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Astronomy 300 - Week 1 Notes - UNIX Directory Structure
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The Unix directory structure is a convention for an organization of computer
files. This file structure is shared by many different systems and OS like
Mac and Windows.

The Unix directory is a tree-like structure, usually drawn as an inverted
tree, with at the top a single directory, from which subdirectories branch
out. Each subdirectory in turn can be the origin of a set of subdirectories.

For this class we are going to call top directory the HOME directory.

In our JuypterHub the HOME directory is usually called /home/jovyan

Our class directory structure looks like:

  HOME
    └── Astro300-W23
          ├── Data
          └── Info

Path - This often refers to the complete name for a directory. The
subdirectories are separated by "/"

For example, the path of the Data directory is: /home/jovyan/Astro300-W23/Data/

Working Directory - This is the directory you are currently in.

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Terminal Commands
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In this class I will always indicate a terminal command with a $

The $ is the terminal prompt - You do not type the $

Always press [Enter] at the end of a terminal command

$ pwd [Enter]          Show the current directory path.

$ ls                   list the files in a directory

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cd - change directory

$ cd               Just typing "cd" will always bring you back to your
                   HOME directory

$ cd Astro300-W23/Data       change to the Data subdirectory

  HOME                      ~
    └── Astro300-W23        ..
          ├── Data      <-  .
          └── Info

$ ls .              ls of the directory you are in

$ ls ..             ls of the directory above the one you are in

$ ls ~              ls of the HOME directory

$ ls ~/Astro300-W23 ls of HOME/Astro300-W23/

$ ls ../Info        ls of HOME/Astro300-W23/Info
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[TAB] Completion - So very useful!

$ ls C[TAB]

$ ls -l C[TAB]

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$ cp Constellations.csv junk            Copy files
$ mv junk junque                        Rename files
$ rm junque                             Delete file (NO RECOVERY!)

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$ [Ctrl]-L         Clears the terminal
$ [Ctrl]-C         Breaks command - returns to prompt

[UP] [DOWN] arrows - command history

$ history          Shows history of commands

$ !num             will rerun num command

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What is in a file? (head and tail)

$ head Constellations.csv            first 10 lines
$ tail Constellations.csv            last 10 lines

$ head -20 Constellations.csv        first 20 lines
$ tail -20 Constellations.csv        last 20 lines

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Making pieces of files (> and >>)

$ head -10 Constellations.csv > New.csv    (>) crates file, overwriting old

$ ls

$ wc New.csv                               number of lines, words, and bytes

$ tail -5 Constellations.csv >> New.csv    (>>) appends data to file

$ wc New.csv

$ cat New.csv
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