

# Discussion 1 - 1/25/2023

---

## Intruduction

We don't use Java in this class

We code in an environment where we connect to the Grace cluster. It uses the OS Red Hat Enterprise Linux which is a Unix environment. This environment runs a tcsh shell.

## SSH

To use SSH, type `ssh` into the command line.

Wait, First, we must take a look at this handed out piece of paper. This piece of paper has many ssh commands.

To use SSH, type `ssh -Y {directoryid}@grace.umd.edu` into the command line (Mac).

Then, type in your directory id password.

To disconnect from grace, type `exit`.

## Some basic unix commands:

### `ls`

This lists all the items in the directory you're in.

### `ls -l`

Gives more information, including the privilege for each file. Things with x at the end stands for executable. Things with an arrow `->` shows the file is a shortcut.

### `cd`

Stands for "change directory". changes your working directory to whichever directory you specify

### `mkdir`

Stands for "make directory". creates a directory (folder).

.

The `.` represents the current directory

### `pwd`

Stands for "present working directory". it tells you what directory you're in.

### `mv`

Stands for "move". moves the first argument to the second argument

## cp

Stands for "copy". Copies the first argument to the second argument.

Must use `-r` because it stands for recursive and it makes sure everything is copied

## rm

Stands for "remove". removes a directory or file. use `-r` to remove everything inside. `-r` stands for recursive.

## rmdir

Stands for "remove directory". recursively removes a directory.

## logout

Does the same thing as `exit` but just for the login shell.

## man

Stands for "manual". shows you the official manual for a command.

## up and down arrows

These arrows allow you to scroll through your previously used commands so that you don't need to type them.

## tab

This key autocompletes while in the tcsh shell.

## vim

This opens the `vim` editor which lets you edit a file you specify.

## emacs

This opens a graphical editor which lets you edit a file you specify. This requires an x-server which is what enables you to open a graphical interface through ssh.

## x-servers

If you're on Mac, download XQuartz to have a CLI (command line interface) with an x-server. If you're on windows, install mobaXterm.

## vscode

how to set up vscode with grace for cmsc216: <https://www.youtube.com/watch?v=X2wVY-7wvbw>

## emacs tutorial:

in emacs, press ctrl+h for help

in emacs, use M-x snake to play snake