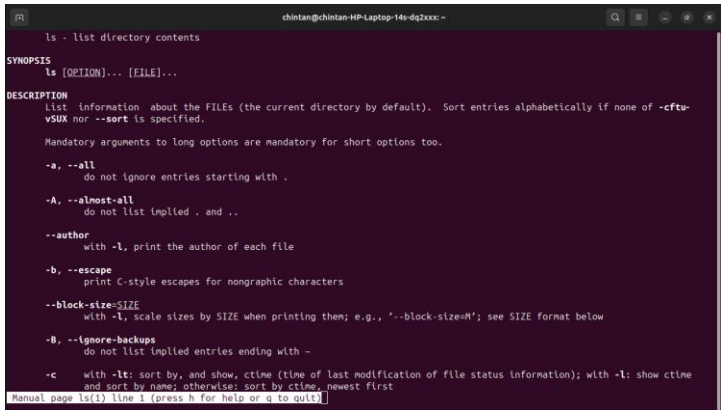
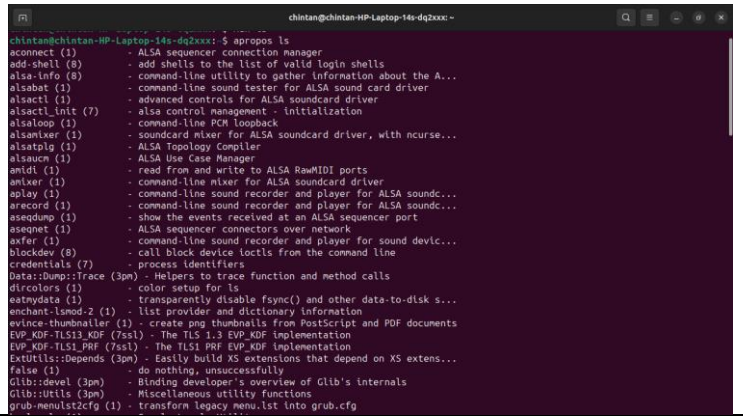
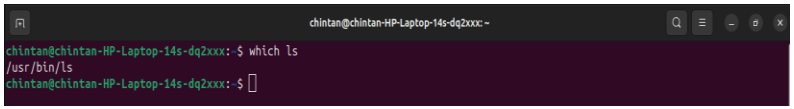
Topic Name:

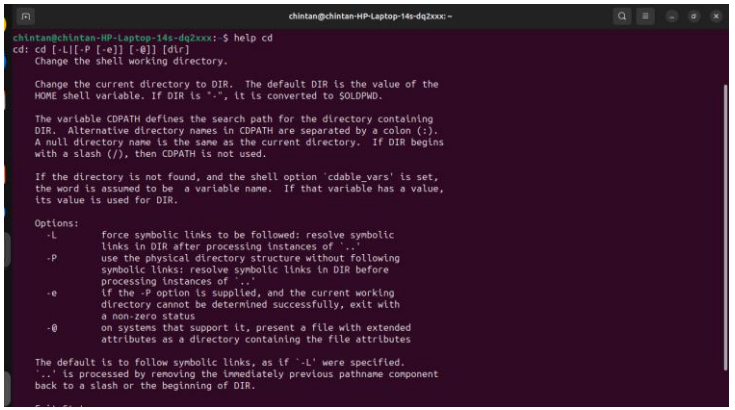
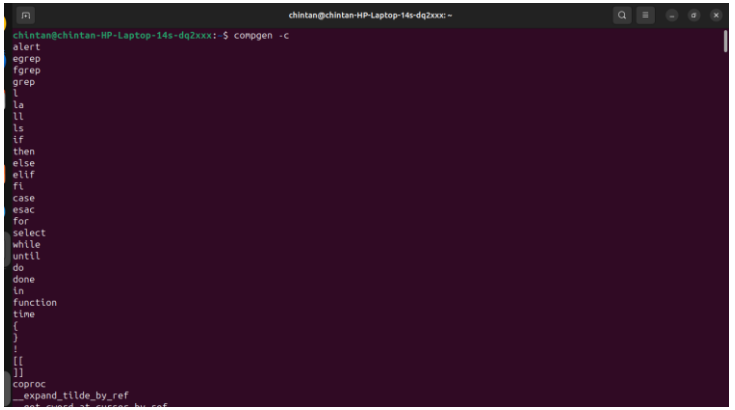
The main aim of this lab session is to provide hands-on experience on

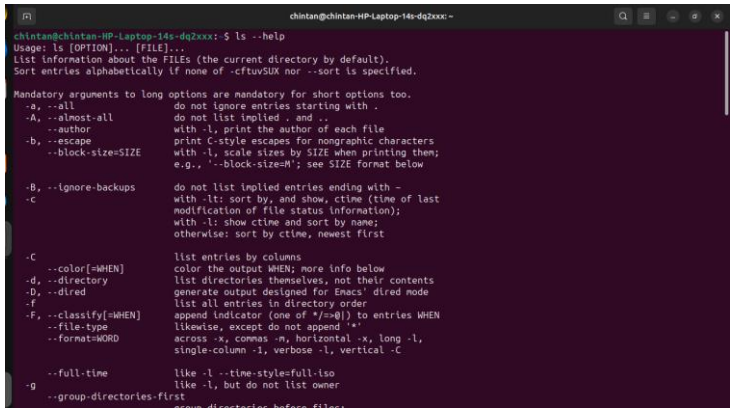
- Getting Help
- Basic Commands
- Navigation
- File System
- simple shell script

1. Getting Help

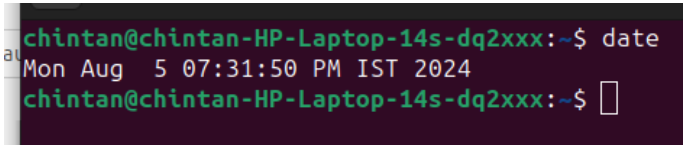
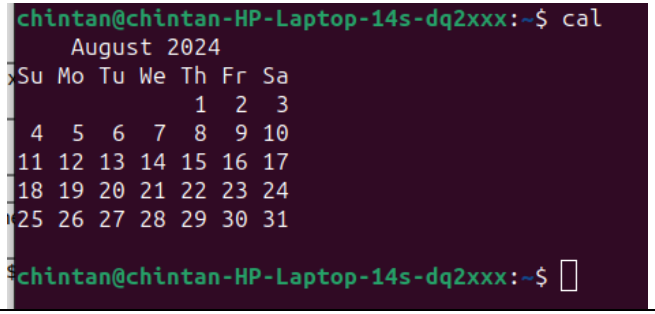
Task	Command Name	Syntax	Example	Screenshots
To get manual page for the known command	man	man <command>	man ls	

