Google Colab

CSE 4311 – Neural Networks and Deep Learning

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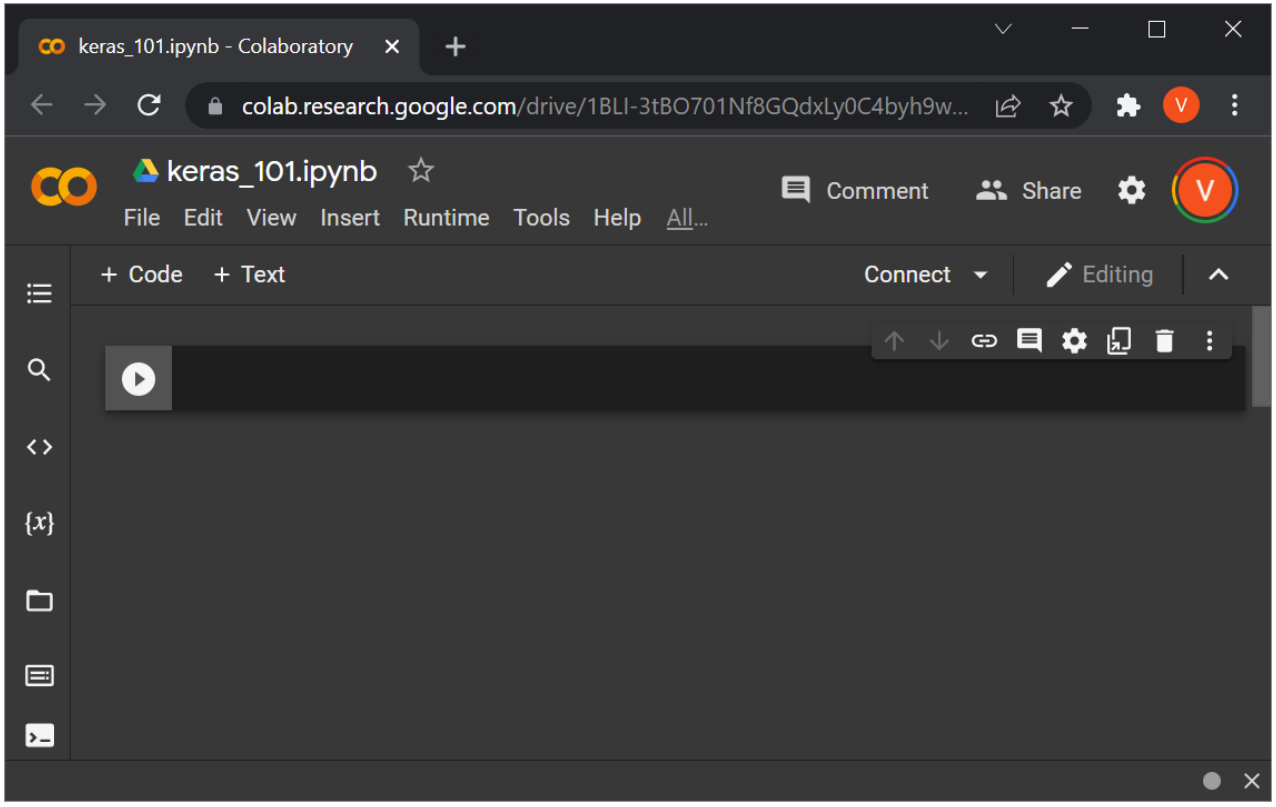
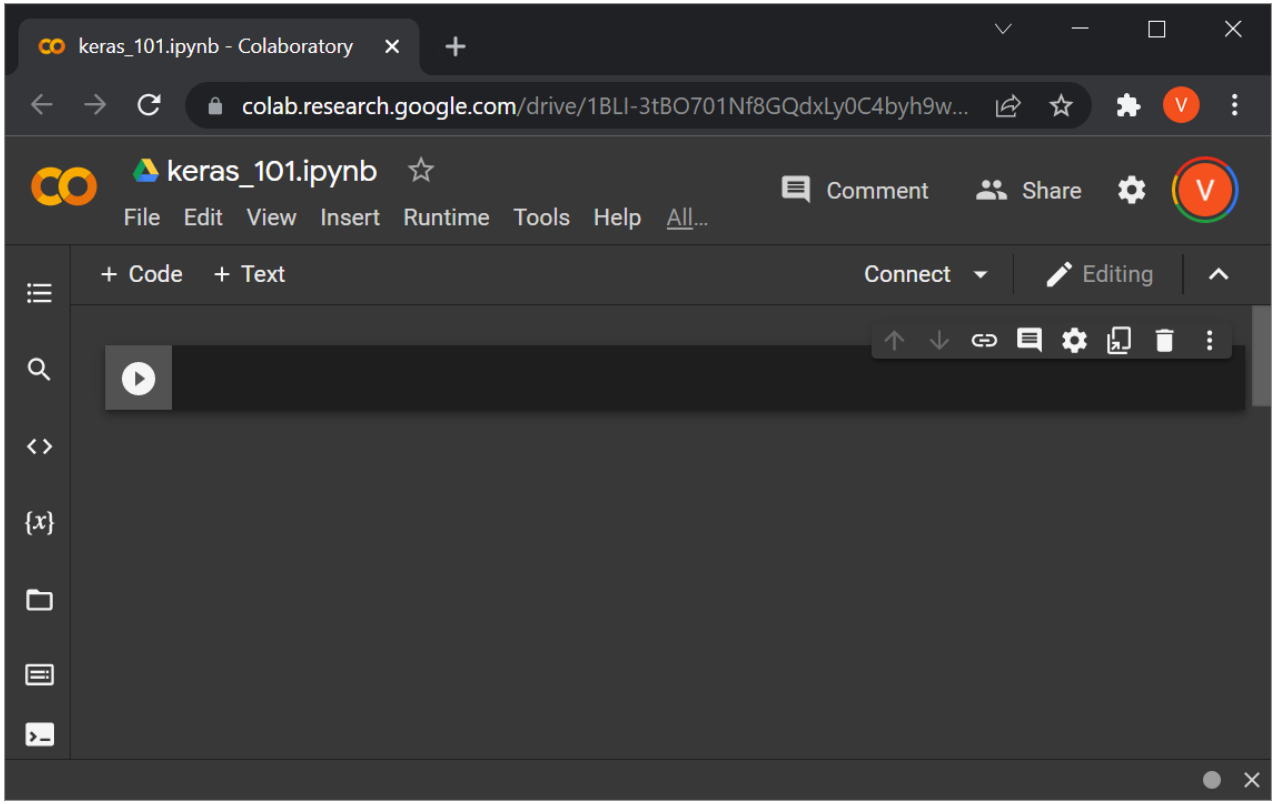
Colab Basics

