**CIS-350  
Infrastructure Technologies  
Lab 5 Report**

**Student Name**: **\_\_\_\_\_\_\_\_\_\_\_Jon McCarrick\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**The total number of points granted for this lab is 50. The answers to 20 questions in this Lab 5 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-18728627-dt-content-rid-66730975_2/xid-66730975_2) CIS-350-Lab5-Linux Command Prompt.pdf](https://blackboard.louisville.edu/bbcswebdav/pid-18728627-dt-content-rid-66730975_2/xid-66730975_2). **If you follow the Lab 5 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-18728627-dt-content-rid-66730975_2/xid-66730975_2) CIS-350-Lab5-Linux Command Prompt.pdf](https://blackboard.louisville.edu/bbcswebdav/pid-18728627-dt-content-rid-66730975_2/xid-66730975_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.

1. What does the *echo $SHELL* command do? Describe briefly. The echo command lets you evaluate variables. The $ has a special meaning to the shell and tells it to locate the variable named SHELL. It replaces that string “SHELL” with the value of SHELL. In other words, it lets you find out which shell is the current shell. \*
2. What command would you use to output the directory listing (in a long form and including invisible files) to both the computer screen and file *Names* at the same time? \_\_ls -al | tee Names\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Assume file *Names* contains several spelling errors. What command would you use to find these errors in the file? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_spell Names\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Assume that you created a script file named *displaymenu*. What command would you use to execute the script file? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_./displaymenu\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. What command would you use to display the first 5 lines in file *Prog2.c*? \_\_\_\_\_\_head -5 Prog4.c\_\_\_\_
6. What command would you use to display the calendar for year 2021? \_\_\_\_\_\_cal 2021\_\_\_\_\_\_\_\_\_\_\_\_
7. What command would you use to put a shell to sleep for 50 seconds? \_\_\_\_\_\_sleep 50\_\_\_\_\_\_\_\_\_\_\_\_
8. What would the command *wc -w Names* generate? (*Names* is a file.) \_\_\_\_\_\_ This is the word count command. It would generate the number of lines, words, and characters read from the file Names. After that, it displays the filename Names \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. What command would you use to find all occurrences of word *Joe* in file *Names*? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ who> Names \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_grep Joe Names \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. What command displays the current date? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. What command clears the screen? \_\_\_\_\_\_\_\_clear\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. What does a command *chmod u-w+rx designmenu* do? Briefly describe.

This command takes away the read and write access privileges from the owner of the file designmenu. It also adds the execute access privilege for the owner of the file designmenu. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What command allows the user to check Linux environment, i.e., how environmental variables are set up? \_\_\_\_\_\_\_\_\_\_\_env\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What command is derived from the physical device called T-joint attached to a water pipe, for example? (The T-joint lets water out from one source to two outlets.) \_\_\_\_\_\_\_\_\_\_\_Tee\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What command allows you to change the Linux level 1 prompt? \_\_\_\_\_\_\_\_\_\_PS1\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What are the two modes that the *vi* editor uses? \_\_\_\_\_\_ Command and Insert\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. The *ls –al designmenu* command displayed the following attributes of file *designmenu*. Describe **all** attributes of file *designmenu*, including the 3 groups of users, access permissions given to each of the 3 groups of users and the permission types, the name of the owner, size of the file, date, and the name of the file.  
   *- r w x r - x - - - jacobb02 850 Mar 13 12:30 2021 designmenu*The first dash is saying that designmenu is just an ordinary file. The 2nd-4th positions show that the owner of the file has read and execute privileges. The 5th-7th positions show that users in the owner’s group have read privileges, but they don’t have write or execute privileges. Finally, the 8th-10th positions show that all other users do not have read, write, or execute privileges. The 3 types of users are the owner of the file, users in the owner’s group, and everyone else (in that order from left to right).
6. Look at the Linux directory structure below. Write an absolute path that starts at the root directory (**/**) and leads to file *pay*? \_\_\_\_\_\_\_\_\_\_\_./home/jmzura01/letters/pay\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Look at the Linux directory structure above. Assume that your current directory is *home*. Write a relative path that leads to file *pay*? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_letters/pay\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. 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.

\_\_\_\_\_\_\_\_\_\_Jon McCarrick\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Describe briefly which command(s) did not work and/or what places in the lab could be improved. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_