Intro to Coding

Class 1

# Demo

Curriculum Outline

- Variables
- Input/output
- Built-in libraries
- Conditional expressions
    - If and else statements, boolean operators
- Loops
    - While, for, break, continue
- Lists and Dictionaries
- Functions and Classes
- Game-specific elements with PyGame
    - Visuals, event handling, mouse clicks, etc.
    - By the end of the semester, you will have a completed Tic Tac Toe game!
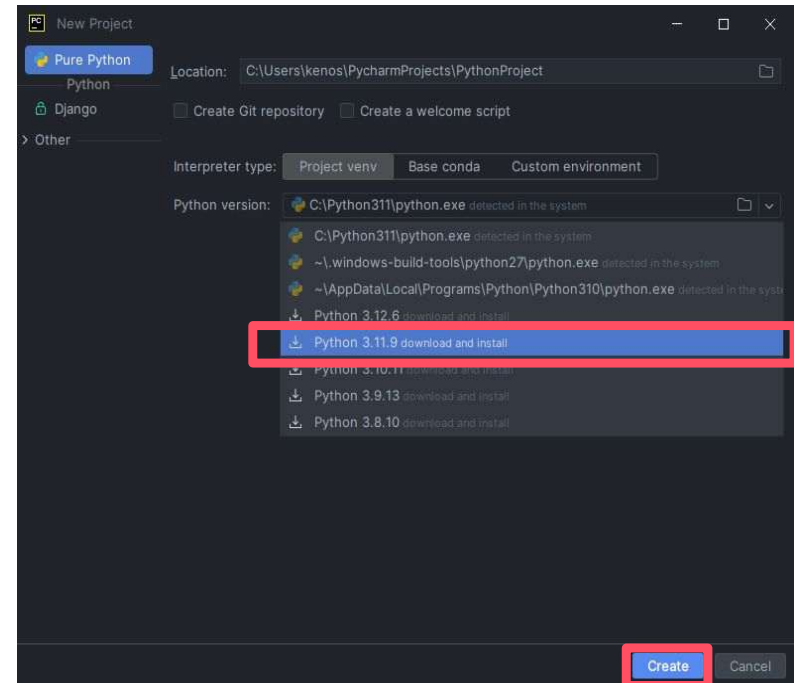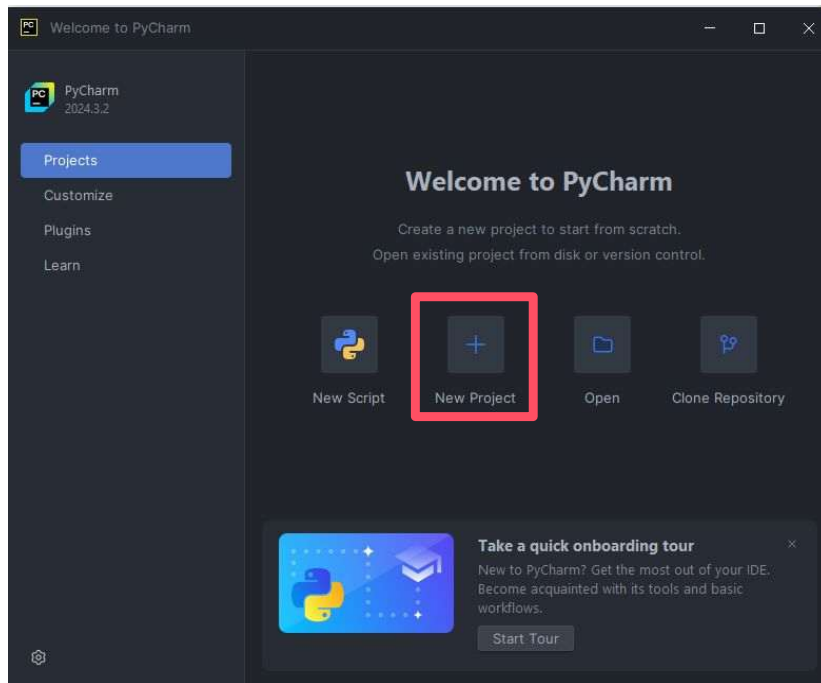
Icebreaker Activity

Be ready to share these with the rest of the class!

