AST1501 - Introduction to Research

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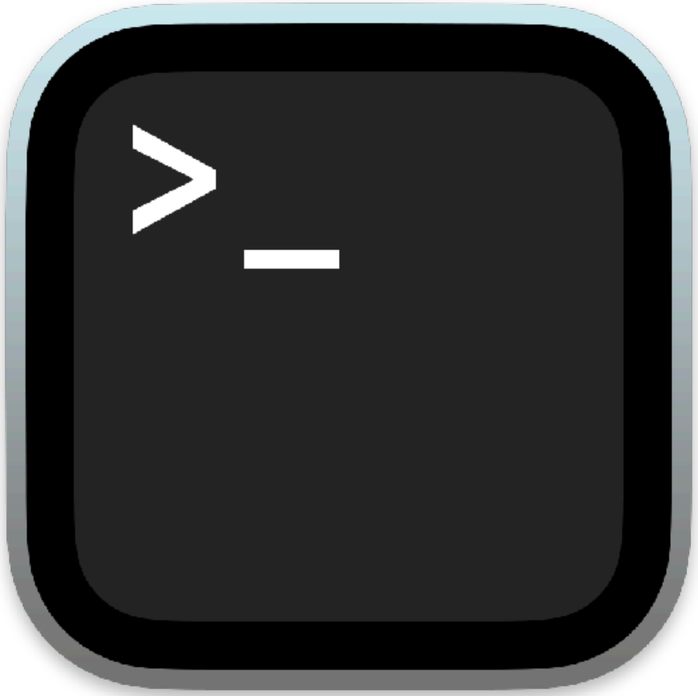
Intro to computing

Overview

- The Terminal
- Code editors
- `git`
- GitHub



The Terminal

The Terminal

- Even in the age of powerful code editors, will spend a lot of time in the terminal, especially when doing remote computing
- Things to cover:
    - Basic commands: cd, ls, rm (-i and -rf), rmdir, less, cat, grep, top, df/du, wget/curl,
    - Basic structure of UNIX file systems
    - Environment variables, echo
    - Start-up files
    - Aliases

Code editors

git

Why use Version control?

- Version control keeps the history of changes to your code (or documents, images, etc., but text files work best), allowing you to trace changes over time. This frees you from having to track changes manually.
- Most version control systems use a *central location* for the main copy of your code, which acts as
  - A crucial back-up of your work
  - A central place to share your code with yourself (for use on multiple machines) and others (e.g., collaborators)
- Branches allow you to keep multiple in-progress versions of your code that can be developed in-parallel and merged later

`git` version control

- `git` is the latest and greatest version control system, probably the only one you've heard of
- `git` has a decentralized approach to version control: by default, each version ("clone") of the code *repository* has the *full history of changes*
- `git` is now closely associated with GitHub although technically they are independent from each other