# **ASSIGNMENT 2.**

**Aim:** To study and understand Ubuntu Commands .

**To perform:** Execute different Commands.

1 Outputs of the following commands

1. **pwd** – Prints the current working directory.

**Output:** /home/user

1. **cd** – Changes the current directory (has no output unless there is an error).

**Output:** cd /var/log

1. **ls** – Lists files and directories in the current directory.

**Output:** file1.txt file2.txt folder1 folder2

1. **mkdir** – Creates a new directory (no output unless an error occurs).

**Output:** mkdir new\_folder

1. **rm** – Removes a file or directory (no output unless an error occurs).

Bash.

**Output:** rm file1.txt

1. **touch** – Creates a new empty file or updates the timestamp of an existing file (no output).

**Output:** touch newfile.txt

1. **hostname** – Prints the system's hostname.

**Output:** my-computer

1. **cat** – Displays the contents of a file.

**Output:** cat file.txt

This is a sample text file.

1. **chmod** – Changes file permissions (no output unless an error occurs).

**Output:** chmod 755 script.sh

1. **echo** – Prints text to the terminal.

**Output:**

echo "Hello, World!"

Hello, World!

1. **grep** – Searches for a pattern in a file.

**Output:** grep "hello" file.txt

hello world

1. **fgrep** – Works like grep -F, searching for a fixed string instead of a pattern.

**Output:**

fgrep "error" log.txt

error: file not found

1. **mv** – Moves or renames a file (no output unless an error occurs).

**Output:** mv oldfile.txt newfile.txt

1. **cp** – Copies a file or directory (no output unless an error occurs).

**Output:** cp file1.txt file2.txt

1. **more** – Displays file content page by page.

**Output:** more largefile.txt

1. **less** – Similar to more but allows scrolling up and down.

**Output:** less largefile.txt

1. **wc** – Counts words, lines, and characters in a file.

**Output:** wc file.txt

10 50 200 file.txt # (lines, words, bytes)

1. **awk** – A powerful text processing tool.

**Output:** awk '{print $1}' file.txt

1. **sed** – Stream editor used for text transformations.

**Output:** sed 's/old/new/' file.txt

1. **tail** – Displays the last few lines of a file

**Output:** tail -n 5 file.txt

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

To move to a specific directory, use the cd (Change Directory) command.

**Syntax:**

cd /path/to/directory

**Example:**

cd /home/user/Documents

* Moves to the "Documents" directory inside /home/user.

To move one directory up:

**cd ..**

To go to the home directory:

**cd ~**

To go to the root directory:

**cd /**

**2. How to See Detailed Information About Files and Directories Using ls?**

Use the -l (long listing) option with ls.

**Syntax:**

**ls -l**

**Example Output:**

-rw-r--r-- 1 user user 1234 Mar 22 10:00 file.txt

drwxr-xr-x 2 user user 4096 Mar 22 09:30 myfolder

**Explanation:**

* -rw-r--r-- → File permissions
* 1 → Number of links
* user user → Owner and group
* 1234 → File size in bytes
* Mar 22 10:00 → Last modification date
* file.txt → Filename

To include hidden files: ls -la

**3. How to Create Multiple Directories in Linux Using mkdir?**

**Syntax:**

mkdir dir1 dir2 dir3

**Example:**

mkdir project1 project2 project3.

To create nested directories:

mkdir -p parent/child/grandchild

-p ensures parent directories are created if they don’t exist.

**4. How to Remove Multiple Files at Once With rm?**

**Syntax:**

rm file1 file2 file3

**Example:**

rm report1.txt report2.txt

To remove all .txt files:

rm \*.txt.

Use -i to get confirmation before deleting:

rm -i file1.txt file2.txt.

**5. Can rm Be Used to Delete Directories?**

Yes, use the -r (recursive) option.

**Syntax:**

rm -r directory\_name

**Example:**

rm -r myfolder

To force deletion without confirmation:

rm -rf myfolder

⚠ **Warning:** This will permanently delete the directory.

**6. How to Copy Files and Directories in Linux?**

**Syntax:**

cp source destination

**Example:**

Copy a file:

cp file1.txt file2.txt

Copy a directory recursively:

cp -r folder1 folder2

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

**Syntax:**

mv oldname newname

**Example:**

mv oldfile.txt newfile.txt

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

**Syntax:**

mv file1 file2 file3 /destination/directory/

**Example:**

mv report1.txt report2.txt /home/user/Documents/

**9. How to Create Multiple Empty Files Using touch?**

**Syntax:**

touch file1 file2 file3

**Example:**

touch notes1.txt notes2.txt notes3.txt

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

**Syntax:**

cat file1 file2

**Example:**

cat file1.txt file2.txt

This prints both files' contents.

**11. How to Create a File and Add Content Using cat?**

**Syntax:**

cat > filename

**Example:**

cat > myfile.txt

Then type content and press Ctrl + D to save.

**12. How to Append the Contents of One File to Another Using cat?**

**Syntax:**

cat file1 >> file2

**Example:**

cat notes.txt >> summary.txt

**13. How to View Large Files That Don't Fit in the Terminal?**

**Use less:**

less largefile.txt

**or more:**

more largefile.txt

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

**Syntax:**

cat file1 file2 > mergedfile

**Example:**

cat report1.txt report2.txt > finalreport.txt

**15. How to Append to an Existing File Using cat?**

**Syntax:**

cat >> filename

**Example:**

cat >> notes.txt

Then type content and press Ctrl + D to save.

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

* chmod 777 file → Full permissions for all users.
* chmod 755 file → Read & execute for everyone, write for the owner.
* chmod +x file → Makes the file executable.
* chmod a+x file → Allows execution for all users.

**17. How to Find the Number of Lines That Match a Pattern?**

**Syntax:**

grep -c "pattern" filename

**Example:**

grep -c "error" log.txt

Outputs the number of lines containing "error".

**18. How to Display Files Containing a Specific String?**

**Syntax:**

grep -l "pattern" \*.txt

**Example:**

grep -l "failed" \*.log

Lists all files where "failed" appears.

**19. How to Show Line Numbers of Matching Lines?**

**Syntax:**

grep -n "pattern" filename

**Example:**

grep -n "error" logfile.txt

Outputs:

go

5:error: file not found

**20. How to Match Lines That Start With a String Using grep?**

**Syntax:**

grep "^pattern" filename

**Example:**

grep "^Error" system.log

Finds lines starting with "Error".

**21. Can sort Sort Files in Descending Order by Default?**

No, sort sorts in ascending order. To sort in descending order:

sort -r filename

**22. How to Sort a File Based on a Specific Column?**

**Syntax:**

sort -k column\_number filename

**Example:**

sort -k2 employees.txt

Sorts the file based on the second column.

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