

Homework Exercises: Version Control (Git & GitHub)

Section 1: Terminology & Concepts

1. Match the Term:

Term	Definition
Repository	A project folder tracked by Git.
Commit	A snapshot of changes recorded in the Git history.
Branch	A copy of your codebase for parallel development.
Merge	Combines changes from different branches.
Staging Area	A holding area for files before committing.
Conflict	Happens when two commits modify the same line.

Section 2: Command Line Practice

2. Git Commands Quiz:

1. Initialize a new Git project: `git init`
2. Create a new branch called "feature-x": `git branch feature-x`
3. Stage all files: `git add .`
4. See changes that are staged: `git status`
5. Combine changes from feature-x to main: `git merge feature-x`

Section 3: GitHub Workflow

3. Pull Request Scenario:

You're working on a branch `feature/login`. Here are the steps to push it and open a pull request:

1. Make sure your branch is up to date: `git pull origin main`
2. Commit your changes:

```
git add .  
git commit -m "Add login feature"
```

- 2.
3. Push the branch to GitHub: `git push origin feature/login`
4. Go to the repository on GitHub.
5. Click “Compare & pull request” for the feature/login branch.
6. Add a title and description, then click “Create pull request”.

Section 4: Best Practices

4. Commit Messages Challenge:

Clear Commit Message:

Add responsive navbar component for mobile and desktop views