**Basic Linux Commands**

1. What is the command to display the current working directory?
2. List all files and directories in /home including hidden ones.
3. Create a directory named project inside your home directory.
4. Copy a file file1.txt to a new file named file2.txt.
5. Move file2.txt into the project directory.
6. Delete the file file2.txt inside the project directory.
7. Rename the file file1.txt to main.txt.
8. View the contents of a file named notes.txt.
9. Show the last 10 lines of a file log.txt.
10. Count the number of lines, words, and characters in data.csv.

**🔹 Permissions & Ownership**

1. How do you change the permissions of script.sh to executable?
2. Give read, write, and execute permissions to the owner only on test.sh.
3. Change the owner of a file report.txt to user john.
4. What command shows the permissions of files in a directory?

**🔹 Process Management**

1. Display currently running processes.
2. Find the PID of a process called nginx.
3. Kill a process by PID.
4. Start a background process that runs ping google.com.
5. Bring a background process to the foreground.
6. Show all active processes of the current user.

**🔹 Disk & Storage**

1. Display disk usage of your system.
2. Show free and used memory on the system.
3. Find size of the Downloads directory.
4. Find which files are taking most space in /var.

**🔹 Networking**

1. Check the IP address of your machine.
2. Ping a website (e.g., google.com) and display the result.
3. List all open ports on your system.
4. Test DNS resolution using dig or nslookup.

**🔹 Package Management (Debian/Ubuntu)**

1. Install a package called tree.
2. Remove a package apache2.
3. List all installed packages.
4. Update and upgrade all packages on your system.

**🔹 File Search & Filters**

1. Search for a file named config.yaml in /etc.
2. Find all .log files in /var/log modified in the last 1 day.
3. Use grep to find the word “ERROR” in server.log.
4. Sort the contents of names.txt alphabetically.
5. Display only unique lines in users.txt.

**🔹 Shell Scripting & Loops**

1. Write a loop to print numbers from 1 to 10.
2. Use a while loop to count from 5 to 15.
3. Read and print each line from a file using a while loop in a script.

**🔹 Archiving and Compression**

1. Create a tar archive backup.tar of the project folder.
2. Compress backup.tar using gzip.
3. Extract backup.tar.gz to the current directory.