1. What's your name and current grade?
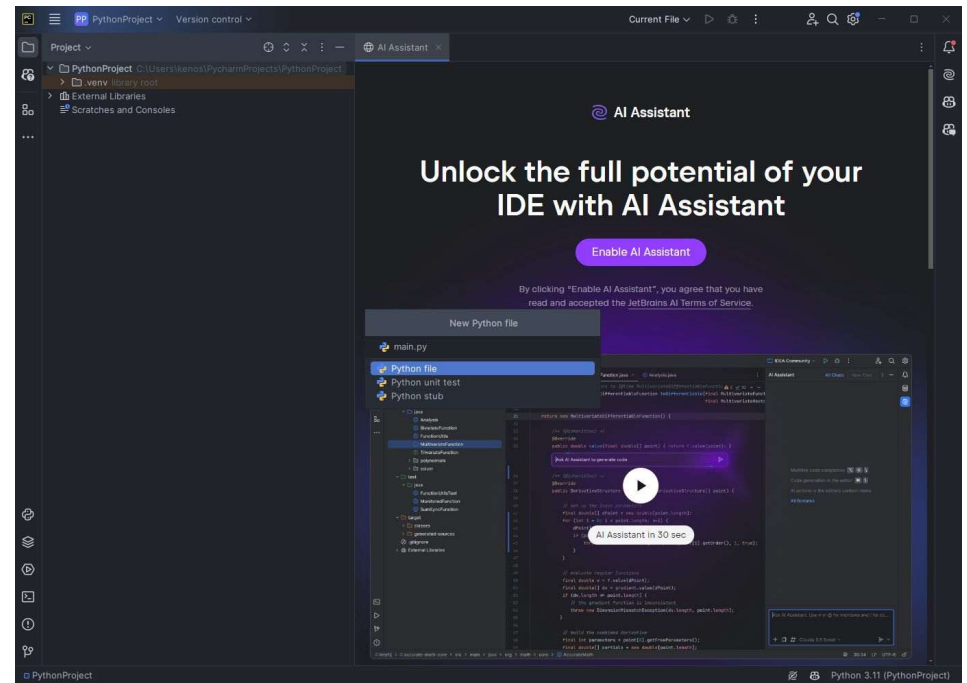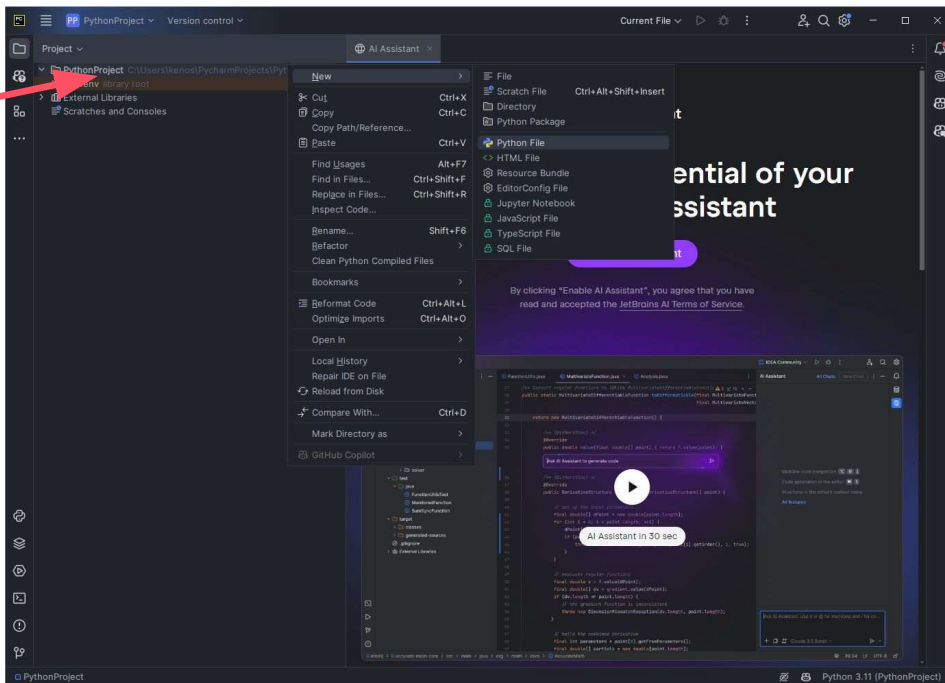2. What coding