

Intro to Coding

Class 1

Demo

Curriculum Outline

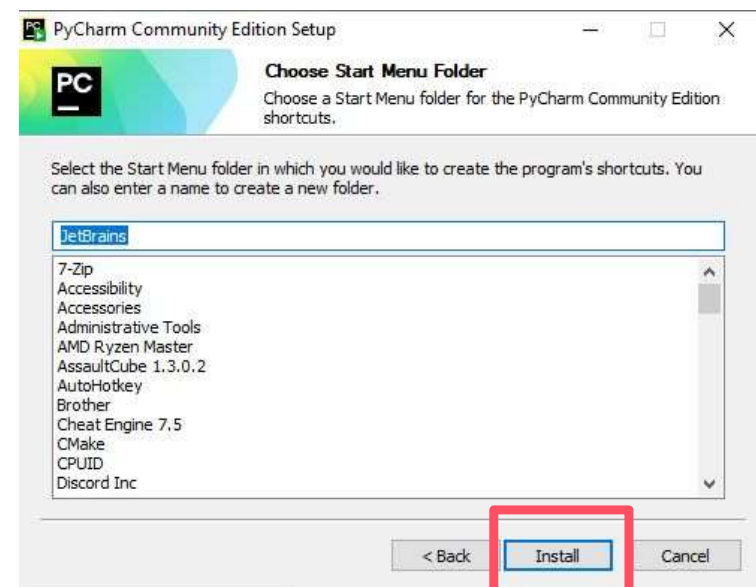
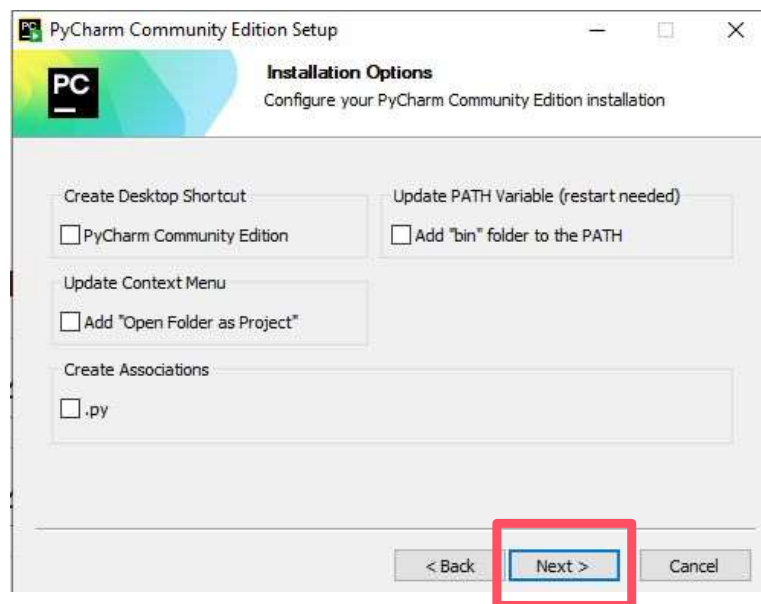
- Variables
- Input/output
- Built-in libraries
- Conditional expressions
 - If and else statements, boolean operators
- Loops
 - While, for, break, continue
- Lists and Dictionaries
- Functions and Classes
- Game-specific elements with PyGame
 - Visuals, event handling, mouse clicks, etc.
 - By the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

