THE CSE COMPUTING ENVIRONMENT

Information about the Lab "LSE1002" for CSE1710/CSE1720 Students

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This document was inspired by the "Guided Tour", which was written by Professor H. Roumani. His version of the tour can be accessed at the following URL:
http://www.cse.yorku.ca/~roumani/jbaYork/GuidedTour.pdf.
Other versions have been developed by Steven Castellucci and Burton Ma (v2, v3).

It is assumed that whoever is reading this information ***already*** has a CSE account.
The Lab is located in Lassonde Building, 1002.

1. General

The lab has 33 dual-boot workstations (Linux and Windows). For the CSE1710 and CSE1720 labs, the machines are booted into Windows. Each machine has a unique identified of the form `miss*` (useful if you need to report a hardware problem). The lab is sometimes called "the MISS Lab" and sometimes called "the PRISM lab" (which makes things confusing).

2. Your Home Directory

Each student has been allocated a **home directory** and a certain amount of disk space on the undergraduate server.

When you log into a workstation in the lab, your home directory gets **mounted** as the Z: drive.
You can navigate the directory structure of your home directory using "File Explorer" (or the "Windows Explorer"). This app provides a graphical user interface for accessing the **Z:** drive, as well as the other parts of the workstation's file system. You can also navigate your home directory via a terminal window.

3. Obtaining a Unix Command Shell in a Terminal Window on a miss* machine

Invoke the application PuTTY.
For the server, enter: `red.cse.yorku.ca`
Enter your CSE account credentials (name and password).
You can click OK for any dialogue window that asks you about adding a new RSA authentication key.
This will launch a terminal window that is running a Unix command shell.

(Sections 4--7 are taken from V3 of the Guided Tour)

4. Simple Unix Commands

Command: `pwd` **Example**: `pwd`

Description: Displays the current directory (aka the "working directory"). The same output can be seen in the terminal window's title bar.

Command: `man command` **Example**: `man submit`

Description: Displays the *user manual* for the passed command. The user manual details the type and number of arguments required by the command, and lists all the available command options. To scroll through the user manual, press the spacebar. To exit the user manual, simply press the Q-key.

Command: `mkdir dirName` **Example**: `mkdir eChecks`

Description: Creates a subdirectory with the passed name in the current directory. The example creates a subdirectory called "eChecks".

Command: `cd dirName` **Example 1**: `cd` **Example 2**: `cd ..` **Example 3**: `cd mail`

Description: Without any argument (Example 1), this command changes the working directory to your home directory (equivalent to the "My Documents" folder in Windows). With the argument ".." (Example 2), this command changes the working directory to the parent directory. If you provide the name of a subdirectory as an argument (Example 3), this command changes the working directory to be that subdirectory (e.g., the subdirectory called "mail").

Command: `ls dirName` **Example 1**: `ls` **Example 2**: `ls mail` **Example 3**: `ls *.txt`

Description: Lists the contents of the directory specified by the argument. Without any arguments (Example 1), this command lists the visible contents of the working directory. If the argument is a directory name (Example 2), this command lists the visible contents of that directory (e.g., the subdirectory called "mail"). Example 3 lists all files in the current directory that have a ".txt" extension. You can use the "*" wildcard to search for files that match a pattern. There are many options for this command, such as "-a" to show files and "`-l`" to show file and directory details. Enter the command `man ls` for further details.

Command: `rm fileOrDir` **Example 1**: `rm First.java` **Example 2**: `rm -r eChecks`

Description: Removes the file or directory indicated by the argument. The first example deletes the file "First.java". The second example (note the "-r" option) removes directory called "eChecks" and all of its contents. *Use this command with caution!*

Command: `cp orgnl cpy` **Example**: `cp First.java First_backup.java`

Description: Copies the file orgnl to the location cpy. The example creates a copy of "First.java", called "First_backup.java".

Command: `mv old new` **Example**: `mv First.java Second.java`

Description: Moves the file old to the location new. This command can also be used to rename files. The example renames "First.java" to "Second.java".

Command: `script log` **Example**: `script A1_log.txt`

Description: Records the commands and output generated at the terminal until exit is entered. The record is written to a file, whose name is passed as an argument.

