CIS-350
Infrastructure Technologies
Lab 4 Report

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The total number of points granted for this lab is 50. The answers to 25 questions in this Lab 4 Report are worth 25 points. The other 25 points you earn for the hand-on work in Ubuntu Linux. You must login to your Ubuntu Linux account on the Mercury server and work all of the commands in file CIS-350-Lab4-Linux Command Prompt.pdf. ***If you follow the Lab 4 instructions carefully, you should have all the required directories and files stored in your Linux home directory (/home/your_login_name; for example, /home/jmzura01). I will go the Linux account of every student to check if the hands-on work was done. If I do not see any activity you will get 0 out of 25 points. If I see partial activity, you will earn between 0 and 25 points. No excuses please and no makeup work.***

NOTE 1: Linux commands, filenames, options, etc. are **case sensitive**. The vast majority of them is written in **lower case**. For example, filenames John, JOHN, and john represent three different files.

NOTE 2: You should find the answers to all questions below in the documents named *CIS-350-Lab3-Linux Command Prompt.pdf*, CIS-350-Lab4-Linux Command Prompt.pdf, *CIS-350 Unix-Linux Features, Commands and Utilities.pdf*, and the recorded demo of Labs 3-5 and on Panopto and/or MS Teams.

Circle the correct answer.

1. Which of the following commands would you use to create a new file named *LastNames* using a *pico* editor?
a. pico lastnames
b. pico LastNames
c. nano LastNames
d. emacs LastNames
e. vi LastNames

2. Which of the following commands would you use to modify a file named *FirstNames* using a *vi* editor?
a. pico firstnames
b. pico FirstNames
c. nano FirstNames
d. emacs FirstNames
e. vi FirstNames

3. If you compile a C program named *Prog2.c* with the command *cc Prog2.c*, what will the default name of the object code be if compilation is successful?
a. *a.out*
b. *out.a*
c. *Prog2.out*
d. *./a.out*
e. *Prog2.c*

4. Which of the following commands would you use to compile program *Prog1.c* written in C language?
a. *cc Prog2.c*
b. *cc Prog1.c* or *gcc Prog1.c*
c. *c Prog1.c*
d. *./Prog1.c*
e. *cc Prog1.cc*

5. Which of the following commands would you use to display the directory in a long form, including invisible files? Use piping to prevent the listing to scroll off the screen.
a. *ls*
b. *ls | more*
c. *ls -al*
d. *ls -al | more*
e. *ls -l | more*

6. Which of the following commands would you use to sort in the ascending order the data coming from a file named *LastNames* and redirect (route) the output to a file named *LastNamesSorted*? Execute the command in foreground.
a. *sort > LastNames > LastNamesSorted*
b. *sort < LastNames > LastNamesSorted &*
c. *sort < LastNames > LastNamesSorted*
d. *sort < LastNames < LastNamesSorted*
e. *sort < LastNames >> LastNamesSorted &*

7. Which of the following commands would you use to sort in the descending order the data coming from a file named *LastNames* and append the output to a file *LastNamesSorted*? Execute the command in background.
a. sort > LastNames > LastNamesSorted
b. sort < LastNames > LastNamesSorted
c. sort -r < LastNames > LastNamesSorted &
d. sort < LastNames < LastNamesSorted
e. sort -r < LastNames >> LastNamesSorted &

8. Which of the following commands would you use to grant yourself (the owner) the read authority and deny write and execute authority to a file named *LastNames*?
a. chmod u+rwx LastNames
b. chmod u+r-wx LastNames
c. chmod a+r-wx LastNames
d. chmod o+r-- LastNames
e. chmod u-r+wx LastNames

9. How would you use the *alias* command to change the name of the *ls* command to the name *list* for the current log in session?
a. alias ls=list
b. alias list=ls
c. ls=list
d. list=ls
e. change ls to list

10. What is the sequence of the two commands/keys that you would use to start (record) and end your interactive session with Linux, and save it in a file named *LinuxLab4*?
a. Type *script LinuxLab4* (to start) and hit *CTRL-D* to end.
b. Hit *CTRL-D* (to start) and type *LinuxLab4* to end.

