**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** [[File](https://blackboard.louisville.edu/bbcswebdav/pid-18728624-dt-content-rid-66730972_2/xid-66730972_2) CIS-350-Lab4-Linux Command Prompt.pdf](https://blackboard.louisville.edu/bbcswebdav/pid-18728624-dt-content-rid-66730972_2/xid-66730972_2). **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 [[File](https://blackboard.louisville.edu/bbcswebdav/pid-18728621-dt-content-rid-66716967_2/xid-66716967_2) *CIS-350-Lab3-Linux Command Prompt.pdf*](https://blackboard.louisville.edu/bbcswebdav/pid-18728621-dt-content-rid-66716967_2/xid-66716967_2), [[File](https://blackboard.louisville.edu/bbcswebdav/pid-18728624-dt-content-rid-66730972_2/xid-66730972_2) CIS-350-Lab4-Linux Command Prompt.pdf](https://blackboard.louisville.edu/bbcswebdav/pid-18728624-dt-content-rid-66730972_2/xid-66730972_2), [[File](https://blackboard.louisville.edu/bbcswebdav/pid-19082872-dt-content-rid-66599265_2/xid-66599265_2) CIS-350 Unix-Linux Features, Commands and Utilities.pdf](https://blackboard.louisville.edu/bbcswebdav/pid-19082872-dt-content-rid-66599265_2/xid-66599265_2), 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) andtype *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.