**LAB ASSIGNMENT 2**

**Q1. WHAT ARE THE OUTPUT OF THE FOLLOWING COMMANDS ?**

**Ans.** 1. pwd (Print Working Directory)

Output:  
Displays the current directory path.

2. cd (Change Directory)

Output:  
No output if successful. If directory doesn’t exist, shows an error

3. ls (List Files & Directories)

Output:  
Lists files and directories in the current folder

4. mkdir (Make Directory)

Output:  
No output if successful, else shows an error.

5. rm (Remove File or Directory)

Output:  
No output if successful. If the file doesn’t exist, it gives an error

6. touch (Create Empty File)

Output:  
No output if successful. Creates an empty file or updates timestamp.

7. hostname (Displays System Name)

Output:  
Shows the hostname of the system.

8. cat (View File Contents)

Output:  
Displays file contents.

9. chmod (Change File Permissions)

Output:  
No output if successful.

10. echo (Print Text to Terminal)

Output:  
Prints the given text.

11. grep (Search for Patterns in a File)

Output:  
Displays lines that match the search pattern.

12. fgrep (Fixed-String Search in a File)

Output:  
Similar to grep, but searches for exact text (no regex).

13. mv (Move/Rename Files)

Output:  
No output if successful.

14. cp (Copy Files)

Output:  
No output if successful.

15. more (View File Page by Page)

Output:  
Displays file content one page at a time.

16. less (View File Page by Page)

Output:  
Similar to more, but allows backward scrolling.

17. wc (Word Count)

Output:  
Displays line, word, and character count.

18. awk (Pattern Scanning & Processing)

Output:  
Processes and extracts specific text fields.

19. sed (Stream Editor)

Output:  
Performs text replacement.

20. tail (Show Last Lines of a File)

Output:  
Shows last 10 lines by default.

**Q2. ANSWER THE FOLLOWING QUESTIONS:-**

1. How to navigate to a specific directory?  
   cd /path/to/directory
2. How to see detailed information about files and directories using ls?  
   ls -l
3. How to create multiple directories in Linux using mkdir command?  
   mkdir dir1 dir2 dir3  
   mkdir -p parent/child/grandchild (for nested directories)
4. How to remove multiple files at once with rm?  
   rm file1 file2 file3
5. Can rm be used to delete directories?  
   Yes, using:  
   rm -r directory\_name
6. How do you copy files and directories in Linux?
   * Copy a file: cp source\_file destination
   * Copy a directory: cp -r source\_directory destination
7. How to rename a file in Linux using mv command?  
   mv old\_filename new\_filename
8. How to move multiple files in Linux using mv command?  
   mv file1 file2 file3 /destination/directory/
9. How to create multiple empty files by using touch command in Linux?  
   touch file1 file2 file3
10. How to view the content of multiple files in Linux?  
    cat file1 file2
11. How to create a file and add content in Linux using cat command?  
    cat > filename (then type content and press Ctrl + D to save)
12. How to append the contents of one file to the end of another file using cat?  
    cat source\_file >> destination\_file
13. How to use cat command if the file has a lot of content and can’t fit in the terminal?  
    cat filename | less
14. How to merge contents of multiple files using cat command?  
    cat file1 file2 > merged\_file
15. How to use cat command to append to an existing file?  
    cat additional\_content.txt >> existing\_file.txt
16. What is chmod 777, chmod 755, and chmod +x or chmod a+x?

* chmod 777 file → Full read, write, and execute permissions for everyone.
* chmod 755 file → Owner has full permissions; others can only read and execute.
* chmod +x file or chmod a+x file → Makes the file executable for all users.

1. How to find the number of lines that match a given string/pattern?  
   grep -c "pattern" filename
2. How to display the files that contain a given string/pattern?  
   grep -l "pattern" \*.txt
3. How to show the line number of a file with the matched line?  
   grep -n "pattern" filename
4. How to match the lines that start with a specific string using grep?  
   grep "^pattern" filename
5. Can the sort command be used to sort files in descending order by default?  
   No, but sorting in descending order can be done with:  
   sort -r filename
6. How can I sort a file based on a specific column using the sort command?  
   sort -k column\_number filename