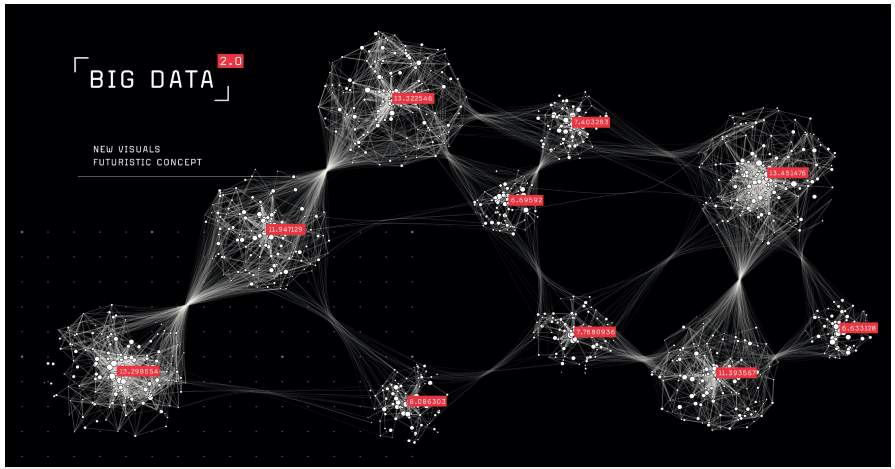
Data Science in Action using Python

An AAII Artificial Intelligence– Technical Track Course

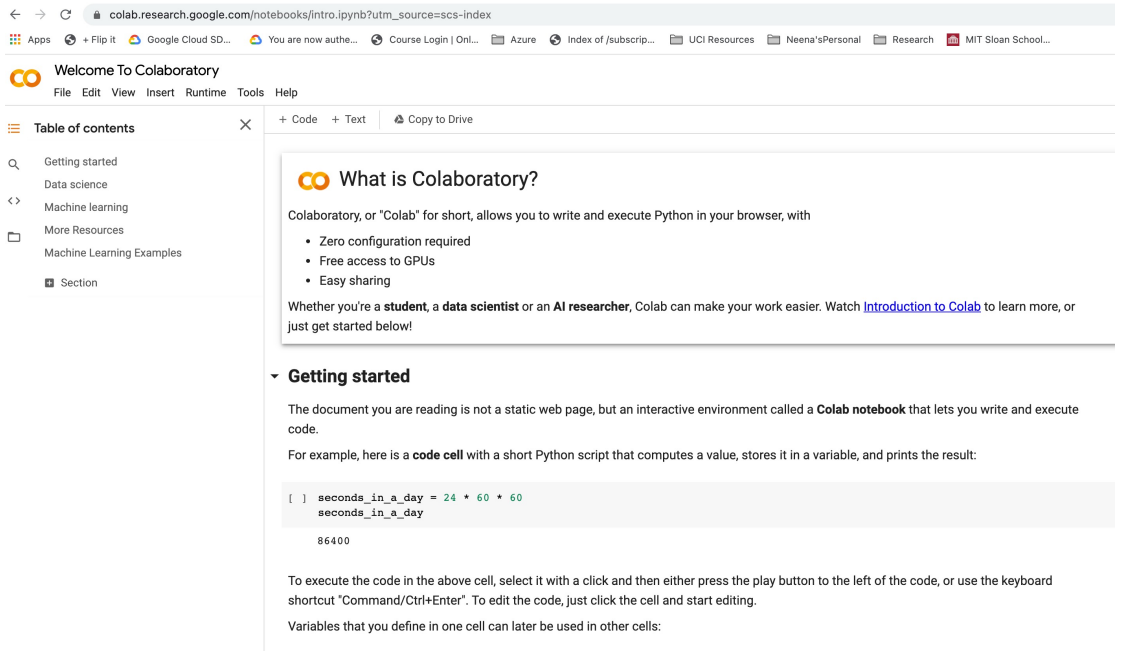


Setup Sandbox

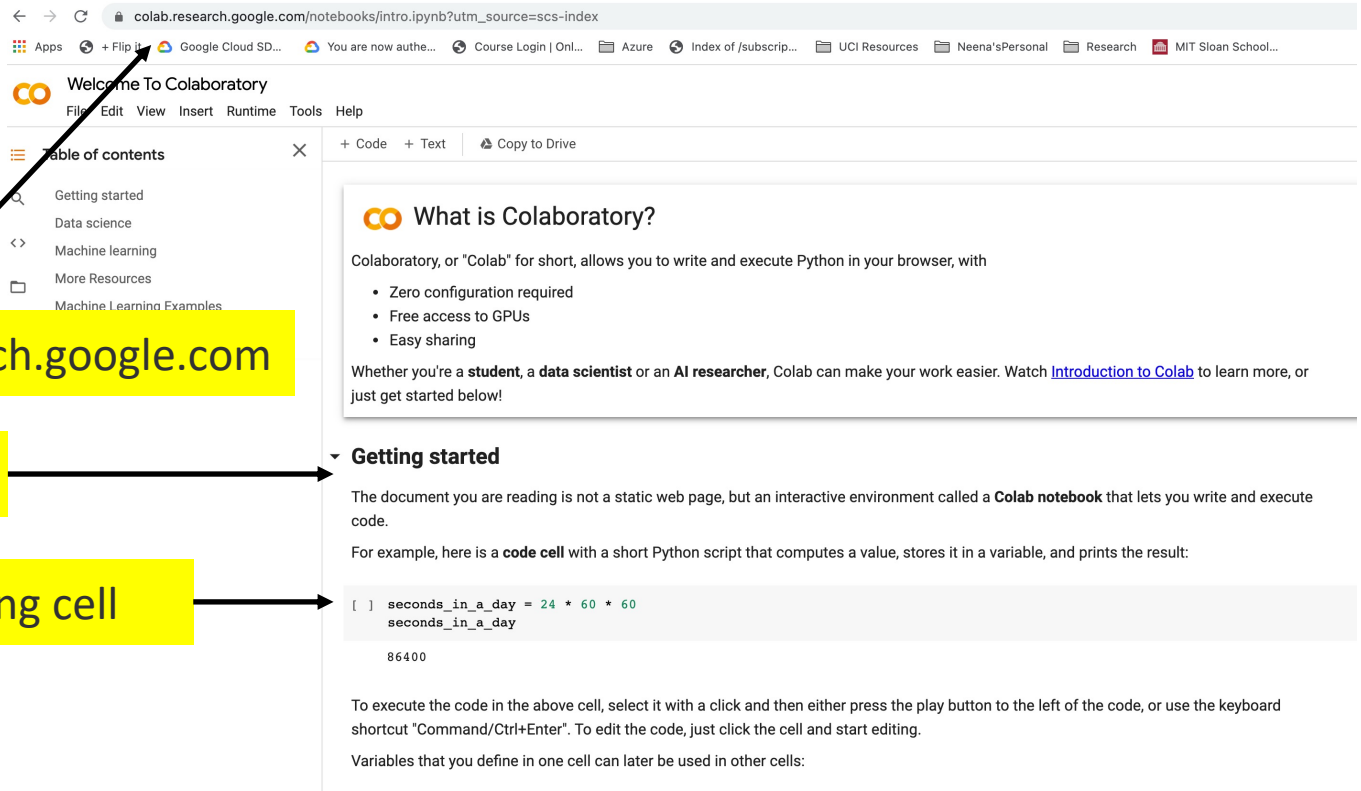
Google Colab Installation and Setup

Google Colab Setup

1. Access Google Colaboratory
2. Google Drive for data files
3. Upload Sandbox files to Google Drive
4. ”Hello World” notebook



Access Google Colab



Go to colab.research.google.com

Markups

Coding cell

Access Google Colab

Import Python library

Plot x,y

Plot results

Data science

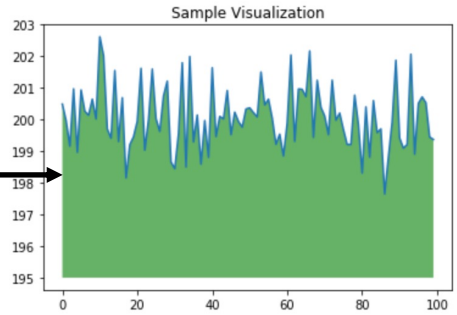
With Colab you can harness the full power of popular Python libraries to analyze and visualize data. The code cell below uses **numpy** to generate