experiences have you had in the past?
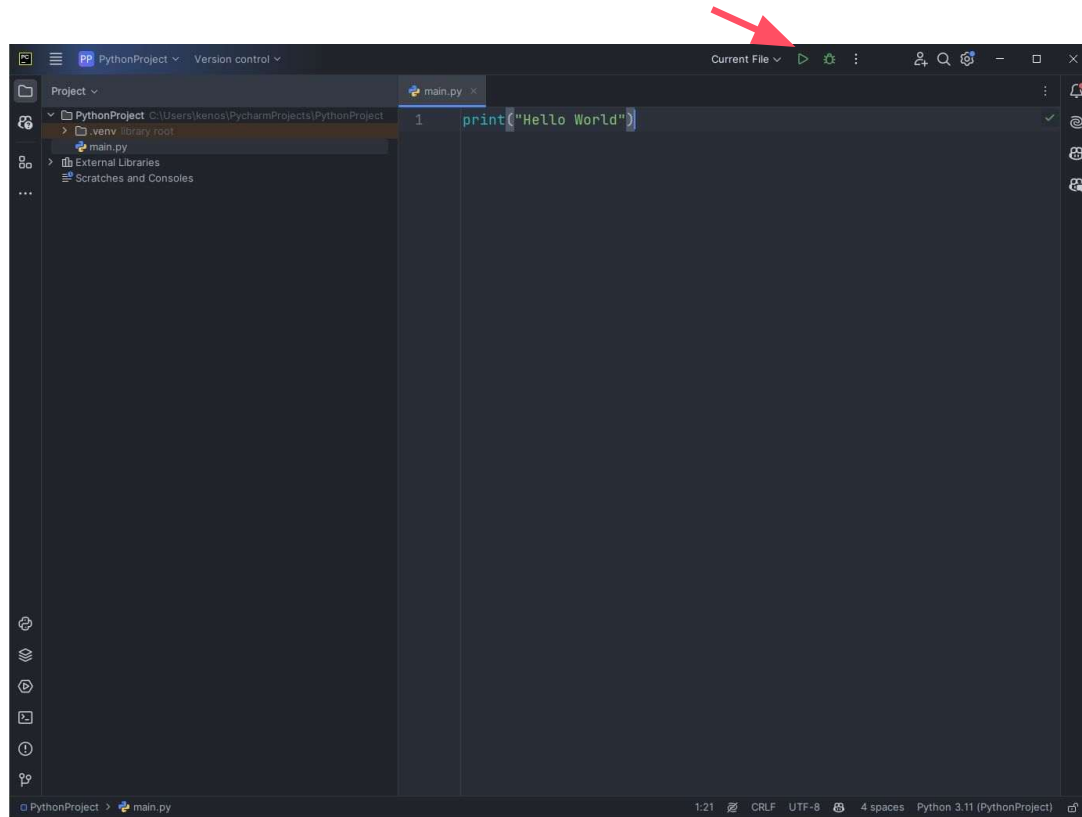
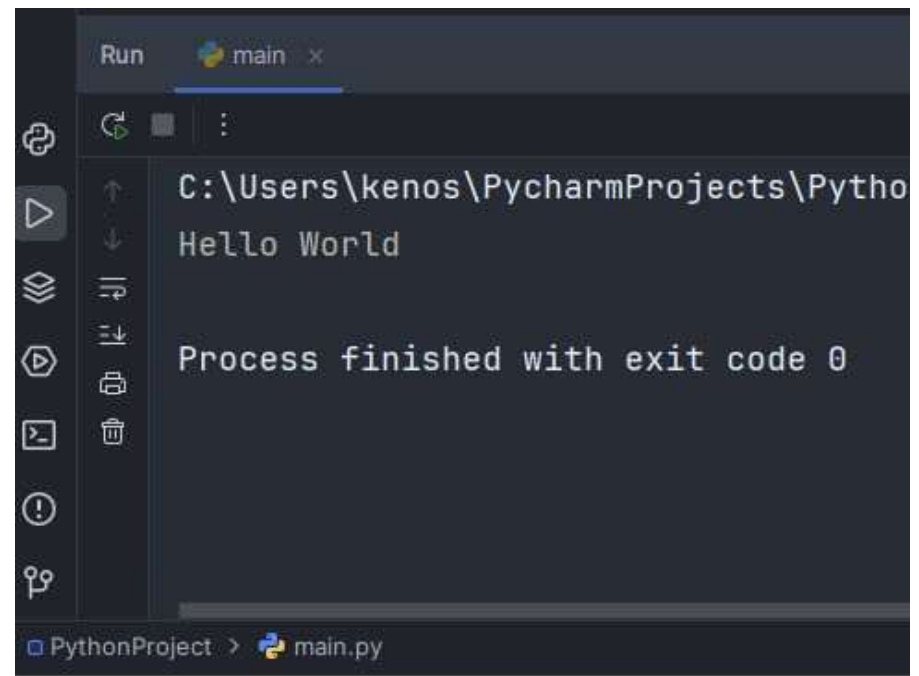# Installing