



Introduction

The Problem

Sharing/Backing up Code

- Some people use flash drives, Google Drive, or no backups
 - This is risky: What if the laptop/flash drive gets lost or forgotten?
- While convenient, Google Drive/Dropbox can get conflicts when multiple people change the same code, which is annoying to deal with
- The solution: **Git**

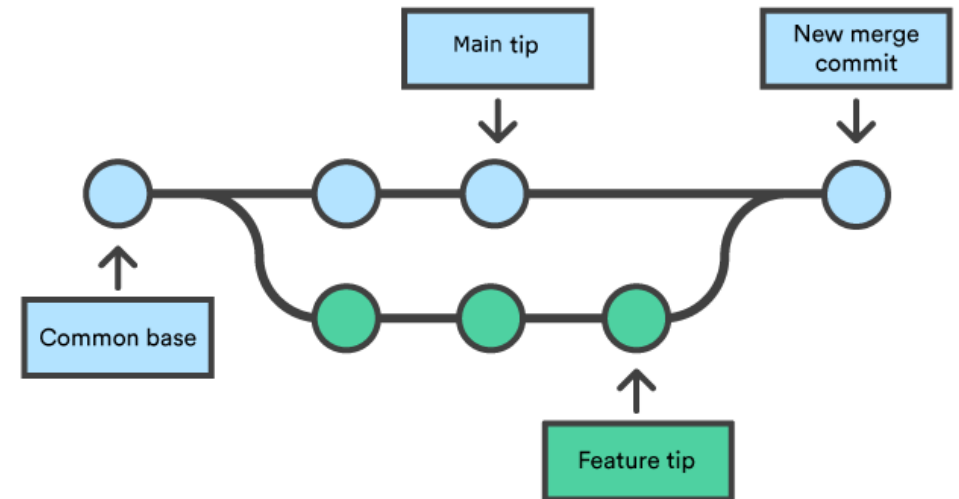
Git

Git is **Version Control Software (VCS)** that keeps track of changes to your code and helps merge any conflicts when you have multiple copies



Git

- Branches can be created which allow people to work on a change without affecting the main branch, then eventually *merge* that change into the main branch



GitHub



- **GitHub** is a website that hosts Git repositories and can act as backup for code.
- This allows multiple people to work on and share the same code.
 - When one makes a change, they can *push* those changes to GitHub
 - Then, others can *pull* the changes

Basic Git commands

- `git clone <repository>`
 - downloads a repository from a remote repository (e.g. GitHub)
- `git pull`
 - updates local repository with changes from the remote
- `git add -A`
 - adds changes to be staged for a commit
- `git commit -m "message"`
 - takes the staged changes and compiles them into a commit
- `git push`
 - pushes your local commits to the remote repository

Downloads

- Windows
 - <https://git-scm.com/>
- MacOS
 - git may already be installed; otherwise the above website should have macOS installers
- Linux
 - git may already be installed; if not use your package manager
- Optional
 - GitHub Desktop is a GUI application that integrates nicely with GitHub
 - Requires git to be installed on the computer
 - <https://desktop.github.com/>

Resources

- Learn x in y
 - <https://learnxinyminutes.com/docs/git/>
- Setting up ssh with GitHub
 - <https://docs.github.com/en/authentication/connecting-to-github-with-ssh/generating-a-new-ssh-key-and-adding-it-to-the-ssh-agent>
 - <https://docs.github.com/en/authentication/connecting-to-github-with-ssh/adding-a-new-ssh-key-to-your-github-account>