some random data, and uses **matplotlib** to visualize it. To edit the code, just click the cell and start editing.

```
[ ] import numpy as np
    from matplotlib import pyplot as plt

    ys = 200 + np.random.randn(100)
    x = [x for x in range(len(ys))]

    plt.plot(x, ys, '-')
    plt.fill_between(x, ys, 195, where=(ys > 195), facecolor='g', alpha=0.6)

    plt.title("Sample Visualization")
    plt.show()
```



Access Google Colab

Import Python library

More Resources

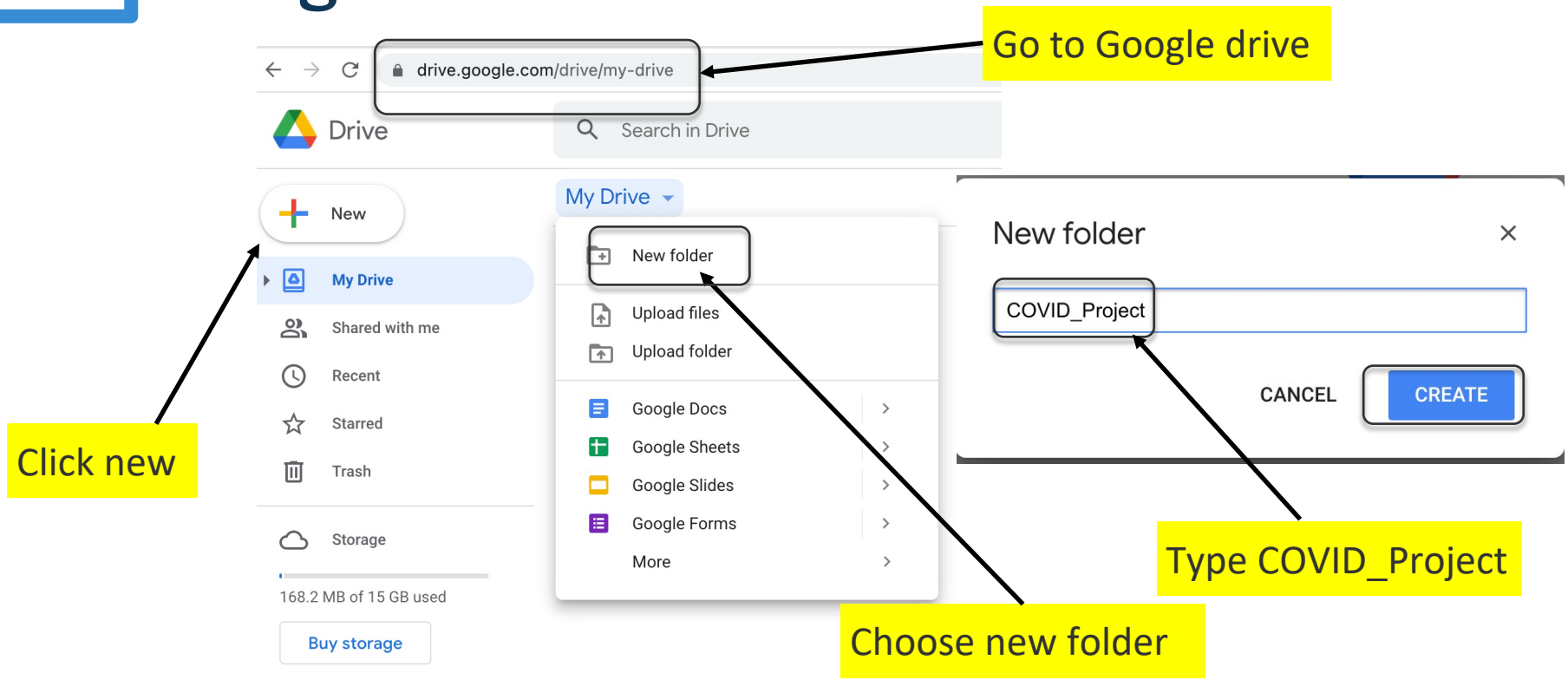
Working with Notebooks in Colab

- Overview of Colaboratory
- Guide to Markdown
- Importing libraries and installing dependencies
- Saving and loading notebooks in GitHub
- Interactive forms
- Interactive widgets
- NEW TensorFlow 2 in Colab

