1) System

`uname`	Displays Linux system information
`uname -r`	Displays kernel release information
`uptime`	Displays how long the system has been running including load average
`hostname`	Shows the system hostname
`hostname -i`	Displays the IP address of the system
`last reboot`	Shows system reboot history
`date`	Displays current system date and time
`timedatectl`	Query and change the System clock
`cal`	Displays the current calendar month and day
`w`	Displays currently logged in users in the system
`whoami`	Displays who you are logged in as
`finger username`	Displays information about the user

2) Hardware

`dmesg`	Displays bootup messages
`cat /proc/cpuinfo`	Displays more information about CPU e.g model, model name, cores, vendor id
`cat /proc/meminfo`	Displays more information about hardware memory e.g. Total and Free memory
`lshw`	Displays information about system's hardware configuration
`lsblk`	Displays block devices related information
`free -m`	Displays free and used memory in the system (-m flag indicates memory in MB)
`lspci -tv`	Displays PCI devices in a tree-like diagram
`lsusb -tv`	Displays USB devices in a tree-like diagram
`dmidecode`	Displays hardware information from the BIOS
`hdparm -i /dev/xda`	Displays information about disk data
`hdparm -tT /dev/xda <:code>`	Conducts a read speed test on device xda

`badblocks -s /dev/xda`	Tests for unreadable blocks on disk

3) Users

`id`	Displays the details of the active user e.g. uid, gid, and groups
`last`	Shows the last logins in the system
`who`	Shows who is logged in to the system
`groupadd "admin"`	Adds the group 'admin'
`adduser "Sam"`	Adds user Sam
`userdel "Sam"`	Deletes user Sam
`usermod`	Used for changing / modifying user information

4) File Commands

`ls -al`	Lists files - both regular & hidden files and their permissions as well.
`pwd`	Displays the current directory file path
`mkdir 'directory_name'`	Creates a new directory
`rm file_name`	Removes a file
`rm -f filename`	Forcefully removes a file
`rm -r directory_name`	Removes a directory recursively
`rm -rf directory_name`	Removes a directory forcefully and recursively
`cp file1 file2`	Copies the contents of file1 to file2
`cp -r dir1 dir2`	Recursively Copies dir1 to dir2. dir2 is created if it does not exist
`mv file1 file2`	Renames file1 to file2
`ln -s /path/to/file_name link_name`	Creates a symbolic link to file_name
`touch file_name`	Creates a new file
`cat > file_name`	Places standard input into a file

`more file_name`	Outputs the contents of a file
`head file_name`	Displays the first 10 lines of a file
tail file_name	Displays the last 10 lines of a file
`gpg -c file_name`	Encrypts a file
`gpg file_name.gpg`	Decrypts a file
`wc`	Prints the number of bytes, words and lines in a file
`xargs`	Executes commands from standard input

5) Process Related

`ps`	Display currently active processes
`ps aux | grep 'telnet'`	Searches for the id of the process 'telnet'
`pmap`	Displays memory map of processes
`top`	Displays all running processes
`kill pid`	Terminates process with a given pid
`killall proc`	Kills / Terminates all processes named proc
`pkill process-name`	Sends a signal to a process with its name
`bg`	Resumes suspended jobs in the background
`fg`	Brings suspended jobs to the foreground
`fg n`	job n to the foreground
`lsof`	Lists files that are open by processes
`renice 19 PID`	makes a process run with very low priority
`pgrep firefox`	find Firefox process ID
`pstree`	visualizing processes in tree model

6) File Permission

`chmod octal filename`	Change file permissions of the file to octal
Example	
`chmod 777 /data/test.c`	Set rwx permissions to owner, group and everyone (everyone else who has access to the server)

`chmod 755 /data/test.c`	Set rwx to the owner and r_x to group and everyone
`chmod 766 /data/test.c`	Sets rwx for owner, rw for group and everyone
`chown owner user-file`	Change ownership of the file
`chown owner-user:owner-group file_name`	Change owner and group owner of the file
`chown owner-user:owner-group directory`	Change owner and group owner of the directory

7) Network

`ip addr show`	Displays IP addresses and all the network interfaces
`ip address add 192.168.0.1/24 dev eth0`	Assigns IP address 192.168.0.1 to interface eth0
`ifconfig`	Displays IP addresses of all network interfaces
`ping host`	ping command sends an ICMP echo request to establish a connection to server / PC
`whois domain`	Retrieves more information about a domain name
`dig domain`	Retrieves DNS information about the domain
`dig -x host`	Performs reverse lookup on a domain
`host google.com`	Performs an IP lookup for the domain name
`hostname -i`	Displays local IP address
`wget file_name`	Downloads a file from an online source
`netstat -pnltu`	Displays all active listening ports

8) Compression/Archives

`tar -cf home.tar home<:code>`	Creates archive file called 'home.tar' from file 'home'
`tar -xf files.tar`	Extract archive file 'files.tar'
`tar -zcvf home.tar.gz source-folder`	Creates gzipped tar archive file from the source folder
`gzip file`	Compression a file with .gz extension

9) Install Packages

`rpm -i pkg_name.rpm`	Install an rpm package
`rpm -e pkg_name`	Removes an rpm package
`dnf install pkg_name`	Install package using dnf utility

10) Install Source (Compilation)

`./configure`	Checks your system for the required software needed to build the program. It will build the Makefile containing the instructions required to effectively build the project
`make`	It reads the Makefile to compile the program with the required operations. The process may take some time, depending on your system and the size of the program
`make install`	The command installs the binaries in the default/modified paths after the compilation

11) Search

`grep 'pattern' files`	Search for a given pattern in files
`grep -r pattern dir`	Search recursively for a pattern in a given directory
`locate file`	Find all instances of the file

`find /home/ -name "index"`	Find file names that begin with 'index' in /home folder
`find /home -size +10000k`	Find files greater than 10000k in the home folder

12) Login

`ssh user@host`	Securely connect to host as user
`ssh -p port_number user@host`	Securely connect to host using a specified port
`ssh host`	Securely connect to the system via SSH default port 22
`telnet host`	Connect to host via telnet default port 23

13) File Transfer

`scp file1.txt server2/tmp`	Securely copy file1.txt to server2 in /tmp directory
`rsync -a /home/apps /backup/`	Synchronize contents in /home/apps directory with /backup directory

14) Disk Usage

`df -h`	Displays free space on mounted systems
`df -i`	Displays free inodes on filesystems
`fdisk -l`	Shows disk partitions, sizes, and types
`du -sh`	Displays disk usage in the current directory in a human-readable format
`findmnt`	Displays target mount point for all filesystems
`mount device-path mount-point`	Mount a device

15) Directory Traverse

`cd ..`	Move up one level in the directory tree structure
`cd`	Change directory to $HOME directory

`cd /test`	Change directory to /test directory