

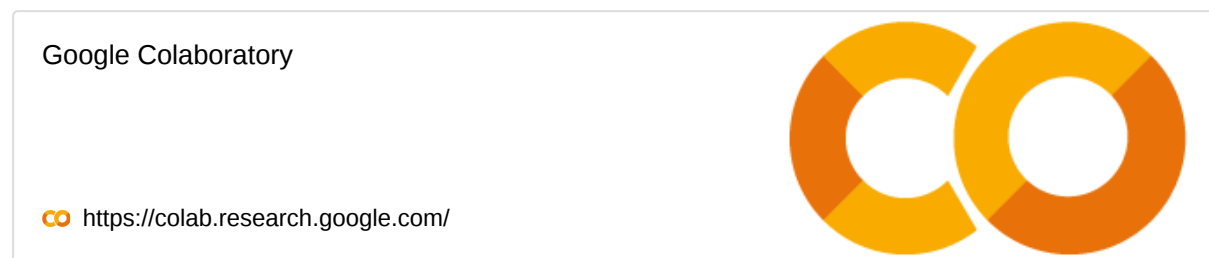
# Getting started with Colab

## What's Colab?

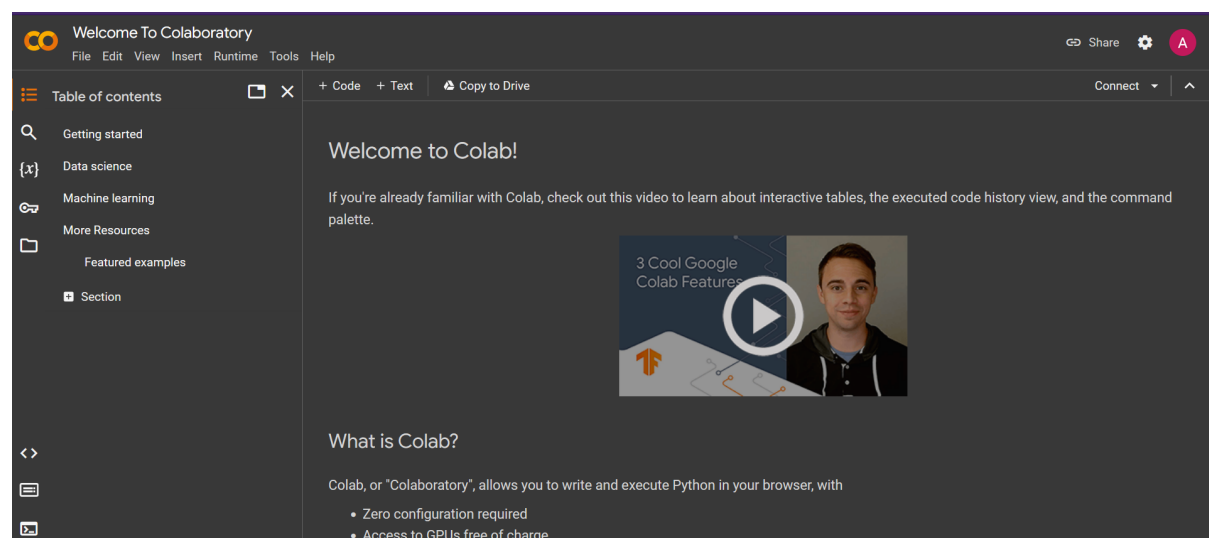
What Google has to say...

Colaboratory, or “Colab” for short, is a product from Google Research. Colab allows anybody to write and execute arbitrary python code through the browser, and is especially well suited to machine learning, data analysis and education. More technically, Colab is a hosted Jupyter notebook service that requires no setup to use, while providing access free of charge to computing resources including GPUs.