Working with Data

- Loading data: Drive, Sheets, and Google Cloud Storage
- Charts: visualizing data
- Getting started with BigQuery

Google Drive for Data Files



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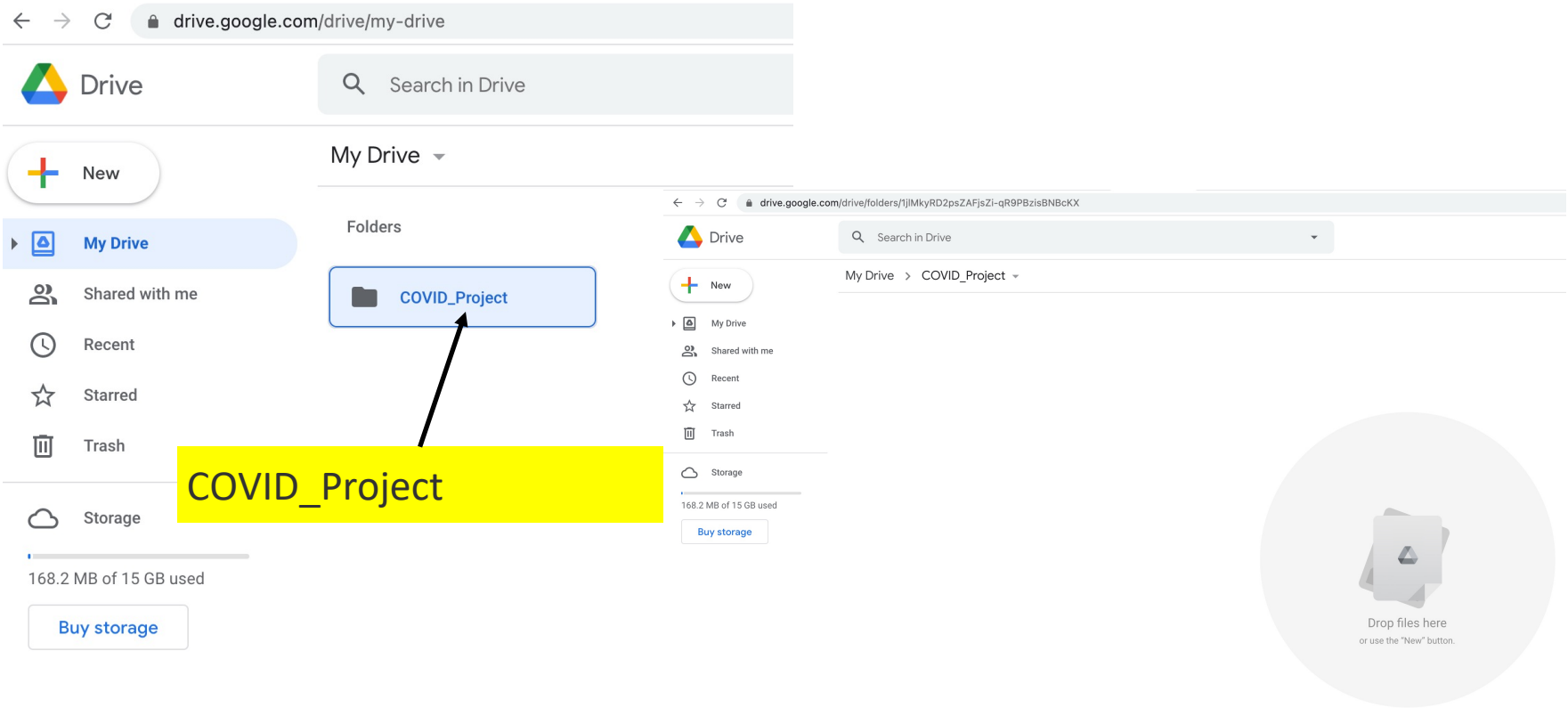

