# CS16, Winter 2015, lab00 (Conrad's section)
# Please leave printed copy at your computer for next student

## Why this first lab is so important

**In order to succeed in this class, you need to QUICKLY become familiar with the computing environment that we will be using throughout the course.**

That computing environment involves the Linux OS computers that are in:

- **Phelps 3525** (where your Tuesday discussion sections are scheduled), and
- **CSIL**, the Computer Science Instructional Lab on the first floor of Harold Frank Hall (accessed through an outside door on the side facing the ocean.), which have an identical setup.

It MIGHT, SOMETIMES, be possible to do SOME of the course work on your own computer that is connected to the Internet. In lecture, I will give VERY brief demonstrations of how to access the CSIL machines over the internet using WIndows, Mac, and Linux.

We provide a "best effort" introduction to "how to do work on your own computer", and then YOU ARE ON YOUR OWN.

- There is no guarantee that this will always work.
- There are two many different OS versions, flavors, configurations, etc .for us to know the ins and outs of every single one.
- If/when you run into difficulties there, WE CANNOT BE YOUR TECH SUPPORT. If you have a simple question and we know the answer, we'll tell you, but if you don't, our answer will be: "ok, then do your work in CSIL until you figure it out."

So, please be aware:

- The primary computing environment for this course is the Phelps and CSIL labs.
- The CSIL labs are open from early in the morning to late at night every day of the week.
- Though many labs can be done from your own computer, there may be some that require you to work on CSIL (either over the internet, or coming in person.)

# Learning Goals

By the time you have completed this lab, you should be able to use the computers in both the CSIL and the Cooper labs to do basic things

- Creating directories (folders), and copying, renaming and deleting files using the Unix command line.
- Creating and making changes to C++ source files using the Emacs or Vim text editor, compiing, finding and fixing syntax errors, and running the program.
- Submitting assignments with the submit.cs.ucsb.edu system.

That's a bit general, so let's get more specific...

- Use the computers in both the CSIL and the Cooper labs
  - Know where the CSIL lab is located *(in Harold Frank Hall, on the side of the building closest to the ocean, outside the glass double doors)*
  - Know where the Phelps 3525 lab is *(third floor of the west wing of Phelps Hall---the one that is closest to Isla Vista and Storke Tower)*
  - Be able to login with your "CSIL account" *(This the same as your "College of Engineering account"the one you created at https://accounts.engr.ucsb.edu/create. It is a special username/password used with the computers that are set aside for College of Engineering classes. Note that you are authorized for a CoE account during the time you are enrolled in a CS programming class, even if you are not a CoE student, )*
  - Be able to find a web browser on those computers *(Firefox or Chrome)*
  - Be able to find the command prompt on those computers *(also known as the **Unix prompt**)*
  - Be able to log out of those computers
- Basic management of directories and files
  - Be able to create subdirectories under your "home directory" on those computers *("directory" is another name for what is often called a "Folder" in the Windows and Mac operating systems)*
  - Be able to use a text editor to make changes to files *(We encourage the use of emacs or vim.)*
  - Be able to copy a program into your directory from the course website. (*This can be done by "save as" in a web browser, or with a direct cp command at the Unix command prompt.)*
- Run a C++ program that you copied from the lab instructions
- Know how to submit assignments in this class with the "turnin program"
  - It also requires knowing how to use the cd command at the Unix prompt to get into the correct directory
  - Finally, you need the correct form of the submit command

This assignment is designed to make sure you are comfortable working in the Phelps 3525/CSIL environment and know how to submit your work. So, this lab is mostly about mechanics, not concepts. As a result, this assignment is not particularly intellectually challenging. Future labs will have more intellectual challenge.

