title: Programming Fundamentals

subtitle: Reference

## Files and Directories (1-1 filedir.md)

- The file system is responsible for managing information on the disk.
- Information is stored in files, which are stored in directories (folders).
- Directories can also store other directories, which forms a directory tree.
- man command or command --help returns information about the command.
- cd path changes the current working directory.
- Is path prints a listing of a specific file or directory;
  Is on its own lists the current working directory.
- pwd prints the user's current working directory.
- whoami shows the user's current identity.
- / on its own is the root directory of the whole filesystem.
- A relative path specifies a location starting from the current location.
- An absolute path specifies a location from the root of the filesystem.
- Directory names in a path are separated with '/' on Unix, but '\' on Windows.
- '..' means "the directory above the current one";
  - '.' on its own means "the current directory".
- Most files' names are something.extension.
- Most commands take options (flags) which begin with a '-'.
- ~ stands for the user's home directory. Use it at the beginning of a path, like
  ~/path/to/file
- If you type enough letters of your command or argument, then you can press tab to have it automatically completed.
  - Double tab displays all the available options.
- Up Arrow displays last command in the command line.

## **Creating Things (1-2-create.md)**

- cp old new copies a file.
- mkdir path creates a new directory.
- mv old new moves (renames) a file or directory.
- rm path removes (deletes) a file.
- rmdir path removes (deletes) an empty directory.
- echo "hello!" prints the text between quotes to the shell.
- > redirects the output of a command to a file.
- touch path creates an empty file if it doesn't already exist.

## Vim

'insert' mode by typing i in 'normal' mode. When you are done and want to exit vim, make sure you are in 'normal' mode (press Esc a few times for good measure), then type :q then Enter to quit, :wq then Enter to save and quit, or :q! then Enter to save without quitting.