Alphabet	Command name	Details	Comment	
	awk	used for data extraction from a file, mostly use for column extraction from a file	awk '{print $2}' file_name (it will print 2 column content) awk '{print $NF}' (it will print last column) awk '/string/ {print}' file_name awk '{if($3 >300) print $0}' file_name awk '{if($3==333){$1="Sonu"} print $0 }' text awk 'length($0)>15' text awk -F, '{print $7}' country.txt (csv file , as delimeter)	
	alias	to create shortcut to the command or task	alias d="ls -ltr | awk '{print \$9}'" alias -p (to check the existing alias)	after this command, next time you just need to execute 'd'
	at	command used to schedule a task once	at 06:43 (then it will stuck in editing mode where you can define task like commands or script name and CTRL+D to finish) at 09:00 AM SUN at 09:00 AM AUG 30 at 09:00 AM 06.22.2024 at 09:00 AM tomorrow atq to list existing jobs atrm <id> to remove the jobs	
A	**arch**	to check linux is 64 or 32 bit		
	bc	binary calculator	bc	
	bash	to run a bash script	bash script.sh	
	basename	Strips directory and suffix from filenames.	basename /usr/local/bin/script.sh Outputs script.sh.	
B	**bg**	to send a stopped job in bg to run	sleep 50 Ctrl + z to stop jobs to see this job bg (it will start job in background)	
	cat	show content of file concatenate two files	cat file_name cat file1 file2 > file3	
	cat /proc/cpuinfo	gives you info about your CPU resources		
	cat /proc/meminfo	gives you infor about infor and its usage in details		
	cat /etc/redhat-release	to check the linux version		
	cal	show you calendar	cal cal 1993 (full calculator of that year) cal -1 1993 (to show month in 1993)	
	cd	change directory		
	chmod	change mode, to modify permissions of files	chmod o-r file_name (- to remove permission) chmod g+rw file_name. (+ to add permission) chmod u+x file_name. (u - user, g - group, o - other, a = all)	
	chown	change ownership	chown root/user_name folder/file_name	

	chage	We can use this command to chnage the password expiry	**chage -l paul (show all he details about account like password expires etc)** **chage -E 0 user_anme (To disable a account)** **chage -E -1 user_name (To enable a account)**	
	chgrp	chnage group	**chgrp root/user_name folder/file_name**	
	crontab	to run a command or script on given schedule (cant use as root) To generate cron job http://www.cronmaker.com/ To set timezone use CRON_TZ=America/New_York	**chrontab -e (for editing or creating new file_** **Example of a simple cron job is:** *** * * * * cd /home/paul/scripts && ./create_file.sh** **chrontab -l (to show all the cron jobs)**	
	cmp	compare the content of files byte by byte	**cmp file1 file2**	
	curl	to check if the webpage is up or not, will result into the webpage sourcecode we can also download the software on linux	**curl www.google.com** **curl -O <download link>**	
	cut	to filter out specific characters from the result of output or file, also useful when you want to see only one or two column of a file	**cut -c2 file_name** **cut -c1-4 file_name** **cut -c2,3 file_name** **cut -d: -f 3 file_name (will show 3rd column separated with : delimiter**	
	cp	use to copy a file from one location to another	**cp source_file destination_file** **cp -p source_file destination_file (if we use -p then it will copy the file with original time when it was last modified)**	
C	**createrepo**			
	date	to see the current date and time of system	**date** **date -s "28 Jun 2021 23:06:00 IST"** **date +%F-%N (result: 2022-07-01-011018377)**	
	dmesg	print or control the kernel ring buffer	**dmesg**	
	diff	compare the content of files line by line	**diff file1.txt file2.txt**	
	df	report file system disk space usage	**df -h (h for human readable)**	
	dmidecode	print system hardware info	**dmidecode (only as root)**	
	dnf	Package manager for RPM-based distributions, successor to yum. (new version of linux)	**sudo dnf install httpd**	
	dig	DNS lookup utility	**dig www.google.com**	
	dirname	Strips the last component from a file name.	**dirname /usr/local/bin/script.sh** **Outputs /usr/local/bin**	
D	**du**	file usage, disk utilization	**du <file or folder location> (It will show all files size inside that locaion)** **du -sh <file or folder location> (-h is human readable and only show the size of given folder)**	
	egrep	to search for a particular string/keyword from a file	**egrep "key1|key2" filename**	
	echo	Print something on terminal	**echo "hello"**	
	env	to show env variables on linux to set variable for the current user - .bashrc to set variable for globally - /etc/bashrc or /etc/profile then you need to fire 'source' command	**To set the environement variable you need to use export command**	

