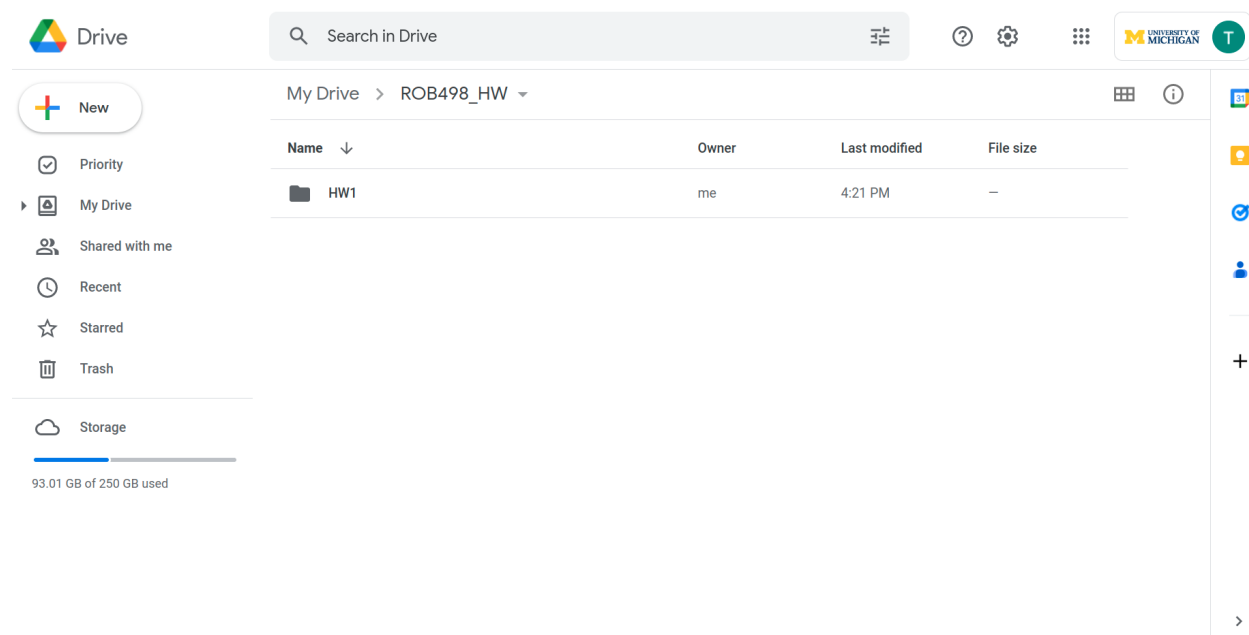


# Using Google Colab

Your assignments for this class will consist of a Jupyter notebook which is the main homework document. You will complete functions and classes in `.py` and to run in those Jupyter notebooks. Here we will demonstrate how you can use Google Colab to execute these notebooks and edit your code.

## Upload assignment to Google Drive

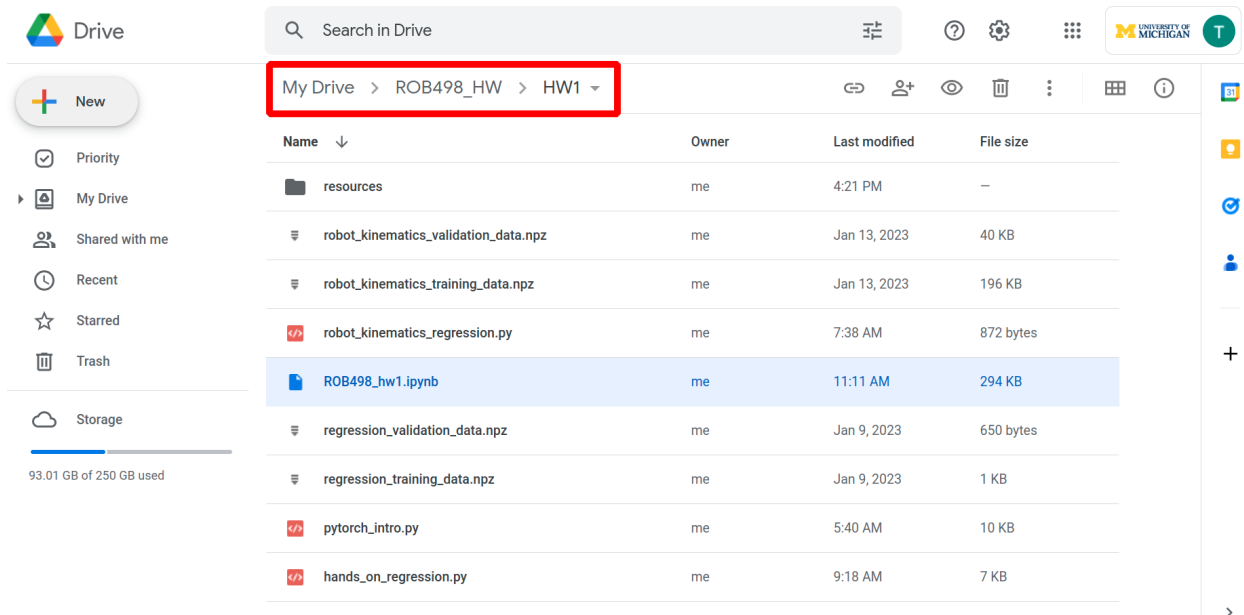
Create a folder on your UMICH Google drive and upload the extracted homework folder. Here I have called the homework folder ROB498\_HW