- Go to Google Colab, sign in with your Google Account.
- Go to File->New notebook
- Give a name to your notebook, like keras_101.ipynb.



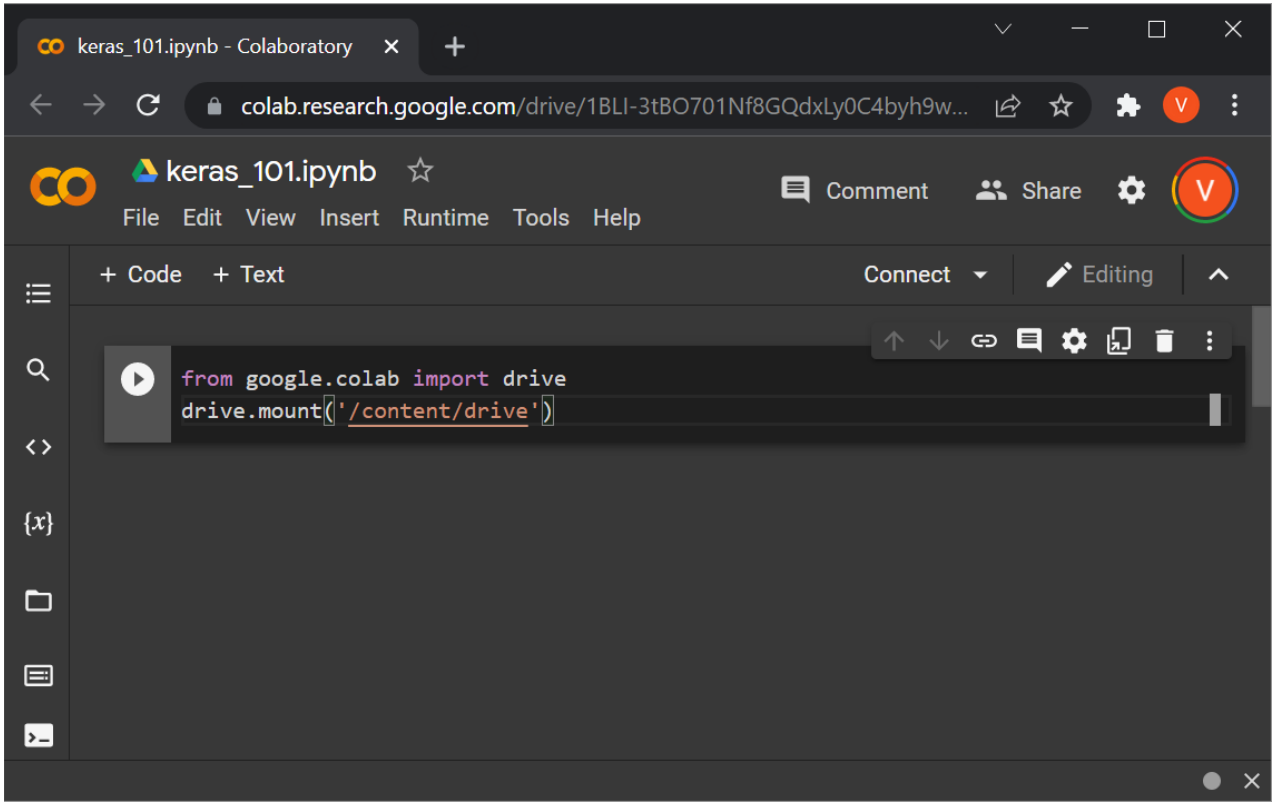
Code Cells in Colab

- To create a new code cell in Colab, click the “+ Code” button.
- To run the code on that cell, click the “play” button to the left of the cell, or press SHIFT+ENTER.



Pasting Code to Colab

- Pasting code to Colab from Powerpoint does not work for me.
- First I paste from Powerpoint to a Google Drive text file.
- Then I copy-paste from the Google Drive file to the Colab notebook.



If Using Colab, Some Prep

- On Google Drive, I created a top-level folder called cse4392.
- Then, on Google Colab:
  - Create and run a cell with this code:

```
from google.colab import drive
drive.mount('/content/drive')
```