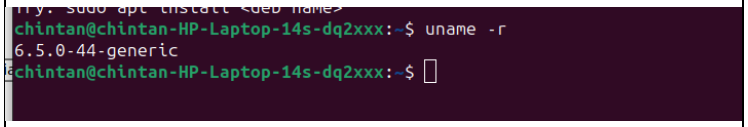
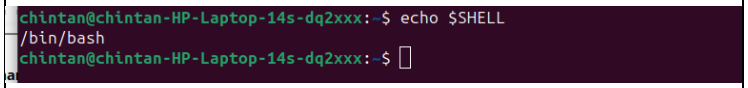
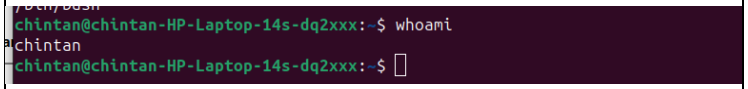
To get manual page for the unknown command	apropos	apropos <command_name>	apropos ls	
To know the source file binary	which	which <command>	which ls	
To know the path of the command	whereis	whereis <command>	whereis ls	
To know the command is external or internal	type	type <command>	type ls	

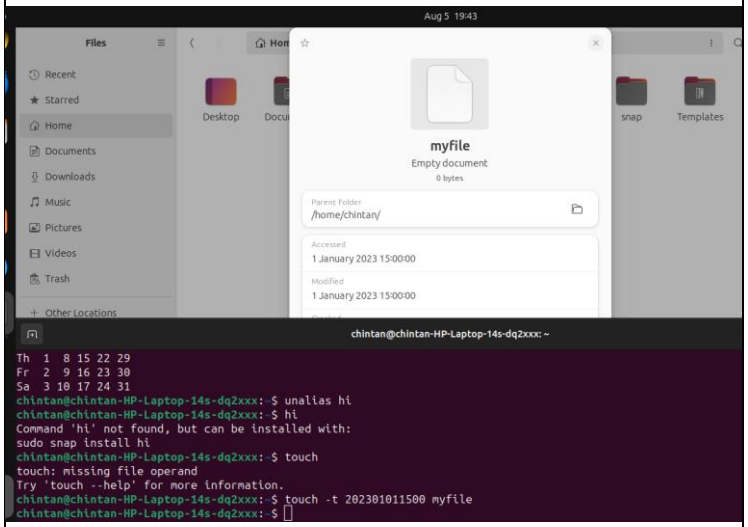
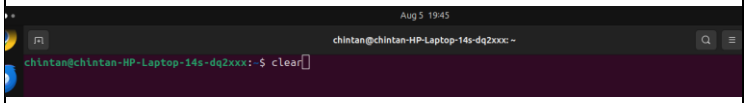
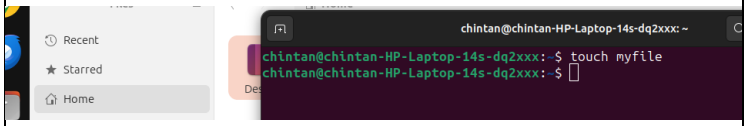
To get help for the internal command	help	help <command>	help cd	
To list out bash commands	compgen	compgen -c	compgen -c	

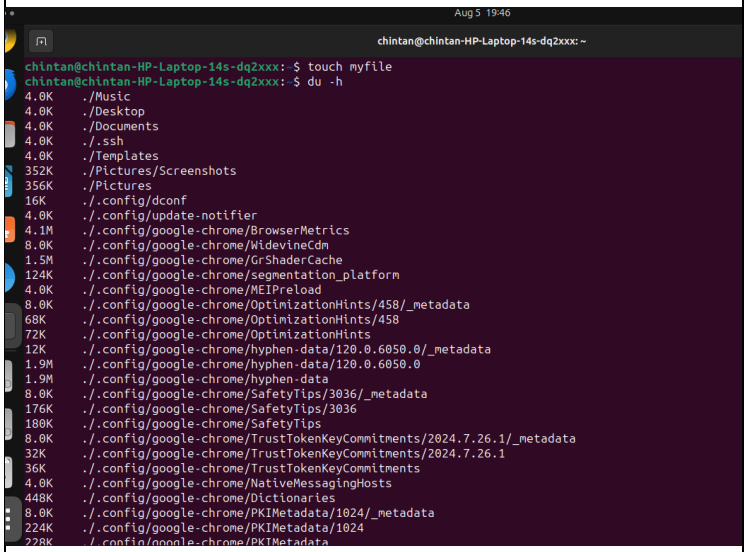
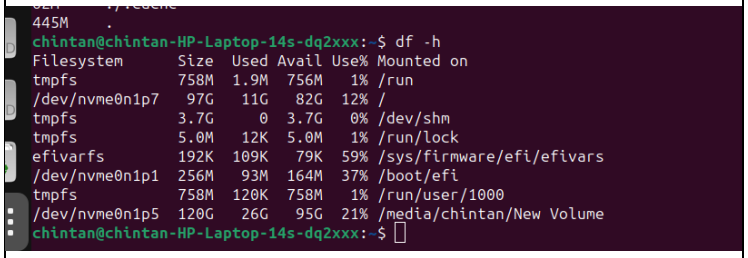
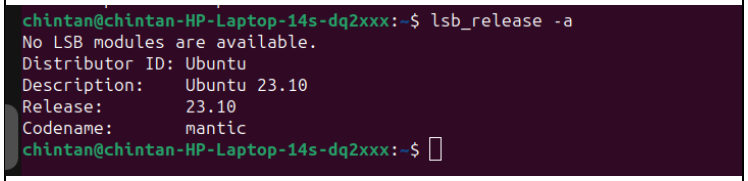
To know the usage of the command	<command> --help	<command> --help	ls --help	

