Introduction to Colab

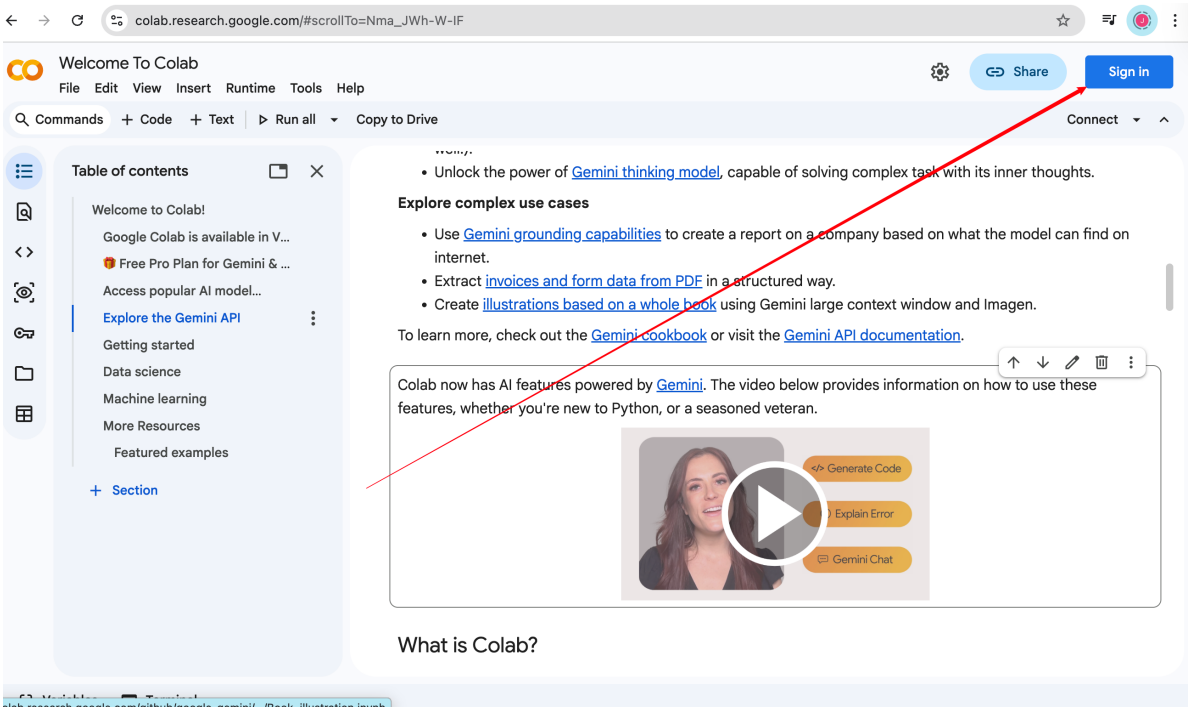
What is Google Colab?

Google Colab, short for "Colaboratory", is a free cloud-based Jupyter notebook environment that enables you to write, run, and share **Python/R** code from your browser.

- It's integrated with Google Drive, allowing you to easily store and access your Colab notebooks alongside your other files.
- You can also clone notebooks directly from GitHub repositories.

Step 1: Signing Up for Google Colab

To get started with Google Colab, head to the official website: colab.research.google.com.

