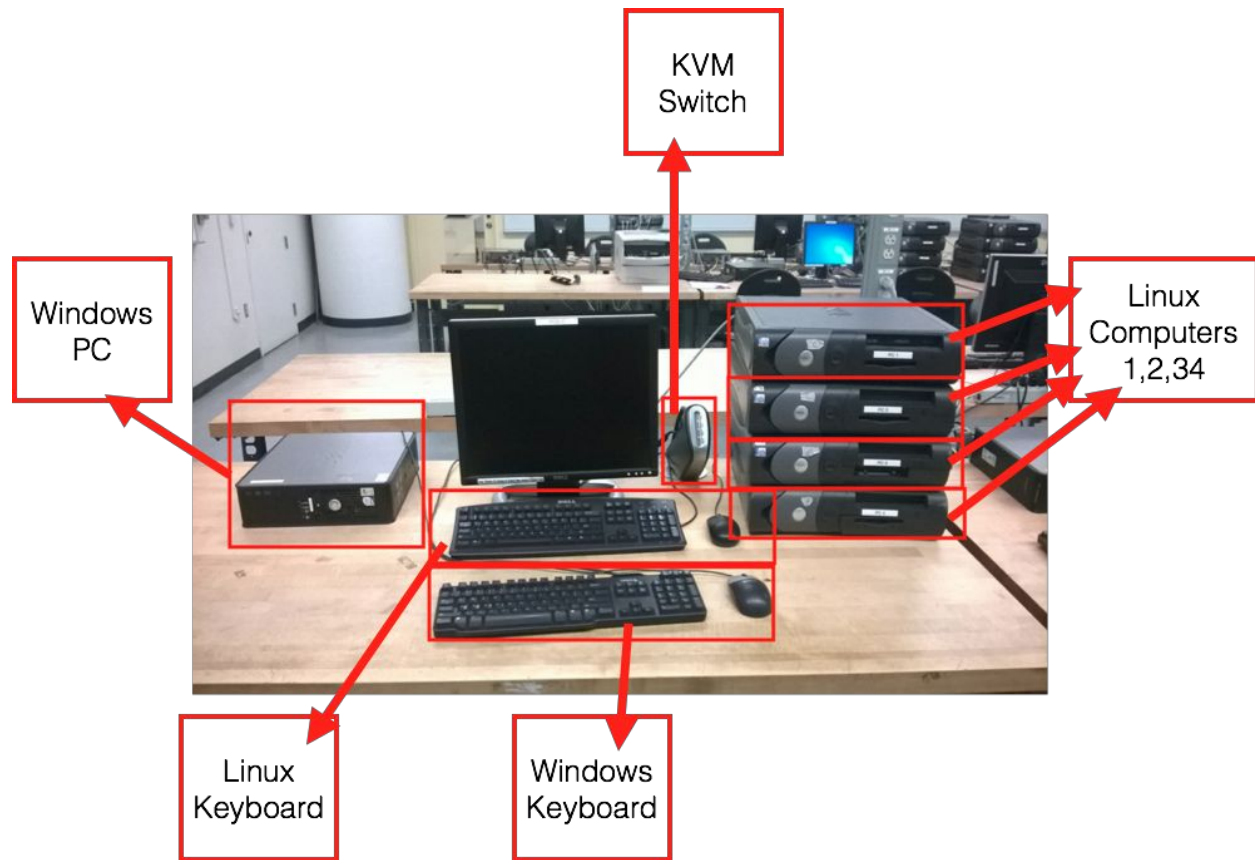


Linux Prelab



For the majority of labs in CMPE150 you will be required to use the Linux machines in BE301A. Start by turning on one of the Linux machines. The screen may not display the current machine, so first select the button on the KVM switch corresponding to the same machine. PC1 is the top button, PC2 is second, and so on. Once you have selected the correct machine on the KVM switch, make sure that the monitor is selected for the Analog input. If you cannot see the machine booting up, select the '-' on the monitor or as indicated on the monitor to select the analog input. Then you will need to find the correct keyboard and mouse to begin.

Resources for this lab:

<http://linux-training.be/index.php?nav=fundamentals>

http://linuxcommand.org/writing_shell_scripts.php

<http://www.google.com>

Pre-lab Questions:

1. [5] What command will show you which groups you are a member of?
2. [5] What does the command "\$?" do?
3. [5] What key combination will suspend a currently running process and place it as a background process?
4. [5] With what command (and arguments) can you find out your kernel version and the "nodename"? [The output should not include any other information]
5. [5] What is the difference between the paths ".", "..", and "~"? What does the path "/" refer to when not preceded by anything?
6. [5] Which command would you use to find the "pid" for a running process?
7. [10] Write a single command that will return every user's default shell. [You may chain commands using piping and redirects]
8. [10] What is the difference between "sudo" and "su root"?
9. [10] Where would you place a program or script that you wanted to execute on a schedule or set interval? E.g. Run this program once every 30 minutes.
10. [40] Write a shell script that only prints the even numbered lines of each file in the current directory. The output should be *filename: line* for each even numbered line.

For example, there are 2 files in the present working directory: log1.out and makefile.

log1 contents:

```
1 Exception in thread "main" java.awt.HeadlessException:
2 No X11 DISPLAY variable was set, but this program performed an operation which requires it.
3 at java.awt.GraphicsEnvironment.checkHeadless(GraphicsEnvironment.java:207 )
4 at java.awt.Window.<init>(Window.java:536)
5 at java.awt.Frame.<init>(Frame.java:420)
6 at java.awt.Frame.<init>(Frame.java:385)
7 at ants.Entity.<init>(Entity.java:197)
8 at ants.Manager.<init>(Manager.java:69)
9 at ants.ConfigurationManager.<init>(ConfigurationManager.java:107)
10 at ants.ConfigurationManager.main(ConfigurationManager.java:182)
```

makefile contents:

```
1 SUBDIRS = `find . -type d ! -name "." ! -name "CVS" -print -prune`
2
3 all:
4 for i in $(SUBDIRS) ; do cd $$i ; make $$@ ; cd .. ; done
5
6 tags:
7 for i in $(SUBDIRS) ; do cd $$i ; make $$@ ; cd .. ; done
8 find . -name CVS -prune -o -name "*.java" -print | etags -
9
10 clean:
11 for i in $(SUBDIRS) ; do cd $$i ; make $$@ ; cd .. ; done
12 rm -f TAGS
```

Then the output from your script should be:

```
log1.out: 2 No X11 DISPLAY variable was set, but this program performed an operation which
requires it.
log1.out: 4  at java.awt.Window.<init>(Window.java:536)
log1.out: 6  at java.awt.Frame.<init>(Frame.java:385)
log1.out: 8  at ants.Manager.<init>(Manager.java:69)
log1.out: 10 at ants.ConfigurationManager.main(ConfigurationManager.java:182)
makefile: 2
makefile: 4  for i in $(SUBDIRS) ; do cd $$i ; make $$@ ; cd .. ; done
makefile: 6 tags:
makefile: 8  find . -name CVS -prune -o -name "*.java" -print | etags -
makefile: 10 clean:
makefile: 12 rm -f TAGS
```

Feel free to test and compare your code with the two files provided.

Submit your answers in a PDF file, and the shell script in a second file.