# Software Engineering 265
# Lab: Week 1

Every lab record your attendance by browsing to:

http://webhome.csc.uvic.ca/~bgorman/attend/

# A B O U T  Lab

- Exercises in the use of Unix tools. Unix Skills are important career skills.
- SEng 265 of interest to Co-op employers. What does that tell you?
- Languages C and Python.
- Scripting and Version control (SVN).
- Understand the UNIX shell processes.

# L I N U X

- Command Cheat Sheet Provided (**Connex**: Seng265 tab/"Lecture slides…"/ Lab Resources/Week01)
- ls [-al]  [ **a** means show all (including hidden files)]
  [ **l** means format it nicely]
- "--help" option (Works for all linux system commands)
  Ex:  ls –al
  ls **--**help

# L I N U X

- mkdir <directoryname>
  - Makes a directory in the **working directory** (where you are right now)
- Make a directory called “Seng265Labs” in your home dir (~) now
- pwd
  - Shows where you are right now (your working directory)
    *Literally means “print working directory”
- cd <directoryname>
  *NOTE: **.** and **..** can be used here
- **TAB COMPLETION (+double-tap)**

# L I N U X

- **.** (Dot) means “here”
- **..** (Double Dot) means go up one level (or go out of this directory/folder)
- Ex: (pwd between cd commands)
  cd **.** [does nothing]
- cd **..** [Go up]
- Go into your Seng265Labs directory

# L I N U X

- Side Note:
  **~** means “user’s home”  cd ~ from anywhere
- */* means “root”  cd root … ls … cd ~
  You do not have permissions to make changes above your user space.

- **Check out command line recall.**

# L I N U X

- touch <filename>  [If file doesn't exist, creates it –empty … careful with this command]
- In the Seng265Labs directory you created, create a **directory** (**mkdir**) called ***Lab01*** and go into it (**cd**)
- Use the 'touch' command to create a file called ***thisfile***

# L I N U X

- mv <filesource> <filedestination>
- Moves a file from source to destination
- If the source and destination are the same directory ‘mv’ will rename the file
- Ex: mv thisfile thatfile [renames ***thisfile*** to ***thatfile***]
  Ex: mv thisfile **..**/anotherfile
  Ex: mv **..**/anotherfile yetanotherfile

# L I N U X

- vim <filename>  [Your command-line text editor!]
- Go to where ‘thisfile’ is located and open it:
  **vim thisfile**
- Vim Commands:
  **esc**  enter command mode (You start here!)
  **i**  insert (start writing)
  **:w** write (save file)
  **:q** quit ( **:q!** to force quit)
  **:syntax on**

# L I N U X

- Edit the file ‘thisfile’ in some way and save the contents
  After **inserting** text, press **esc** to enter cmd mode
  Save and quit by using **:w** then **:q**
  **OR**
  Save and quit at the same time by using **:wq**
- **Try pico and nano and gedit**

# L I N U X

- rm <filename>
- rm –r <directoryname>  [**Dangerous**! Deletes everything!]
- Create a new directory called todelete (**mkdir**)
- Go into it (**cd**)
- Create two files called file1 and file2
- Remove file2
  **rm file2**
- Go up, out of the directory ‘todelete’

# L I N U X

- Remove the directory todelete
  **rm –r todelete**
- Check what is in the Lab01 directory (**ls –al**)
- Be careful with rm –r it does not prompt the user at all and will delete everything in the specified directory

# L I N U X

- chmod [options] <filename/directoryname>
- Options: Combine the following:
  **u**, **g**, and/or **o** (user, group, other – aka the world)
  **+**, **-**, or **=** (add, remove, set permissions)
  **r**, **w**, **x**, and/or **-** (read, write, execute, none)
- Ex: chmod u+rwx thisfile
  chmod o=- thisfile
  chmod g+w thisfile

# L I N U X

- Time to compile code!
- Download the file ‘test.c’ from the Week01 folder on Connex
- Move it to your Lab01 directory
  (Depending on browser, it might be in ~/Downloads/)
  In this case, the command looks like this:

  **mv ~/Downloads/test.c .**
  Assumes you are in *Lab01*
  *Yay! We used* ***.***

# L I N U X

- The test.c file should be in your Lab01 directory. Go to it.
- Compile by using the command
  **gcc test.c**
- Check to see that the class file was created
  **ls –al** (there should be an a.out file)
- Run the program
- ./a.out you will often forget the ./

# L I N U X

- SSH into other machines
  **ssh <user>@<host>**
- Ex:
  **ssh <userid>@a<your machine name>.seng.uvic.ca**
  use the cmd ‘exit’ to close the session

D O N E