

CS506 Fall 2025 - Lab1

Git and Github

This lab introduces the basics of version control using Git and GitHub. In this lab you will:

1. Use Git and GitHub for version control — including forking, branching, committing, and pushing changes.
2. Maintain a clean workflow — squashing commits and preparing a PR.
3. Do an exercise on polynomial expression system in Python.

Prerequisites

Before starting, review the prerequisite worksheet provided in class:

https://github.com/gallettilance/CS506-Fall2025/blob/main/lecture_01/worksheet_01.ipynb

You will need have steps 1-6 finished but if you didn't no worries, please do it now and ask TAs any questions you have.


Instructions

Step 1: Open github classroom link: <https://classroom.github.com/a/1wPaDLtk>. Once you accept the lab assignment Github classroom automatically creates a forked repository for you but if you had to do it manually you can do it via Github UI, which is not needed for this lab.

Step 2: After you accept the assignment you will see a page with link to your forked repo. You see a page like this:

You accepted the assignment, **Lab1**.

Your assignment repository has been created:

 <https://github.com/CS506-Boston-University/lab1-dspoorthy>

We've configured the repository associated with this assignment.



 Your assignment is due by **Sep 11, 2025, 04:00 UTC**

Clone your forked repository using the command:

```
git clone git@github.com:CS506-Boston-University/lab1-YOUR-USERNAME.git
```

Step 3: Create and switch to a new branch named **feature-polynomial**:

```
git checkout -b feature-polynomial
```

You will need to finish the below exercises and for any additional instructions on how to complete them please refer to README.md in your GitHub repo. For each exercise please go over all the instructions and also go over Getting Started, Running the code, Tips and Github Action section before you start implementing.

Exercise 1

Complete the Sub and Div classes to handle polynomial subtraction and division in polynomial.py file.

Run tests: Use `python test_polynomial.py`

Once all the tests are passed do:

```
git add polynomial.py
```

```
git commit -m 'Added subtraction and division'
```

Exercise 2

Add evaluate(x_value) methods to all classes to compute polynomial values.

Run tests: Use `python test_polynomial.py`

Once all the tests are passed do:

```
git add polynomial.py
```

```
git commit -m 'Added evaluate methods'
```

Exercise 3 (Optional)

This optional, you can finish this if you have enough time during the lab.

Add simplify() methods to all classes to simplify polynomial expressions.

Step 4: Squash your commits into one clean commit:

```
git rebase -i main
```

- Keep the first commit as 'pick'
- Change the later commits to 'squash'
- Edit the commit message into one clear summary

Then push your branch safely:

```
git push origin feature-polynomial --force-with-lease
```

This will create a branch for you in remote and you can create a PR on your GitHub interface.

Vim Instructions:

1. To edit the file: press i to enter insert mode, then make your changes (e.g., changing pick to squash).
2. To exit and save: press Esc to leave insert mode, then type :wq and press Enter.
3. To exit without saving (if you made a mistake): press Esc, then type :q! and press Enter.

Lab Evaluation Guidelines

Pull Request (PR) [Steps 1-4] (20 points)

1. You must create a Pull Request (PR) during your assigned lab session.
2. Credit will only be awarded if the PR is created within your scheduled lab time.

Passing Tests [Exercise 1-2] (20 points)

1. All tests in the GitHub workflow must pass in order to receive full credit.
2. Note that Exercise 3 is optional, you can submit it if time permits.

Gradescope

1. You will need to upload the link to your created GitHub repo from classroom to gradescope.

Attendance Recording

1. Attendance will be tracked using a QR code. The QR code timestamp will be matched with the PR creation time.
2. Credit will only be given if both actions occur during your assigned lab session.

AI Policy

Students are welcome to use AI tools (like ChatGPT or others) as a supplement to their learning, unless explicitly specified not to.