## Open assignment in Colab

Double click on `ROB498_hw1.ipynb` to open it in Colab.

Alternatively you can right click and select 'Open with' and then 'Google Colaboratory'

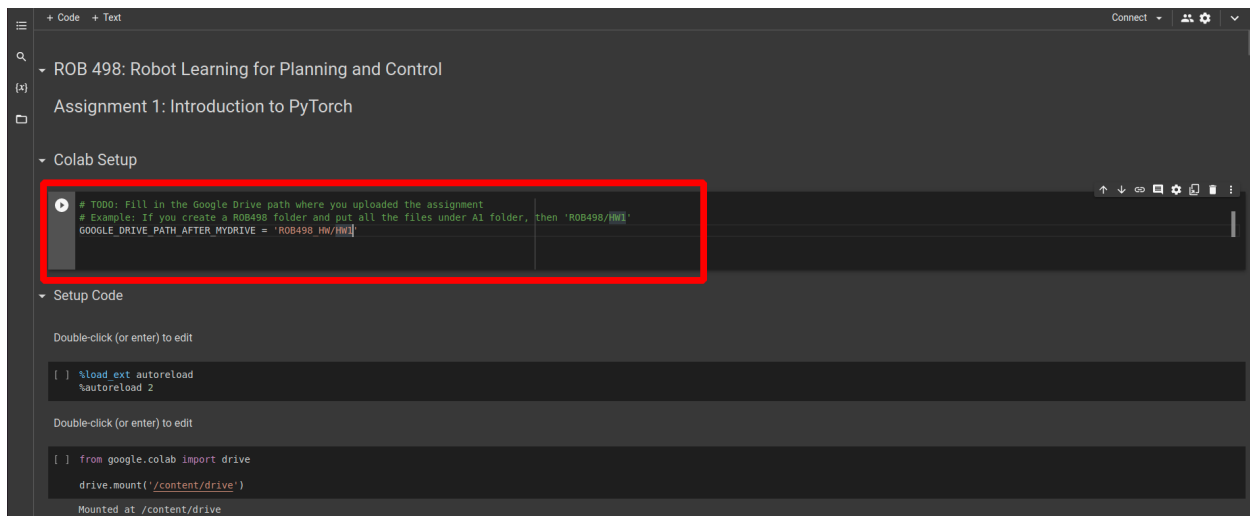


Note the directory `My Drive/ROB498_HW/HW1` .

## Setting up Development Environment with Google Drive & Colab

This section will show you how to get set-up so you can edit the `.ipynb` and `.py` files directly in your Google Drive using Colab. You will need to re-run this setup every time your notebook restarts - minus setting up the relevant variables.

Once you have opened in Colab you will see something that looks like this. You should fill in the variable `GOOGLE_DRIVE_PATH_AFTER_MYDRIVE` with the directory above. For me this is `ROB498_HW/HW1` . You can run the code in this cell by hitting `Shift + Enter`