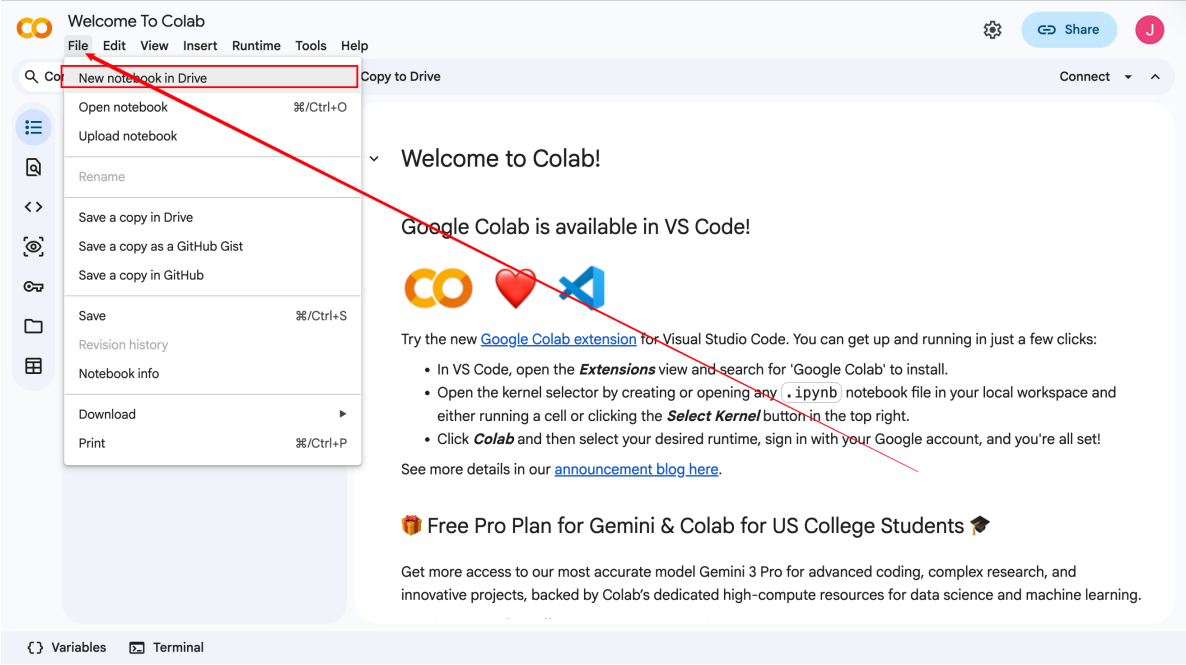


Click on the "Sign In" button in the top-right corner of the page. This will prompt you to sign in with your Google account. If you don't have a Google account, click "Create account" and follow the instructions to set one up for free.

Once you've signed in, you'll be taken to the Colab homepage, which displays a list of your recently used notebooks (if any) and some sample notebooks you can explore.

Step 2: Creating a New Notebook

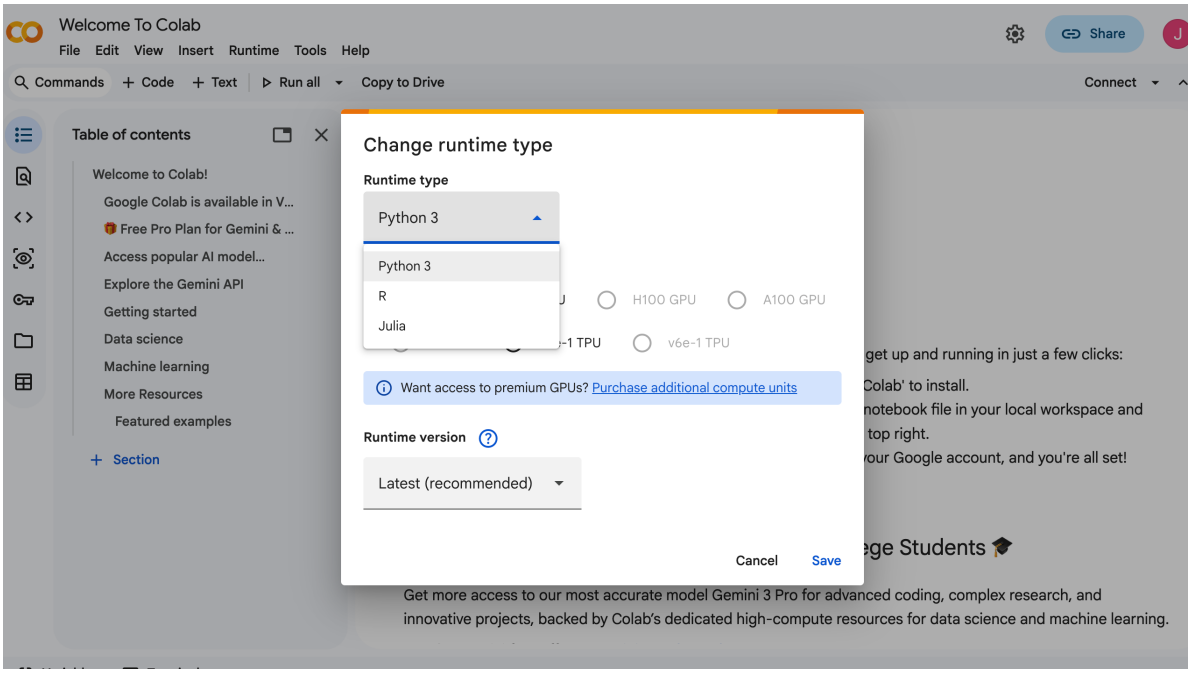
To create a new Colab notebook, click on "File" in the top-left corner of the page and select "New Notebook in drive". Or just click new notebook in the initial window.



Your new notebook will open in a new tab. By default, it will be named "Untitled.ipynb". To rename it, click on the title at the top of the page and type in a new name.

Step 3: Select programming language (Important!)

`Runtime` -> `Change runtime type` -> Choose Python or R and hardware accelerator (just use CPU by default in our course)



Step 4: Basic introduction to Colab

- Python version

  https://colab.research.google.com/github/aqlkzf/STAT6205/blob/main/colab_intro/colab_intro_Python.ipynb

- R version

  https://colab.research.google.com/github/aqlkzf/STAT6205/blob/main/colab_intro/colab_intro_R.ipynb

Step 5: Working with github

You can open any Jupyter notebook stored in GitHub in a Colab by replacing `github.com` with `githubtocolab.com`.