	ethtool	print NIC info	`ethtool enps03`	
	exit	Exits the shell or a script.	`Close the current terminal (logout)`	
E	**export**	used to set env vairable temporary	`export TEST=1` `to check, echo $TEST`	

	find	to search for a directory or file	`find /tmp/ -name folder_name`
			
			`find /path/to/search -type f -size +100M  (find file based on size)`
			`find /path/to/search -mtime -7  (find file based on modified time, 7 days)`	

	file	to check the type of file	`file <file_name>`	
	free	to check the free space	`free -h`	
	fdisk	give info about the disk availability	`fdisk -l`	
	fg	to bring the running job in foreground	`fg`	

	fold	to fold a line into a column	`echo "ABC" | fold -w1  (w is how much width of each row)`
			`output is:`
			`A`
			`B`
			`C`	

	ftp	File Transfer Protocol client.	`Example: fgrep 'text' file.txt` `Usage: Searches for the fixed string text in file.txt. Useful for beginners to search for exact matches in files.`	
	fmt	Simple text formatter.	`fmt myfile.txt`	
	fsck	Filesystem consistency check and repair.	`Example: sudo fsck /dev/sda1` `Usage: Checks and repairs the filesystem on /dev/sda1. Useful for beginners to maintain filesystem integrity.`	

	firewall-cmd	firewall settings	`firewall-cmd --add-port=8080/tcp --permanent`
			`firewall-cmd --zone=public --add-service=http --permanent`
			`firewall-cmd --reload`	

F	**firewall-config**	it will open GUI to configure firewall settings		

	grep	to search for a particular string/keyword from a file	`grep keyword filename`
			`grep -i keyword (to ignore the upper or lower cases)`
			`grep -v keyword (search other than given keyword)`	

	groupadd	to add group	`groupadd mygroup` `check in /etc/group file`	
	groupdel	to delete group		
	groups	Shows the groups a user is a member of.	`Example: groups username` `Usage: Lists all the groups that username belongs to. Useful for beginners to check group memberships.`	
	getenforce	Displays the current SELinux mode.	`Example: getenforce` `Usage: Shows whether SELinux is enforcing, permissive, or disabled. Useful for beginners to check SELinux status.`	
	getfacl	Gets file access control lists (if installed).	`Example: getfacl filename` `Usage: Displays the ACLs of filename. Useful for beginners to view detailed file permissions.`	

G	**gzip, gunzip**	compressing and decompressing, usually we apply this on tar file	`gzip name.tar` `gunzip name.tar.gz or gzip -d name.tar.gz`	
	head	gives you starting lines	`head -2 file_name`	
	hostname	show your hostname	`hostname`	
	hostnamectl	to control and change the hostname	`hostnamectl set-hostname <new_hostname>`	
	history	Lists all the commands that have been entered in the current shell session.	`$history`	
	htop	An interactive process viewer (if installed).		
	help	Help to show you how to use a command	`help cd`	
H	**halt**	Stops the system.		
	ip addr	show ip address and network related info		
	ifconfig	show ip address and network related info		
	iostat	Report Central Processing Unit (CPU) statistics and input/output statistics for devices and partitions.		
	init	initi 0-6, 0-6 are different level at which we need to reboot	`Usage: Shuts down the system (runlevel 0). Beginners should use this with caution as it affects the system's state.`	
I	**id**	show group and user detail of a user	`id user_name`	
	jobs	to see the current jobs and its state	`jobs`	
J	**journalctl**	Queries and displays logs from systemd's journal.	`Usage: Displays the most recent log entries with detailed information. Useful for beginners to troubleshoot system issues and view log files.`	
	kill	to kill any process	`kill PID` `kill -9 PID`	
K	**killall**	Kills all processes by the specified name.	`Example: killall httpd` `Usage: Terminates all processes named httpd.`	
	last	show listing of last logged users	`last`	
	less	it show you file nicely manner page vise	`less file_name`	