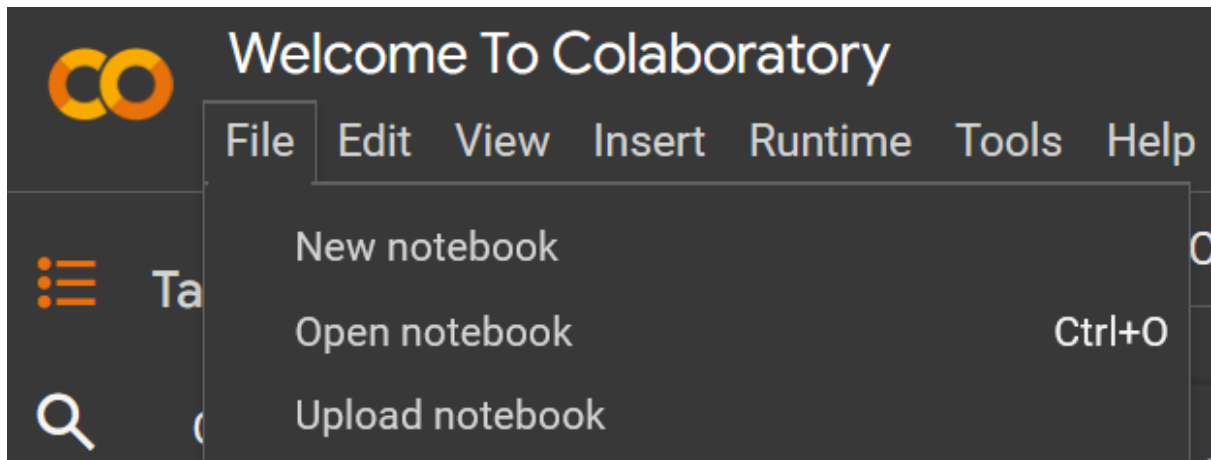
Open the following website to start with Colab