Icebreaker Activity

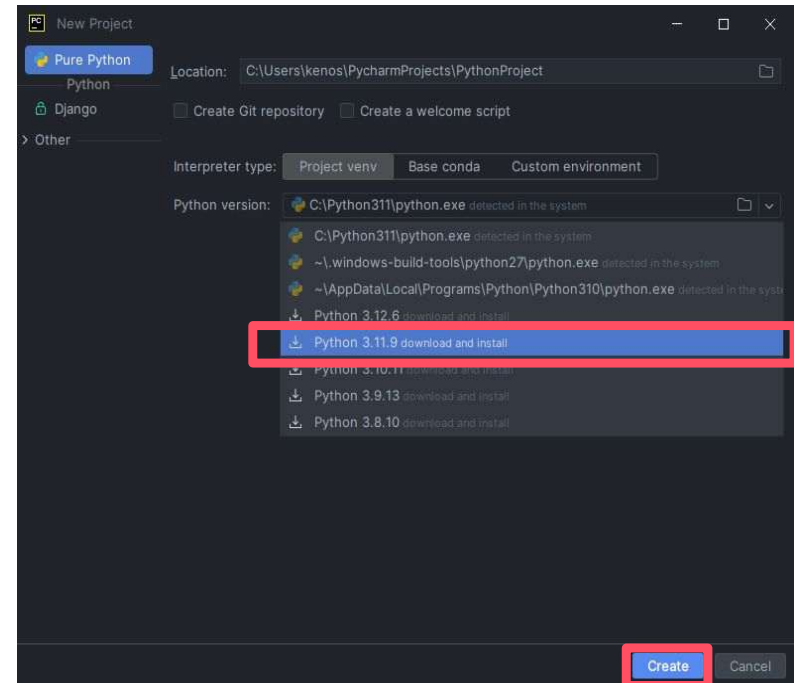
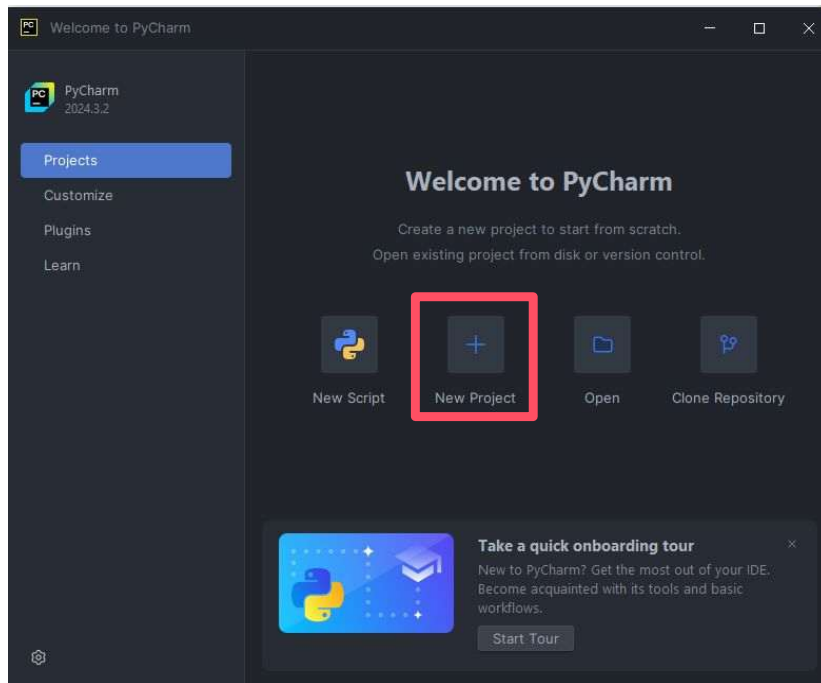
Be ready to share these with the rest of the class!