If you are working from your own computer at home or in your dorm, i.e. in not in Phelps 3525, or the CSIL Lab, you may need information on:

- how to access CSIL from Windows via Putty (http://www.cs.ucsb.edu/~pconrad//topics/CSILviaPutty/) or
- how to access CSIL from Mac or Linux via ssh (http://www.cs.ucsb.edu/~pconrad//topics/CSILFromMacOrLinux/)

**Finding Phelps 3525:**

Phelps 3525 is located on the third floor of Phelps Hall, which is in the corner of campus towards the mountains, and on the far side of Storke Tower from IV. Phelps is divided into several parts, and you can't necessarily get from the third floor of one part to another, so its important to go up the right staircase or elevator. The part of Phelps that you want is the one that is to the "left" if you facing towards the mountains, the wing closest to IV. It is immediately "behind" Campbell Hall (the big round auditorium near the main campus flagpole). Go around to the "back of the building", and you'll see the side of Phelps that you want.

- Phelps 3525 is only available during your weekly scheduled discussion section—it is not open for your use at other times.
- At other times during the week, you can work in CSIL, the "Computer Science Instructional Lab".

**Finding CSIL:**

CSIL is located in Harold Frank Hall (HFH). You enter from an outside door. To locate CSIL, find the "main front entrance" to Harold Frank Hall, on the side of the building that faces the ocean. Stand *outside* the front glass door, with your *back* to the building, *facing the ocean*. The entrance to CSIL is now on your *left*.

# Step by Step Instructions

## Step 0: If you haven't created your College of Engineering Account, do so now.

Ideally, before this lab begins, you will have been instructed to visit the link below, and create your "College of Engineering" computer account:

- https://accounts.engr.ucsb.edu/create

If you already did that, then wonderful! Proceed to step 1.

Otherwise, if you've arrived at your lab session without having already done this:

- Your TA can log on to one of the machines, and provide a web browser for you to use to fill out the form to create the account.
- Once you create the account, it may take several minutes before the account is active. So you may like to ask one of your classmates if you can look on with him or her for 5-10 minutes while you wait.
- Once you've created the account, and waited 5-10 minutes, try moving on to Step 1.

If it doesn't work: troubleshooting information is available at:

- http://www.cs.ucsb.edu/~pconrad/cs16/10S/labs/lab00/trouble.html

Note that *if you are not enrolled in the course on GOLD*, you normally cannot get a College of Engineering account—if there is some problem with your GOLD registration, but you still need to start the work in the course speak with your instructor about this.

## Step 1: Locate a computer in Phelps 3525 (or CSIL)

We assume that most (if not all) of you are already in Phelps 3525 at this step.

- Phelps 3525 is where your weekly Lab sessions (discussion sections) will be held.
- If you are making up this lab assignment outside your regularly scheduled lab time (becauseyou missed the first lab, or were added to the course late for example), then you should go to CSIL to do it.

**Step 2: Logging on**

When you sit down at a computer in Phelps 3525 (or CSIL), you'll see a prompt that asks you for your username. Enter the username that you created for your College of Engineering computer account. This is probably the same as your UCSBNetID (your umail account), unless you specified something different when you created your account.

When you are asked for a password, enter the password you chose for your College of Engineering account (which is not necessarily the same as your umail password.)

**Don't worry if nothing appears on the screen while you are typing your password.**

- As you type your password, you might be used to seeing little dots or stars pop up.
- On the systems in Cooper and CSIL, this doesn't happen.
- Your password is still being accepted—just have faith, and type away.
- When finished, hit the "enter" key or the "return" key—which ever one appears on your keyboard.

You should find that your username and password *are* accepted, and you get a "desktop" that looks similar to the Windows or Mac OS desktop. In fact, what you get is neither—the systems in Cooper and CSIL use "Linux", which is a different operating system.

In the rest of this lab, we'll walk you through a few of the basics of using this desktop. Most things, though will likely be pretty familiar to you, because they aren't that different from Windows or Mac.

## Step 3: Bring up a web browser

- Use your mouse and find the Applications Menu at the top left of the screen.
- You should find an icon for Firefox or Chrome that allows you to bring up a web browser

## Step 4: Find these instructions online

You should now be able to find these instructions by going to:

https://foo.cs.ucsb.edu/16wiki

and then clicking on the link for lab00.

If you received a paper copy of these instructions, this is where the printed copy will end—to save paper, the rest of the instructions can be found online.