CIS-350
Infrastructure Technologies
Lab 5 Report

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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 CIS-350-Lab5-Linux Command Prompt.pdf. ***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 *CIS-350-Lab3-Linux Command Prompt.pdf*, CIS-350-Lab4-Linux Command Prompt.pdf, CIS-350-Lab5-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.

1. What does the *echo $SHELL* command do? Describe briefly.

   It allows to find out which shell is the login 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 Prog2.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.)

   It displays the number of words in the file named Names.

9. What command would you use to find all occurrences of word *Joe* in file *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.

    It changes the permissions of the owner, -w is to deny the write permission of the file named designmenu, and +rx is to grant permission to read and execute this file.

13. What command allows the user to check Linux environment, i.e., how environmental variables are set up? _____env_____

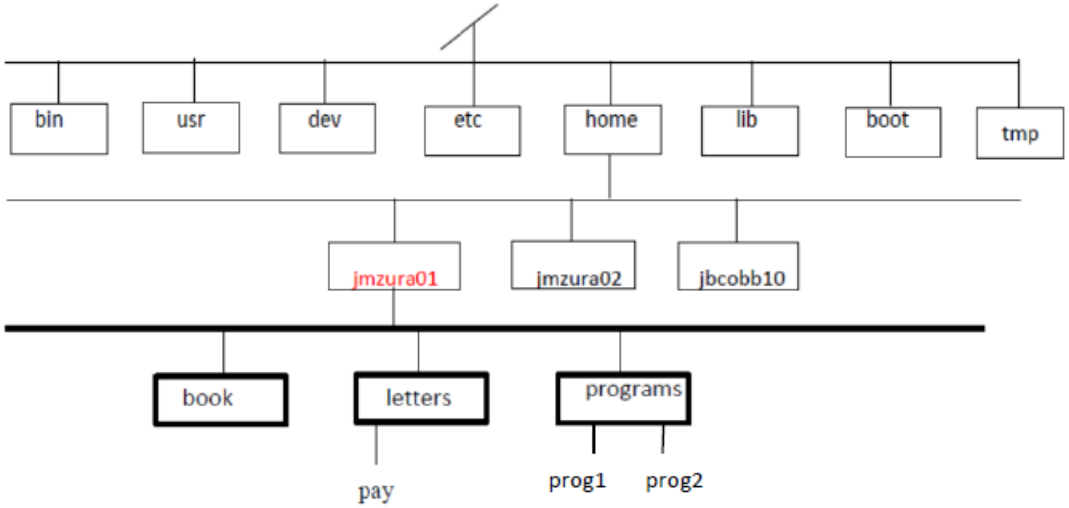
14. What command is derived from the physical device called T-joint attached to a water pipe, for example? (The T-joint lets water out from one source to two outlets.)
    _____tee_____

15. What command allows you to change the Linux level 1 prompt?
    ___PS1_____

16. What are the two modes that the *vi* editor uses? Command Mode and Input Mode

17. 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 owner permission types are read, write and execute.
    The group permission type is read and execute.
    Other users don't have permission to this file.
    Name of the owner: jacobbo2
    The size of the file is 850 bytes.
    The date of this file: Mar 13 12:30 2021.
    The name of this file: designmenu.

18. 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_____



19. Look at the Linux directory structure above. Assume that your current directory is *home*. Write a relative path that leads to file *pay*?
    __jmzura01/letters/pay_____

20. 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_____

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

Two commands did not work in this lab.

1.When tried to have ~$ back, it switched back to my user id but the $ was not there. I compared the instruction and my command, but I couldn't figure out what was wrong. Maybe it is because $ is missing in the command?

Hereafter the system prompt will be *bash>* instead of *your_user_id@mercury:~$*. For example, *jmzura01@mercury:~$*. This remains in effect until the end of login session. If you want to have the $ prompt back, type

PS1=*' jmzura01@mercury:~ '*

```
xcdrue01@mercury:~$ PS1='bash> '
bash> PS1='xcdrue01@mercury:~'
xcdrue01@mercury:~history
    1  ssh
    2  csh
    3  ksh
    4  echo $0
    5  date
    6  who
    7  who am i
    8  man sho
    9  man who
   10  who am i
   11  man who
   12  pwd
   13  ls -a
   14  ls
   15  ls -d
   16  ls -l
```

2.The spell command did not work on my end.