


CIS-350  
Infrastructure Technologies  
Group Lab 5 Report

Group #: \_\_\_\_\_  
Willinger





Student Name(s): Charles Degboe, Anthony Striepe, Karl Dalton, Daniel

**Though this is a Group Lab 5 Report, you must work this hands-on Lab 5 individually.**

After you do that, get in groups, discuss and provide answers to the following problems, and submit this report, one per group, to Blackboard. When you work Lab 5 hands-on, you are likely to do better on Test 3 which will cover the operating systems part of the course.

**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 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). After you submit Group Lab 5 Report (the last one), I will log in to the Linux account of every student to check if the hands-on work was done for Labs 3-5. If I do not see any activity you will get 0 out of 50 points. If I see partial activity, you will earn between 0 and 50 points. If I see full activity, you will get 50 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. The `echo $SHELL` command in Unix-like operating systems displays the path of the current shell that is being used in the terminal. It does this by accessing the value of the **SHELL** environment variable, which stores the path to the user's default shell. This command is often used to check which shell is currently active in the terminal session.
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 -la | tee Names`
3. Assume file *Names* contains several spelling errors. What command would you use to find these errors in the file? `aspell check 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 -n 5 Prog2.c`
6. What command would you use to display the calendar for year 2023? \_\_\_\_\_  
`cal 2023`
7. What command would you use to put a shell to sleep for 80 seconds? \_\_\_\_\_  
`sleep 80`
8. What would the command `wc -w Names` generate? (*Names* is a file.) The command `wc -w Names` will generate the word count of the file "Names." Specifically, it will output the number of words in the file "Names."
9. What command would you use to find all occurrences of word *Joe* in file *Names*? `grep -w "Joe" Names`
10. What command displays the current date? `date`.
11. What command clears the screen? `clear`

12. What does a command `chmod u-wr+x designmenu` do? Briefly describe. The command **chmod u-wr+x designmenu** modifies the file permissions of the file named "designmenu." Breakdown of what each part of the command does: Chmod is the command used to change file permissions. u-w: this part removes write (w) permission for the file's owner (u for user). r+x: this part removes write(x) permission for the file's owner (r for read and x for execute).
13. What command allows the user to check Linux environment, i.e., how environmental variables are set up? **printenv**
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? \_\_\_\_\_  
**export PS1="new\_prompt>"**
16. What are the two modes that the vi editor uses? **Command Mode and Insert Mode**

17. The `ls -al menu` command displayed the following attributes of file *menu*. Describe **all** attributes of file *menu*, 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.

```
- rwx rw- --x jmzura02      3650   Sep 13 16:55 2023   menu
```

**rw- for the owner (jmzura02)**

- **rw-** for the group
- **--x** for others
- **r** (read): The owner has read permission.
- **w** (write): The owner has write permission.
- **x** (execute): The owner has execute permission, allowing them to run the file as a program.
- **-** (hyphen): Indicates a lack of a specific permission (in this case, no write permission for the group and no read permission for others).

**Owner:** The owner of the file is "jmzura02."

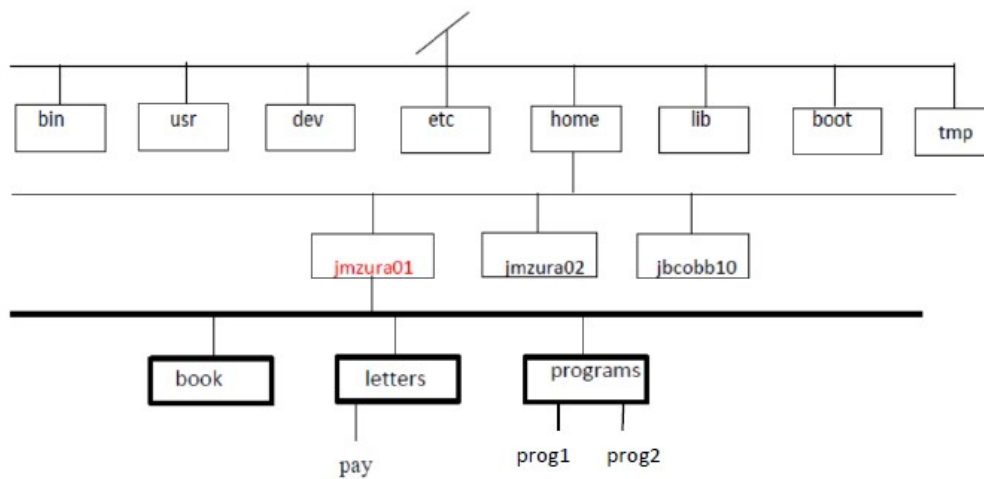
**Size:** The size of the file is "3650" bytes.

**Date and Time:** The file was last modified on "Sep 13" at "16:55" (4:55 PM).

**File Name:** The name of the file is "menu."

So, the attributes displayed for the file "menu" include permissions for the owner, group, and others; the owner's name; file size; modification date and time; and the file name.

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. Describe briefly which command(s) did not work and/or what places in the lab could be improved. **All the commands provided worked correctly**