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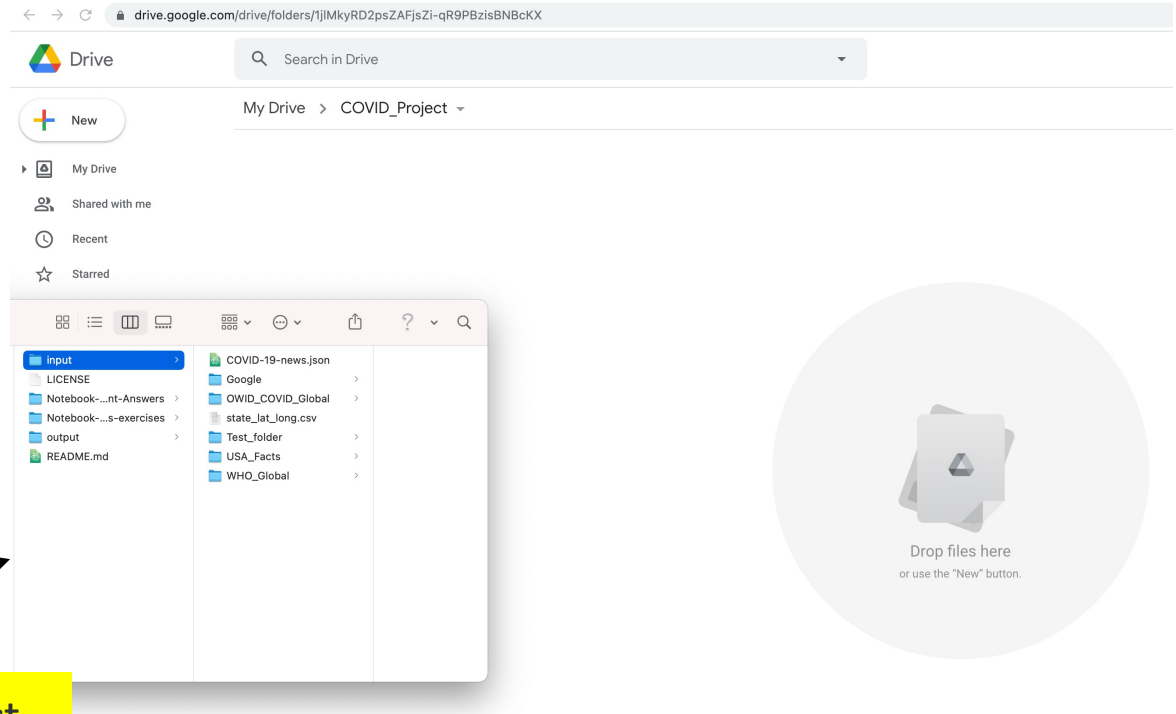
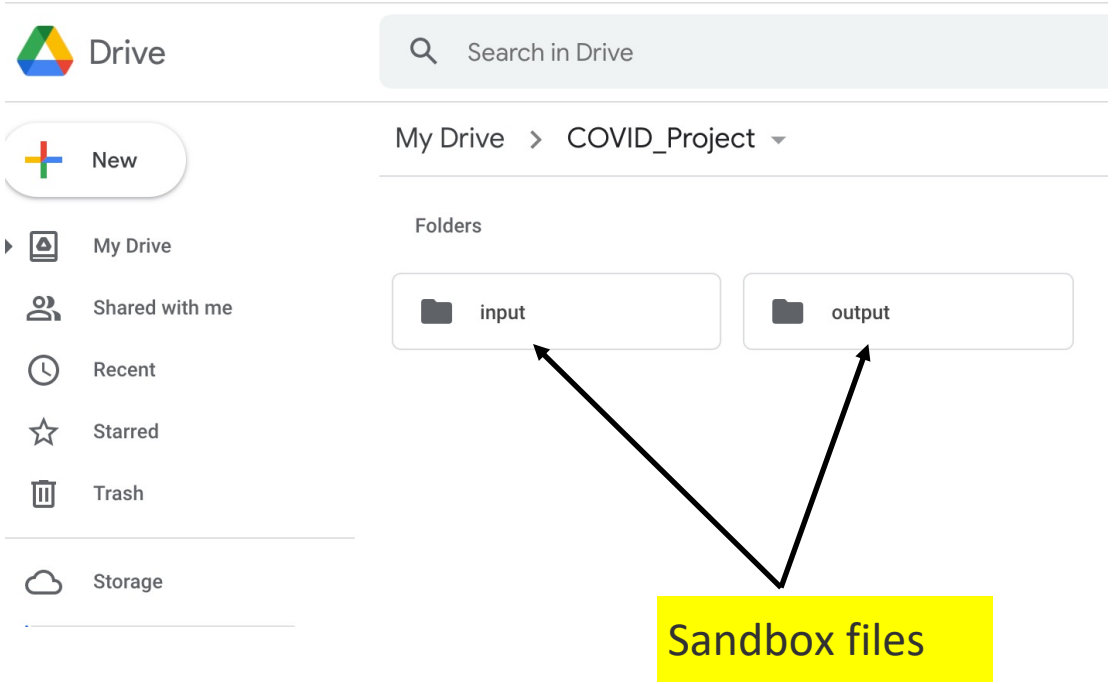