2. Basic Commands

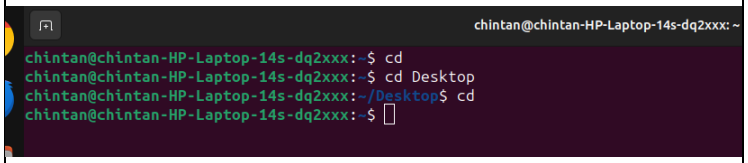
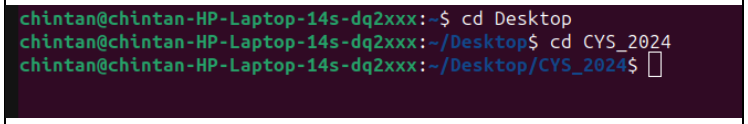
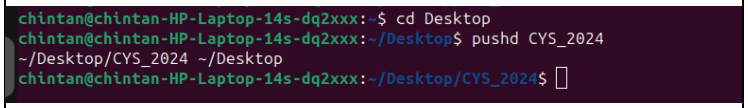
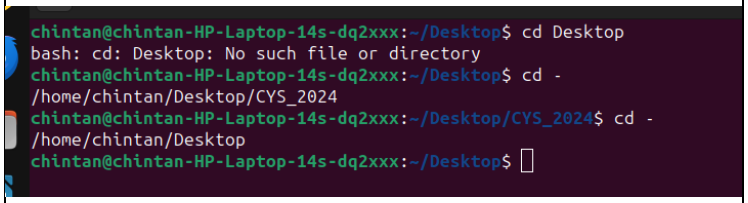
Task	Command Name	Syntax	Example	Screenshots
To know today's date	date	date	date	
To print calendar	cal	cal	cal	

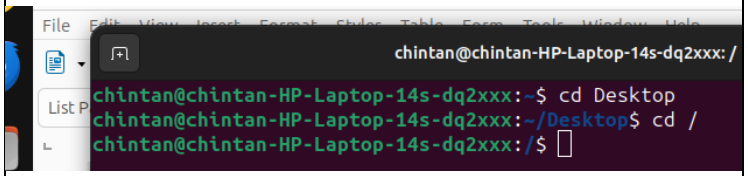
To print kernel version	uname	uname -r	uname -r	
To print default shell	echo	echo $SHELL	echo $SHELL	
To print currently logged in user	whoami	whoami	whoami	
To create shortcut for command	alias	alias <shortcut_name>=<command>	alias hi =ncal	
To delete shortcut	unalias	unalias <shortcut_name>	unalias hi	

To change the timestamp of the file	touch	touch -t <timestamp> <file>	touch -t 2301011500 myfile	
To clear the screen	clear	clear	clear	
To create empty files	touch	touch <file>	touch myfile	

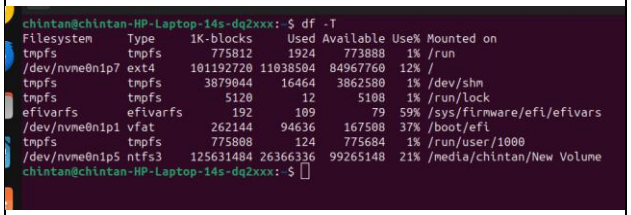
To know disk usage	du	du -h	du -h	
To know free space in the system	df	df -h	df -h	
To know about the Linux release	lsb_release	lsb_release	lsb_release	

3. Navigation

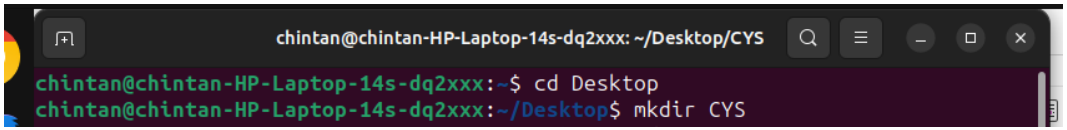
Task	Command	Syntax	Screenshots
To navigate home directory	cd	cd	
To navigate to the parent directory	cd ..	cd ..	
To navigate to the child directory	cd <directory_name>	cd file	
Alternate command to cd	pushd <directory>	pushd file	
To go back to the previous directory	cd -	cd -	

To go to the root directory	cd /	cd /	

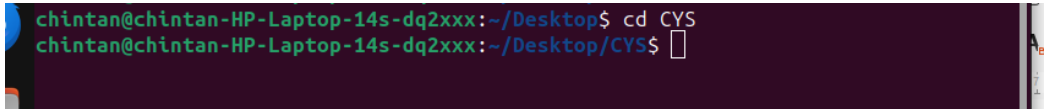
4. File System

Task	Syntax	Command
How to identify the file system	**df -T**	**df -T** 

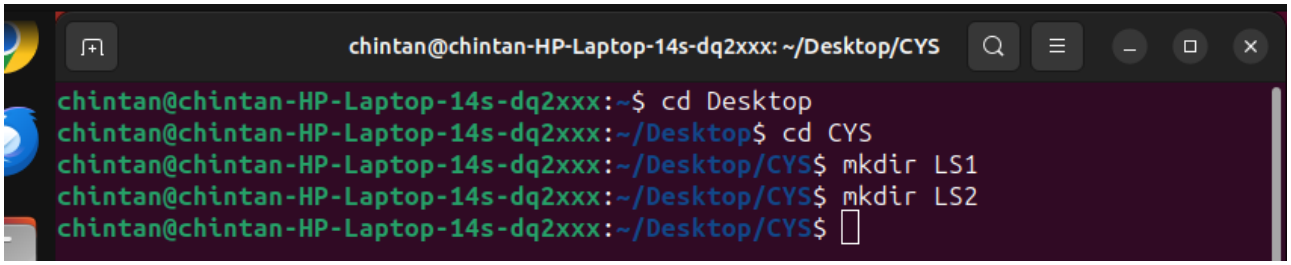
a. Create Folder “CYS”



