

Pre-lab 1: Linux Primer

Resources for this lab:

<http://linux-training.be/index.php?nav=fundamentals> http://linuxcommand.org/lc3_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 variable "\$?" show?
3. [5] What command will find all files with suffix '.txt' in the subtree /foo/bar?
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. [10] Which command would you use to find the ID (pid) for a running process? which command you will use to kill a running process using its ID?
7. [10] Write a single command that will return every username in the system in alphabetical order. [You may chain commands using piping and redirects]
8. [5] What is the difference between "sudo" and "su root"?
9. [10] How would you make a program or script execute on a schedule or set interval? E.g. Run this program once every 30 minutes or every day at midnight.
10. [40] Write a shell script that only prints the even numbered lines of each file in the current directory, except for the script itself. The output should be *filename: line* for each even numbered line. You do not need to print line numbers.

[10] Bonus: write the script in a way that it works no matter the filename given to the script.

For example, let's say I write a script in a file called test.sh. I then create 3 files, as shown in the screenshot below:

```
mininet@mininet-vm:~/test$ cat file1
line 1
line 2
line 3
line 4
line 5
mininet@mininet-vm:~/test$ cat file2
line 1
line 2
line 3
line 4
line 5
mininet@mininet-vm:~/test$ cat file3
line 1
line 2
line 3
line 4
line 5
```

My directory now looks like the following:

```
mininet@mininet-vm:~/test$ ls -la
total 36
drwxrwxr-x  2 mininet mininet 4096 Jan 12 11:18 .
drwxr-xr-x 17 mininet mininet 4096 Jan 12 11:18 ..
-rw-rw-r--  1 mininet mininet   35 Jan 11 01:30 file1
-rw-rw-r--  1 mininet mininet   35 Jan 11 01:30 file2
-rw-rw-r--  1 mininet mininet   35 Jan 11 01:30 file3
-rwxrwxr-x  1 mininet mininet  203 Jan 11 01:39 test.sh
```

When I run the script, the output should look like the following.

```
mininet@mininet-vm:~/test$ ./test.sh
file1: line 2
file1: line 4
file2: line 2
file2: line 4
file3: line 2
file3: line 4
test.sh:
test.sh:
test.sh:
test.sh: code
test.sh:
test.sh:
```

Submit your answers for questions 1 through 9 in a PDF file, and the shell script (questions 10 and bonus) in a separate file.