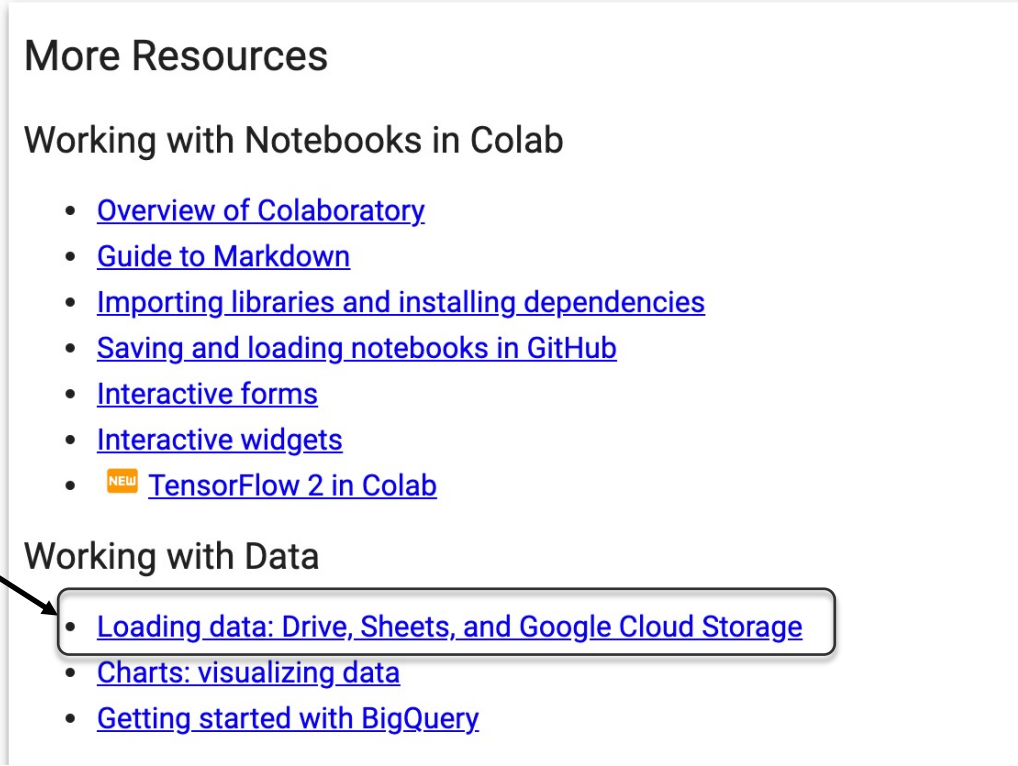
Local folder with COVID_Project

Google Drive for Data Files

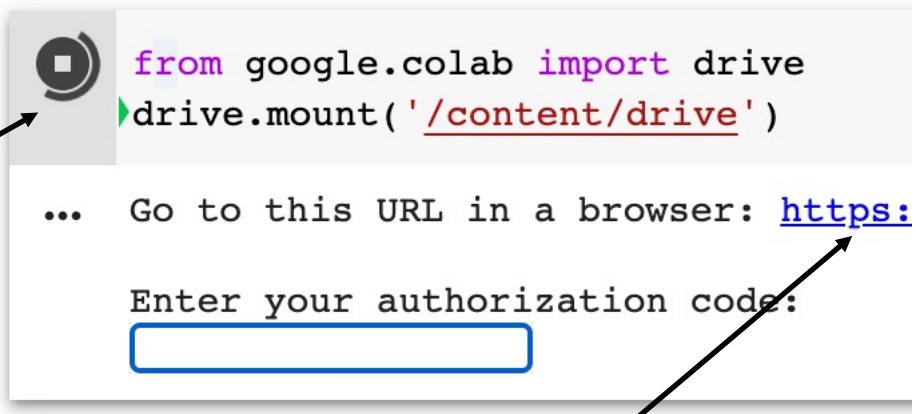


Loading Data from Google Drive

Select sample notebook



Loading Data from Google Drive

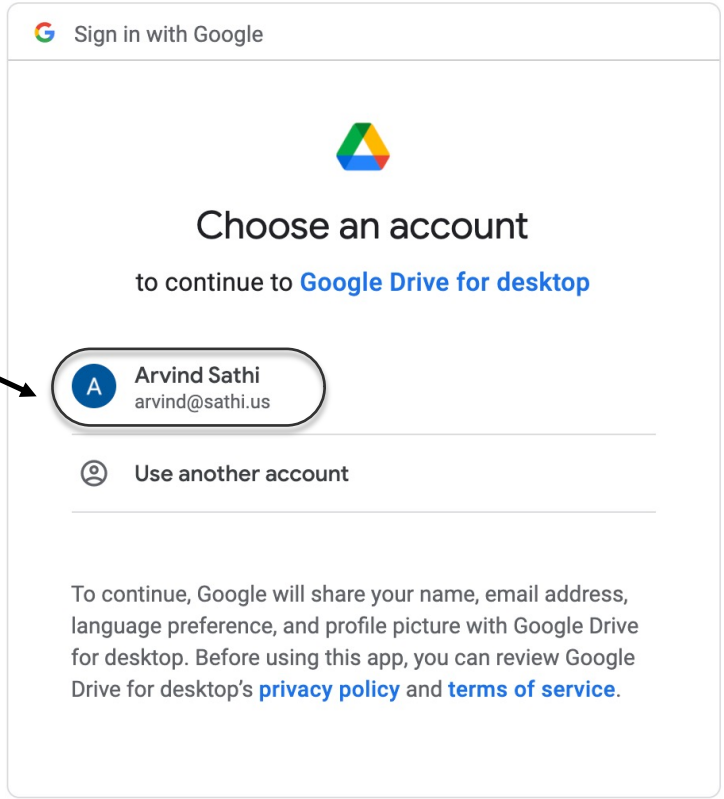


Run the cell

Click authorization hyperlink

Loading Data from Google Drive

Choose account



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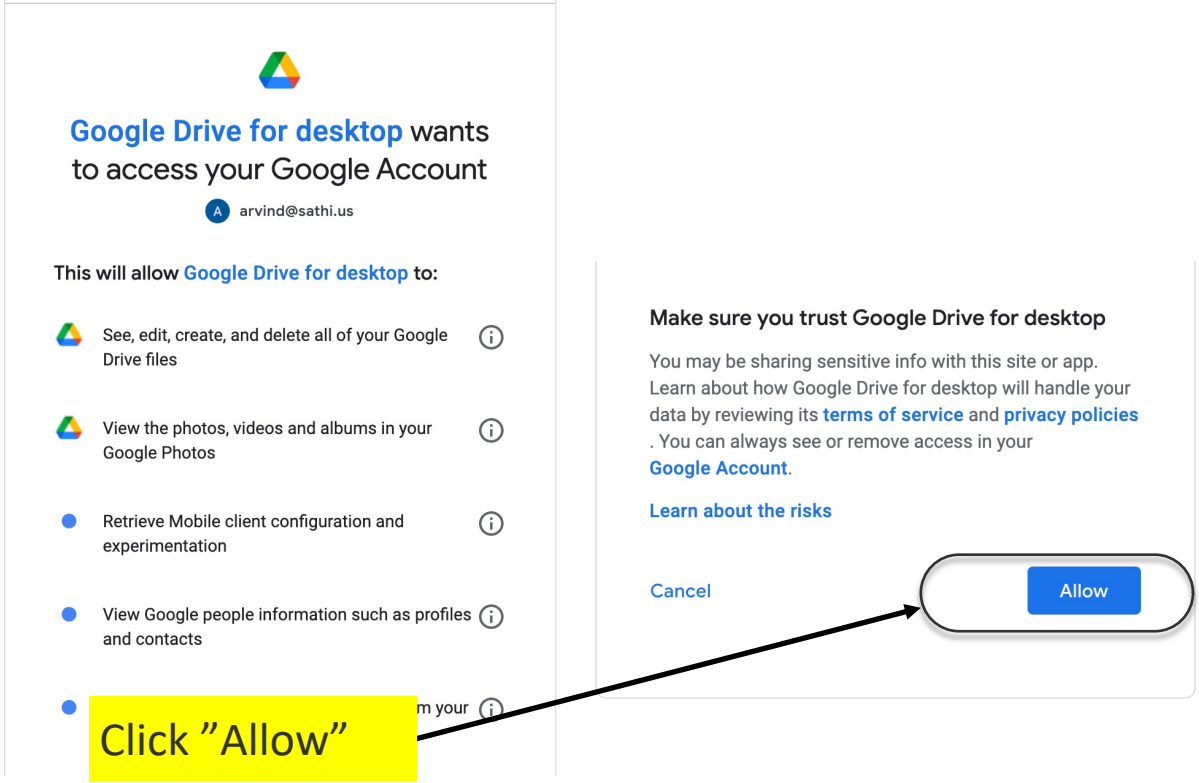