1. What's your name and current grade?
2. What coding experiences have you had in the past?

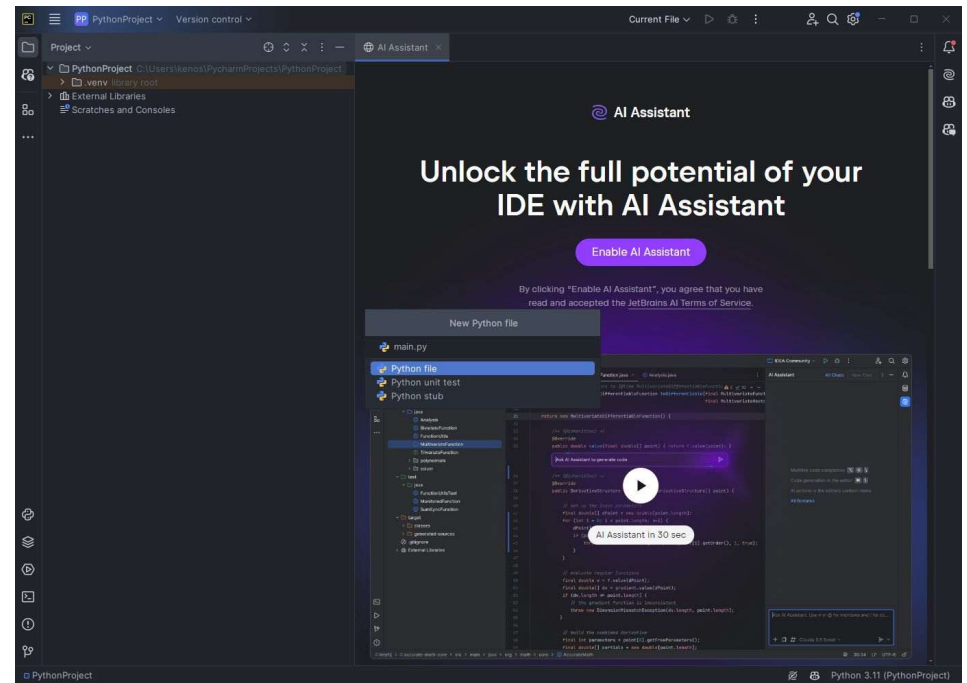
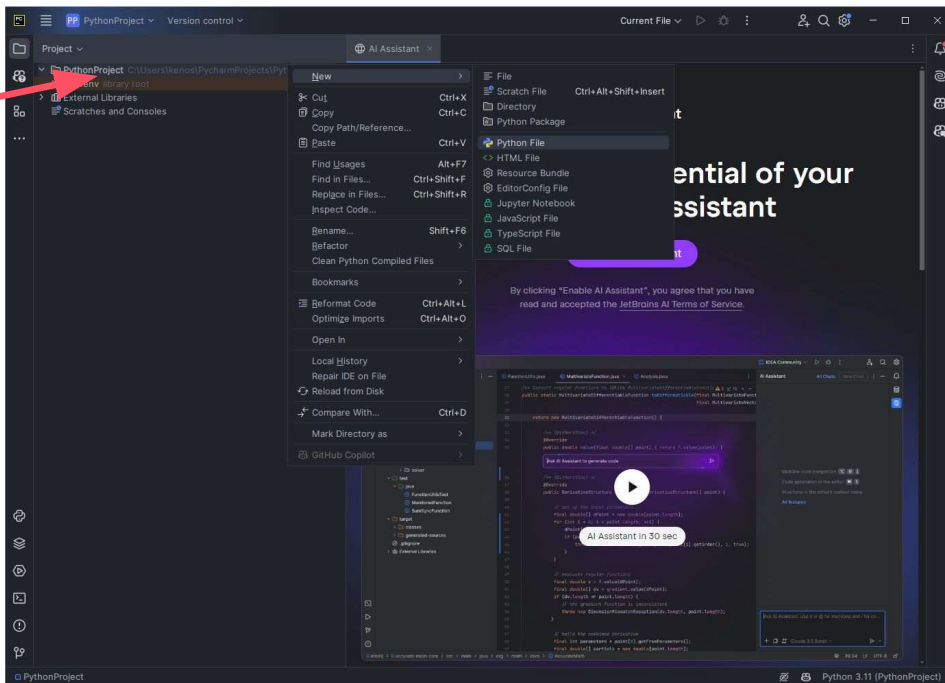
Installing PyCharm Community Edition