	ls	to list the file	`ls`
			`ls -ltr`
			`ls -la (to see hidden files)`
			`ls -i (to see the inode)`	

	ln	to create hard or soft link	`ln` `ln -s source_file name_of_link`	
	lscpu	to check the linux machine sepec		
	lsblk	Displays a tree of block devices.		
	lsmod	Lists all currently loaded kernel modules.		
L	**locate**	its like find command but its search in its own db	`locate filename (to search this file on system)`	
	mkdir	to create a directory	`mkdir folder_name`	
	more	it gives you result one page at a time (in case if the output list is very big)	`ls -ltr | more`	
	man	to read more about a command (man cd) will give manual on cd command		
	mount	Mounts a filesystem.	`Example: sudo mount /dev/sda1 /mnt` `Usage: Mounts the filesystem on /dev/sda1 to the /mnt directory. Useful for beginners to access filesystems and external drives.`	
M	**mv**	to move or rename a file	`mv filename newname`	

N	**nohup**	to run a process in backgroup even if user close his terminal	**nohup sleep 50** **nohup sleep 50 > /dev/null 2>&1 &**	
	nice	to assign a process with priority	**nice -n 5 process_name (-19 to 20 will be priority)4**	
	nano	text editor to create, edit your files	**nano file_name**	
	nslookup	Queries Internet name servers interactively and DNS record	**Example: nslookup example.com** **Usage: Retrieves the DNS records for example.com.**	
	nmcli	Command-line client for NetworkManager.	**Example: nmcli device status** **Usage: Shows the status of network devices. Useful for beginners to manage network connections.**	
	nproc	Shows the number of processing units available.	**Example: nproc** **Usage: Displays the number of CPU cores available. Useful for beginners to understand system resources.**	
	netstat	Print network connections, routing tables, interface statistics, masquerade connections, and multicast memberships	**netstat -rnv** **netstat -tunlp (t-tcp, u-udp, n-no.of port, l-listening port, p-PID programname)** **netstat -4tunlp (will only show TCPv4 and exclude the TCPv6)** **To check no. of connection from a specific IP** **netstat -an | grep <IP>**	
O	**od**	Dumps files in octal and other formats.	**Example: od -c file.txt** **Usage: Displays the content of file.txt in ASCII characters.**	
	openssl	A toolkit for the Transport Layer Security (TLS) and Secure Sockets Layer (SSL) protocols.	**Example: openssl genpkey -algorithm RSA -out private_key.pem** **Usage: Generates a private key using RSA. Useful for beginners to manage SSL/TLS certificates and keys.**	
P	**pwd**	print working dir	**pwd**	
	passwd	to change password of a user	**passwd userid**	
	ps	to check if a given process is running or not	**ps -ef | grep <service/process_name>**	
	printenv	to show the env variables		
	pskill	Terminates processes by name	**Example: sudo pskill firefox** **Usage: Kills all processes with the name firefox. Useful for beginners to terminate specific applications.**	
	pv	Monitors the progress of data through a pipeline (if installed).	**Example: pv file.txt | gzip > file.txt.gz** **Usage: Shows progress of compressing file.txt to file.txt.gz. Useful for beginners to visualize data processing.**	
	parted	Manages disk partitions.	**Example: sudo parted /dev/sda** **Usage: Opens the partition editor for the disk /dev/sda. Useful for beginners to create, delete, and modify partitions.**	
	ping	used to check the network connectivity	**ping ip** **ping -c 1 ip (only try once)**	
Q	**quota**	Displays disk usage and limits.		
	quotacheck	Scans a filesystem for disk usage, creates, and updates quota files.		
	rm	to remove/delete folder/file	**rm file_name** **rm -rf folder_name**	
	rpm	reh hat package manager, used to list, install or uninstall packages	**rpm -qa (to list all the installed packages)** **rpm -e <package_name> (to uninstall any package)**	