It will redirect you to a Colab notebook.

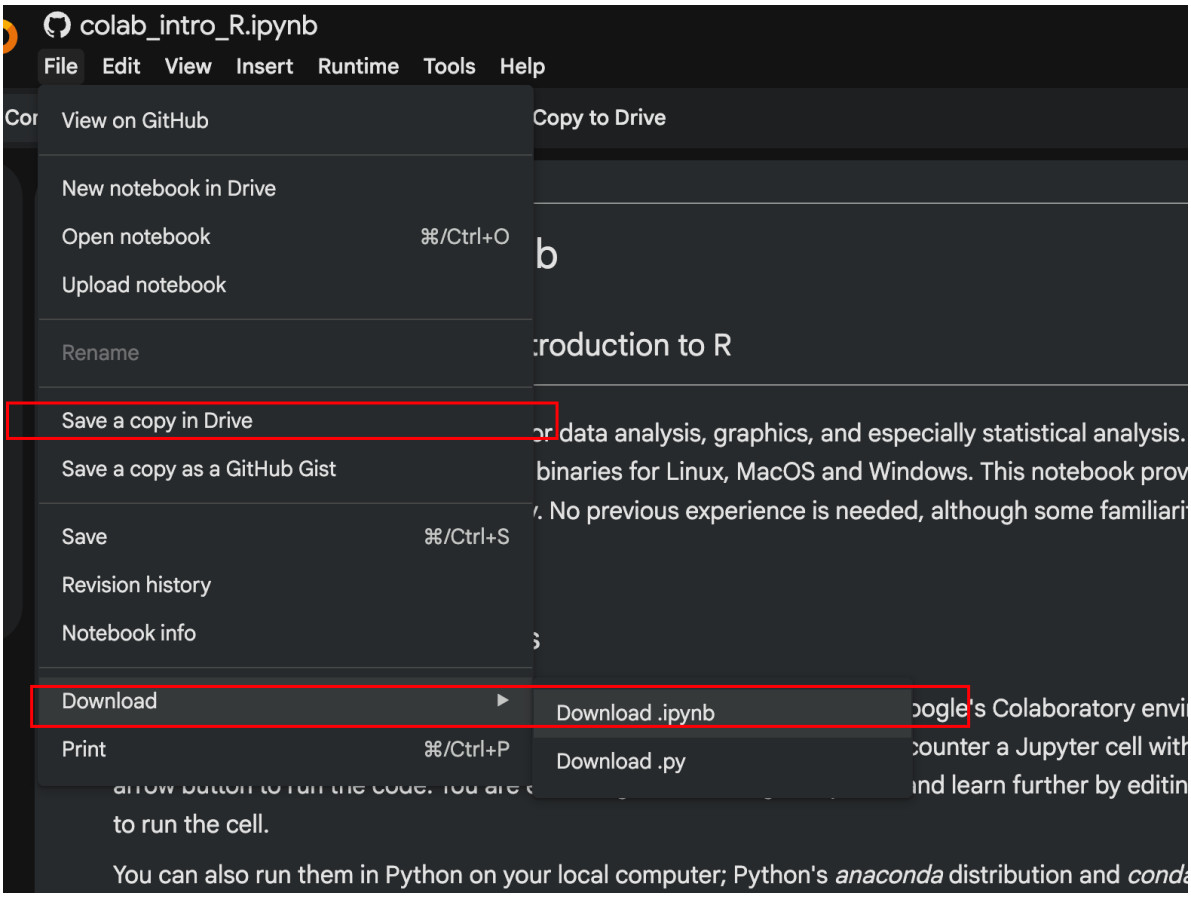
`https://github.com/aqlkzf/STAT6205/blob/main/colab_intro/colab_intro_Python.ipynb` with `https://githubtocolab.com/aqlkzf/STAT6205/blob/main/colab_intro/colab_intro_Python.ipynb` (see this blog post).

I strongly recommend you to go through this blog. It contains some usefult tips, Jupyter Notebook Keyboard Shortcuts, Jump to Class Definition, etc.

If you are using the Google Chrome browser, you can use "Open in Colab" Chrome extension to do the same with a single click.

Important notes

Please note that Colab sessions are temporary and may terminate after a period of inactivity. To avoid data loss, it is recommended to save important files regularly to Google Drive or download them to your local device.


colab_intro_R.ipynb
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New notebook in Drive
Open notebook ⌘/Ctrl+O
Upload notebook
Rename
Save a copy in Drive
Save a copy as a GitHub Gist
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You can also run them in Python on your local computer; Python's anaconda distribution and conda