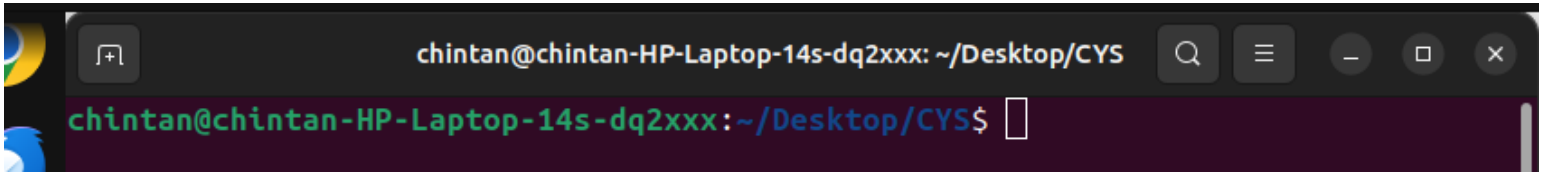
b. Navigate to CYS



c. Create folder LS1 and LS2 under CYS

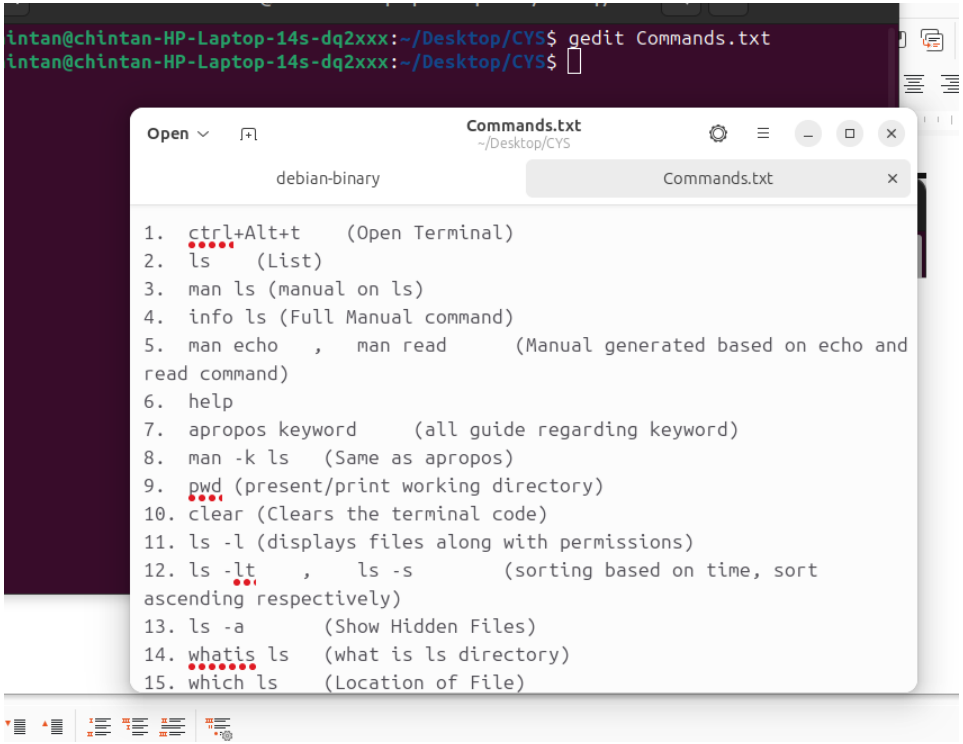


d. Go back to CYS

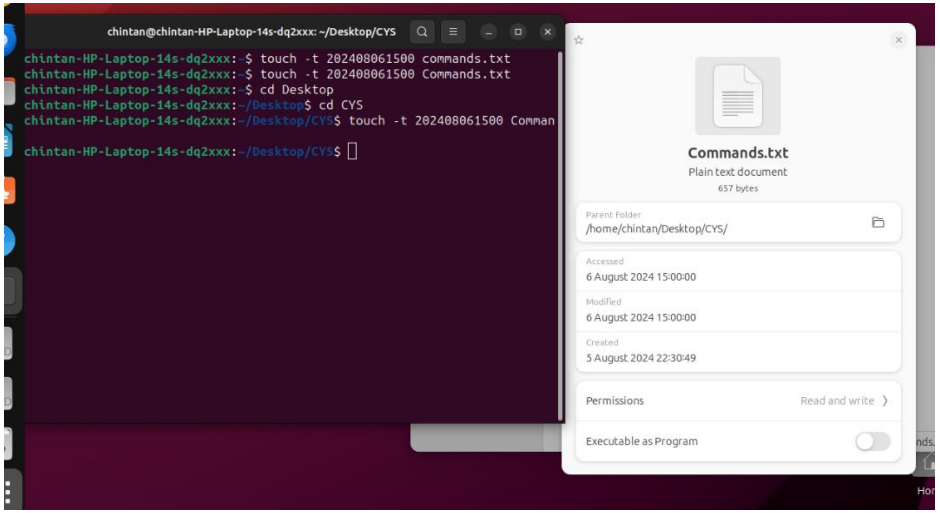


e. Working with Files

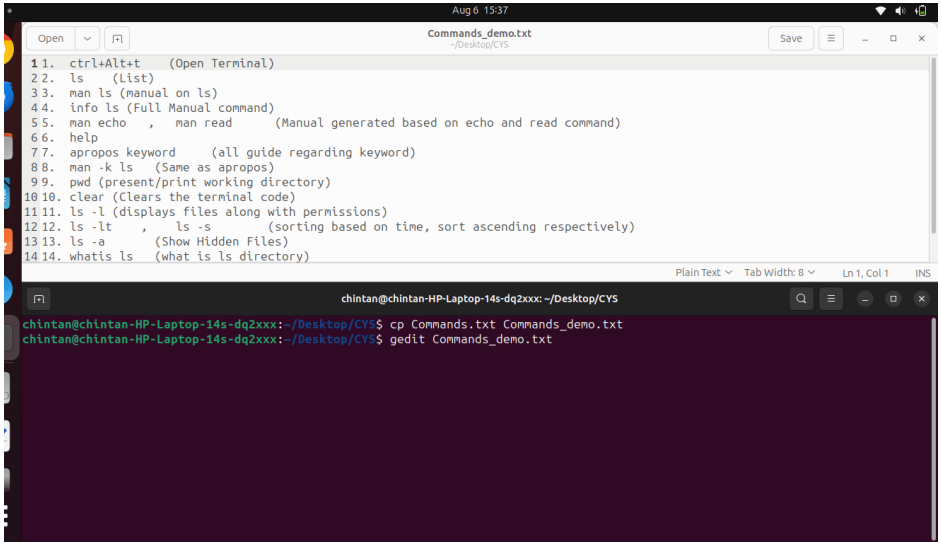
i. Add commands which you learnt during lab session in the file commands.txt



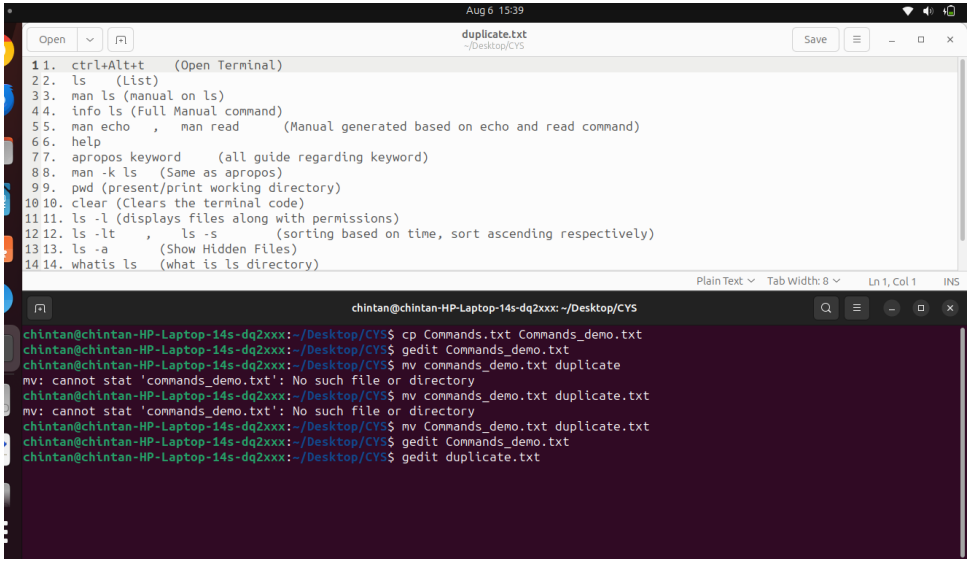
ii. Change the timestamp of the file to yesterday