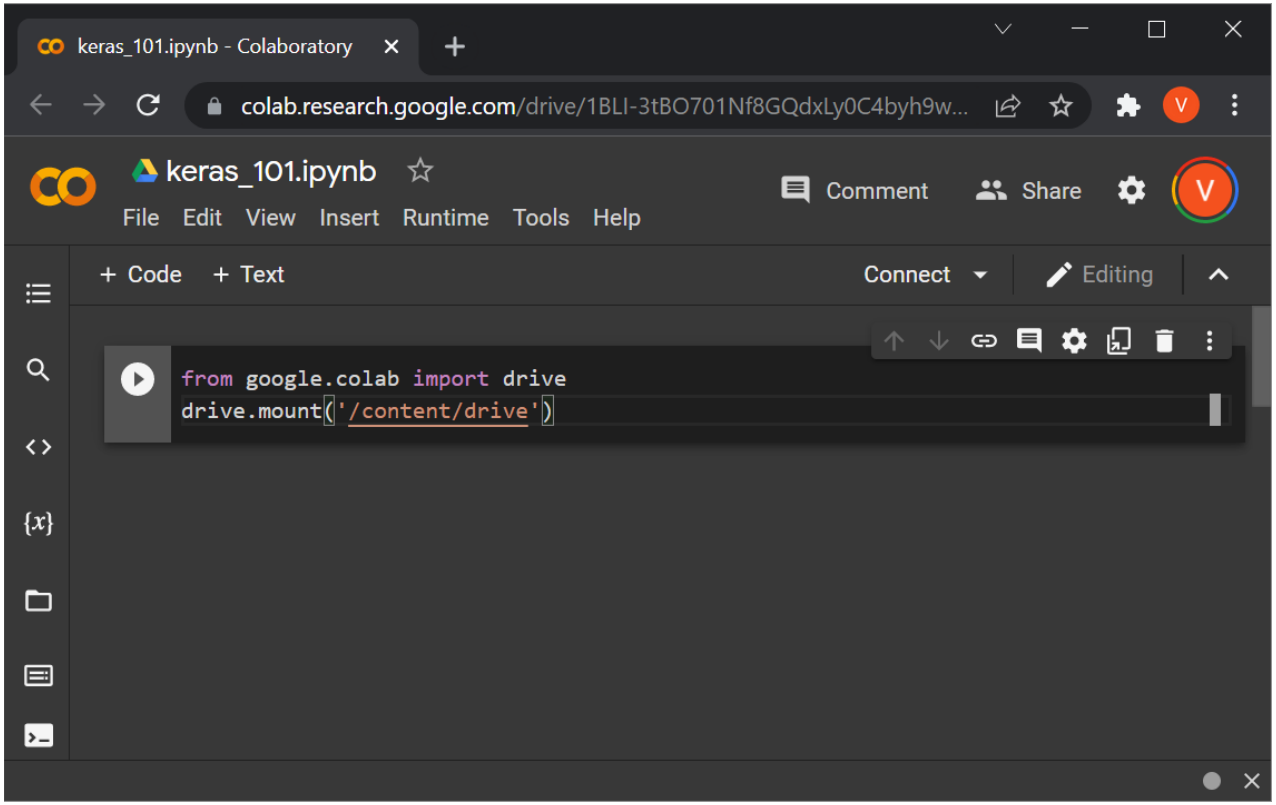
  - Create and run another cell with this code:

```
cd /content/drive/MyDrive/cse4392
```

- The next slides show these steps in more detail.

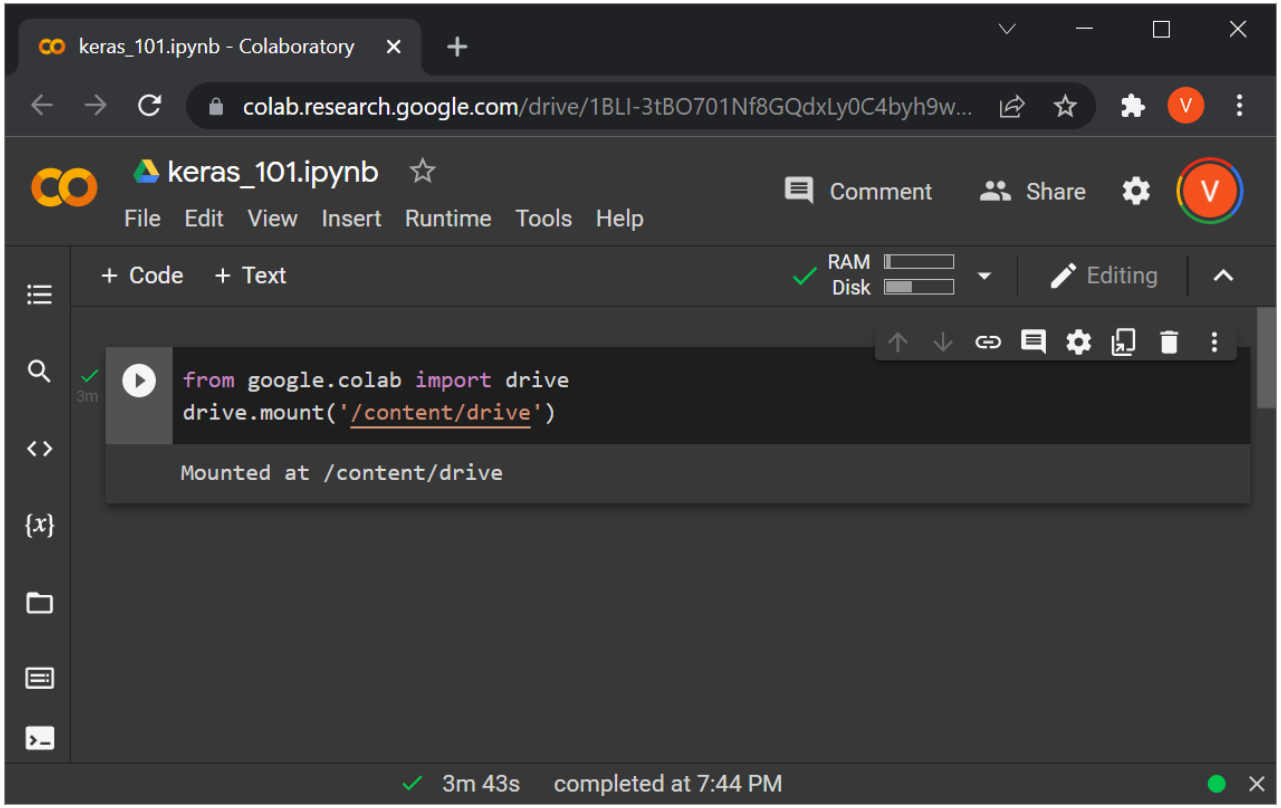
Mounting Google Drive

- Put in the code that you see, and run the cell.
- You may get this prompt “Permit this notebook to access your Google Drive files?” If so, click “Connect to Google Drive”. You get a couple more prompts to connect to your account and give permissions to Google Drive.