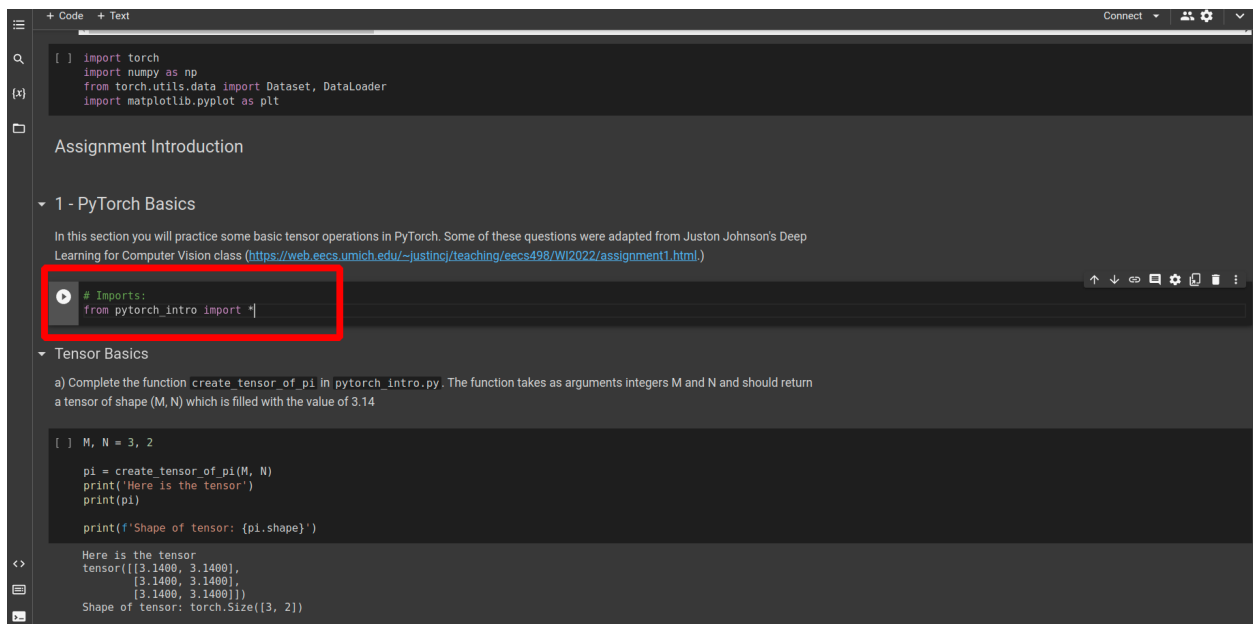
```
+ Code + Text
Connect
v ROB 498: Robot Learning for Planning and Control
Assignment 1: Introduction to PyTorch
v Colab Setup
# TODO: Fill in the Google Drive path where you uploaded the assignment
# Example: If you create a ROB498 folder and put all the files under A1 folder, then 'ROB498/HW1'
GOOGLE_DRIVE_PATH_AFTER_MYDRIVE = 'ROB498/HW/HW1'
v Setup Code
Double-click (or enter) to edit
[ ] %load_ext autoreload
%autoreload 2
Double-click (or enter) to edit
[ ] from google.colab import drive
drive.mount('/content/drive')
Mounted at /content/drive
```

Next run all of the following cells. You will need to be logged in to your umich account and confirm permissions. `os.listdir(GOOGLE_DRIVE_PATH)` should print out the contents of the `HW1` folder.



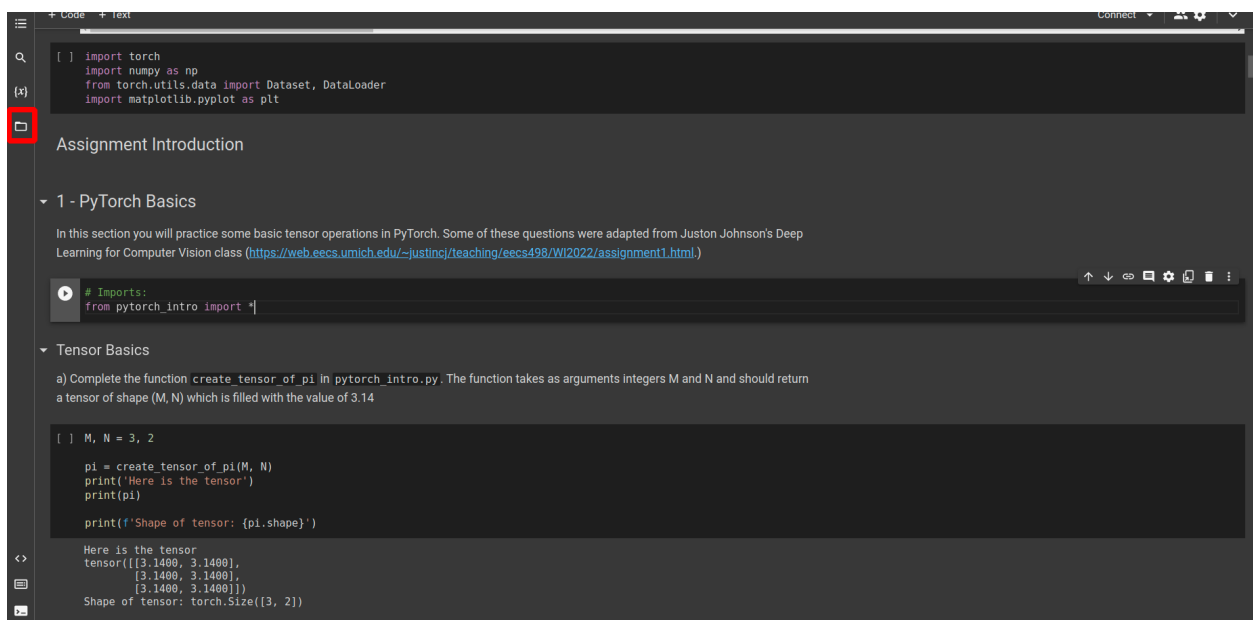
```
+ Code + Text
Connect
v Setup Code
Double-click (or enter) to edit
[ ] %load_ext autoreload
%autoreload 2
Double-click (or enter) to edit
[ ] from google.colab import drive
drive.mount('/content/drive')
Mounted at /content/drive
[ ] import os
import sys
GOOGLE_DRIVE_PATH = os.path.join('drive', 'My Drive', GOOGLE_DRIVE_PATH_AFTER_MYDRIVE)
print(os.listdir(GOOGLE_DRIVE_PATH))
sys.path.append(GOOGLE_DRIVE_PATH)
['ROB498_hw1.ipynb', '__pycache__', '.ipynb_checkpoints', 'resources', 'regression_training_data.npz', 'regression_validation_data.npz', 'hidden_regression_test_data.npz', 'q2_data_gene
[ ] import torch
import numpy as np
from torch.utils.data import Dataset, DataLoader
import matplotlib.pyplot as plt
```