5. Auto-Completion and Command History

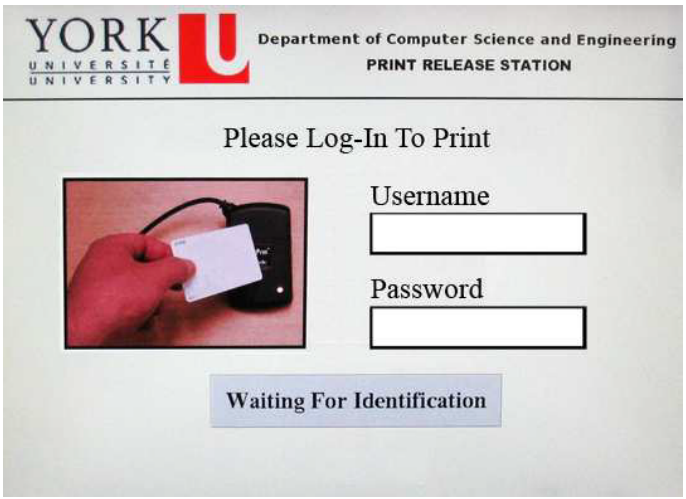
You do not have to type entire filenames or directory paths. Type the first couple of characters, followed by the TAB key. The operating system will complete the rest of the name or path. If there are multiple matches, the operating system will complete only the common portion. You will have to type additional characters to identify the desired file or directory.

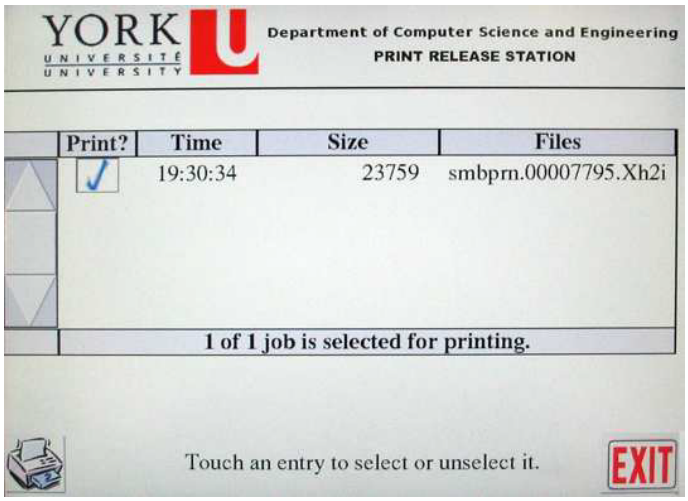
To **repeat** a command at a terminal, you can use the up- and down-arrow keys to cycle through commands you previously entered. This can be very beneficial if you need to repeatedly invoke a command.

6. Printing Files

Included in your course fee is a print quota of 500 pages. To display the number of pages remaining in your quota, enter the command `pquota` in a terminal window.

Typically, you can print an open file by selecting Print from the File menu. After you send the file to be printed, go to any print station in room CSEB 1004 or 1006. Touch the screen to activate it. Enter your CSE username and password using the attached keyboard. Ensure that the files you want printed are selected, and press the print icon in the bottom-left corner. To exit without printing, press the exit icon. If you experience any printing problems, contact the lab monitor.





7. Submitting Assignments

Some exercises and assignments are submitted using the `submit` command in a terminal window, which has the following structure:

```
submit course asstName yourFile1 yourFile2 ... yourFileN
```

For example:

```
submit 1720 LT1 MyProgram.java readme.txt
```

It is recommended that you submit your files early and often. Newer files overwrite those with the same name. For more information, enter the command `man submit` at a terminal.

If you are working from home, you will need to do the following:

1. **Transfer your files** to your home directory on `red.cse.yorku.ca` from your home machine

(section 8 below).
2. **Open a terminal window** running a Unix command shell on `red.cse.yorku.ca`
3. **Then, invoke the submit** as per the syntax above. (Please use care to invoke the submit command in the directory in which the files are actually located or to specify the correct pathname(s) to the file(s) you wish to submit.

8. File Transfer To/From Home Computer or Laptop

To transfer files between your home directory on `red.cse.yorku.ca` and your personal machine, you will need to install a **SFTP client**.

Some suggestions are as follows:
Windows: Core FTP, FileZilla, WinSCP.
Mac OS X: Fugu

A websearch of any of names will lead you to the download page.

Once you have your SFTP client up and running, you can use it to transfer files between your home directory on red and your directory on your personal machine.

8. Obtaining a Unix Command Shell in a Terminal Window on your Home Computer or Laptop

For this section, the assumption is made that you are looking to open a terminal window in order to invoke Unix commands, such as `submit` and the other commands listed in the section "Simple Unix Commands." If you want to run windowed applications (like Firefox or Eclipse), then you will need to install other software (which is certainly possible, but not covered in these instructions).

To access your account on `red.cse.yorku.ca`, you will need to install a **SSH client**.
For a list of the recommended client for your operating systems, please visit:
http://www.cse.yorku.ca/tdb/_doc.php/userg/login/ssh.html

Follow the client's instructions for establishing a SSH connection. Once the unix shell is opened, you can use it in the same was as if you were logged into a miss* machine.