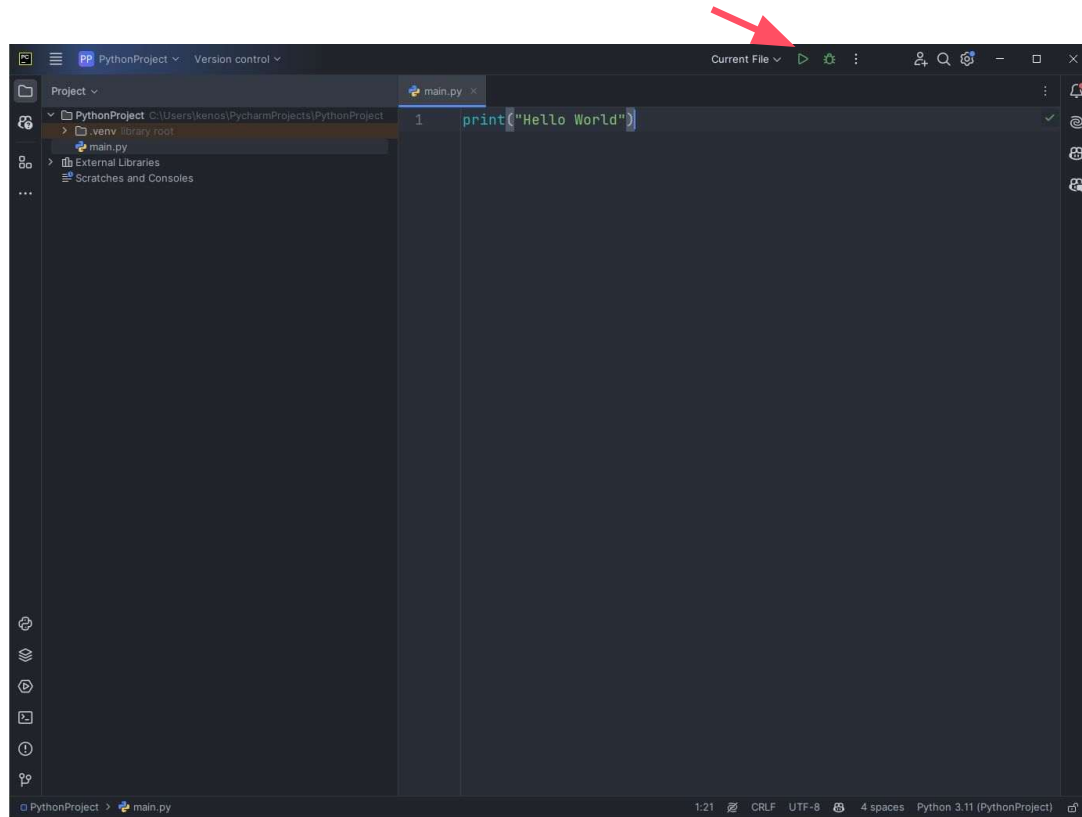
Your First Program



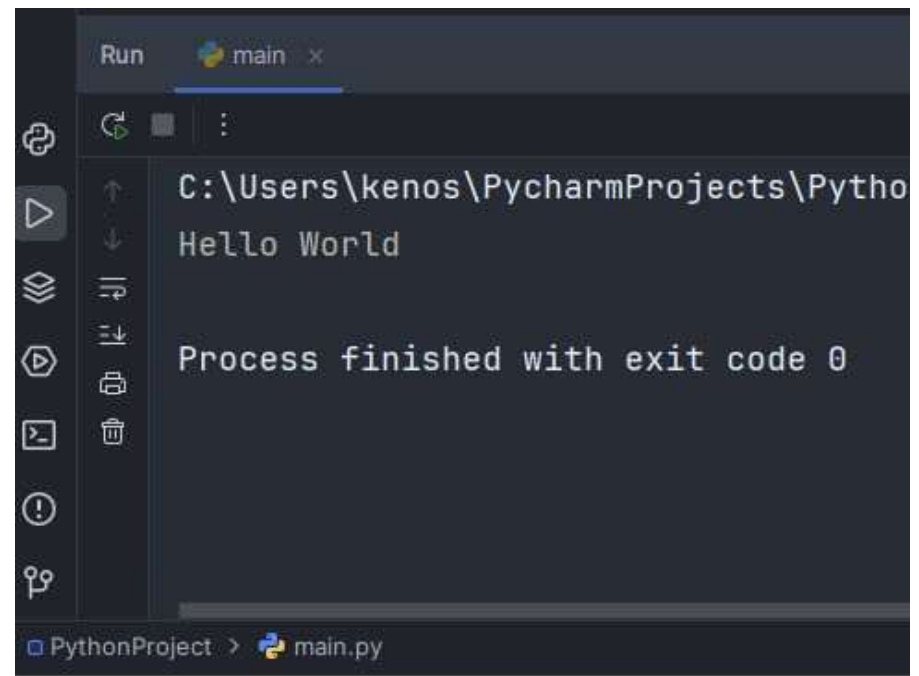
Your First Program



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 **()**.