PyCharm Community Edition
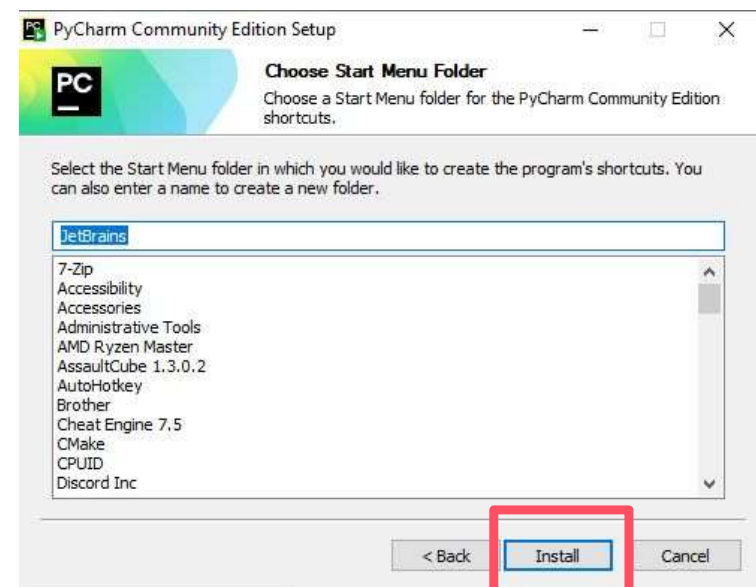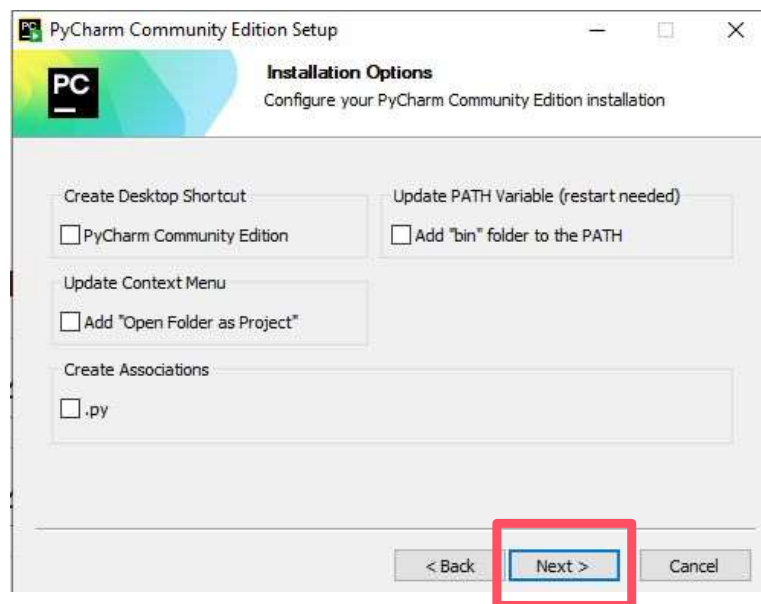
Your First Program

