LECTURE 1-September 21, 2015

**Overview**

* Administrative info
* Introduction

-What is this course about?

-Environment

**Administrative Info**

* Classes: M/W/F at 10:30 am
* Lab: W/W/Th/Th
* Office Hours: T/Th, 11am-12pm
* TA: several TAs
* <http://www.cse.scu.edu/~sfigueira>

- lecture notes

- bulletin board

- reading information

* Grade

- final (30%)

- 2 midterms (30%)

- quizzes (20%)

- labs (20%)

- 10 labs --- 10% each

- Late submissions --- penalty

- No grade after 2 weeks

* Homeworks

- help for exams

- not mandatory

- do not count for final grade

* Tests every Friday

- quizzes --- weeks 2, 3, 5, 6, 8, 9

- midterms --- weeks 4, 7

* Lab projects

- mandatory

- individual

- require demo

* Environment

- Unix --- OS X

- HTML/PHP

- C

* Integrity

- Its is OK to help other students

- It is absolutely NOT OK to share code

- It is absolutely NOT OK to post course materials or exams

* Textbook

- C Primer Plus, “Stephen Prata”

* Other books

- A web-Based Introduction to Programming, “Mike O’kane”

- The C Programming Language, “Kernighan and Ritchie”, 2nd Edition, Prentice Hall, 1989.

- Practical C Programming, “Steve Qualline”

**What is this course all about?**

* Learn how to program
* Learn basic data structures
* Learn basic coding techniques
* Start with web programming: html/php
* Learn computer programming: C language

**Environment --- Unix**

* Machine ---MAC
* Operating System --- OS X
  + interface --- command line

- editor --- vi

**Environment**

* Command line

- OS X terminal: typing instead of clicking

- using your own computer

- Mac --- terminal

- Windows

1. Prompt window

2. Cygwin --- <http://cygwin.com/>

3. PuTTy

- from your computer’s terminal

- remote login to the DC

ssh –l uname mac.dc.engr.scu.edu

ssh –l uname linux.scudc.scu.edu

* Shell

- interface between the user and the operating system

- accept commands from the command line and execute scripts

**Files and Directories**

* Directory hierarchy

- Files are organized in a hierarchical structure

- The user can traverse the hierarchy with absolute or relative paths

* Special directories

-Home directory: The directory into which you login

-Working directory: The directory from which the user is executing a program

**Shell Commands**

* Create a directory

mkdir coen10

* Move into the directory

cd coen10

* Move back up

cd ..

* Show current directory

pwd

* List directory contents

ls [dir1 dir2 …]

* Look at the contents of files

cat file1 [file2 file2 …]

* Copy a file to another file

cp file1 file2

* Copy file(s) somewhere else

cp file1 [file2 file3 …] dir

* Change the name of a file

mv file1 file2

* Move file(s) somewhere else

mv file1 [file2 file3 …] dir

* Remove the files

rm file1 [file2 file3 …]

* Remove empty directories

rmdir dir1 [dir2 dir3 …]

* Info on commands

man <cmd>

* Edit a file with vi

vi filename

**vi**

* The programmer’s favorite editor!!
* 2 modes: viewing and inserting (initially in viewing mode)
* Some commands

- To change to insert mode:

i --- inserts at the sport

a --- inserts in the next spot

o --- opens a line below for insertion

O --- opens a line above for insertion

- To change to viewing mode:

esc

**vi --- Viewing Mode**

* Traversing the text

^f --- next page

^b --- previous page

^u --- up half page

^d --- down half page

* Moving the cursor

<return>: next line

<dash>: previous line

<space>: moves the cursor to the right

<delete> or <backspace>: moves the cursor to the left

h, j,k,l or arrows: move the cursor to the left, down, up, and right, respectively

* Deleting and copying (based on the cursor position)

x --- deletes this character

dw --- deletes this string

dd --- deletes this line

yy --- copies this line

yw --- copies this string

p --- pastes the text copied or deleted

* Replacing (based on the cursor position)

r<ch>: replaces this character by <ch>

s<str><esc>: substitutes this character by <str>

cw<str><esc>: changes this string by <str>

* Saving and quitting

:w --- saves

:q --- quits

:wq --- saves and quits

:q! --- quits without saving

* Searching

/<str><return>: searches for <str>

n --- finds the next

* Helpful!!!!!!!

u --- undo

period --- repeats the last command

A number before some commands determines repetition of the command