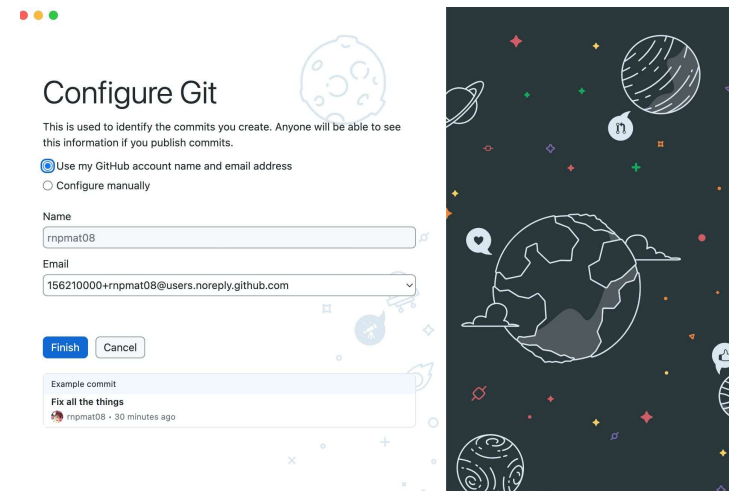
Play around with the **print()** function and try getting it to print different things!

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.

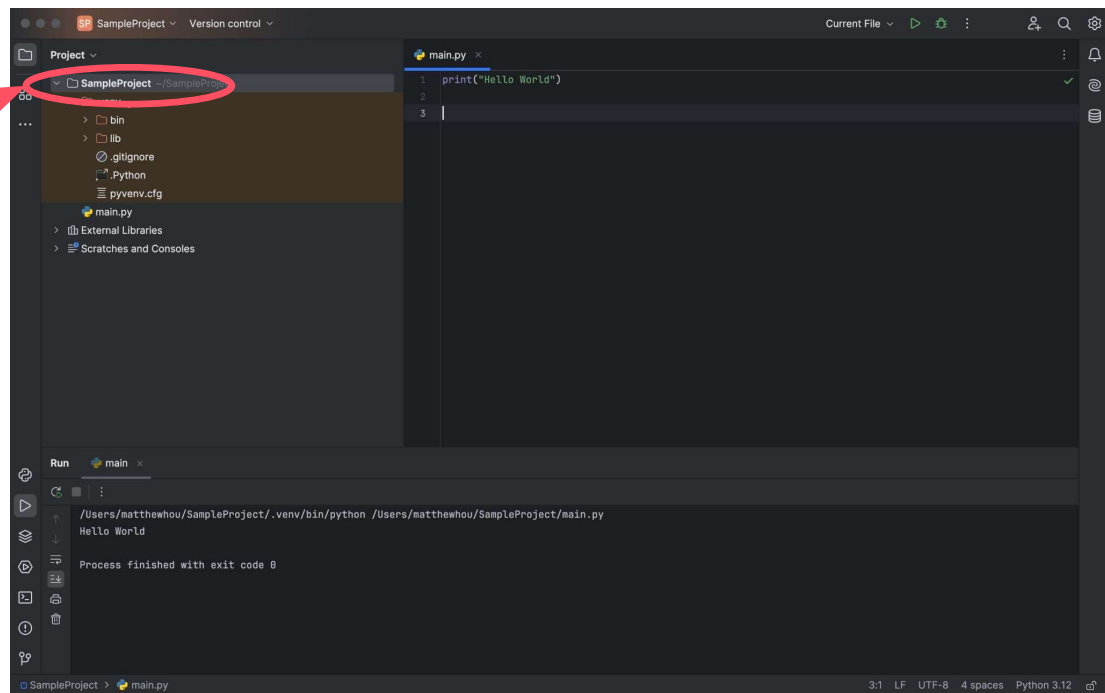
Installing GitHub Desktop

- Locate the download, then double click to open it
- On the welcome screen, click “Sign in to [GitHub.com](https://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...



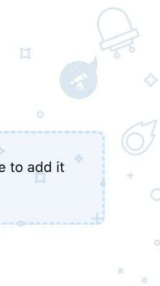
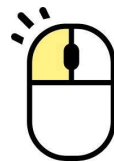
Create a New Repository on your Local Drive...



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

Create a New Repository ×

Name

SampleProject

Description

Local Path

/Users/matthewhou/

Choose...

☐ Initialize this repository with a README

Git Ignore

None

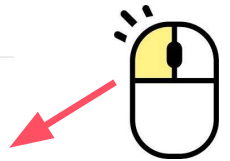
License

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

No local changes

There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.

Publish your repository to GitHub

This repository is currently only available on your local machine. By publishing it on GitHub you can share it, and collaborate with others.