	rsync	to synchronized and transfer the data on local system or between local and remote system	**rsync -avz source destination** **rsync -avzh destination source (from remote)**	
	renice	To change the priority of already running program	**renice -n 5 process_name**	
	runlevel	to check the current system run-level		
	rename	Renames multiple files.	**Example: rename 's/.txt/.bak/' *.txt** **Usage: Renames all .txt files to .bak. Useful for beginners to rename files in bulk.**	
	route	Shows/manipulates the IP routing table (deprecated, use ip route instead).	**Example: route -n** **Usage: Displays the routing table. Useful for beginners to view network routes.**	
R	**reboot**	halt, poweroff, reboot - Halt, power-off or reboot the machine		
	script	to record your activity until you exit it will store all the activity a user perform and store in a file so you can keep ther record of the over all activity	**script <file_name>** **and start your activity** **once done, hit exit Ctrl+D**	
	sed	replace string, find/delete line, remove empty lines	**sed 's/<string_to_change>/<new_string>/g' file_name (only show change)** **sed -i 's/Prashant/Potty/g' file_name (change in file)** **sed -i '5!s/Prashant/Potty/g' file_name (change everywhere except line 5)** **sed -i 's/Prashant//g' file_name (just to remove word)** **sed '1d' file_name (to delete first line)** **sed '1,2d' file_name** **sed '/s\t/ /g' (to replace tab with space)** **sed -n '3,5p' text (to show only 3 to 5 lines)** **sed -n '3,4d' text (to delete 3 to 5 lines and show)** **sed -n '$d' file_name ($ is last line)** **sed -i '/^$/d' text (to remove empty lines)**	
	sosreport	generate report collect and diagnostic support data and package, it will create a zip file under /var/tmp	**sos report**	
	split	split any files into different small files based on given line no.	**split -l 300 file_name**	
	sort	sort the conent of file	**sort file (sort based on starting no. or letter)** **sort -r file (Reverse sort)** **sort -k2 file (k is column)** **If you are sorting number (not based on starting no. but weightage)** **sort -n file_name** **sort -h (human redable no.)** **To sort only unique no.** **sort -un file**	**Example of sort -h** **99K** **8M** **96K** **Sorting will be** **96K** **99K** **8M**
	sudo	to switch the user or execute a command which need superuser access	**sudo -iu paul** **sudo yum install nginx**	

	shuf	to shuffle each line within a file or stdin	**A** **B** **C** **cat file | shuf** **B** **C**	
	ssh	Secure Shell, used to connect to remote servers.	**Example: ssh user@hostname**	
	ssh-keygen	Generates, manages, and converts authentication keys for SSH.	**Example: ssh-keygen -t rsa -b 2048** **Usage: Generates an RSA key pair with 2048-bit encryption.** **Useful for beginners to set up SSH key-based authentication.**	
	scp	Secure copy, used to copy files to remote servers	**Example: scp file.txt user@remote_host:/path/to/destination** **Usage: Copies file.txt to remote_host under /path/to/destination.**	
	shutdown	shutdown your server, Halt, power-off or reboot the machine		
	strings	Displays printable strings in files.	**Example: strings binaryfile** **Usage: Extracts and displays printable strings from binaryfile.** **Useful for beginners to find readable text in binary files.**	
S	**systemctl**	Control the systemd system and service manager	**systemctl start <service_name> like chronyd** **systemctl status chronyd**	
	tail	gives you last few lines	**tail -2 file_ame** **tail -f file_name (will keep update the logs)**	
	tar	grouping of files	**tar cvf name.tar file_path** **tar xvf name.tar** **tar -tf name.tar (will show or list the content of tar file)** **----------** tar and zip at the same time **tar -zcvf name.tar.gz file_path** **tar -zxvf name.tar.gz** **NOTE: tar.gz and tgz is the same thing**	
	tr	to translate or delete	echo "hello" | tr [:lower:] [:upper:] delete the lowercase: | -d [:upper:] space with tab: | [:space:] "\t" delete or change digits: | -d [:digit:] [:punct:]	
	tee	to store and display the output of a command at the same time	**ls -ltr | tee dir.txt** **ls -ltr | tee -a dir.txt (to append)**	
	telnet	to check connectivity from your linux server to outside	**telnet ip port**	
	touch	to create a file	**touch file-name** **touch -d "Thu, 1 Mar 2018 12:30:00" <file_name>**	**To create file with given date**
	truncate	to reduce the file of the size, but your data will be lost (its not like compressing)	**truncate -s 50 file_name**	
	tcpdump	to capture the incoming and outgoing traffic over the network interface	**tcpdump -i <interface_name>**	