Your First Program

Result

Terminal Output

The print() Function

The function you have just used is called the **print()** function.

The **print()** function is formatted as such:

```
print("content")
```

The content to be printed must be enclosed in quotation marks **""** first. Then, it must be enclosed in round parentheses **()**.

Play around with the **print()** function and try getting it to print different things!

What is GitHub?

- Allows for coding projects to be collaborated on with multiple developers.
- Allows for developers to upload their local files and projects on their personal computers to _cloud storage_ (a place to store files on the internet).
- Changes that are made and _committed_ to the cloud can be _pulled_ by other developers to _collaborate_ together on the same project.

Installing GitHub Desktop

- Locate the download, then double click to open it
- On the welcome screen, click "Sign in to GitHub.com"
  - It should automatically fill in your GitHub login information
- Authorize GitHub desktop to access your account
- Keep the default settings, then click "Finish"
- GitHub Desktop is all set up!
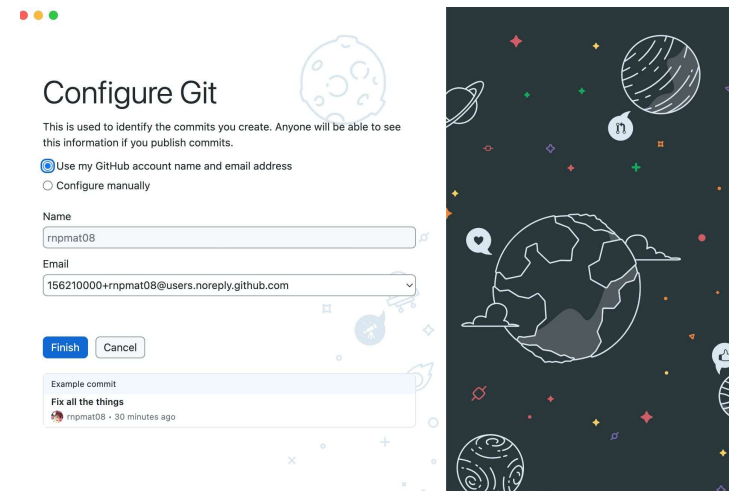
Creating a Repository

- Go to PyCharm and open your project
- Right click the project folder, then click "Copy Path/Reference" → "Absolute Path"
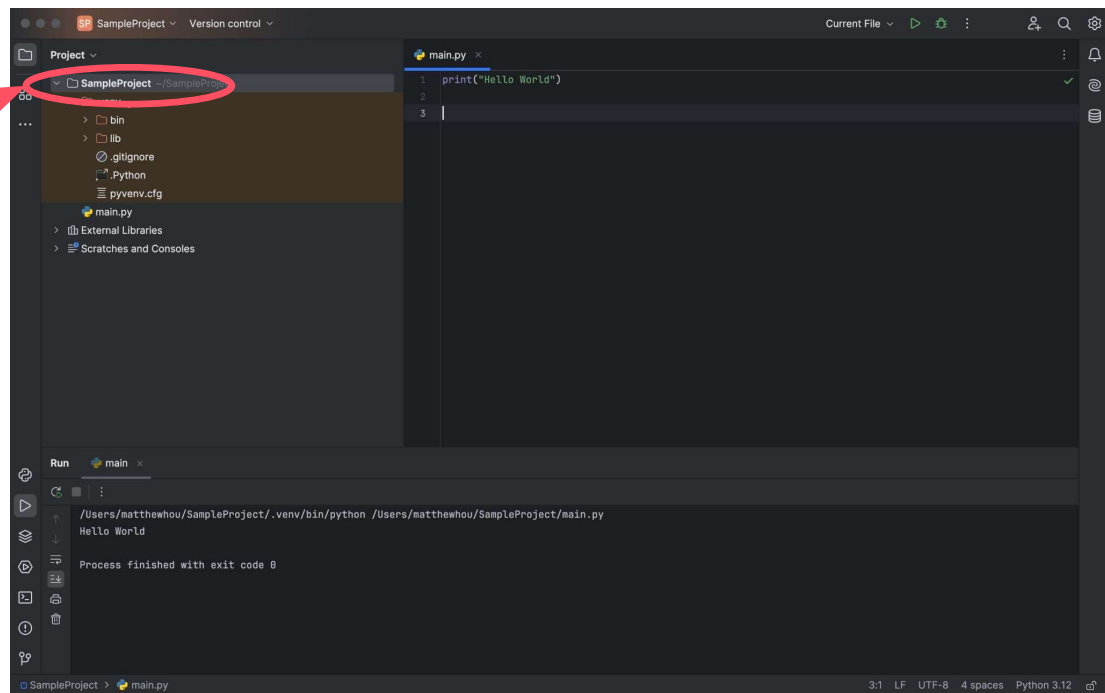
Creating a Repository

Let's get started!