Always available in the toolbar for local repositories or  P

Publish repository

Open the repository in your external editor

Select your editor in [Settings](#)

Repository menu or   A

Open in Eclipse IDE for Java Developers

View the files of your repository in Finder

Repository menu or   F

Show in Finder



Publish Repository

GitHub.com | GitHub Enterprise

Name

SampleProject

Description

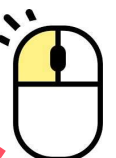
☒ Keep this code private

Organization

None

Cancel

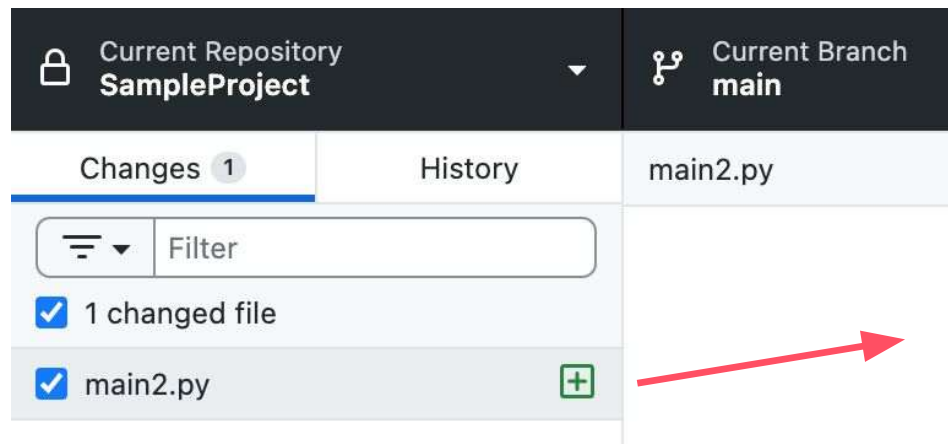
Publish Repository



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

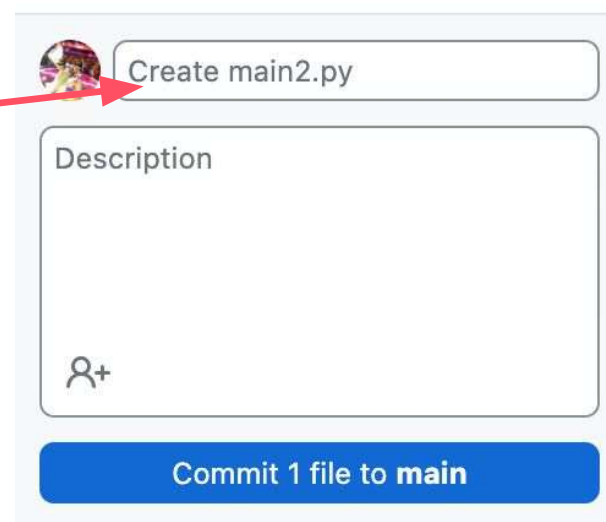


Automatic detection - you do not need to manually add files to the repository

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 committing

Add a
summary
here



The screenshot shows a commit interface. At the top, there is a text input field containing "Create main2.py". Below this is a large text area labeled "Description". At the bottom of the description area is a small icon of a person with a plus sign. At the very bottom is a blue button with the text "Commit 1 file to main". A red arrow points from the text "Add a summary here" to the top of the description text area. Another red arrow points from a mouse icon to the blue commit button.

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



No local changes

There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.



Push commits to the origin remote

You have 1 local commit waiting to be pushed to GitHub.

Always available in the toolbar when there are local commits waiting to be pushed or   P

Push origin

Open the repository in your external editor

Select your editor in [Settings](#)