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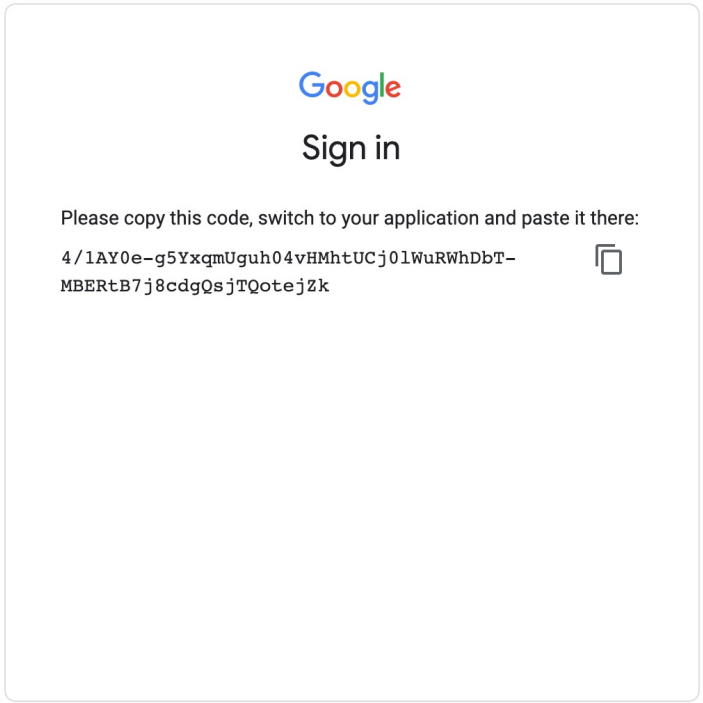
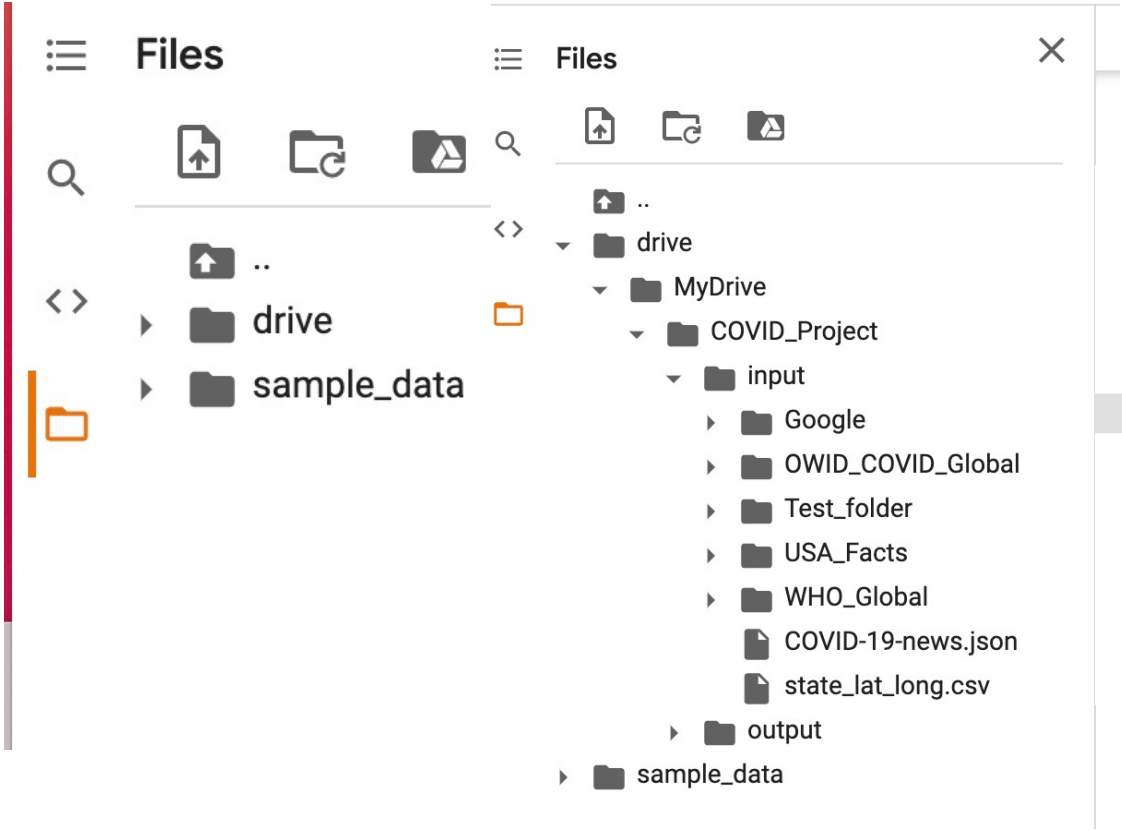
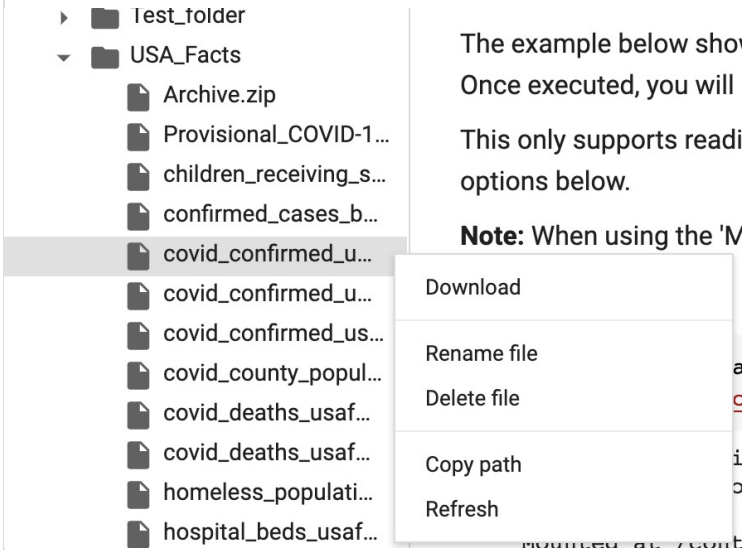



```
from google.colab import drive
drive.mount('/content/drive')
```

```
Mounted at /content/drive
```

