

CS 35L Software Construction Laboratory (Lab1-A)

Mon, Jan 9, 2012

Course Information:

Course Web: <http://cs.ucla.edu/classes/winter12/cs35L/>

Piazza: <http://piazza.com/class#winter2012/cs35l>

Handouts & Sample Code:

<https://github.com/goodcjh/CS35W12>

Instructor in charge: Paul Eggert, Boelter 4532J.

Office hours: Mondays 10:00–11:00 and Wednesdays 14:00–15:00.

Instructor: Jiwen Cai (jwcai@cs.ucla.edu)

Tentative Office hours: Mondays 17:00–18:00 in Boelter 2432

Thursdays 9:00–10:00 in Boelter 2432

Prerequisite: CS 31

What is CS35?

This course leads you to train yourself as a professional and efficient software engineer.

In this course, we will cover:

Basic linux commands, vim, emacs, man, shell scripting, python, make, automake, version control (diff, git, svn), gdb, valgrind, and etc.

Grading:

50% homework and in-class presentations

10 homework, each homework contains two parts: 1) Lab 2) Assignment

We will go through the lab in class and leave assignments to you.

The deadline of the 1st homework is Jan 13, 2011 (this Friday!!!).

Lateness penalty: 1 day late: 1%, 2 days late: 2%, 3 days late: 4%, ...

Hour code: you may discuss in form of study group, but no copying from others

In-class presentation:

50% final exam

Final exam: Friday, March 23, 2012, 11:30am–2:30pm, no makeup.

Today's plan:

Introduction to several basic linux commands.

Learning Vim

Walking through part of Lab 1

Wednesday's plan:

Introduction to file attributes

More Linux commands

Learning Emacs

Finishing Lab 1

Unix and Linux:

Read wiki by yourself:

<http://en.wikipedia.org/wiki/Unix>

<http://en.wikipedia.org/wiki/Linux>

CLI (Command Line Interface) vs GUI (Graphic User Interface)

Steep learning curve

Speed with commands

Low resources usage
Power of scripting
Convenient remote access

Linux File System

Starts from root
Tree structured hierarchy
Command 1: `ls` -- list directory contents
Command 2: `cd` -- change directory
Command 3: `pwd` -- print name of current/working directory

Helper Commands:

Command 4: `man` -- an interface to the on-line reference manuals
Command 5: `which` -- locate a command
Command 6: `whereis` -- locate the binary, source, and manual page files for a command
Sometimes, just try `[command] --help` or `[command] -h`

Command is CLI programs with arguments:

`man`, `ls`, `cd`, and etc are actually programs, i.e. executable binary files
\$PATH environment variable tells the system where to find such programs
`echo $PATH` -- view the current path

Vim Level 1: Survival

Command mode and Insert Mode

`i` switch to insert mode before the current position
`a` switch to insert mode after the current position (append)
`I` jump to the first non-blank character in the current line and switch to the insert mode
`A` jump to the last character of the current line and switch to the insert mode
`x` delete one character
`:wq` save and exit (`:w` save, `:q` exit)
`:q!` exit without saving
`h``j``k``l` move cursor

Vim Level 2: Feeling good

`o` insert new line below the cursor
`O` insert new line above the cursor
`0` move to the begin of the line
`^` move to the first non-blank character in the line
`$` move to the end of the line
`g_` move to the last non-blank character in the line
`/` search for pattern
`dd` delete current line
`p` paste

Vim Level 3 and more:

Please read: http://blog.interlinked.org/tutorials/vim_tutorial.html

Today's lab: #1 #2 #4 #6 #8 #9 #11 #14