Discussion 2 - 1/30/2023

Introduction

These are the notes I take during class.

ssh review

ssh into `grace` by typing `ssh -Y <username>@grace.umd.edu` into a terminal.

emacs

emacs is a visual code editor which can be opened through grace. we need an xserver such as mobaxterm or xquartz.

introduction to emacs

open emacs by typing `emacs &`. The `&` is an ampersand. It tells the CLI to run emacs in the background so that the CLI stays useable.

exiting emacs

exit emacs by pressing `ctrl-X`+`ctrl-X`

giving commands to emacs

in emacs, we press `esc`+`X` to open the thing where it takes commands at the bottom of the window. It should show `M-x` at the bottom of the window.

quitting emacs

press `ctrl`+`X` and `ctrl`+`c`. hold `ctrl` the whole time. By holding down `ctrl`, the action of pressing `X` and `C` is like a chord in musical instruments.

chords in emacs

chords are when you press and hold `ctrl` and some other keys to execute a command. For example, quitting emacs is the chord `C-x C-c` where you press `x` then `c` while pressing and holding `ctrl` down the whole time.

opening emacs in the current directory

type `emacs . &` in the CLI to open emacs in the current directory. the `.` represents the current directory. make sure u put a space before and after the `.`.

find file in emacs

use the chord `C-x C-f` to open the find file thing in emacs.

hello world

create a file called helloworld.c and write this code:

```c
#include <stdio.h>

int main () {

    printf("Hello World\n");

    return 0;
}
```

This will print hello world after we compile.

saving the file

use `C-g` to save the file in emacs.

compiling

`gcc` is the compiler that we use in grace. To use it, we type `gcc <filename.c> -Wall --ansi -o`

- `-Wall` shows you memory issues when you compile it.
- `-o` allows you to specify a file name so the executable becomes something you specify instead of "a.out".
- `--ansi` tells the compiler to use standard C which is c90, a version of c written in 1990 and standardized in the industry.

You can put this command in either emacs or in grace in the working directory.

buffer

in emacs, get `M-x` using `esc`+`X` and then type `buffer` and hit `tab`. This lets you switch through files.