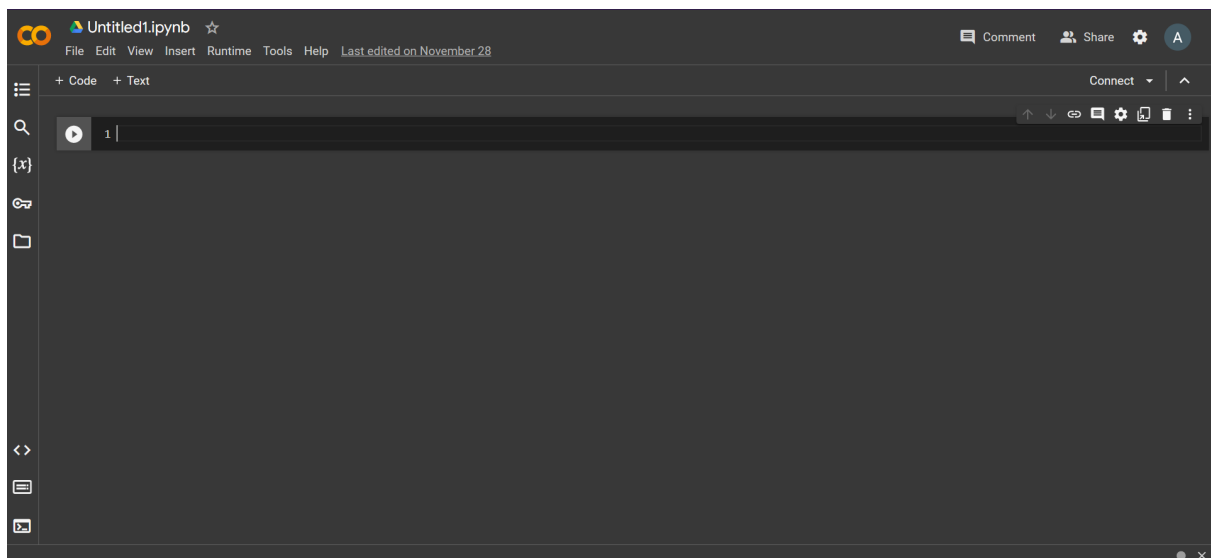
Your home page looks like this



To start a new notebook, click File → New notebook

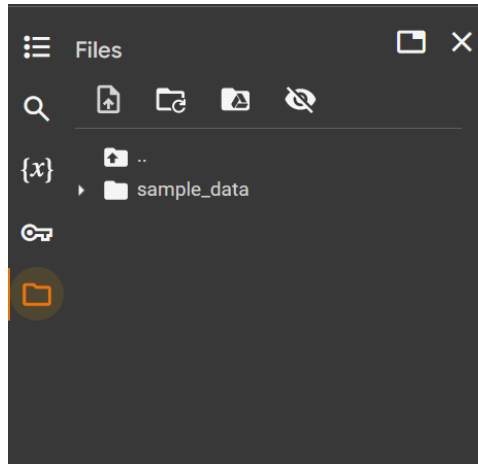


Your new notebook looks like this. Rename the notebook as per your wish.



## Uploading the dataset

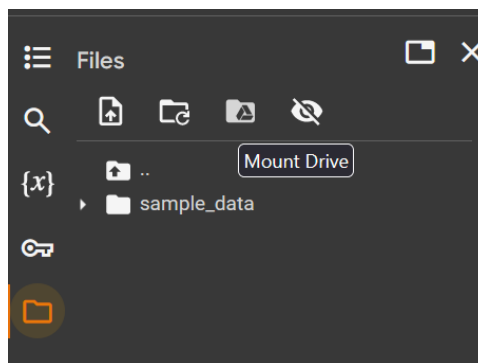
For our classes, we'll be uploading a dataset and our analysis will be done on that. To upload a dataset to a notebook, click on Files → Upload (first icon).



Select the file (dataset) from your file and upload it.

## Mounting Google Drive on Colab

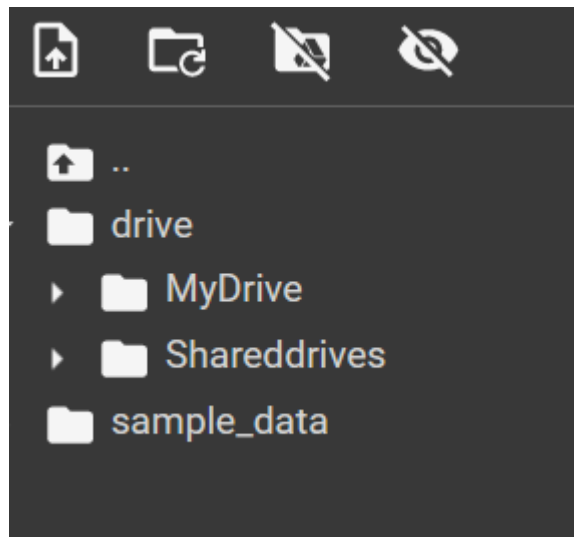
To access Google Drive from Colab directly, click on Mount Drive



Or run the following code

```
[ ] 1 from google.colab import drive  
    2 drive.mount('/content/drive')
```

