CST 334 (Operating Systems)

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# Lab: files and directories

The purpose of this lab is to give you exercise in working with files and directories, and also to get you into the habit of using man pages. There are hints at the end of the lab.

Start a bash shell on mlc104 and do the following:

(reminder: to login to mlc104 from a mac, enter the following from a terminal:

ssh [your-otter-id@mlc104.csumb.edu](mailto:your-otter-id@mlc104.csumb.edu) )

1. what is the absolute pathname of your home directory?
2. change to the directory /home/CLASSES/brunsglenn
3. which file in this directory has the most number of bytes?
4. which file has the oldest modification date?
5. which file has the most recent modification date?
6. how many files start with the period symbol ‘.’?
7. change to subdirectory ‘data’
8. when was ‘employees.txt’ last modified?
9. how many lines in ‘salaries.csv’?
10. move to your home directory (in other words, make it your current working directory)
11. make a subdirectory of your home directory named ‘my-songs’
12. copy the files ‘songs.csv’ and ‘songs1.csv’ in Prof. Bruns’ top-level ‘data’ directory to your ‘my-songs’ directory
13. copy your new ‘my-songs’ directory and the files its contains to a new directory named ‘my-new-songs’
14. look at the last lines of ‘songs.csv’ in your ‘my-songs’ directory
15. delete your directory ‘my-songs’ and everything in it
16. rename your ‘my-new-songs’ directory to ‘my-old-songs’
17. copy the file ‘songs1.csv’ in your ‘my-old-songs’ directory to your home directory
18. rename the file ‘songs1.csv’ that’s now in your home directory to songs.csv
19. move the file ‘songs.csv’ in your home directory to your ‘my-oldzzz-songs’ directory. Did Linux complain when you over-wrote the file with the same name in your my-new-songs directory?
20. display the top 10 lines of your file songs.csv, and show the line number in front of each line
21. about how many bytes are stored in /home/CLASSES/brunsglenn and all its subdirectories?
22. what option could you use to ‘mv’ if you want to make sure you don’t accidentally delete a file by renaming a file to a file with the new name?
23. go to your home directory
24. list the contents of the parent directory of your home directory without first moving to the parent directory
25. What’s wrong or sub-optimal with each of the following commands, relative to what I'm trying to do?

$ ls home/CLASSES/brunsglenn (trying to list files in Dr. Bruns’ home directory)

$ mv foo.txt backup/foo.txt (trying to move foo.txt to the backup sub-directory)

$ head -10 baz.txt (trying to list first lines of file baz.txt)

$ ls bar.txt (trying to list contents of file bar.txt)

$ rm /home/CLASSES/moor7902 (trying to delete directory of user moor7902)

$ cd ~ (trying to change to user’s home directory)

$ ls -l -t .. (trying to list files in parent directory, with options)

$ rn temp.txt temp1.txt (trying to rename temp.txt to temp1.txt)

$ copy songs.txt . (trying to make a copy of file songs.txt)

If you still have time, prove that the -t option of the ‘ls’ command uses modification time, not creation time.

If you still have time, look some more at the man page for ‘ls’, and try using some of the options for ls that you haven’t tried yet.

**Hints**. Don’t use these hints without trying to solve the problems yourself first!

1. To get to your home directory, type ‘cd’. You could also use 'cd ~', but that would be extra work. To see the pathname of the current directory, type ‘pwd’.
2. Use command 'cd'.
3. Look at the man page for ls. In particular, look at options -s and -S.
4. Again, look at the man page for ls for options. There is an option for time.
5. See hint for previous problem.
6. There is an ls option that lets you see files that start with ‘.’. See the man page.
7. You remember command ‘cd’.
8. One way is to use the -l option of ls.
9. See the man page for command ‘wc’.
10. -
11. -
12. An easy way to copy songs.csv to your home directory is ‘cp songs.csv ~’, because ~ stands for your home directory.
13. -
14. Look at the man page for ‘tail’.
15. Remember, command ‘rmdir’ will only delete an empty directory. Look at option ‘-r’ of command ‘rm’.
16. Remember that, in bash, renaming is just a special case of moving.
17. -
18. -
19. -
20. See the man page for ‘head’.
21. See the man page for ‘du’.
22. See the man page for ‘mv’.
23. -
24. Remember, when you use ‘ls’ you can specify any directory. By default the current directory is used.
25. * beginning of directory is wrong
    * no need for /foo.txt after ‘backup’
    * what is default number of lines for head? See man page.
    * this command works, but ls will not show the contents of a file
    * use rmdir, or ‘rm -r’ to remove directories
    * the ~ is redundant; cd moves to home directory by default
    * options can be combined; in this case -lt
    * there is no ‘rn’ command; use ‘mv’ for renaming
    * this command does nothing: a file is being renamed to itself