

## Terminal Notes

### 1. Terminal Basics

Concept	Description
pwd	Print current working directory
ls	List files and directories
cd <dir>	Change directory
cd ..	Go to parent directory
cd ~	Go to home directory
clear	Clears the terminal
exit	Close the terminal session

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### 2. File and Directory Operations

Command	Description
touch filename	Create a new file
mkdir dirname	Create a new directory
rm filename	Remove a file
rm -r dirname	Remove a directory recursively
cp file1 file2	Copy file1 to file2
cp -r dir1 dir2	Copy directory with contents
mv oldname newname	Rename or move files/directories
cat file	Display file contents
less file, more file	View large files page by page

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### 3. File Search & Navigation

Command	Description
find . -name "filename"	Find file in current directory tree
locate filename	Find file using database

Command	Description
grep "text" filename	Search text in file
grep -r "text" dir	Recursive grep in directory

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#### 4. File Permissions

Command	Description
ls -l	Show file permissions
chmod 755 file	Change file permissions
chmod +x script.sh	Make script executable
chown user:group file	Change file owner

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#### 5. System Information

Command	Description
uname -a	Show system info
top / htop	Show running processes
df -h	Disk usage
free -h	RAM usage
uptime	Show how long the system has been running
whoami	Display current username

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#### 6. Package Management

##### ☐ Ubuntu/Debian (apt)

Command	Description
sudo apt update	Refresh package list
sudo apt upgrade	Upgrade all packages
sudo apt install pkg	Install a package

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Command	Description
sudo apt remove pkg	Uninstall a package
sudo apt autoremove	Remove unused dependencies

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## 7. File Compression

Command	Description
tar -cvf file.tar folder/	Create tar file
tar -xvf file.tar	Extract tar file
zip file.zip file1 file2	Create zip file
unzip file.zip	Extract zip file

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## 8. Process Management

Command	Description
ps	View current processes
ps aux	Detailed process list
kill PID	Kill a process
kill -9 PID	Force kill a process
bg / fg	Resume background/foreground job
jobs	List background jobs

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## 9. Networking

Command	Description
ping google.com	Ping a website
ifconfig / ip a	Show IP address info
netstat -tuln	Show open ports

Command	Description
curl URL	Fetch content from a URL
wget URL	Download file from URL

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## 10. User Management

Command	Description
adduser username	Add new user
passwd username	Set/change password
deluser username	Delete user
sudo su	Switch to superuser

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## 11. Shell Scripts (Basics)

`#!/bin/bash`

`echo "Hello, World!"`

`name="Prathamesh"`

`echo "Welcome, $name"`

Command	Description
<code>chmod +x script.sh</code>	Make script executable
<code>./script.sh</code>	Run shell script

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## 12. Useful Shortcuts

Shortcut	Action
Ctrl + C	Kill current process
Ctrl + D	Logout or end terminal input
Ctrl + L	Clear terminal
Tab	Autocomplete command/path
Up/Down Arrow	Browse command history

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### 13. Git Basics

Command	Description
git init	Initialize repository
git clone URL	Clone repo
git status	Check status
git add .	Stage all changes
git commit -m "message"	Commit changes
git push origin main	Push to main branch