1. File & Directory Commands

- `ls` - List directory contents

  Example: `ls -l`

- `cd` - Change directory

  Example: `cd /home/user`

- `mkdir` - Make new directory

  Example: `mkdir new_folder`

- `rm` - Remove files or directories

  Example: `rm file.txt`, `rm -r folder`

2. File Permissions & Ownership

- `chmod` - Change file permissions

  Example: `chmod 755 script.sh`

- `chown` - Change ownership

  Example: `chown user:group file.txt`

3. File Viewing

- `cat` - View file content

  Example: `cat file.txt`

- `less` - View with scrolling

  Example: `less file.txt`

- `head` - View first lines

  Example: `head -n 10 file.txt`

- `tail` - View last lines

  Example: `tail -n 10 file.txt`

4. Searching

- `find` - Search files

  Example: `find / -name file.txt`

- `grep` - Search text in files

  Example: `grep "error" logfile.txt`

- `locate` - Locate file paths

  Example: `locate file.txt`

5. Process Management

- `ps` - Show processes

  Example: `ps aux`
- `top` - Live process monitor

  Example: `top`
- `kill` - Kill a process

  Example: `kill 1234`
- `nice` - Set process priority

  Example: `nice -n 10 command`

6. Package Management

- Debian (Ubuntu): `apt`

  Example: `sudo apt install nginx`
- RedHat (CentOS): `yum`, `dnf`

  Example: `sudo dnf install httpd`

7. Disk Usage

- `df` - Disk free

  Example: `df -h`
- `du` - Disk usage

  Example: `du -sh *`

8. User Management

- `useradd` - Add user

  Example: `sudo useradd john`
- `passwd` - Set password

  Example: `sudo passwd john`
- `usermod` - Modify user

  Example: `sudo usermod -aG sudo john`

9. Networking

- `ip` - Show IP info

  Example: `ip a`
- `ping` - Test connectivity

  Example: `ping google.com`
- `netstat` - Network stats

Example: `netstat -tulnp`

- `curl` - Transfer data

  Example: `curl https://example.com`

10. Archiving/Compression

- `tar` - Archive files

  Example: `tar -czf archive.tar.gz folder/`

- `gzip` - Compress file

  Example: `gzip file.txt`

- `zip/unzip` - Compress/extract zip files

  Example: `zip myfile.zip file.txt`

11. Crontab

- `crontab -e` - Edit crontab

  Example: `0 5 * * * /path/script.sh`

12. System Info

- `uname` - System info

  Example: `uname -a`

- `uptime` - How long system is up

  Example: `uptime`

- `free` - Memory usage

  Example: `free -h`

- `hostname` - System name

  Example: `hostname`

13. SCP & rsync

- `scp` - Secure copy

  Example: `scp file.txt user@host:/path/`

- `rsync` - Remote sync

  Example: `rsync -av file.txt user@host:/path/`

14. Mounting Disks

- `mount` - Mount a disk

  Example: `mount /dev/sdb1 /mnt`

- `umount` - Unmount disk

Example: `umount /mnt`

15. Permissions Symbols

- `rwx` - Read, write, execute

- `chmod 755 file.sh` - Full for owner, read-execute for others

16. SSH

- Login to remote

  Example: `ssh user@hostname`

- Generate key

  Example: `ssh-keygen`

17. Shell Scripting Basics

- Variables: `name="Uday"`

- Conditions: `if [ $a -gt 5 ]; then echo "Hi"; fi`

- Loops: `for i in {1..5}; do echo $i; done`