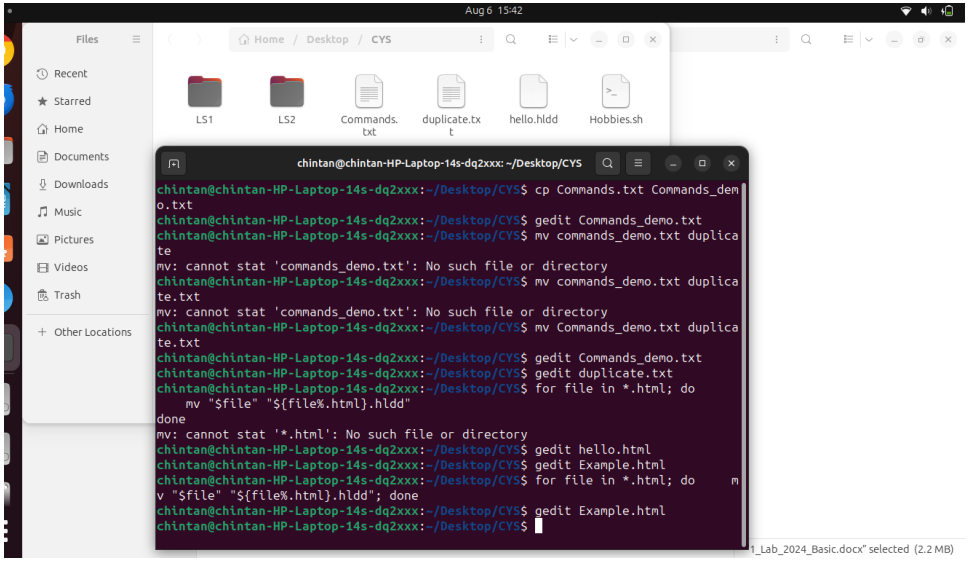
iii. Copy the contents from the file commands.txt to commands_demo.txt



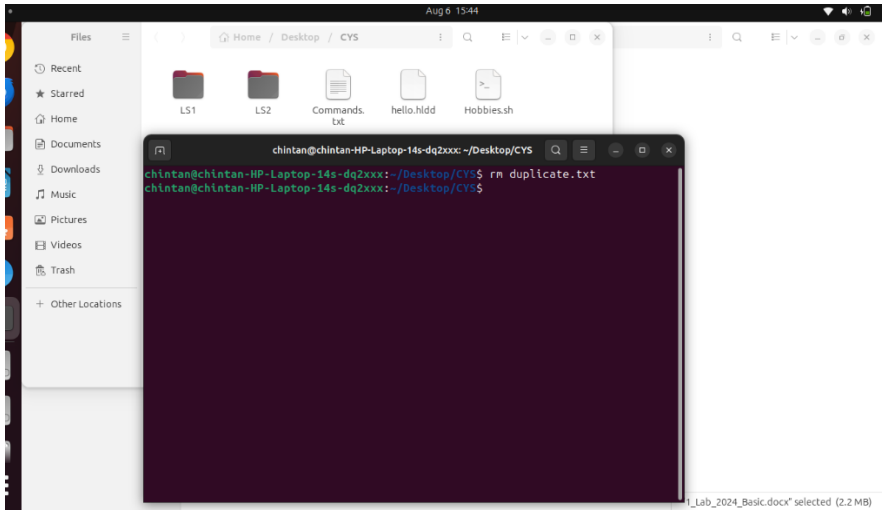
iv. Rename the file commands_demo.txt to duplicate