Repository menu or   A

Open in Eclipse IDE for Java Developers

View the files of your repository in Finder

Repository menu or   F

Show in Finder

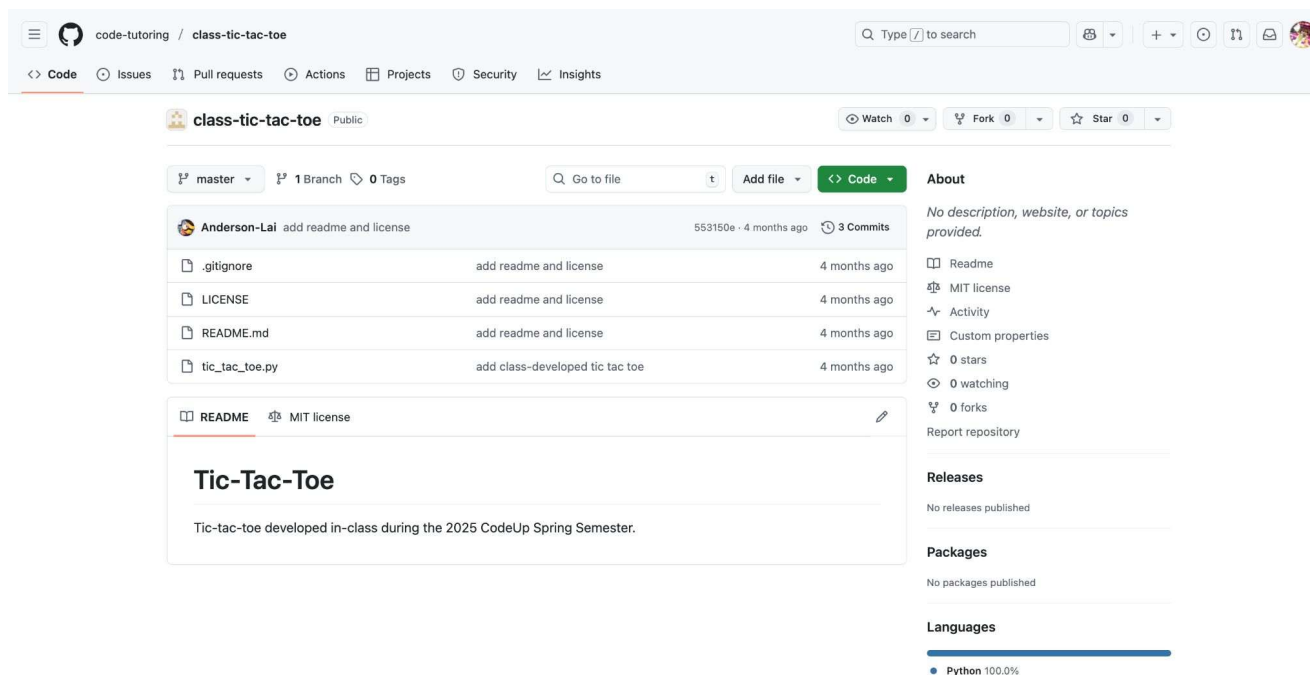
Open the repository page on GitHub in your browser

Repository menu or   G

View on GitHub

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”

The screenshot shows the GitHub repository page for 'class-tic-tac-toe' by Anderson-Lai. The repository is public and has 1 branch and 0 tags. The 'Code' button is highlighted with a red arrow. The 'Code' dropdown menu is open, showing options for cloning the repository (HTTPS, SSH, GitHub CLI) and downloading the files (Open with GitHub Desktop, Download ZIP). The 'Download ZIP' option is highlighted with a red arrow.

class-tic-tac-toe Public

Watch 0

master 1 Branch 0 Tags

Go to file t Add file <> Code

Anderson-Lai add readme and license 553150e · 4 months ago 3 Commits

.gitignore	add readme and license	4 months ago
LICENSE	add readme and license	4 months ago
README.md	add readme and license	4 months ago
tic_tac_toe.py	add class-developed tic tac toe	4 months ago

Local Codespaces

Clone ?

HTTPS SSH GitHub CLI

<https://github.com/code-tutoring/class-tic->

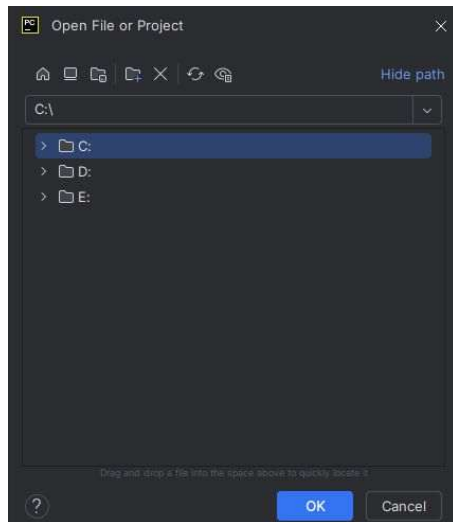
Clone using the web URL.

Open with GitHub Desktop

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

