Experiment-6

Title: Test and Run Advanced Unix commands.

Instructions to Students:

Perform the following tasks using a Unix/Linux terminal (either installed OS or online simulator). Write down the command you used, its output, and your observations.

Unix Commands: echo, cal, date, ln, nl, chmod, sort, comm, grep, passwd, who, bc

Question:

Perform the following tasks using a Unix/Linux terminal (either installed OS or online simulator). Write down the command you used, its output, and your observations.

1. Echo Command

Display the following using the echo command:

- Your name
- Your enrollment number
- Your college name

2. Calendar Command

- Display the current month's calendar
- Display the calendar of the year 2025

3. Date Command

- Display the current system date and time.

4. File Creation and Linking

- Create a file named fruits.txt with at least 5 fruit names
- Create a **hard link** to it named hard_fruits.txt
- Create a **soft link** to it named soft_fruits.txt
- Verify all 3 files using the command:
- ls -li

5. Numbering Lines using nl

Use the nl command to display line numbers for the fruits.txt file.

6. File Permissions using chmod

Use chmod to give the file fruits.txt:

- Read, write, execute permissions to the **owner**
- Read and execute permissions to **group and others**
  Then verify permissions using: ls -l

7. Sorting File

- Create a file names.txt with at least 7 names in random order
- Sort the file alphabetically and save the result **back into the same file**

8. Compare Two Fruit Files

- Create two files: fruit1.txt and fruit2.txt
- Add some **common** and **some different** fruit names in each file
- Sort both files
- Use the comm command to compare them and display:
    - Unique entries from each file
    - Common entries between both

9. Searching with grep

Search for the word "apple" in fruits.txt and display:

- All matching lines
- Only **line numbers** containing "apple"
- Lines **not** containing "apple"

10. Theory – passwd Command

Explain the purpose of the passwd command.

- How does it work?
- What are the steps to change your user password?

11. Theory – who Command

Describe what the who command does.

- What kind of information does it display?

12. Theory – bc Command

Write a short note on the bc command in Linux.

- What is it used for?

13. Count Matching Lines Using Pipe

- Use a **pipe and grep** to count how many lines in fruits.txt contain the word "banana".

Submission format:

- Prepare a word file of the output and take printout of it.
- The Word file must include:
    - Each task number (1 to 13).
    - The command you used.
    - Screenshot of the terminal output showing successful execution of each step.

Submission Deadline: 07/08/2025.