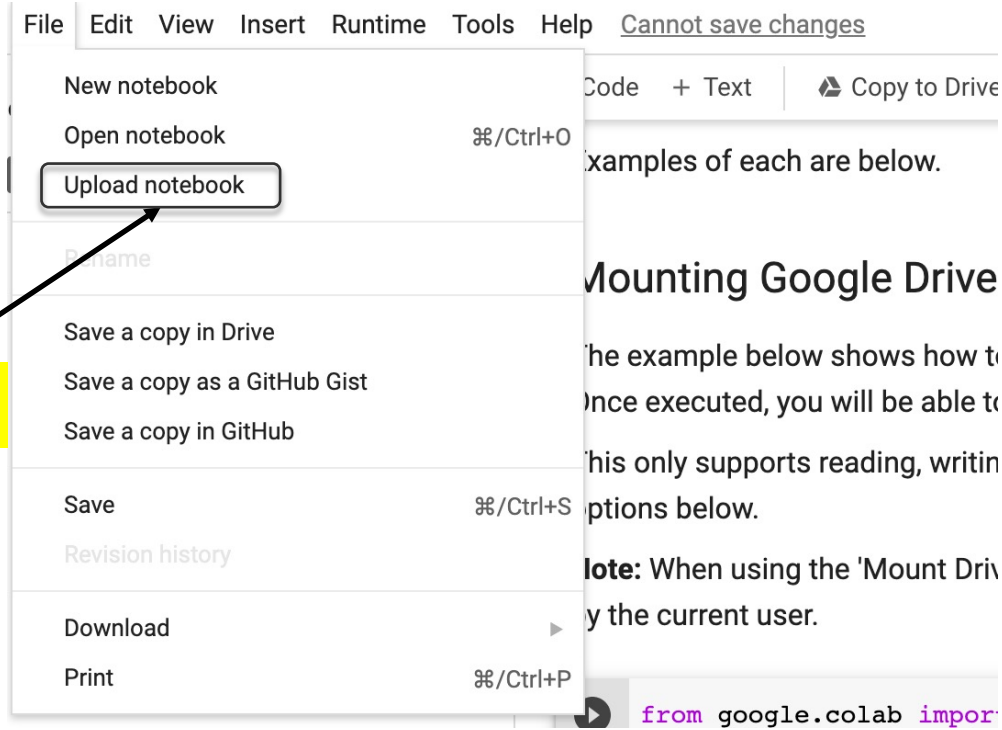
Google Colab Access to Drive





Upload Notebook

Click ”Upload notebook”



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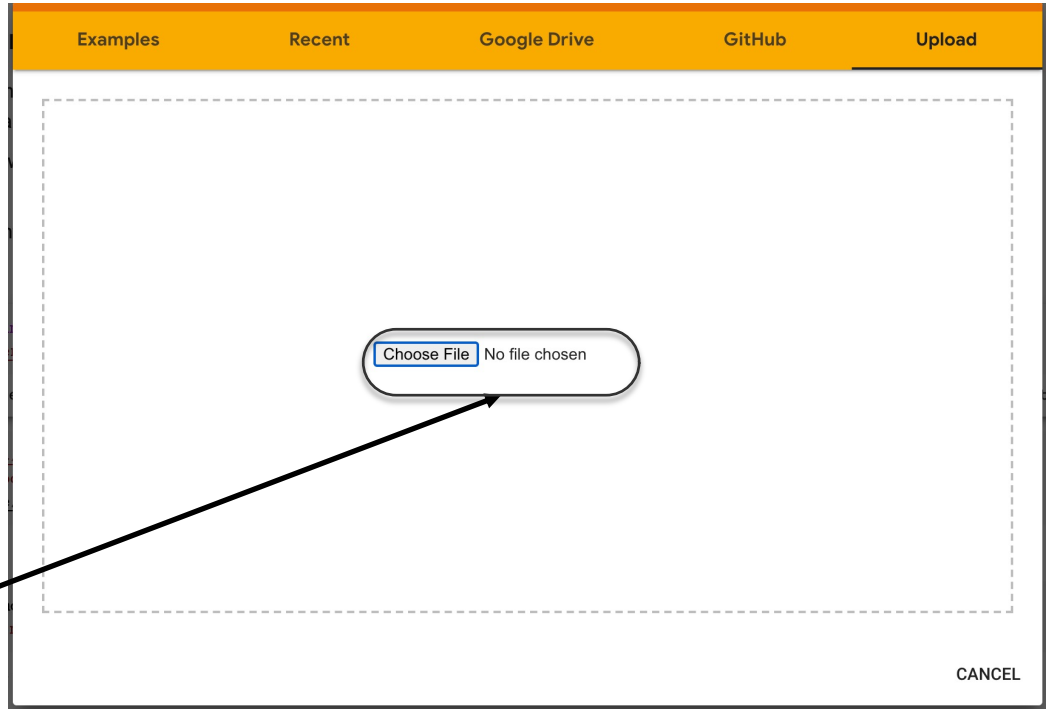
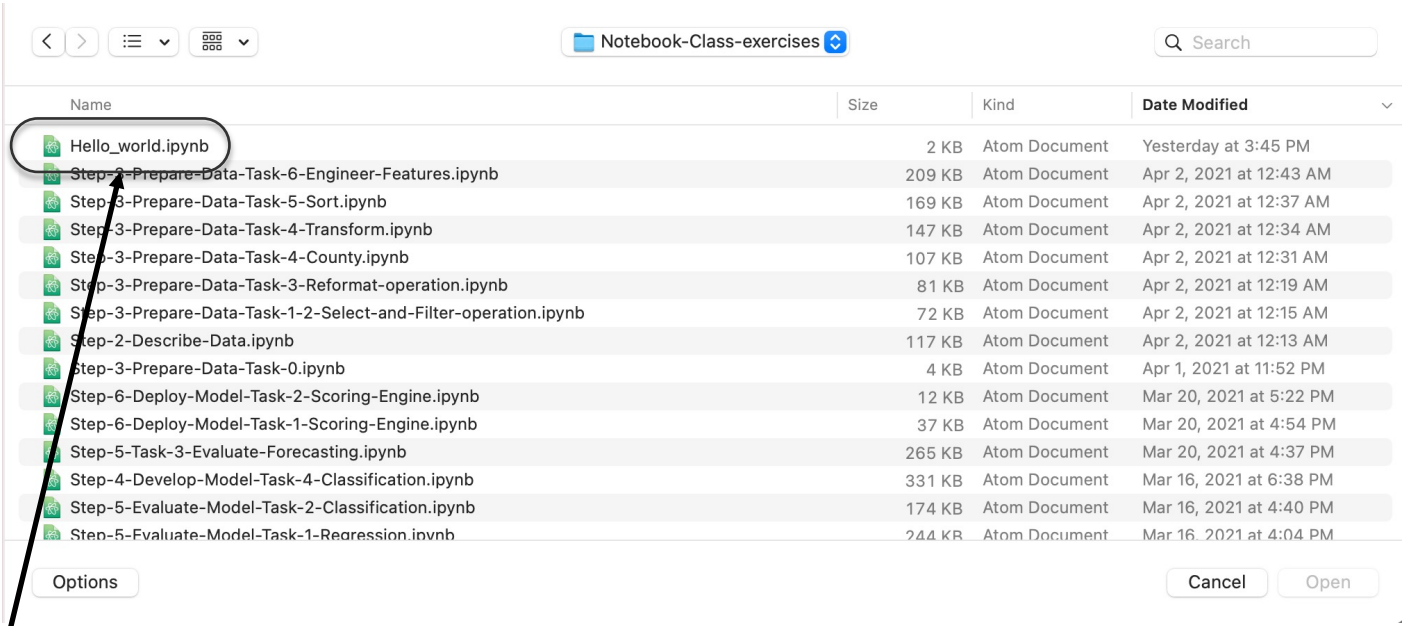