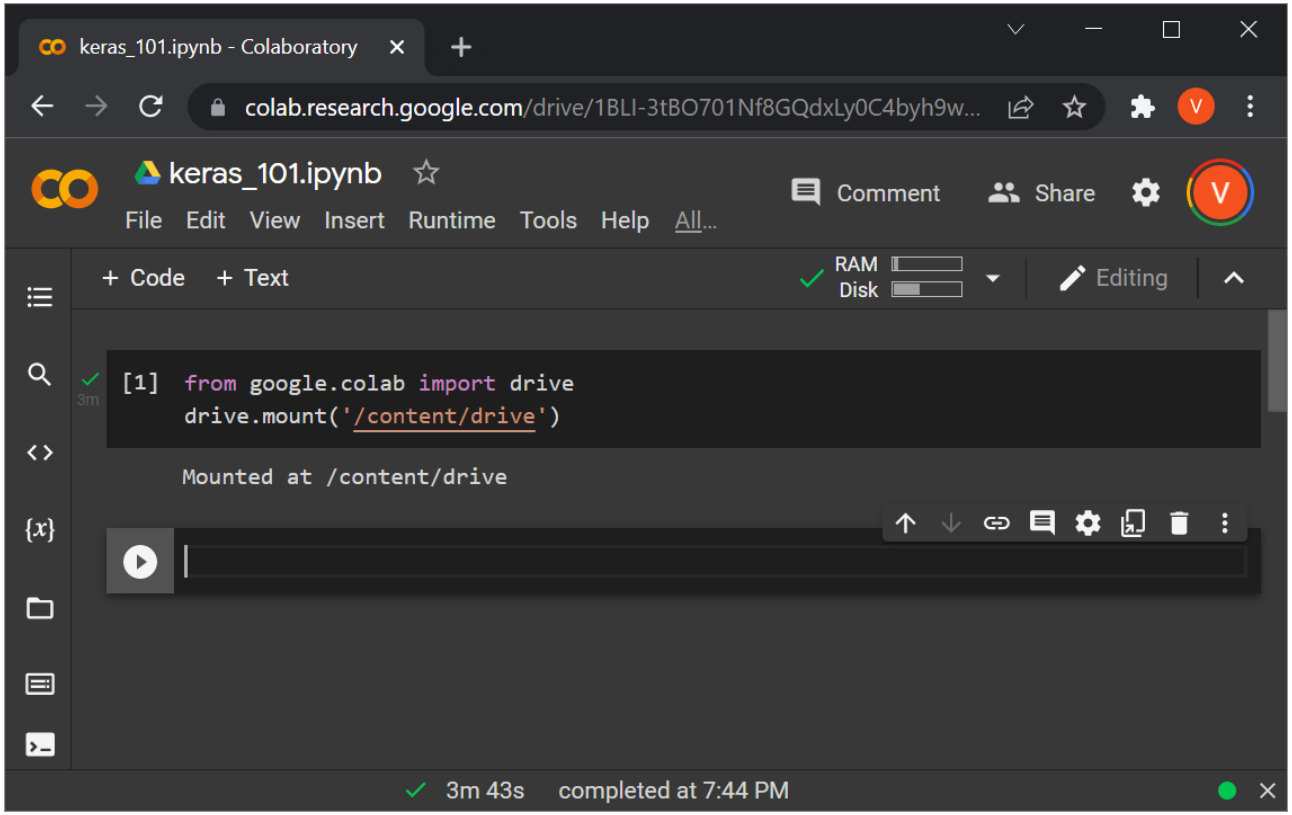
Mounting Google Drive

- Once you deal with all the prompts, you get a confirmation that the drive is mounted.



