

# CSCI 211: Unix Lab

## Lab 5 Practice

Note:

1. You must rely on UNIX commands only to solve the problems. No manipulation on Windows is allowed (such as scrolling the PuTTY screen).

**Pre-step:**

**Run the command "`source /lab5/prac/prep.sh`" exactly once.**

(You may get help from the commands listed on next page.)

1. In the directory of "`~/lab5`", create a symbolic link named 'soft' to the directory 'hard'. List the directory content to verify it.
2. In the directory of "`~/lab5`", create a symbolic link named 'liquid' to the file 'solid' under the directory 'hard'. List the directory content to verify it.
3. Find out the number of characters, words and lines in the file 'hard/solid'.
4. Execute the 'loop' program in the background.
5. Shows all the differences between the two directories 'oak' and 'palm', recursively, i.e. including their subdirectories and sub-subdirectories and so on.
6. Shows all the differences between the two files 'solid' and 'tough' under the directory 'hard'.
7. Sort the file 'solid' under the directory 'hard'.
8. Sort the file 'hard/solid' by the second field with the delimiter as ',' in the reverse order.
9. Sort the file 'hard/solid' by the second field case sensitive and then by the fourth field case-insensitive starting with the 3<sup>rd</sup> character after ignoring the leading spaces.
10. Find out how many unique lines in 'hard/solid'.
11. Find out which lines have duplicates in 'hard/solid'.
12. Terminate the 'loop' program running in the background.
13. Remove all the symbolic links.

You may select from the following commands to finish the practice problems. You may also need commands learned from previous labs, which are not listed here.

- `diff solid tough`
- `sort solid | uniq | wc -l`
- `sort solid | uniq -d`
- `./loop &`
- `diff -r oak palm`
- `sort -k 2,4.3fb hard/solid`
- `ln -s hard soft`
- `sort -t, -r -k 2 hard/solid`
- `kill -9 <process id>`
- `rm soft liquid`
- `sort solid`
- `ln -s hard/solid liquid`
- `wc hard/solid`