

# Points to be Covered in Linux Assignment-1

- Explain CLI & GUI
  - Login Terminals
  - Explain Files & Directory
  - Basic Commands
    - ls, cd, mkdir, rm, man, touch, cp, mv, less, more, head, tail, grep with options.
  - File Editors
    - vi, vim, nano, gedit.
  - Links
    - Softlink & Hardlink.
  - Paths
    - Absolute Path & Relative Path.
  - Redirections
    - I/O Redirection Operators.(>, >>, &> , &>>)
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## Assignment-1 Questions:

**(Note: All answers should include an attached screenshot as proof of execution)**

1. What does CLI stand for, and how does it differ from GUI?
2. Open a terminal and execute a simple command such as **echo "Hello"**. Can you perform a similar action in a GUI? What are the advantages of using a CLI compared to a GUI?
3. To convert a minimal CLI-based Linux interface into a GUI-based one, which packages are typically required? Find them
4. What are terminals in Linux? How many virtual terminals are available on your system, and which key combination is used to access them?
5. Write the commands to check a file and a directory in a long listing format. How can you determine whether it is a file or a directory?
6. Which Linux commands are used to view the content of files and directories? Write the commands.
7. Change your current location to the **/etc/yum.repos.d** directory.
  - a. Using the relative path method, create a file named **xyz.repo** under the **/etc/yum.repos.d/** directory.
  - b. Using the absolute path method, create a file named **xyz.conf** under the **/etc/rsyslog.d/** directory.
  - c. What differences did you observe between using a relative path and an absolute path?

8. List all files, including hidden ones, in the **/usr/bin/** directory with details like file permissions. Save the output to a file named **output.txt** in the **/mnt** directory. Write the command.
9. Create the parent directories **/Techno/Udaipur/Rajasthan/India/Asia/Earth/Solar** using one command. Then, check the full structure with details in a long listing format. Write the commands.
10. Create a file named **"Poem"** under the **/Techno/Udaipur/Rajasthan/** directory. Write the text **"Twinkle Twinkle Little Star"** into the file and save it. Perform all actions using the absolute path method.
11. Delete the **/Techno/Udaipur** directory, including its contents, using a single Linux command. Write the command.
12. How can you view the manual page for the **useradd** command? From the manual page, identify which files are important for user administration.(Hint: Check the 'Files' Section)
13. You have two files: **Fruits.txt** and **Vegetables.txt**, each containing related content.
  - a. Write content in fruits.txt using **vi**. (EX: **mango, apple, kiwi, grapes, cherry**).
  - b. Write content in vegetables.txt using **nano**. (Ex: **potato, tomato, onion, chilli, garlic**).
  - c. Write the single command to Combine the contents of both files into a single file named **vegetarian** and display its content.
14. Write the command to copy all files, including related sub-files, from **/var** to a new location **/tmp/data/**. The output should be displayed during the copying process.
15. Rename the file **"Vegetrian.txt"** to **"Veg.txt"**. Write the command.
16. Open the file **"/etc/passwd** and locate the following lines using **less** and **more**:
  - a. Search for the text **"Root"** using the **less** command.
  - b. Search for the word **"root"** using the **grep** command.
  - c. What is the use difference between **more** and **less** commands?
17. Perform the following tasks and write the commands to achieve them:
  - a. Display the **top 7th** line of the **/etc/passwd** file.
  - b. Display the **last 3** lines of the **/etc/group** file.
  - c. Display the lines **11th to 15th** from the **/etc/shadow** file using a pipeline.
  - d. Display **only the 16th** line of the **/etc/passwd** file.
18. Perform the following tasks using the **grep** command on the **/etc/passwd** file:
  - **a.** Write a command to match and display lines containing the word **/sbin/nologin**.
  - **b.** Write a command to match and display lines containing the multiple words (**root,/sbin,** and **/home**) simultaneously, ignoring typographical case errors. Save the output for all three matches into the file **/root/test**. Without losing data.
19. Replace Text Using **sed** Linux Commands

- a. Write the command to replace the word **localhost** with **localhost.localhost** in the file **/etc/hosts** without opening the file in an editor.
- b. The **/var/log/audit/audit.log** file contains audit log messages, some of which include the word **“success.”** Write the command to count how many lines contain the word success.

20. Create a directory named **“demo”** on **“/root”**.

- a. Create a file **“RedHat”** under the **“demo”** directory.
- b. Run the command **“vimtutor”** and save the output to the **“RedHat”** file.
- c. Now create a soft link of **“RedHat”** to **“/etc/”** location.
- d. Create a hard link of **/var/log/messages** to **/etc/log**.