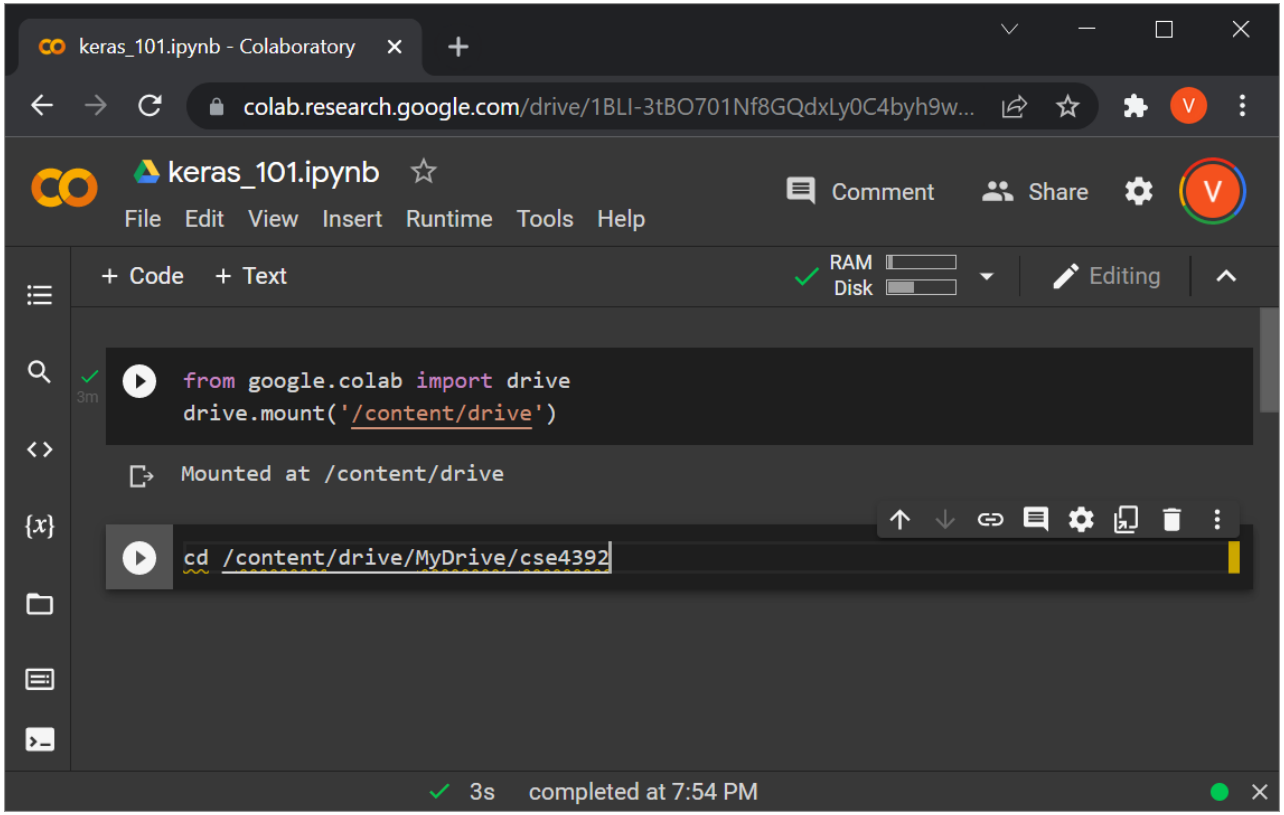
Mounting Google Drive

- Click on “+ Code” again, to add a new cell.



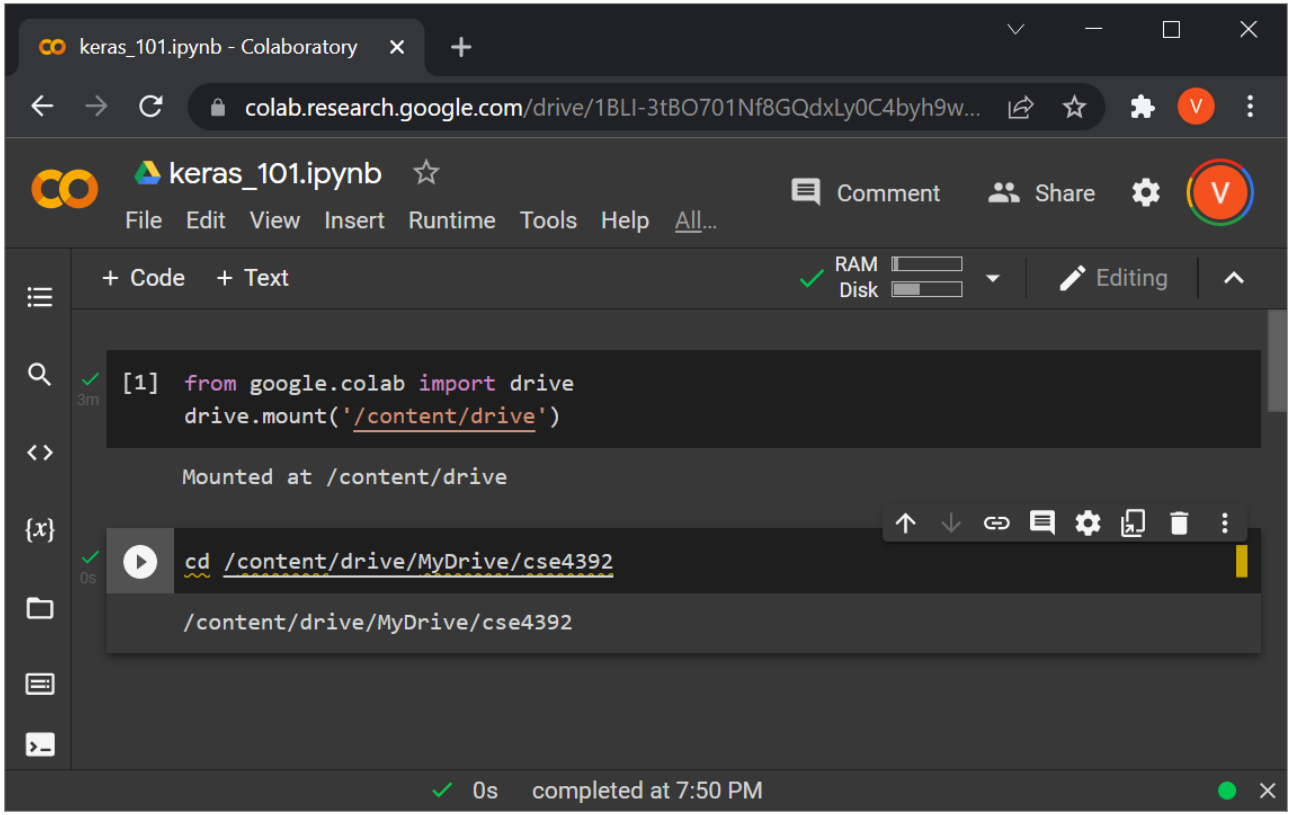
Mounting Google Drive

- In the new cell, type (or paste) the code that you see.



