**LAB ASSIGNMENT 2**

**PART 1**

**1. pwd Command**---- checks his current directory:

pwd -> Output: /home/krish/documents

**2. cd Command**--- changes his directory:

cd /home/krish/projects -> No output.

**3. ls Command**--- lists files in his directory:

ls -> Output: file1.txt file2.txt project1

**4. mkdir Command**--- creates a new directory:

mkdir new\_project -> No output.

**5. rm Command**--- removes a file:

rm file1.txt -> No output.

**6. touch Command**----creates a new file:

touch newfile.txt -> No output.

**7. hostname Command**--- checks his system's hostname:

Hostname -> Output: krish-pc

**8. cat Command**--- views a file's content:

cat file2.txt -> Output: Hello, world!

**9. chmod Command**---changes file permissions:

chmod 755 -> No output.

**10. echo Command**---prints a message:

echo "Hello, Krish!" -> Output: Hello, Krish!

**11. grep Command**--- searches for a pattern:

grep "world" file2.txt -> Output: Hello, world!

**12. fgrep Command**--- searches for a fixed string:

fgrep "world" file2.txt -> Output: Hello, world!

**13. mv Command**--- renames a file:

mv oldfile.txt newfile.txt -> No output.

**14. cp Command**--- copies a file:

cp source.txt destination.txt -> No output.

**15. more Command**--- views a large file:

more largefile.txt -> Output: This is line 1... --More--

**16. less Command**--- views a large file with navigation:

less largefile.txt -> Output: Displays content with navigation options.

**17. wc Command**---counts lines, words, and characters:

wc file2.txt -> Output: 10 50 300 file2.txt

**18. awk Command**---extracts the first column:

awk '{print $1}' file2.txt -> Output: Prints the first column of each line.

**19. sed Command**--- replaces text:

sed 's/old/new/g' file2.txt -> Output: Replaces "old" with "new".

**20. tail Command**--- views the last lines of a file:

tail file2.txt -> Output: Displays the last 10 lines of the file.

**PART 2**

1. **How to navigate to a Specific Directory?**
   * Use the cd command followed by the directory path:

cd /path/to/directory

* + To go back one level, use:

cd ..

* + To return to your home directory:

cd ~

* + To navigate to the previous directory:

cd -

1. **How to see detailed information about files and directories using ls?**
   * Use the -l option with ls:

ls -l

* + For human-readable file sizes, add -h:

ls -lh

* + To include hidden files, use:

ls -la

1. **How to create multiple directories in Linux using mkdir command?**
   * Use the mkdir command with space-separated directory names:

mkdir dir1 dir2 dir3

* + To create nested directories in one step, use the -p option:

mkdir -p parent/child/grandchild

1. **How to remove multiple files at once with rm?**
   * List all file names separated by spaces:

rm file1 file2 file3

1. **Can rm be used to delete directories?**
   * with the -r option for recursive deletion:

rm -r directory\_name

1. **How Do You Copy Files and Directories in Linux?**
   * To copy a file:

cp source\_file destination\_file

* + To copy a directory recursively:

cp -r source\_directory destination\_directory

1. **How to Rename a File in Linux Using mv Command?**
   * Use the mv command:

mv old\_filename new\_filename

1. **How to Move Multiple Files in Linux Using mv Command?**
   * Specify multiple files followed by the destination directory:

mv file1 file2 file3 /destination/directory/

1. **How to Create Multiple Empty Files by Using touch Command in Linux?**
   * Use the touch command with space-separated file names:

touch file1 file2 file3

1. **How to View the Content of Multiple Files in Linux?**
   * Use the cat command followed by file names:

cat file1 file2

1. **How to Create a File and Add Content in Linux Using cat Command?**
   * Use redirection (>) with cat:

cat > filename

1. **How to Append the Contents of One File to Another Using cat Command?**
   * Use the append operator (>>):

cat source\_file >> destination\_file

1. **How to Use cat Command if the File Has Too Much Content for One Screen?**
   * Pipe it into a pager like less or more:

cat large\_file | less

1. **How to Merge Contents of Multiple Files Using cat Command?**
   * Concatenate files into a new one:

cat file1 file2 > merged\_file

1. **How to Use cat Command to Append to an Existing File?**
   * Append content using:

cat >> existing\_file

1. **What is “chmod 777”, “chmod 755” and “chmod +x”?**
   * **chmod 777**: Grants read, write, and execute permissions to everyone.
   * **chmod 755**: Grants full permissions to the owner and read/execute permissions to others.
   * **chmod +x** or **chmod a+x**: Adds execute permission for all users.
2. **How to Find the Number of Lines That Match a String/Pattern?**
   * Use the grep command with the -c option:

grep -c "pattern" filename

1. **How to Display Files That Contain a Given String/Pattern?**
   * Use grep without additional options:

grep "pattern" \*

1. **How to Show Line Numbers of Matched Lines in a File?**
   * Add the -n option with grep:

grep -n "pattern" filename

1. **How to Match Lines That Start With a String Using Grep?**
   * Use the caret (^) symbol:

grep "^string" filename

1. **Can the ‘sort’ Command Be Used to Sort Files in Descending Order by Default?**
   * No, but you can use the -r option for reverse order:

sort -r filename

1. **How Can I Sort a File Based on a Specific Column Using the ‘sort’ Command?**
   * Specify the column number using the -k option (e.g., column 2):

sort -k2 filename