folder in Google Drive we can create a new Colab notebook.

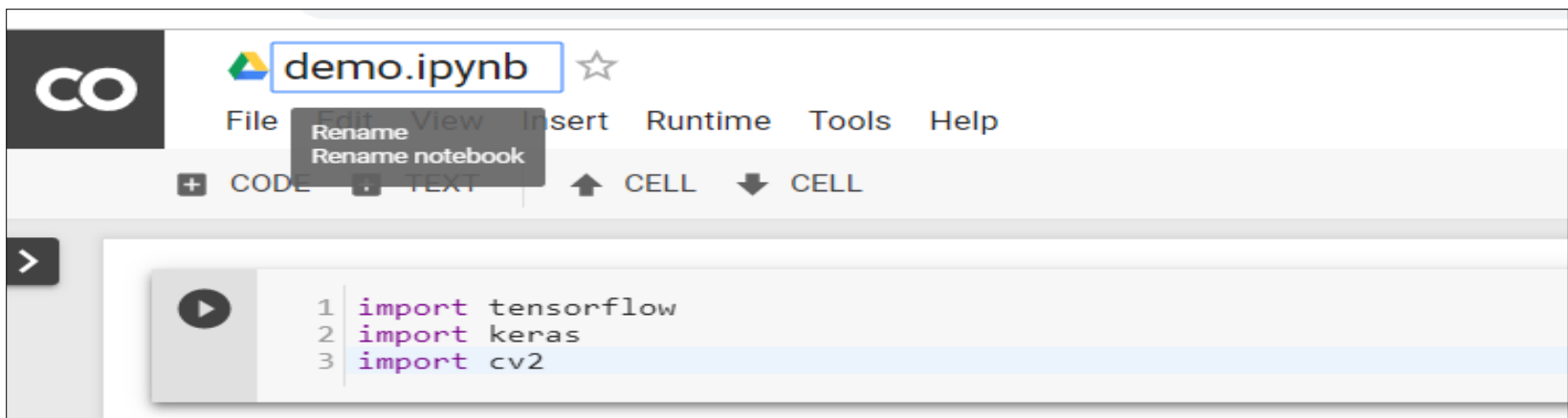- Just click "New" and drop the menu down to "More" and then select "Colaboratory."

Step 3: Rename notebook

- You can rename your notebook by clicking on the name of the notebook and changing it or by dropping the "File" menu down to "Rename."
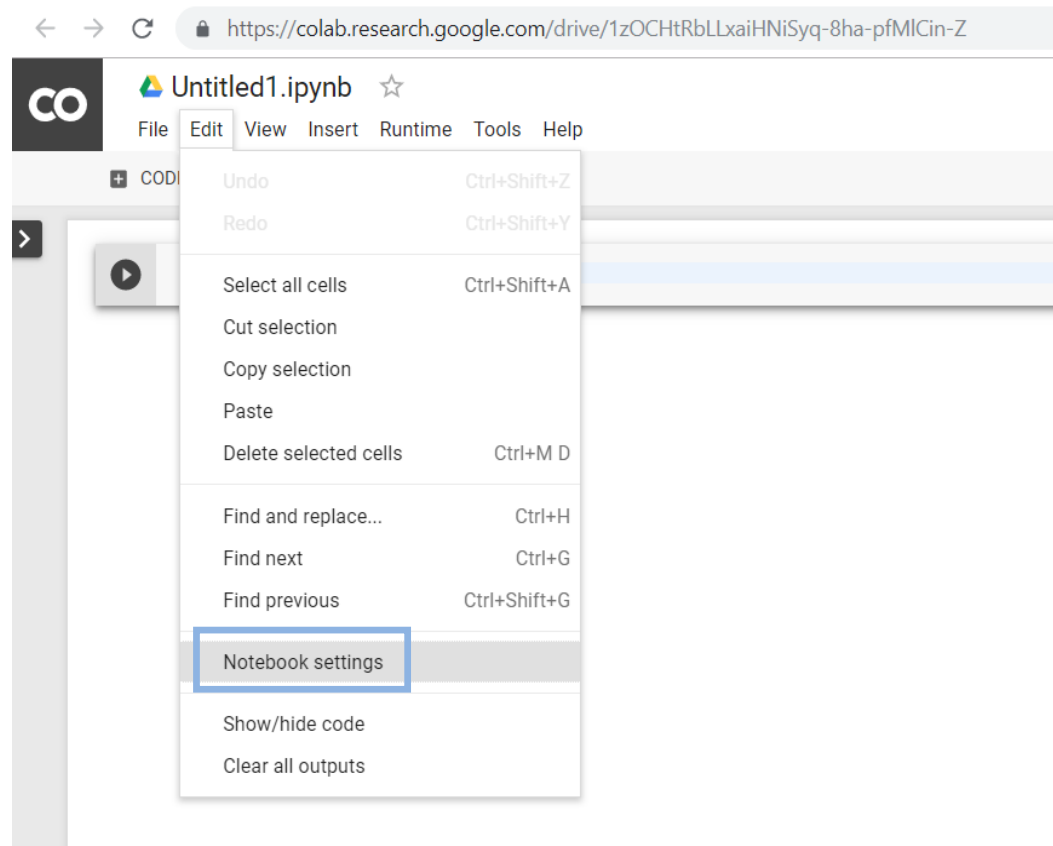

