

WELCOME TO CIS 241

SYSTEM-LEVEL PROGRAMMING AND UTILITIES

WHAT'S THIS CLASS ABOUT?

- Working in Linux (1st half)
- C Programming Language (2nd half)

SYLLABUS

<https://github.com/cis241-f19/class-material/blob/master/syllabus.pdf>

- Need to create a github account to view it
- Check your email for an invite

CIS LABS

- We are in EOS
- Everyone should have an account -- try logging in
- Want to work here? -- Get a keycard
- More info: <https://github.com/cis241-f19/class-material/blob/master/eos-info.pdf>

DON'T WANT TO HERE -> REMOTE ACCESS

SSH - SECURE SHELL (CH17)

- What's a shell?
- What shell am I using? `echo $0`
 - `$0` is expanded into command being run
- SSH is a way of securely connecting to a remote shell
- Try it!

TAKING A STEP BACK: BIGGER PICTURE

- Who cares?
 - Why is this important?
 - When will I need to use the shell?
- Answers:
 - Efficiency
 - Necessity
 - Only have shell access
 - Tools only available from command line

TAKING A STEP BACK: LINUX FILESYSTEM (CH04)

- Hierarchical filesystem
- root directory /
- other directories branch off from root (home, tmp, etc, ...)
- home directory for each user ~
- absolute paths from / or expanded by ~
- relative from current directory

NAVIGATING THE FILESYSTEM (CH03)

- `mkdir` - make a directory
- `cd` - change into a different directory
- `ls` - list files
- `rm` - remove
- `cp` - copy - careful
- `mv` - move/rename - careful
- `pwd` - print working directory

VIEWING FILES (CH03)

- `cat` - print out file
- `less` and `more`
- `head` - show beginning lines of file (default 10)
- `tail` - show last lines of file (default 10)
- `uniq` - displays file with duplicate lines removed
- `sort` - displays file with lines sorted

Mini-lab

1. Use `ssh` to access one of the eos machines
2. Make a directory for this mini-lab (you can call it whatever you want)
3. Use `cd` to change into that directory

Mini-lab(cont.)

4. Run `wget`

`https://raw.githubusercontent.com/fivethirtyeight/data/master/avengers/avengers.csv` **and**

`wget`

`https://raw.githubusercontent.com/fivethirtyeight/data/master/college-majors/recent-grads.csv`

Mini-lab (cont.)

5. Use `ls` to verify that you have 2 data files in this directory
6. Use `exit` to disconnect (now you'll be back on your local machine)