11. Which of the following commands would you use to display the terminal control-key settings?
a. *stt -a*
b. *st -a*
c. *stty -a*
d. *a -stty*
e. *script -a*

12. Which of the following commands would you use to display a banner for *Mary*?
a. banner Mary
b. display Mary
c. show Mary
d. demonstrate Mary
e. present Mary

13. What command would you use to compile a C program named *Prog3.c* and save an object file (if compilation is successful) in a file named *Prog3.out*?
a. cc -o Prog3.out Prog3.c
b. cc Prog3.c
c. gcc Prog3.c
d. ./Prog3.c
e. cc Prog3.cc -o Prog3.out

14. What sequence of the following steps/commands is needed to move a task/process already running in foreground to background?
a. hit *Ctrl-C* (to kill) and type *bg*
b. type *bg* and hit *Ctrl-Z* (to suspend)
c. hit *Ctrl-Z* (to suspend) and type *bg*
d. hit *Ctrl-U* (to kill) and type *bg*
e. type *bg* and hit *Ctrl-C* (to kill)

15. Say, that Linux assigned a job/task id number = *1* to the task running in background. What command would you use to move that task/process from background to foreground?
a. *fg 2*
b. *fg 1*
c. *fg 3*
d. *fg 4*
e. *fg 5*

16. Which of the following combination of keys would you press to erase (kill) the entire command on the command line?
a. *Ctrl-S*
b. *Ctrl-Q*
c. *Ctrl-Z*
d. *Ctrl-U*
e. *Ctrl-X*

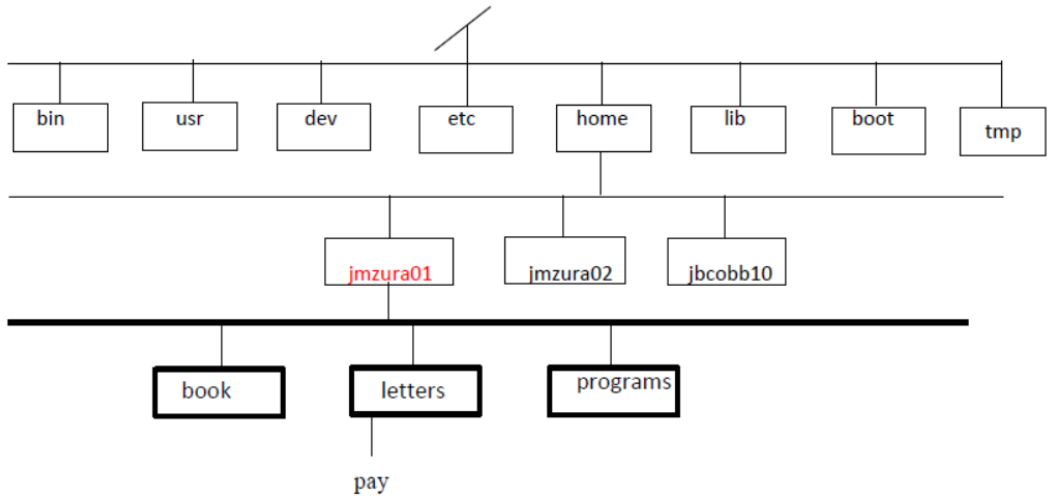
17. Which of the following commands displays the process status?
a. sp
b. ls
c. man
d. ps
e. cp

18. Which of the following commands would you use to put a shell to sleep for 1 hour?
a. sleep 1
b. sleep 3600
c. sleep 60
d. sleep
e. sleep 40

19. Which of the following commands identifies and displays users currently logged on into the Linux system?
a. who am i
b. who
c. date
d. ls
e. ps

20. The root directory in Linux is denoted by _____.
a. \ (backslash)
b. $
c. &
d. / (slash)
e. %

21. Look at the Linux directory diagram below. The correct absolute path leading to a file named *pay* residing in the *letters* directory is _____.
a. /programs/pay
b. /home/jmzura01/programs/pay
c. letters/pay
d. /home/jbcobb01/programs/pay
e. /home/jmzura01/letters/pay



22. Look at the Linux directory diagram above. The correct relative path leading to a file named *pay* residing in the *letters* directory is _____. (Assume that you are already in directory *jmzura01*.)
a. /programs/pay
b. /home/jmzura01/programs/pay
c. letters/pay
d. /home/jbcobb01/programs/pay
e. /home/jmzura01/letters/pay

23. Which of the following Linux directories stores device drivers?
a. tmp
b. bin
c. lib
d. dev
e. etc

24. Which of the following are the features of Unix/Linux?
a. device independence
b. portability
c. powerful interface
d. asynchronous I/O
e. All the above

25. UNIX/Linux distinguishes between upper case and lower case, so "A" and "a" are different.
a. True
b. False

26. The get to the C shell you need to type *ksh* and press Enter.
a. True
b. False

27. Linux is an essential component of the course. By putting my full name below, I testify that I actually logged in to the Ubuntu Linux and worked the commands on the Ubuntu Linux system, not just answered the above questions on paper. I acknowledge that I will lose points for not working the lab in Linux.
_Xiaoyin Druen_____

28. Describe briefly which commands did not work and/or which places in the tutorial need improvement/clarification.

The commands mostly worked fine with me. The most interesting command to me was to move from foreground to background, I had to try a couple times to hit Ctrl+Z fast enough to suspend the process before it ended, the first couple time I was told “no such job” after I type bg. It was an interesting learning experience. It should be very useful when doing longer processes.