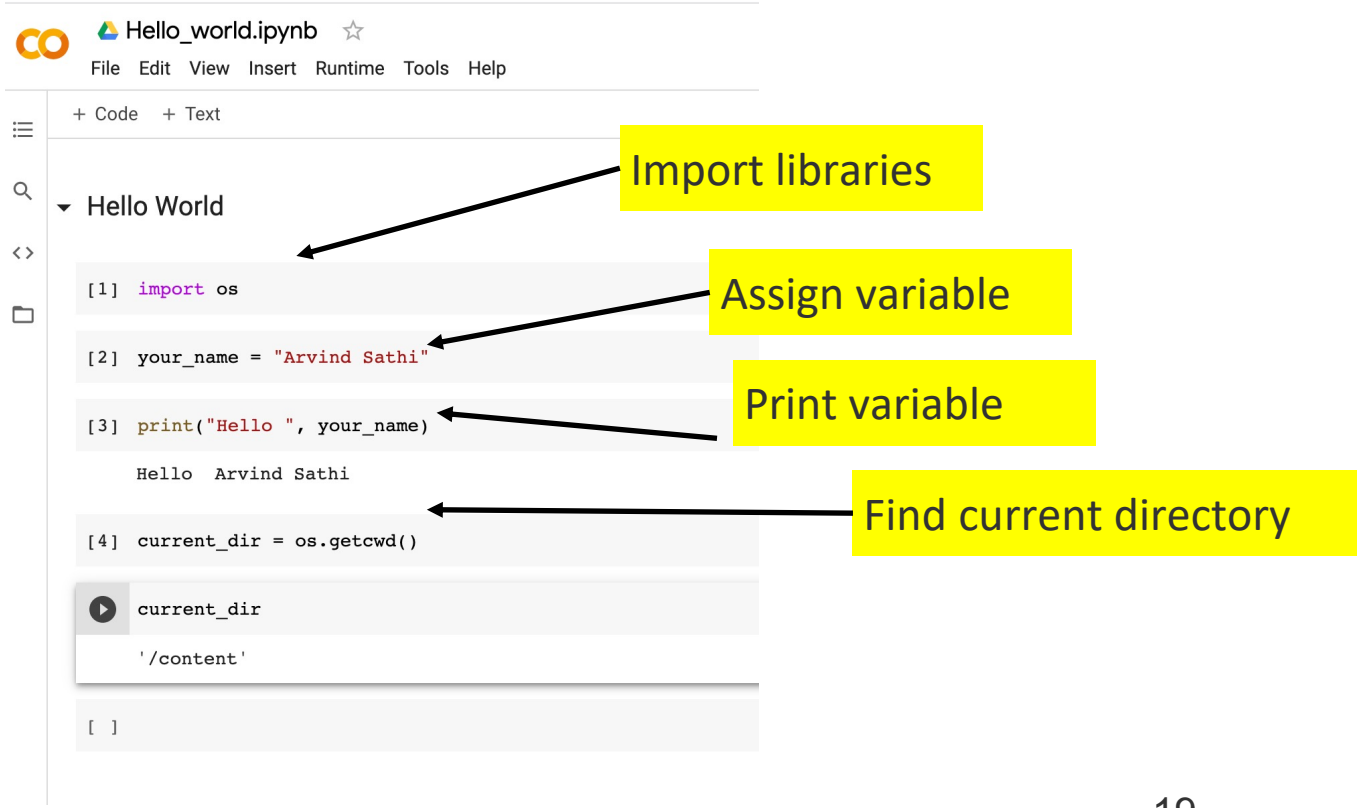
Click “Choose file”

Upload Notebook



Click “Hello_world.ipynb”

Start Anaconda



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