**1. Listing and Navigating Directories**

ls -lrt

* ls: Lists files and directories.
* -l: Long format (shows details like permissions, owner, size, date).
* -r: Reverse order.
* -t: Sort by modification time.

cd

* cd: Moves to the home directory.

**2. Removing Directories**

rmdir a

* Removes the empty directory a.

rmdir -r a

* Incorrect usage. rmdir cannot remove non-empty directories. Use rm -r a instead.

rmdir -p a/b/c/d/e/f

* Removes a/b/c/d/e/f and any empty parent directories.

sudo rmdir a

* Removes a with superuser permissions.

**3. File Operations**

vi content.txt

* Opens content.txt in vi editor

cat content.txt

* Displays the content of content.txt.

**4. Process Management**

ps aux

* Lists all running processes with details.

kill -9 119675

* Kills process with ID 119675 forcefully.

man ps

* Opens the manual for ps.

ps --help --all

* Displays help for ps.

**5. Variables and Echo**

NAME="jinesh"

echo "Hello, $NAME!"

* Sets a variable NAME and prints it

whoami

* Displays the current user.

**6. Package Installation & System Info**

sudo apt install ncal

* Installs ncal (calendar tool)

uname -a

* Shows system information.

cal 2025

* Displays the calendar for 2025.

**7. Finding System Commands**

whereis python

whereis java

whereis ls

* Shows the locations of the binaries for python, java, and ls.

**8. Finding & Deleting Files**

find -name "\*.txt"

* Searches for .txt files in the current directory.

find . -type d

* Finds directories.

find . -name "\*.tmp" -exec rm {} \;

* Finds .tmp files and deletes them.

**9. Grep and Git Operations**

grep -Ril "ranawat"

* Recursively searches for "ranawat" in all files.

history | grep git

* Searches for git commands in history.

git pull

git reset --hard origin/main

* Pulls latest changes and resets the branch.

**10. Disk Usage & Top Processes**

du -sh \*

* Shows disk usage for each file.

top

* Displays system processes dynamically.

**11. Archiving and Extracting Files**

tar -cvf etc.tar Invoice-9.pdf

* Creates a tar file etc.tar containing Invoice-9.pdf.

tar -xzvf etc1.tar

* Extracts etc1.tar.

tar -cvf etc12.tar.gz .

* Compresses all files into etc12.tar.gz.

tar -tzvf etc12.tar.gz

* Lists the contents of etc12.tar.gz.

**12. Aliases**

alias j1="ls -lrt"

j1

* Creates an alias j1 for ls -lrt.

alias c="clear"

c

* Creates an alias c to clear the screen.

**13. Network & Disk Usage**

ip a

* Shows IP addresses.

ncdu .

* Shows disk usage interactively.

**14. Running Shell Scripts & Permissions**

vi code.sh

./code.sh

chmod 444 code.sh

chmod 744 code.sh

* Creates and executes a script with different permissions.

**15. Variables & Conditions**

var\_1="jinesh"

var\_2="ranawat"

echo "$var\_1$var\_2"

* Concatenates variables.

unset var\_1

echo "$var\_1"

* Unsets var\_1, making it empty.

readonly var\_2

* Makes var\_2 read-only.

**16. Time-Based Conditional Statements**

time=$(date +%H)

if [ $time -lt 12 ]; then

message="Good morning user"

elif [ $time -lt 18 ]; then

message="Good afternoon user"

else

message="Good evening user"

fi

echo "$message $time"

* Displays a greeting based on the current time.

**17. AWK Usage**

awk '{print $1}' data.txt

awk '{print $2}' data.txt

awk '{print $3}' data.txt

awk '{print $1 $3}' data.txt

* Extracts specific columns from data.txt.

awk '/Engineer/' data.txt

* Searches for "Engineer" in data.txt.

awk '$2 > 25 {print $1 , "is older than 25"}' data.txt

* Prints names of people older than 25.

**18. Loops**

i=1

while [ $i -lt 5 ]; do

echo "Jinesh"

i=$((i + 1))

done

* Prints "Jinesh" 4 times.

for a in 1 2 3 4 5 6 7 8 9; do

if [ $a == 5 ]; then

break

fi

echo "Iteration is $a"

done

* Loops through numbers 1 to 9 and stops at 5