Add a repository to GitHub Desktop to start collaborating

Filter your repositories

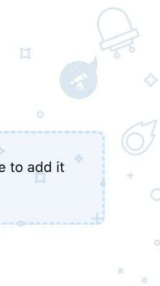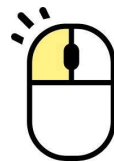Create a Tutorial Repository...

Clone a Repository from the Internet...

Create a New Repository on your Local Drive...

Add an Existing Repository from your Local Drive...

ProTip! You can drag & drop an existing repository folder here to add it to Desktop

Creating a Repository

Create a New Repository ✕

Name

repository name

Description

Local Path

/Users/matthewhou/SampleProject   Choose...

☐ Initialize this repository with a README

Git Ignore

None ⌄

License

None ⌄

Cancel   **Create Repository**

Result

Create a New Repository ✕

Name

SampleProject

Description

Local Path

/Users/matthewhou/   Choose...

☐ Initialize this repository with a README

Git Ignore

None ⌄

License

None ⌄

The repository will be created at /Users/matthewhou/SampleProject.

Cancel   **Create Repository**
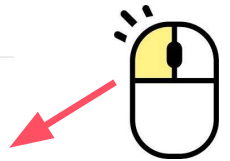
Publishing the Repository

The repository is not visible on your GitHub profile until you publish it
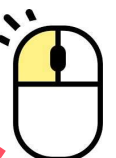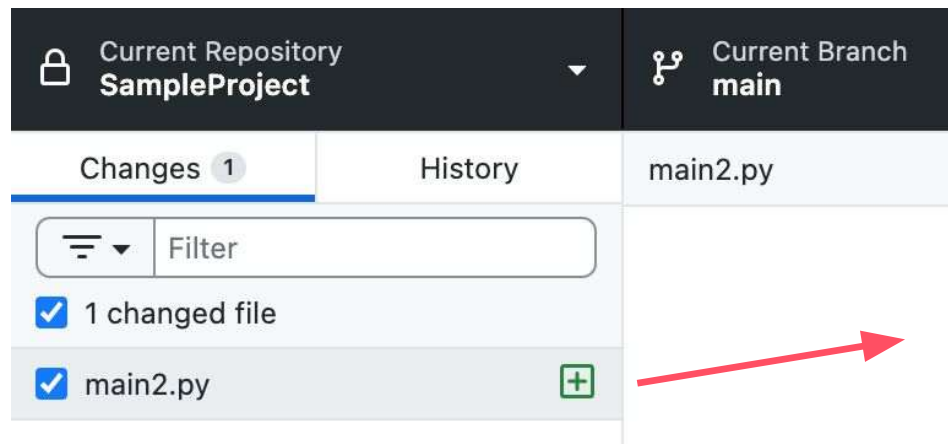
Adding to the Repository

- GitHub Desktop is now synced with your PyCharm project
- Each file created on PyCharm will be automatically copied onto the Git repository

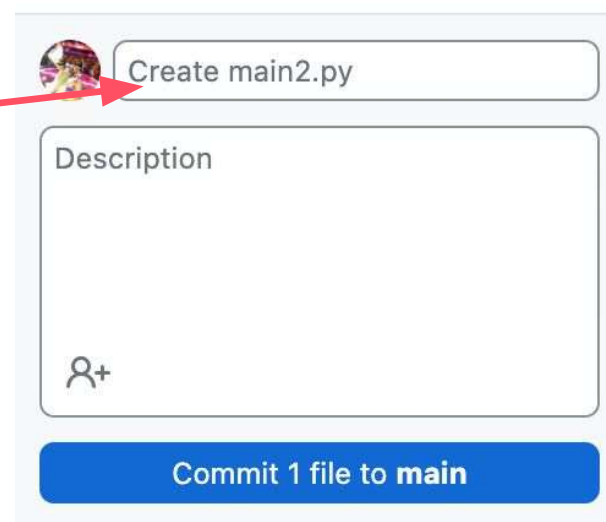Example: a file named `main2.py` was created on PyCharm

Automatic detection - you do not need to manually add files to the repository

Committing Files

- Any new changes to the repository must be **committed** first
- To do this, locate the commit menu (found in the bottom-left corner), and click the blue commit button
- Ensure that you have a summary before commiting

Add a summary here

Create main2.py

Description

Commit 1 file to **main**

Pushing Files

- The final step is to **push** your **committed files** onto the repository
- Once pushed, the changes will now be visible on your GitHub profile