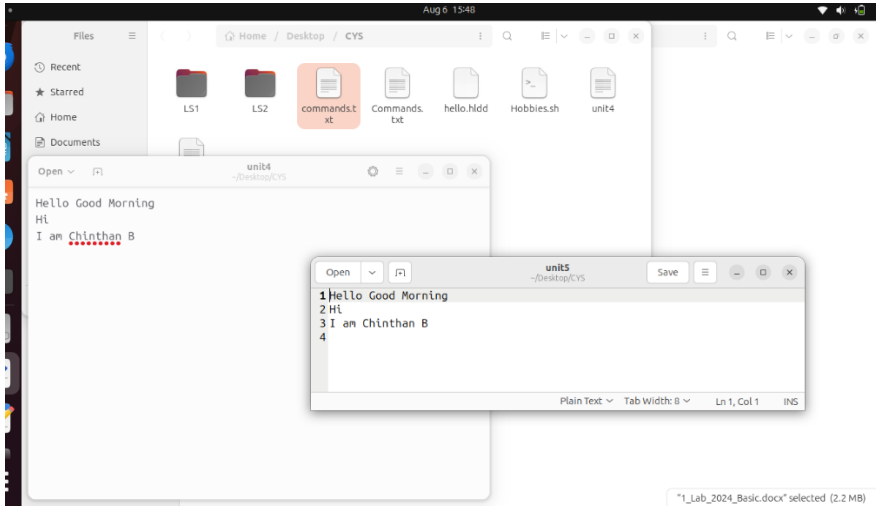
v. Rename all .html to .hldd



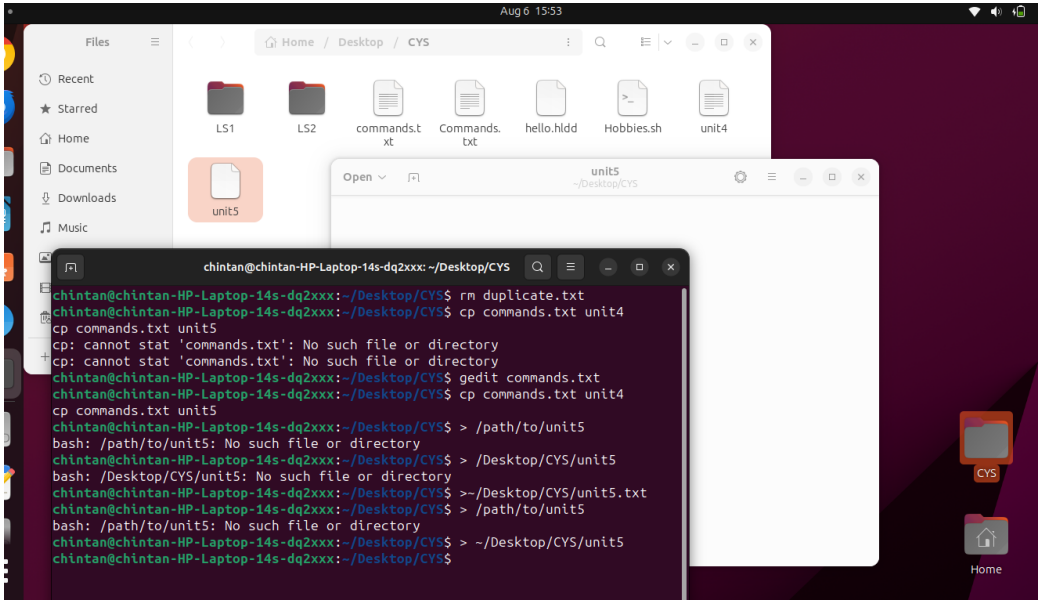
vi. Delete the file duplicate



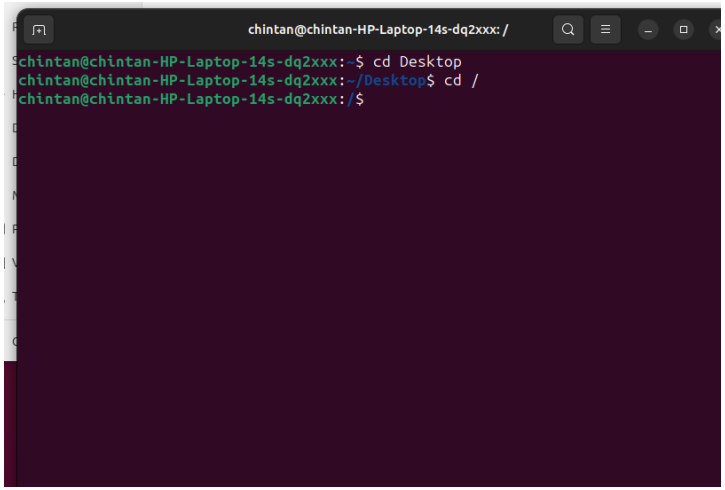
vii. Copy the contents commands.txt to unit4 and unit5 (using relative path)



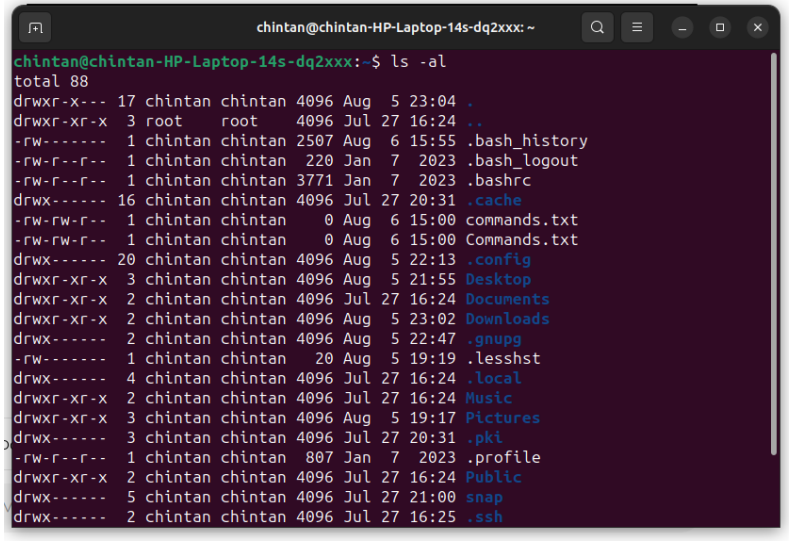
viii. Delete the contents from unit5 (using absolute path)