Here we have name the Colab file "demo.ipynb". By double clicking on Untitiled1.ibynb. Now Assign a new name to Colab file "demo.ipynb".
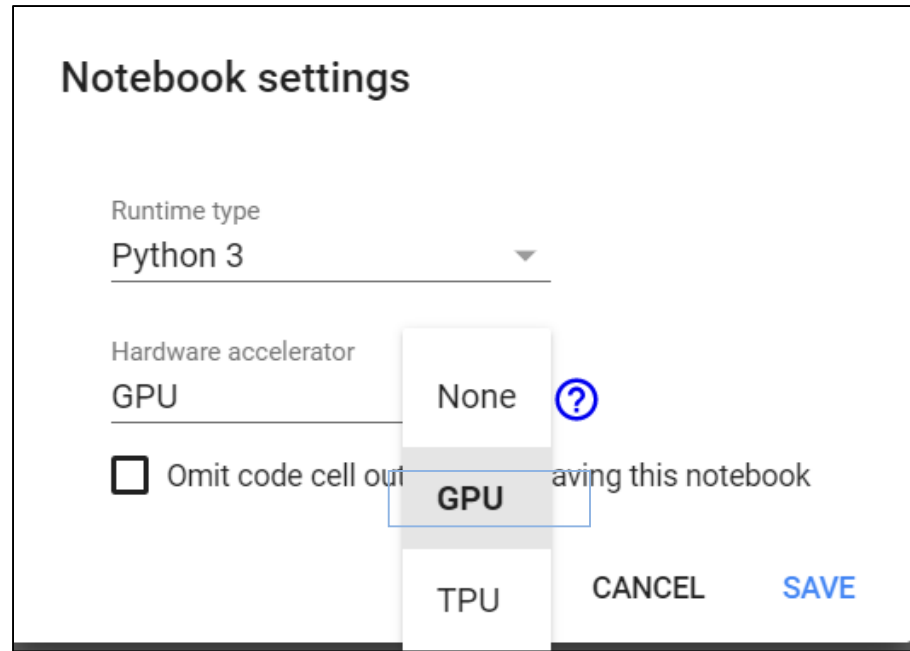
Step 4: Set up free GPU

- It's as simple as going to the "runtime" dropdown menu, selecting "change runtime type" and selecting GPU in the hardware accelerator drop-down menu.
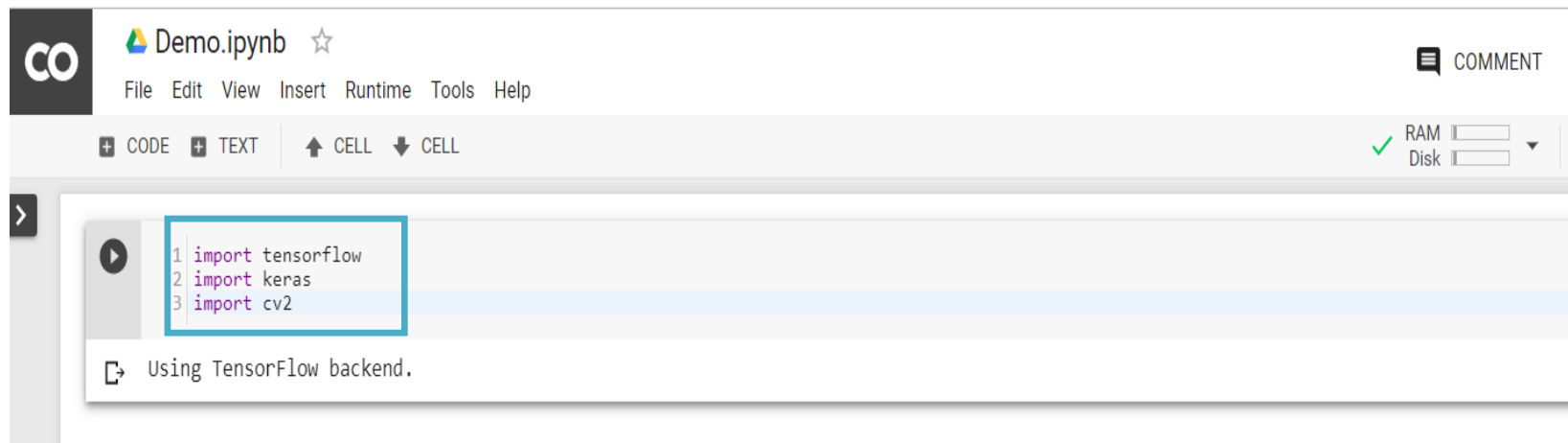
After clicking Notebook settings option next windows will appear, now select GPU from drop down menu.

To cross check if notebook is running on GPU backend we can run this command:
tf.test.gpu_device_name()
output: **/device:GPU:0'**

Step 5: Importing libraries

- Imports are pretty standard, with a few exceptions. For the most part, you can import your libraries by running import like you do in any other notebook.

run this command to install PyTorch in notebook. (Although its now supported by Colab notebook)

!pip install -q http://download.pytorch.org/whl/{accelerator}/torch-0.4.1-{platform}-linux_x86_64.whl
import torch

Step 6: Saving notebook

- Saving our work is simple as we can ctrl+s or drop the "File" menu down to save.

- We can create a copy of your notebook by dropping "File" -> "Save a Copy in Drive."

- We can also download notebook by going from "File" -> "download .ipyb" or "download .py."

Saving notebook