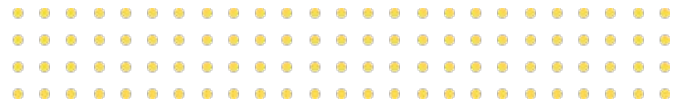




Discussion 3:

The Terminal, Git and Rectangles



Reminders



1. Submit **GitHub repository link** to Canvas **Assignments / Discussion 3**
 - **Due by the end of the discussion**
2. Homework 3 due this **Friday January 31 @11:59PM**
 - Submit **GitHub repository link** (will go through today)
3. **SPACED PRACTICE TOOL** (5 questions max/day)

What is a Terminal?



- A terminal is a text-based interface to the computer
- You input commands to tell your computer to do things, for example:

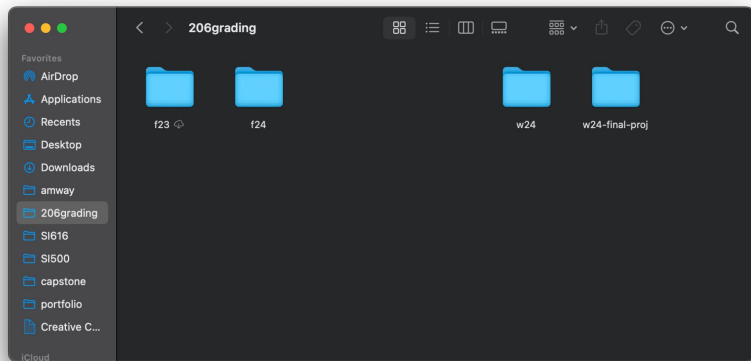


Figure 1: Graphical User Interface (GUI)

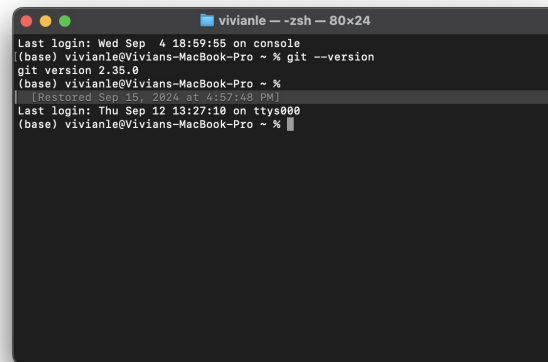


Figure 2: Command Line Interface

Typical Git Workflow



1. Clone the repository: **git clone <link>** (from GitHub Classroom)
2. Add file to staging area: **git add <file1> (<file2>)**
3. Make snapshot of current change: **git commit -m "<message>"**
4. Upload to cloud server (GitHub): **git push**

Use **git status** to check current changes. **Make sure you are in the same directory/folder of the .py file you are working on (206-discussion4-fall2024-...)**

NOTE: **Git commits (at least 4 per HW/projects)**

Discussion 3 Assignment



- Go to **Canvas Assignments > Discussion 3**
- Accept the GitHub Classroom assignment and clone the repo.
 - After clicking the link, **wait a few seconds**, reload your page and click on the **green Accept Assignment** button.
- If you are having issues:
 - Canvas Modules > Week 4 > discussion3_starter.py

Discussion 3 Assignment



SI206

Accept the assignment — 206_Discussion4_Fall2024

Once you accept this assignment, you will be granted access to the `206-discussion4-fall2024-vivianle05` repository in the [SI206-UMich](#) organization on GitHub.

Accept this assignment

Accept the assignment, then ->

You're ready to go!

You accepted the assignment, **SI206-W25-Discussion3**.

Your assignment repository has been created:

 <https://github.com/SI206-UMich/si206-w25-discussion3-vivianle05>

We've configured the repository associated with this assignment.

Note: You may receive an email invitation to join [SI206-UMich](#) on your behalf. No further action is necessary.

Click on the repository link

Discussion 3 Assignment



The screenshot shows a GitHub repository interface. At the top, the repository name is '206-discussion4-fall2024-vivianle05' (Private), forked from 'SI206-UMich/si206-206_discussion4_fall2024-206_Discussion4_Fall24'. The 'Code' button is highlighted with a red box. The 'Clone' dropdown menu is open, showing options for 'Local' and 'Codespaces'. Under 'Local', the 'Clone' option is selected, and the 'HTTPS' protocol is chosen. The URL 'https://github.com/SI206-UMich/206-discuss:' is displayed. The repository contains files: 'Discussion4.py', 'Discussion4_git.pdf', and 'README.md'. The title 'SI 206 Fall 2024 Discussion 4' is visible at the bottom.

Copy link + Paste in VSCode Terminal -> `git clone <link>`

Typical Git Workflow



1. Clone the repository: `git clone <link>` (from GitHub Classroom)
2. Add file to staging area: `git add <file1> (<file2>)`
3. Make snapshot of current change: `git commit -m "<message>"`
4. Upload to cloud server (GitHub): `git push`

Use `git status` to check current changes. **Make sure you are in the same directory/folder of the .py file you are working on (206-w25-discussion3-username)**

NOTE: Git commits (at least 4 per HW/projects starting with HW4, but you can get a few early.)