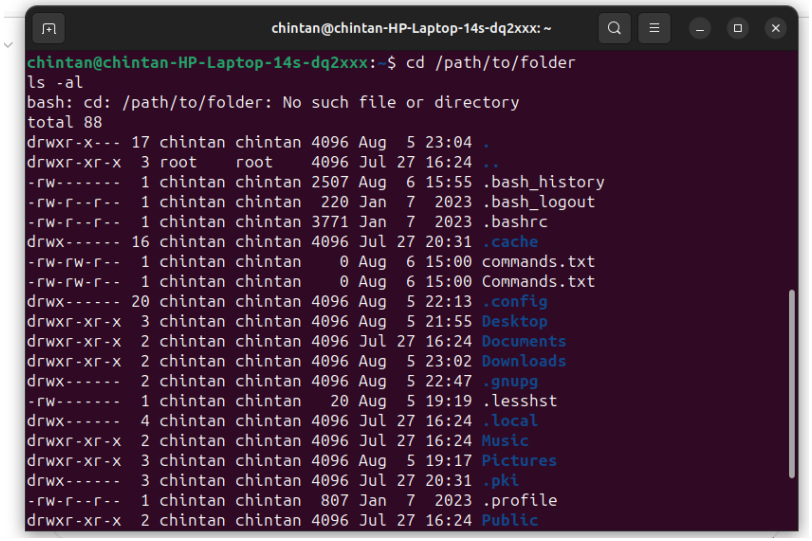
ix. Navigate to root



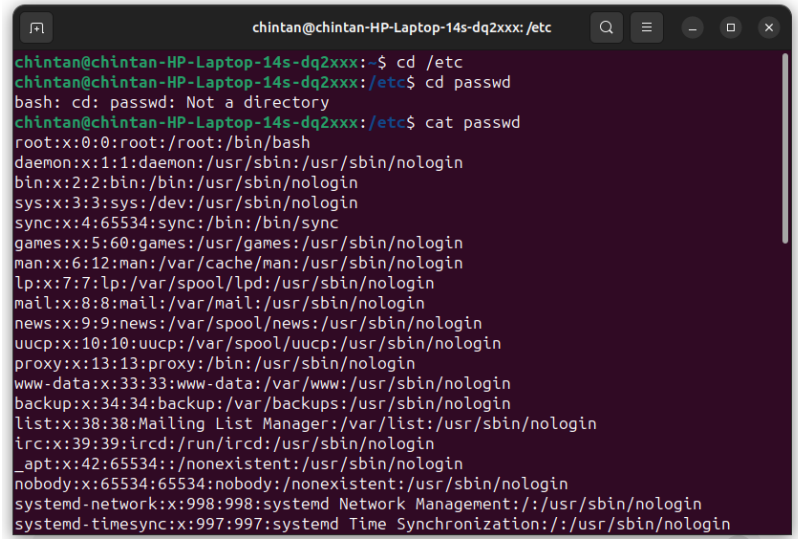
x. List all the files under root



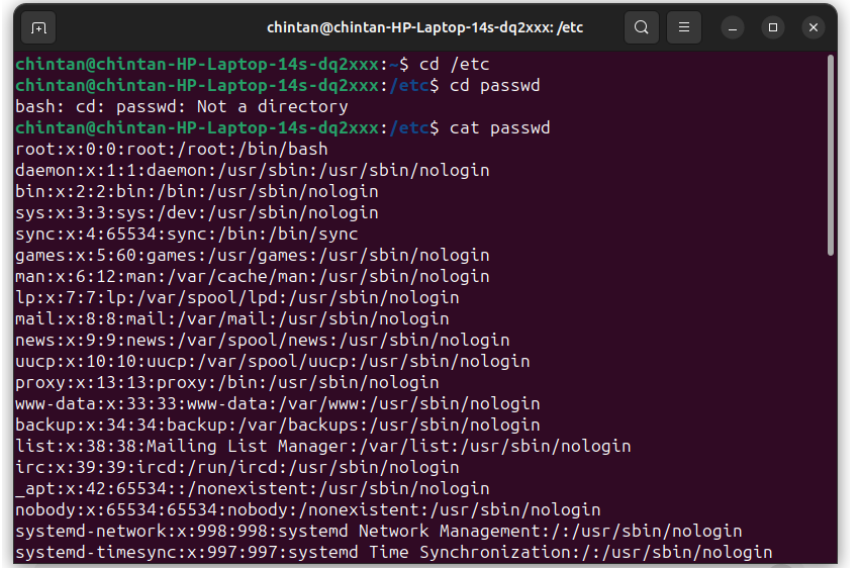
xi. Explore all the folders (Do not delete any folder)



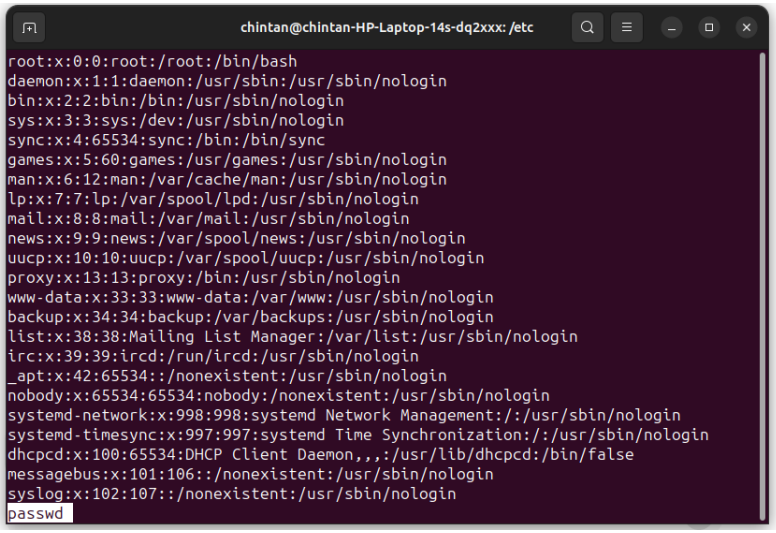
xii. Navigate to /etc/passwd



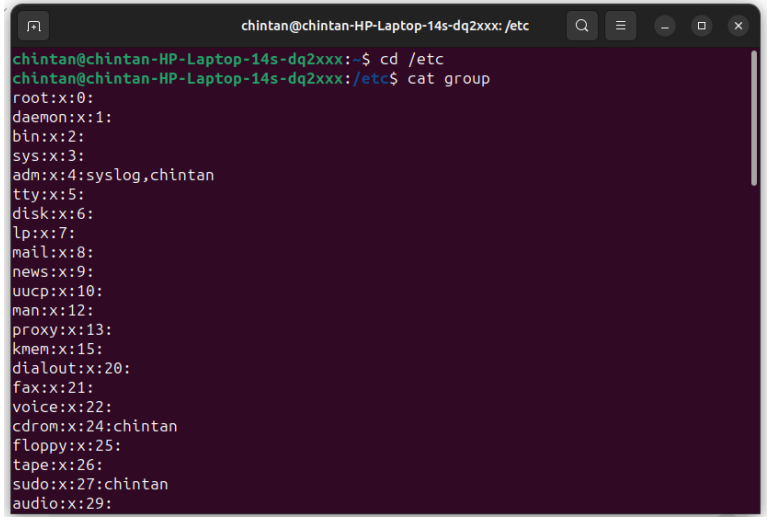
xiii. Open the file passwd



xiv. Explore the file passwd



xv. Navigate to /etc/group and explore



f. Difference between

i. GUI vs. CLI

GUI (Graphical User Interface):

- **Interface Type:** Uses graphical elements like windows, icons, and buttons.
- **User Interaction:** Primarily interacts with the system using a mouse and keyboard to click on visual elements.
- **Ease of Use:** Generally considered more intuitive and easier for beginners because of the visual representation of tasks and options.
- **Examples:** Windows Explorer, macOS Finder, GNOME desktop environment.

CLI (Command Line Interface):

- **Interface Type:** Uses text-based commands and output in a terminal or console window.
- **User Interaction:** Interacts with the system by typing commands into a terminal.
- **Power and Flexibility:** Offers more control and flexibility for advanced users and is often used for scripting and automation.
- **Examples:** Bash, PowerShell, Command Prompt.

ii. man vs info

man (Manual):

- **Purpose:** Provides a manual page for a command or function.
- **Content:** Usually includes a brief description, usage, options, and examples.
- **Format:** Traditional format with sections like NAME, SYNOPSIS, DESCRIPTION, OPTIONS, and EXAMPLES.
- **Usage:** man command_name (e.g., man ls).

info:

- **Purpose:** Provides a more detailed and structured documentation format, often including hypertext links.
- **Content:** More extensive than man pages, often organized in a hierarchical structure with cross-references and detailed explanations.
- **Format:** Uses a hypertext-like navigation system with nodes and links.
- **Usage:** info command_name (e.g., info ls).

iii. which vs. whereis

which:

- **Purpose:** Shows the full path of the executable file associated with a command.
- **Function:** Searches the directories listed in the PATH environment variable.
- **Usage:** which command_name (e.g., which ls).

whereis:

- **Purpose:** Finds the locations of the binary, source, and manual page files for a command.
- **Function:** Searches standard directories and provides multiple locations, including binary files, source code, and documentation.
- **Usage:** whereis command_name (e.g., whereis ls).

iv. Terminal vs shell

Terminal:

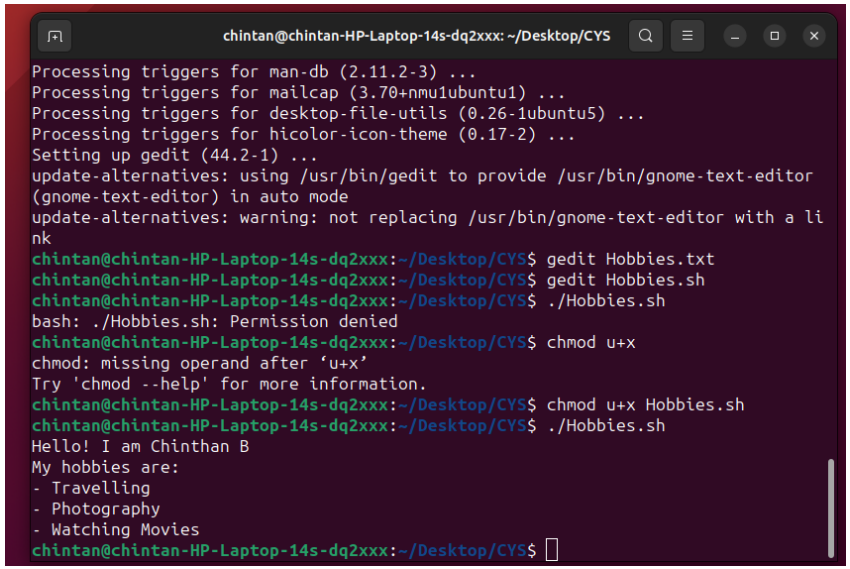
- **Purpose:** A program or window that provides a command-line interface to interact with the operating system.
- **Function:** Acts as an interface for inputting commands and displaying output.
- **Examples:** GNOME Terminal, xterm, macOS Terminal.

Shell:

- **Purpose:** A command-line translator that translates user-inputted commands into action.

- **Function:** The application that decodes and executes commands from the terminal.
- **Examples:** Bash, Zsh, Fish, PowerShell.

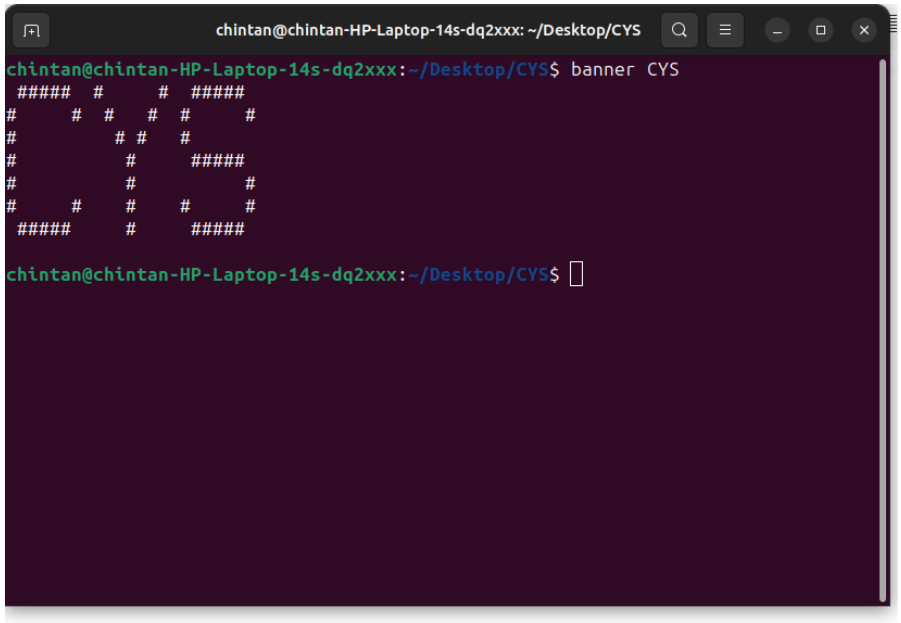
g. Write a simple shell script to print your name and your hobbies!



Interesting commands to Explore

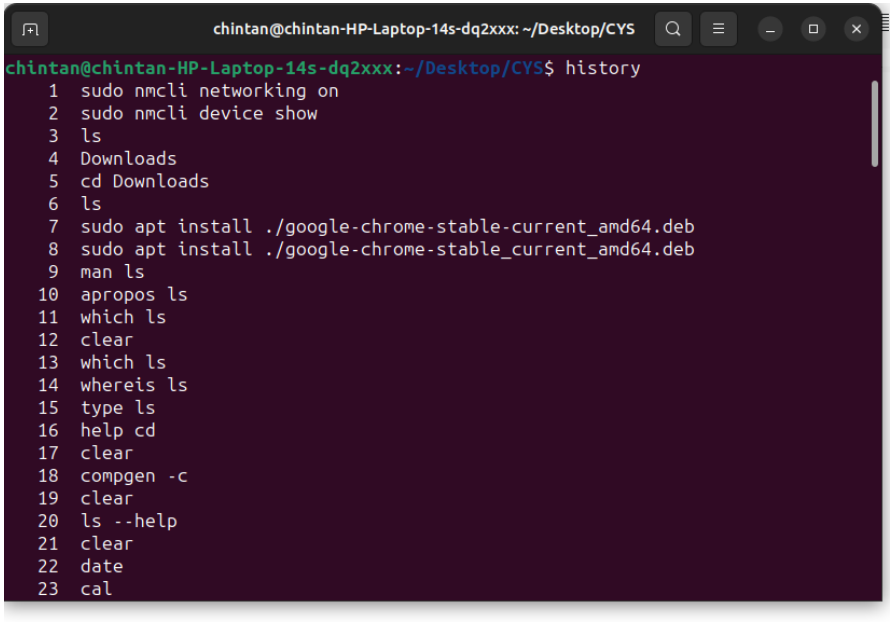
Banner

Gives the Text in a Patterned format.



History

Gives the History of Commands that you have excecuted.



Note: Include your screenshots

Evaluation :

Marks : 10 (Deadline : 4 – Originality :3 – Completeness :3)

Deadline: 06.08.2024

"All our dreams can come true if we have the courage to pursue them." -- Walt Disney