Downloading Files

- First, open the GitHub repository you would like to download from
- Your screen should look like this
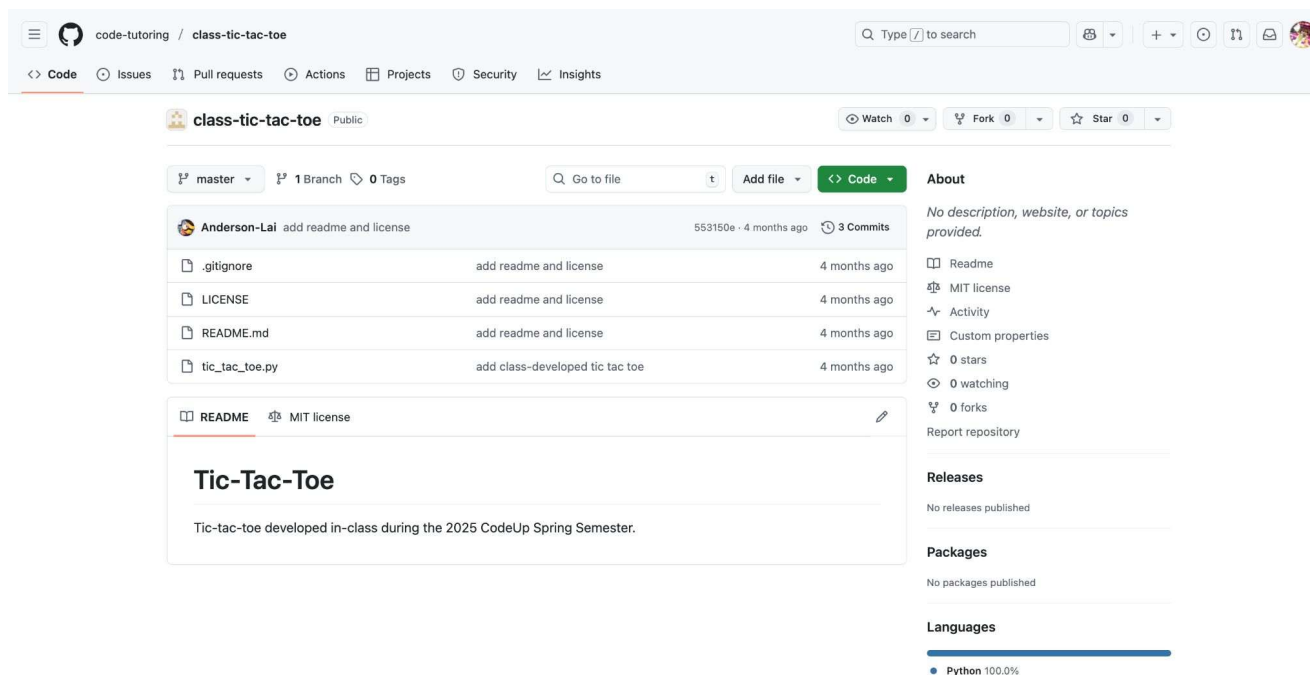
Downloading Files

- Click "Code" → "Download ZIP"

Opening Files

- Open your file manager and locate the zip file
- Extract the zip file
  - Windows users: right click zip file → "Extract All"
  - Mac users: double click zip file
- Go to PyCharm, "File" → "Open" (continued on next slide)
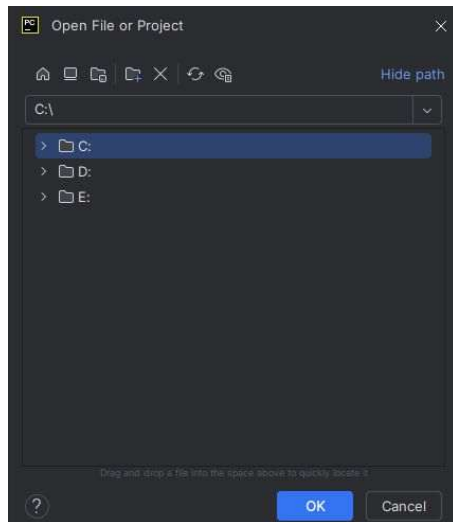
This window should appear in the middle of your screen

Opening Files

- Drag the folder (make sure it is NOT the zip folder) from your file manager onto the PyCharm window
- PyCharm should automatically import everything in the folder