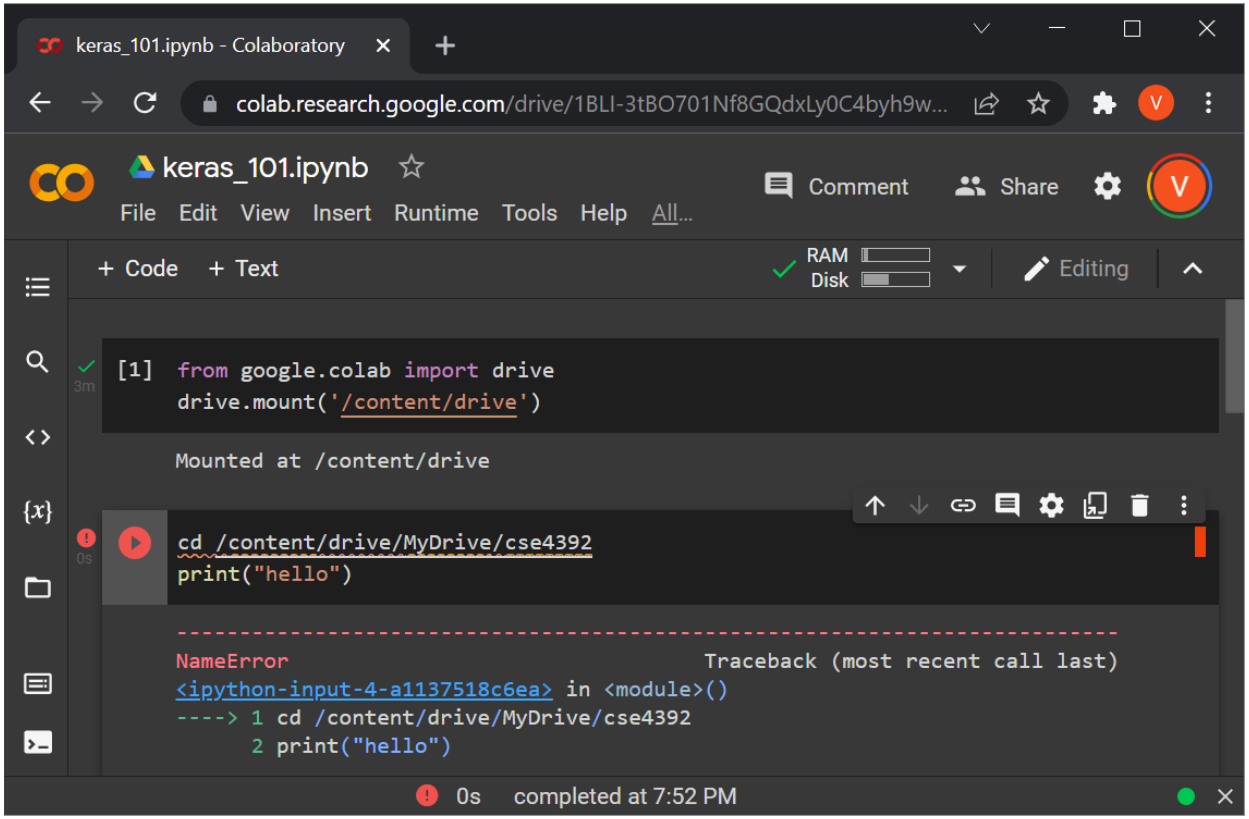
Mounting Google Drive

- Execute the new cell.
- You get a confirmation that the working directory has changed.



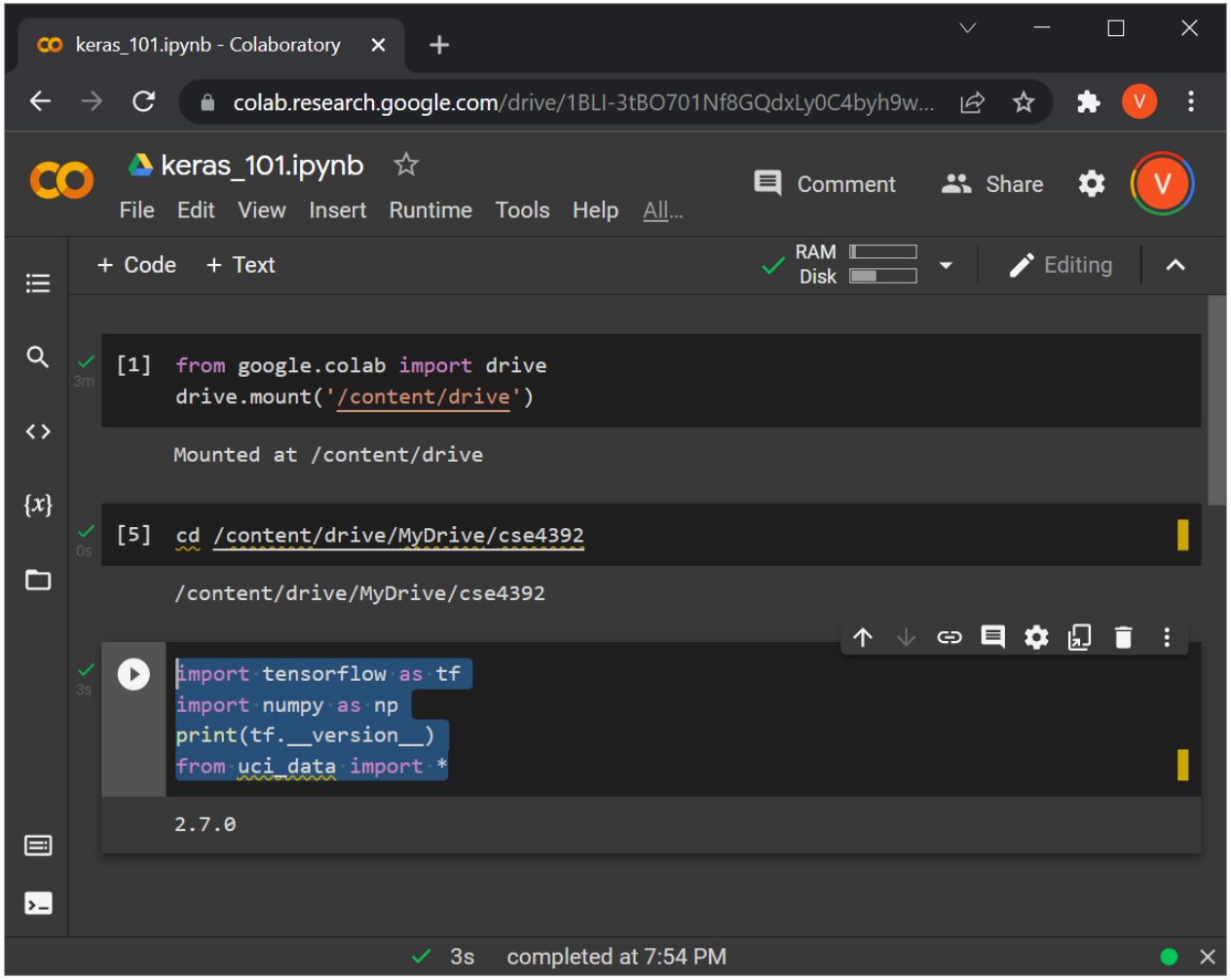
Mounting Google Drive

- For some weird reason, the cd command only works (for me) when it is the ONLY line in the cell.
- Here is how it fails otherwise:



