CS 3410
Intro to Unix, shell commands, etc...
(slides from Hussam Abu-Libdeh and David Slater)

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Operating systems

Unix Based
A quick survey

A. Pretty much new here.
B. Yeah, I know mv, ls, cp.
C. Regular user
D. Please, only posers use prebuilt kernels
Unix shells

A shell is a program that allows the user to interact with the UNIX system:

- read user’s input and parses it
- evaluates special characters
- setup pipes, redirections, and background processing
- find and setup programs for execution

Runs programs, strings programs together.
The Unix File System

Unlike Windows, UNIX has a single global “root” directory (/) instead of a root directory for each disk/volume. All files and directories are case sensitive: `hello.txt` != `hEllO.tXt`. Directories are separated by `/` instead of `\` in Windows.

UNIX: `/home/hussam/Documents/cs2043/2009/Lecture2/
Windows: `D:\Documents\cs2043\2009\Lecture2`

“Hidden” files begin with `.`: `.gimp`

Let's look at directories in my root directory.
Unlike windows, UNIX has a single global “root” directory / (instead of of a root directory for each disk/volume)
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Commands — 1/3 (basic)

- `man` (manual, get help)
- `^c` (control-c, kill the current program)
- `ls` (list files)
- `pwd` (print working directory)
- `mkdir` (make directory)
- `cd` (change directory)
- `rm` (remove files and directories)
- `cp` (copy)
- `mv` (move, same as rename)
Commands — 2/3 (basic)

gcc, g++ (compile C/C++ programs)
make (execute a Makefile)
touch (create empty file)
echo (print the argument to stdout)
cat (conCATenate, print one or more files to stdout)
less (quickly view a text file)
wc (word count)
grep (search for patterns in files)
emacs, vim (text editors)
Commands — 3/3 (other)

**ssh**  (connect to other computers)

**alias**  (redefine commands)

**git**  (keep track of your code over time

http://git-scm.com/)

**head**  (print the first part of a file/stdin)

**tail**  (print the last part of a file/stdin)

**for**  (for loop. run something many times)
Two demos
Customizing your shell

Example: my .bashrc file:
https://gist.github.com/4658802
Remember your two friends:

man

Google