	traceroute	Traces the route packets take to a network host.	**Example: traceroute example.com** **Usage: Displays the route packets take to reach example.com.** **Useful for beginners to diagnose network paths and issues.**	
T	**top**	to monitor the server including CPU, storage usage and process runnning etc	**top**	
	uname	show name of system	**uname** **uname -a**	
	uptime	show how many users logged in, average load on cpu and active time of your server	**uptime**	
	uniq	Identify duplicate lines NOTE: To use the uniq, the date should be sorted first as it compare line with it's previous to find the duplicate	**sort file | uniq** **To count/find the no. of instances of duplicates (ex: how many times Prashant arrived in list)** **sort file | uniq -c**	
	umask	to change the default permissions for newly created files normally the permission is picked from bashrc of user and etc	**umask u+rw,g+r,o-rwx** **just doing this will be temporary** **when you only execute 'umask' it will give result like 0022** **so it means default permission will be 0777-0022 = 0755 (r-x)**	
	unzip	Extracts compressed files from a ZIP archive.	**Example: unzip archive.zip** **Usage: Extracts the contents of archive.zip into the current directory.**	
	updatedb	Updates the database used by locate.	**Example: sudo updatedb** **Usage: Refreshes the database for the locate command, allowing it to find files more efficiently. Useful for beginners to keep the file database up-to-date.**	
	useradd	add user	**useradd <name_of_user>** **useradd -g superheores -s /bin/bash -c "thor charac" -m -d /home/thor thor**	
	userdel	del user	**userdel <name_of_user>** **userdel -r (will remove home directory)** **userdel -f (force delete even if the user is logged in)**	
U	**usermod**	modify user	**usermod -G superheores hulk (to add user to a new group)**	
	vi	vim text editor to edit a file or creat a file	**vi file_name**	
	vmstat	Reports virtual memory statistics.	**Example: vmstat 2 5** **Usage: Displays system performance statistics every 2 seconds for 5 iterations. Useful for beginners to monitor system performance, including CPU, memory, and I/O.**	
	vgs	Displays information about volume groups.	**Example: vgs** **Usage: Lists all volume groups and their attributes. Useful for beginners to manage LVM (Logical Volume Manager) storage.**	
V	**visudo**	used to change the user roles and permissins by editing /etc/sudoers file as root only	**visudo**	
	w	show who is logged on what the user is doing	**w**	
	who	show who is logged on to your linux server	**who**	
	which	It will show the path of executable file	**which pwd**	
	wc	word counter, helps you find no. of words, words present in how many lines etc	**wc -l/w/c file** **grep "key" file | wc -l**	
	write	to wirte a message to a user, mostly use duing maintenance	**write user_name**	
	wall	to broadcast your message	**wall**	

W	wget	to download something in linux	`wget <download_link_of_file>`	
X	xargs	Builds and executes command lines from standard input.	`Example: echo "file1 file2 file3" | xargs rm` `Usage: Removes file1, file2, and file3. Useful for beginners to construct command lines from input.`	

Y	yum	to install packages, downlaod and update	`yum install package_name`
			`yum update -y`
			`yum remove nginx`
			`yum search nginx`
			`yum list installed`	

Z	zcat	To read content of compressed file	`Example: zcat file.gz`	
	zip	To compress	`Example: zip archive.zip file1 file2` `Usage: Creates a ZIP archive named archive.zip containing file1 and file2. Useful for beginners to compress files.`	
	zipinfo	List detailed information about the contents of a ZIP file.	`Example: zipinfo archive.zip`	
	zgrep	Search compressed files for a pattern using grep.	`Example: zgrep "pattern" file.gz` `Usage: Searches for pattern in file.gz. Useful for beginners to search within compressed files.`	