Now you can run the following cell to import functions from `HW1/pytorch_intro.py` . For example, the `create_tensor_of_pi` function which you will need to complete as part of the homework.

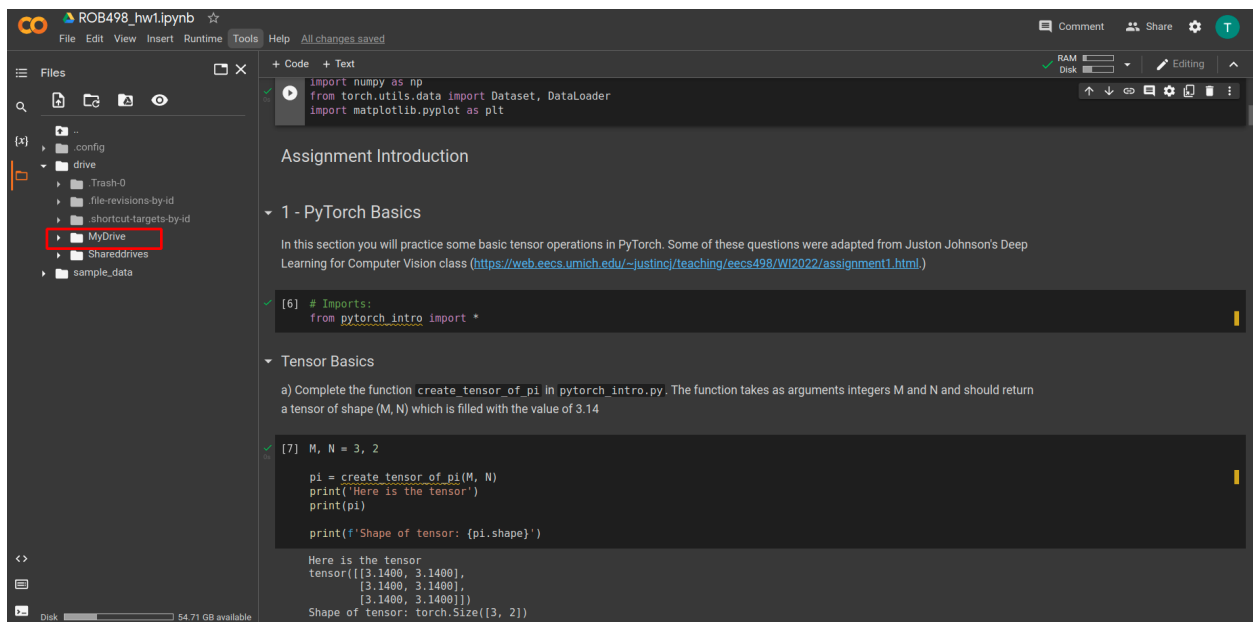


# Editing Files

Click on the folder icon shown below.



This will take you to the screen below, where you can then navigate to the **HW1** directory and open the relevant file



We will open `pytorch_intro.py`. Which results in the screen below. Where we can make changes to the `pytorch_intro.py` file. You should save them with `Ctrl + S`.