You can see your drive mounted

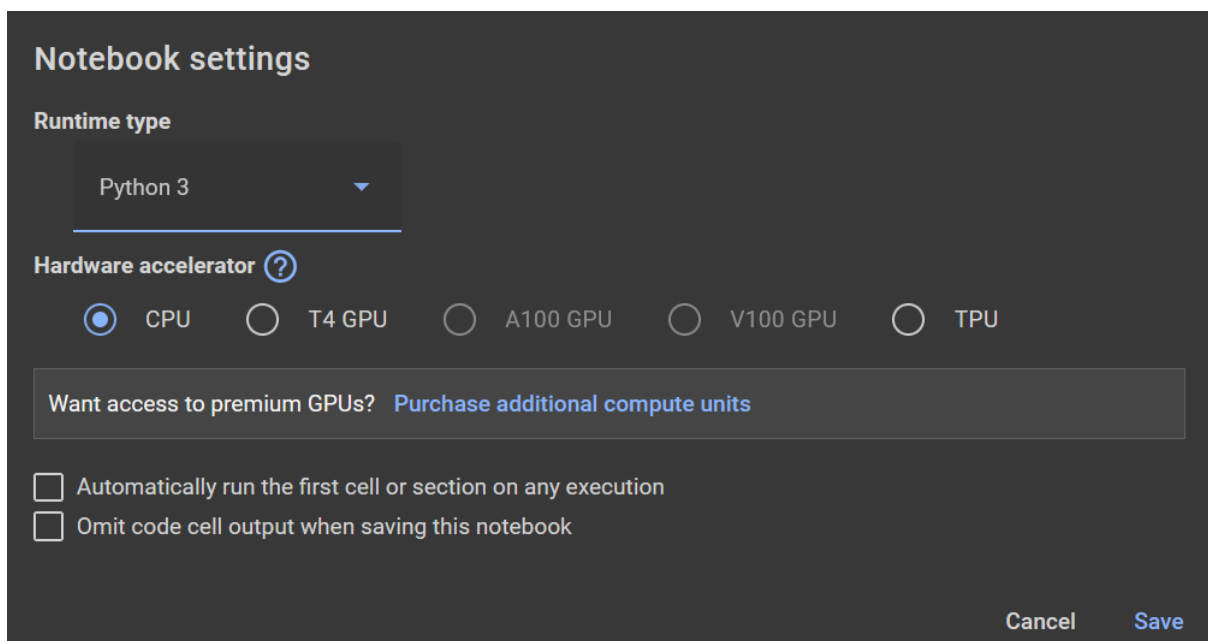


Once the drive is mounted, you can access the files directly from it.

## Accessing the free GPU units

Colab provides access to different types of hardware accelerators, such as GPUs (Graphics Processing Units) and TPUs (Tensor Processing Units). These accelerators can significantly speed up computations, especially for tasks involving large datasets or complex machine learning models.

To access them, click on Edit → Notebook settings



Choose your hardware accelerator and save it.

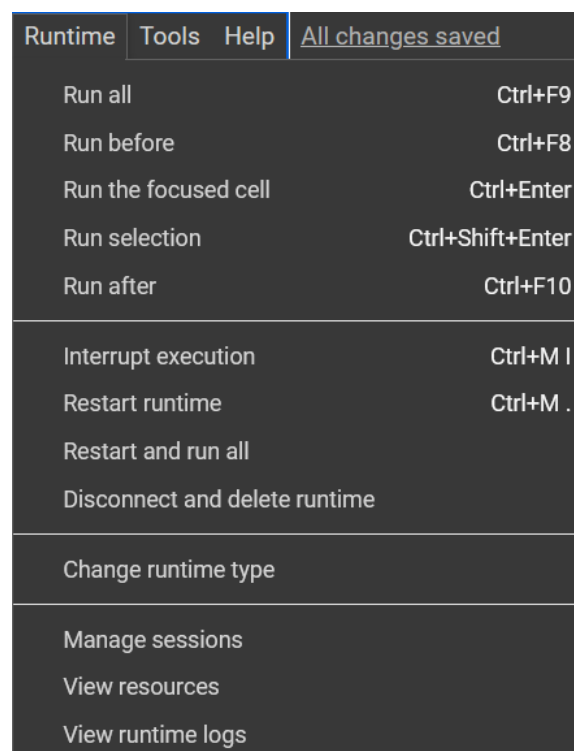
## Code Cells and Text Cells

Colab has two cells, code cell and text cell. The codes can be written in the code cell whereas to include any information, code description or a title for understanding what's being executed, text cell can be used.



## Runtime

Runtime refers to the computing environment where your code is executed. Colab provides a cloud-based platform that allows you to run your Python code using virtual machines hosted on Google Cloud servers.



The runtime of Colab notebook can be changed, which involves selecting a different type of virtual machine or hardware accelerator.

There's a lot more to explore in Colab and as classes progress, we'll understand and make use of them.

For more FAQs check the following link:

<https://research.google.com/colaboratory/faq.html>