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#CS 230
#Spring 2026
#Assignment 4

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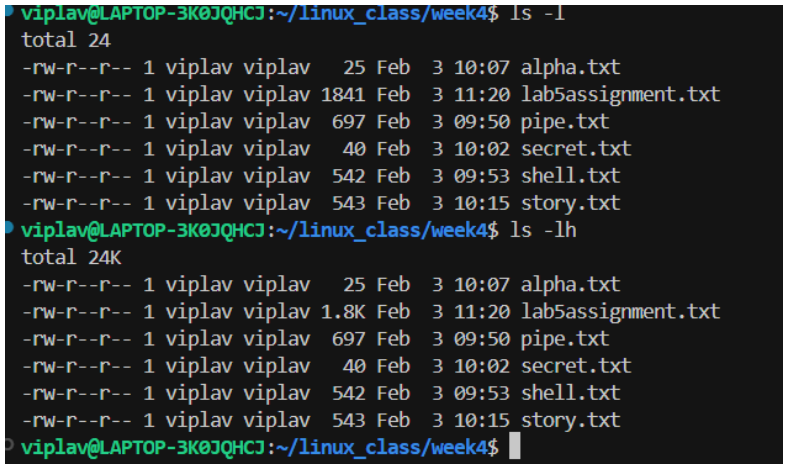
1. What does the **ls -lh** command do, and how is it different from ls -l?
    a. ls -lh is similar to ls, but it shows the file sizes in human understandable terms. Such as KB, MB, or GB. And ls -l shows the file info in long format. With the file size in bytes.
    b. 

2. How can you use **ls** to **show hidden files** in a directory?
    a. Using the -a flag would display any hidden files also.
3. Which ls **flag** helps in **sorting files by modification time**, and how do you use it?
    a. The -t flag sorts files by modification time. Using -lt shows the file information in long format sorted by time (newest first). Sorting in reverse order is -ltr.
    b. 

4. What is the difference between **ls -R and ls -a**?
    a. ls -R shows all files in the current directory and all subdirectories. And ls -a shows all files, including hidden ones, but in the current directory only.
5. What happens when you run the **touch myfile.txt** command if myfile.txt already exists?
    a. It doesn't delete the file, or overwrite the data. It just updates the timestamp as if it was "saved" or "updated".
6. How can you use **touch to create multiple files** at once?
    a. Using touch to create multiple files in one command just requires us to list the filenames after the touch command.
        i. Example: (touch file1.txt file2.txt file3.txt)
7. What does the **du -sh** command do, and why is it useful?
    a. du stands for disk usage, -s stands for summary, and h for human readable. This command will show the total size of a directory, including all the files and subdirectories. And it will show it in an easy human understandable method.
8. How can you list the **disk usage of all subdirectories** inside a folder using **du**?
    a. Adding the --max-depth flag.
        i. Example: (du -h --max-depth=1)
9. What is the difference between **df -h and df -i**?
    a. df -h and df -i show similar info, but the difference is the metric. -h shows it in human readable size formats. And -i shows it in inode usage.
10. How do you **compress a file with gzip** while keeping the original file unchanged?
    a. Using the -c flag would allow us to keep the original. We would also have to redirect the output to a new location.
        i. Example: gzip -c file1.txt > file1.txt.gz