**LAB ASSIGNMENT – 2**

**Part1 - Outputs of the following commands**

**1. pwd**:

Output: Prints the current working directory.  
Example: /home/user

**2. cd**:

No output.

Changes the current directory. If you run cd without any arguments, it will take you to the home directory.  
Example: $ cd /home/user/Documents

**3. ls**:

Output: Lists the files and directories in the current directory.  
Example: file1.txt file2.txt directory1 directory2

**4. mkdir**:

No output.

Creates a new directory.  
Example: $ mkdir new\_folder

**5. rm**:

No output (unless there’s an error).

Removes a file or directory. If you want to remove a directory and its contents, use rm -r.  
Example: $ rm file1.txt

**6. touch**:

No output.

Creates a new empty file if it doesn't exist or updates the timestamp of an existing file.  
Example: $ touch newfile.txt

**7. hostname**:

Output: Prints the hostname of the system.  
Example: myhostname

**8. cat**:

Output: Displays the contents of a file.  
Example: $ cat file1.txt

Hello, this is a text file.

**9. chmod**:

No output (unless there’s an error).

Changes the permissions of a file or directory.  
Example: $ chmod 755 script.sh

**10. echo**:

Output: Displays a string or text in the terminal.  
Example: $ echo "Hello, World!"

Hello, World!

**11. grep**:

Output: Searches for a pattern within a file or input stream and displays matching lines.  
Example: $ grep "Hello" file1.txt

Hello, this is a text file.

**12. fgrep**:

Output: Similar to grep, but treats the search pattern as a fixed string, ignoring regular expressions.  
Example: $ fgrep "Hello" file1.txt

Hello, this is a text file.

**13. mv**:

No output (unless there’s an error).

Moves or renames a file or directory.  
Example: $ mv oldfile.txt newfile.txt

**14. cp**:

No output (unless there’s an error).

Copies files or directories.  
Example: $ cp file1.txt copy\_of\_file1.txt

**15. more**:

Output: Displays the contents of a file one page at a time.  
Example: $ more file1.txt

**16. less**:

Output: Similar to more, but allows both forward and backward navigation.  
Example: $ less file1.txt

**17. wc**:

Output: Counts words, lines, characters, or bytes in a file.  
Example: $ wc file1.txt

10 20 150 file1.txt

The numbers represent lines, words, and characters, respectively.

**18. awk**:

Output: A powerful text-processing tool that can process and analyze text data, often used with patterns and actions.  
Example: $ awk '{print $1}' file1.txt

Hello

**19. sed**:

Output: A stream editor used for basic text transformations.  
Example: $ sed 's/old/new/g' file1.txt

**20. tail**:

Output: Displays the last 10 lines of a file by default.  
Example: $ tail file1.txt

**Part 2:**  **Answers to the following Questions:**

**1. How to navigate to a Specific Directory?**

**Command:** cd /path/to/directory

**2. How to see detailed information about files and directories using ls?**

**Command:** ls -l

This lists files with detailed information such as permissions, owner, size, and

modification time.

**3. How to create multiple directories in Linux using mkdir command?**

**Command:** mkdir dir1 dir2 dir3

This creates dir1, dir2, and dir3 in the current directory.

**4. How to remove multiple files at once with rm?**

**Command:** rm file1.txt file2.txt file3.txt

This removes the specified files.

**5. Can rm be used to delete directories?**

Yes, you can delete directories using rm with the -r (recursive) option.

**Command:** rm -r directory\_name

**6. How Do You Copy Files and Directories in Linux?**

**Command to copy a file:** cp file1.txt destination\_folder/

**Command to copy a directory:** cp -r directory\_name destination\_folder/

**7. How to Rename a file in Linux Using mv Command?**

**Command:** mv old\_filename.txt new\_filename.txt

**8. How to Move Multiple files in Linux Using mv Command?**

**Command:** mv file1.txt file2.txt file3.txt destination\_folder/

**9. How to Create Multiple Empty Files by Using touch Command in Linux?**

**Command:** touch file1.txt file2.txt file3.txt

**10. How to View the Content of Multiple Files in Linux?**

**Command:** cat file1.txt file2.txt file3.txt

**11. How to Create a file and add content in Linux Using cat Command?**

**Command:** cat > newfile.txt

Then type your content and press CTRL+D to save and exit.

**12. How to Append the Contents of One File to the End of Another File using**

**cat command?**

**Command:** cat file1.txt >> file2.txt

**13. How to use cat command if the file has a lot of content and can’t fit in the**

**terminal?**

**Command:** cat file.txt | less

**You can also use more instead of less:** cat file.txt | more

**14. How to Merge Contents of Multiple Files Using cat Command?**

**Command:** cat file1.txt file2.txt file3.txt > merged\_file.txt

**15. How to use cat Command to Append to an Existing File?**

**Command:** cat >> existing\_file.txt

Then type your content and press CTRL+D to save and exit.

**16. What is chmod 777, chmod 755, and chmod +x or chmod a+x?**

**chmod 777:** Gives read, write, and execute permissions to everyone (owner,

group, others).

**Command:** chmod 777 filename

**chmod 755:** Gives read, write, and execute permissions to the owner, and read

and execute permissions to group and others.

**Command:** chmod 755 filename

**chmod +x or chmod a+x:** Adds execute permission for everyone (owner,

group, others).

**Command:** chmod +x filename

**17. How to find the number of lines that matches the given string/pattern?**

**Command:** grep -c "pattern" file.txt

**18. How to display the files that contain the given string/pattern?**

**Command:** grep -l "pattern" \*.txt

**19. How to show the line number of file with the line matched?**

**Command:** grep -n "pattern" file.txt

**20. How to match the lines that start with a string using grep?**

**Command:** grep "^pattern" file.txt

The ^ indicates the beginning of a line.

**21. Can the sort command be used to sort files in descending order by default?**

No, the sort command sorts in ascending order by default. To sort in descending

order, use the -r (reverse) option.

**Command:** sort -r file.txt

**22. How can i sort a file based on a specific column using 'sort' command?**

To sort a file based on a specific column using the sort command, you can use

the -k option, which allows you to specify the column number (field) for

sorting.

**Command:** sort -k <column\_number> <file\_name>