Continuing with Rest of Code

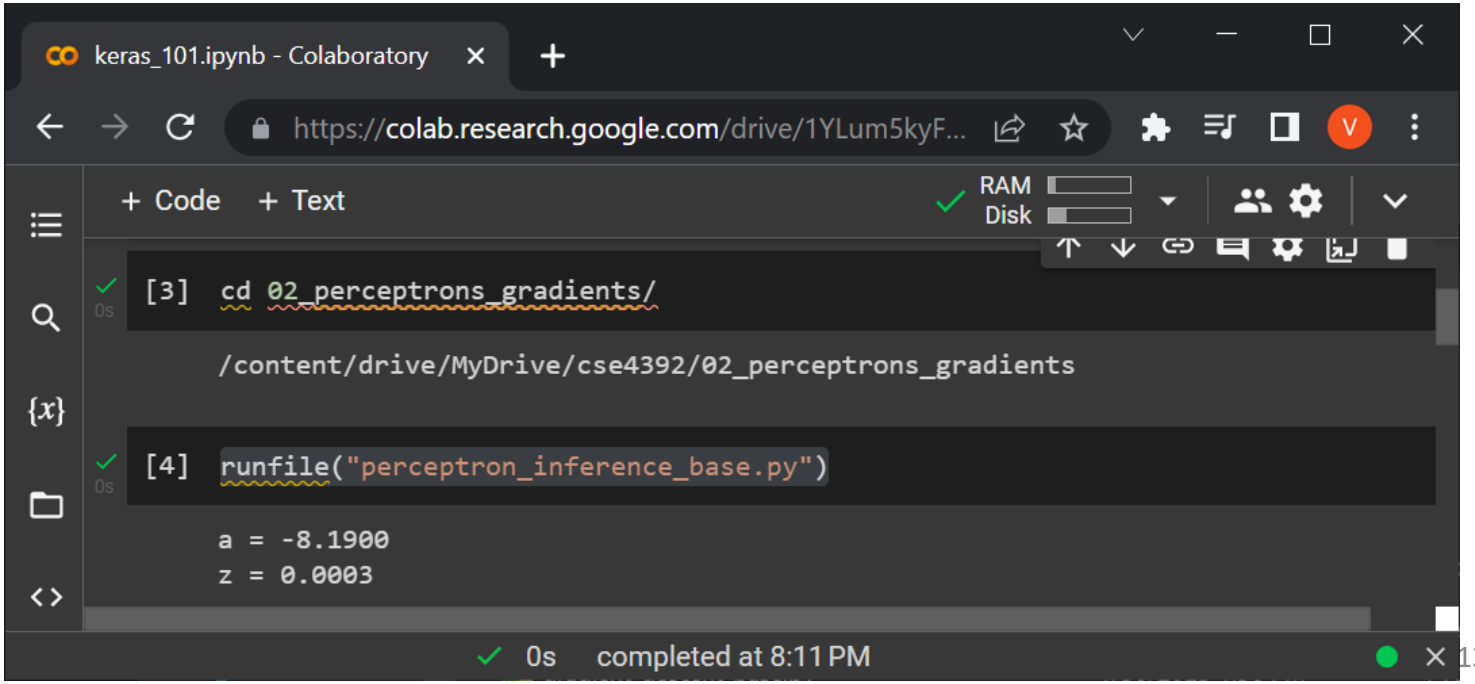
- Now you can create new cells and put in whatever code you like.



Testing Your Solution

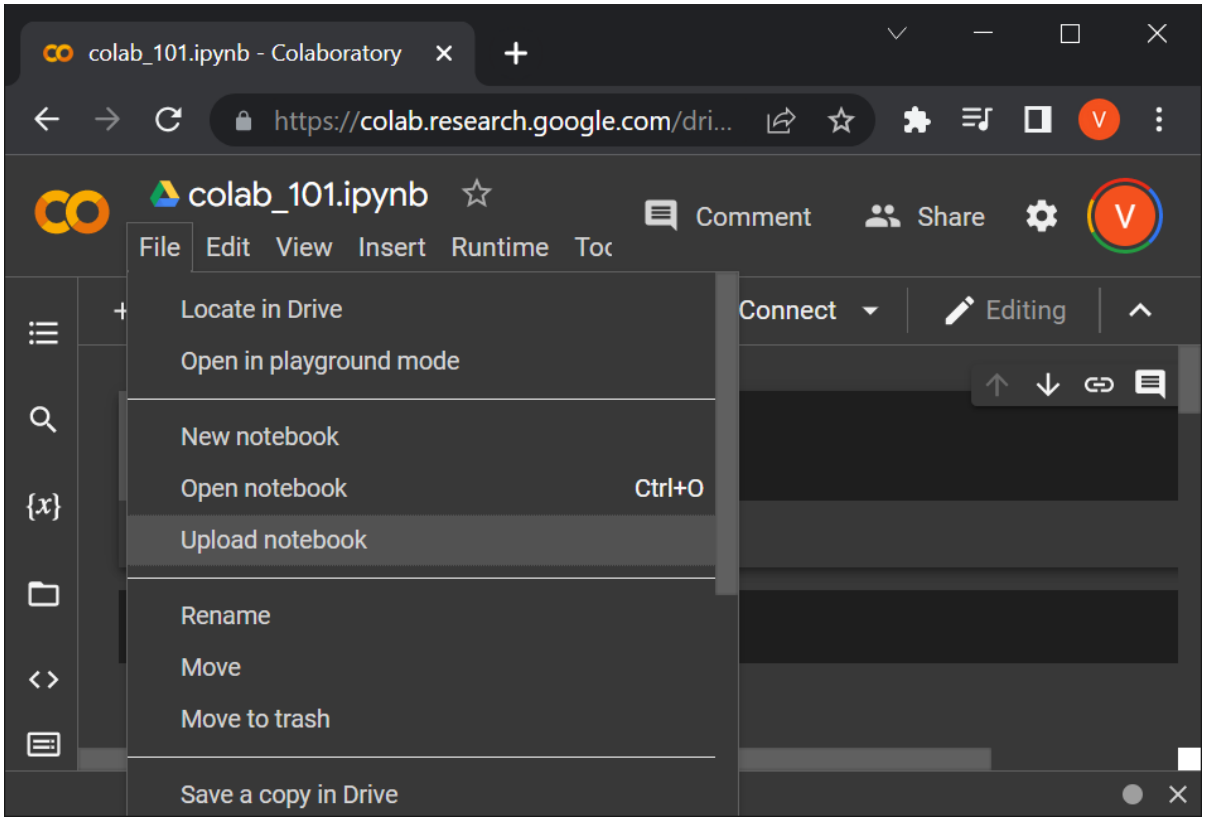
- Under my cse4392 directory, I created a subdirectory called 02_perceptrons_gradients, where I copied all the files for my solution for homework 2.
- Then, I cd to that directory, and I execute, for example,