Practice



1. Object-oriented programming

- a. Create a rectangle class and methods to calculate the area and perimeter.
- b. Create the rectangle instances, and call the methods

2. Git: Commit code after each method and push to GitHub in the end

- a. Please commit at least 4 times while working on Discussion 3 (and HW/projects moving forward); you might get in the habit of doing a commit each time you finish writing a new function or method

Rectangle Class Problems 1 & 2



- **Problem 1:** Create the constructor `__init__` method with arguments **width** (an integer) and **height** (an integer)
 1. It sets an instance variable, "width" to the passed argument, **width**
 2. It sets an instance variable, "height" to the passed argument, **height**

- **Problem 2:** Create the `__str__` method
 1. It returns a string, "A rectangle with width <**width**> and height <**height**>".
 - For example, "A rectangle with width 3 and height 6"

Rectangle Class Problem 3 & 4



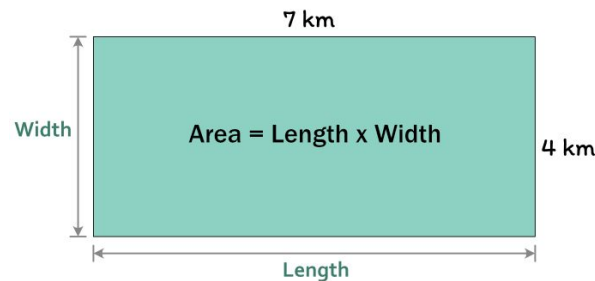
- **Problem 3:** Create the `area_calculator` method

- It returns the area of the rectangle (**float**)
- Area of rectangle = length × width.

-
- **Problem 4:** Create the `__eq__` method with two arguments - **self** and **other** (an object)

- It returns a Boolean:
 - **True:** If the two rectangles have the same width and height.
 - **False** otherwise

Area of a Rectangle



$$\begin{aligned} A &= LW \\ A &= 7 (4) \\ A &= 28 \text{ km}^2 \end{aligned}$$

Sample Output

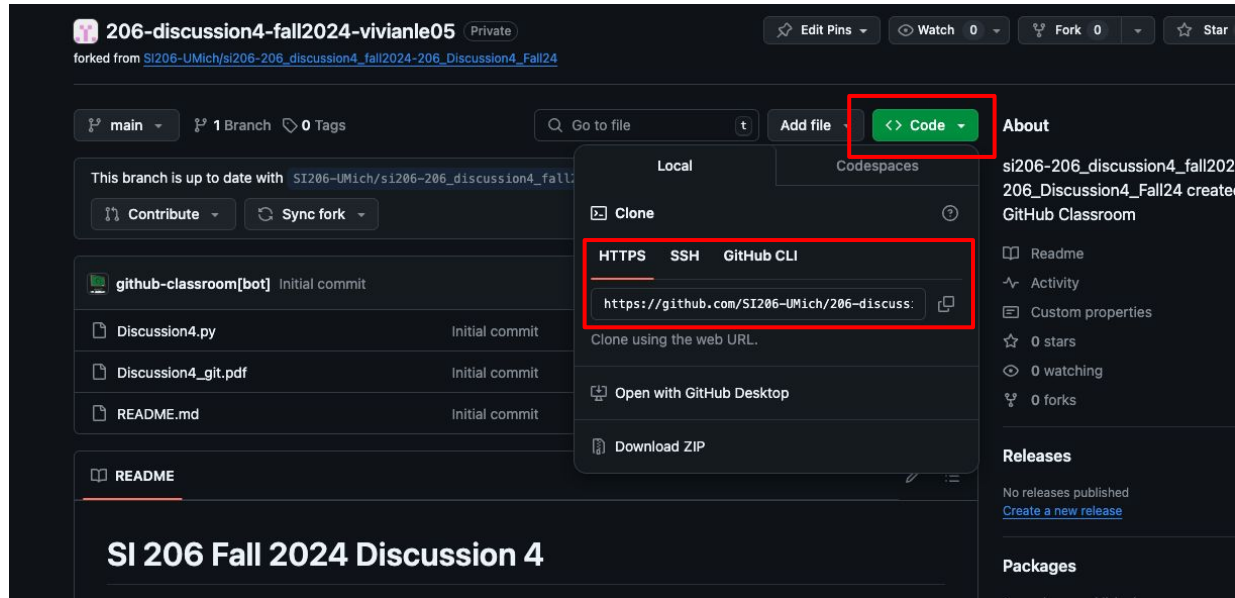


```
Rectangle 1:  A rectangle with width 10 and height 10  
Area: 100  
-----
```

```
Rectangle 2:  A rectangle with width 10 and height 15  
Area: 150  
Equal: r1 == r2?  False  
-----
```

```
Rectangle 3:  A rectangle with width 10 and height 15  
Area: 150  
Equal: r2 == r3?  True  
-----
```

Discussion 3 Assignment



Copy link -> **Submit link to Canvas > Assignments > Discussion 3**

Typical Git Workflow



1. Clone the repository: **git clone <link>** (from GitHub Classroom)
2. Add file to staging area: **git add <file1> (<file2>)**
3. Make snapshot of current change: **git commit -m "<message>"**
4. Upload to cloud server (GitHub): **git push**

Use **git status** to check current changes. **Make sure you are in the same directory/folder of the .py file you are working on (206-w25-discussion3-username)**

NOTE: **Git commits (at least 4 per HW/projects)**