Git & GitHub Cheatsheet

Essential commands and workflows for students and developers

Basic Git Commands

Setup
- `git config --global user.name "Your Name"`
- `git config --global user.email "you@example.com"`
- `git init` - Initialize a Git repository

Status & Logs
- `git status` - Check repository status
- `git log` - View commit history
- `git log --oneline` - Compact commit history

Staging and Committing

Staging
- `git add file.txt` - Stage a file
- `git add .` - Stage all changes

Committing
- `git commit -m "Commit message"` - Create a commit
- `git commit --amend` - Modify the last commit

Branching and Merging

Branching
- `git branch` - List branches
- `git branch new-branch` - Create a branch
- `git switch new-branch` - Switch to a branch

Merging
- `git merge branch-name` - Merge a branch
- `git branch -d branch-name` - Delete a branch

Remote Repositories

Connecting
- `git remote add origin URL` - Connect to a remote
- `git remote -v` - View remotes

Fetching & Pulling
- `git fetch` - Download changes
- `git pull` - Download and merge changes

Useful Tips

- Use `git stash` to save temporary changes.
- Keep commit messages concise and descriptive.
- Regularly pull changes to avoid conflicts.