runfile("perceptron_inference_base.py")



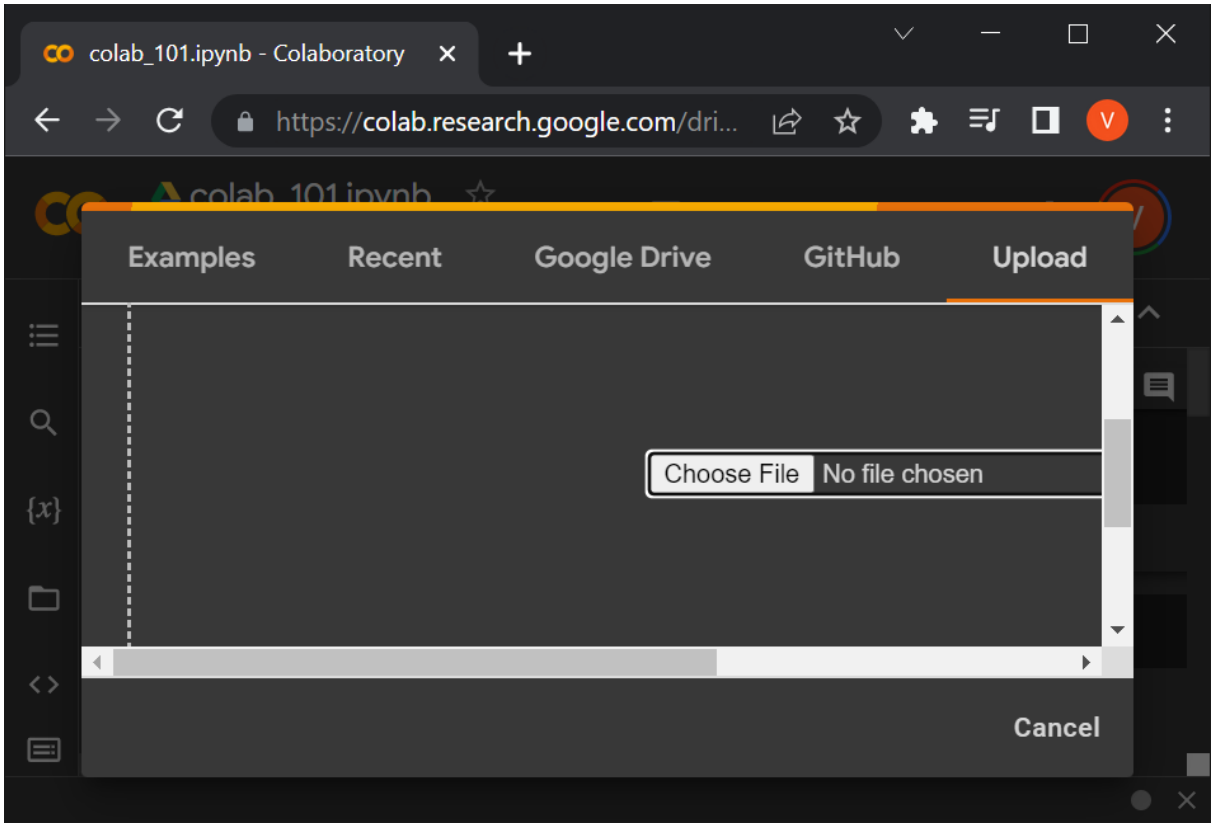
Importing a Notebook

- To import a notebook file (extension .ipynb) saved on your computer:
  - Select menu option File -> Upload notebook



Importing a Notebook

- To import a notebook file (extension .ipynb) saved on your computer:
  - Select menu option File -> Upload notebook
  - You get the window shown below.
  - You can just drag and drop the file to that window, or click on “Choose File” and use the file dialog to locate the file.



One Option: Use Anaconda

- Personally, first I use Anaconda (the Spyder editor) to develop and debug my solution.
- Once everything is ready, I move it to Google Colab to make sure it runs without any glitch.
- Obviously, you are free to use other environments.
- Or, you can develop directly in Google Colab.
- Still, at the end, you need to make sure that the code runs on Google Colab.
  - This way we make sure that everyone's code runs on the same platform, with exactly the same versions for all packages.