**Linux Commands**

**1] touch:** Used to create, change and modify timestamps of a file. It is used to create a file without any content. This command can be used when the user doesn’t have data to store at the time of file creation.

OPTIONS: **touch –a**, **touch –c**, **touch -c-d**, **touch –m, touch –t**

**2] gedit:** gedit is the official text editor of the GNOME desktop environment

gedit features a flexible plugin system which can be used to dynamically add new advanced features to gedit itself. It can be used to create and edit all kinds of text files.

OPTIONS: --encoding, -g, --list-encodings, --new-window, --new-document, -s, -w, --help, --version, FILE, +LINE, +COLUMN

**3] reboot:** **reboot** command is used restart or reboot the system. In a Linux system administration, there comes a need to restart the server after the completion of some network and other major updates. It can be of software or hardware that are being carried on the server.

OPTIONS:–help, –halt, -p, –reboot , -f, -w

**4] chroot:** chroot command in Linux/Unix system is used to change the root directory. It changes the root directory for currently running processes as well as its child processes. It is used to create a test environment, to recover the system or password, to reinstall the bootloader. OPTIONS: –userspec,  –groups,  –version

**5] chown:** Different users in the operating system have ownership and permission to ensure that the files are secure and put restrictions on who can modify the contents of the files. It is used to change the file Owner or group. Whenever you want to change ownership you can use chown command.

OPTIONS: *-c,* -v, **-f**

**6] Grep :**

Purpose –

The grep filter searches a file for a particular pattern of characters, and displays all lines that contain that pattern. The pattern that is searched in the file is referred to as the regular expression (grep stands for globally search for regular expression and print out).

Syntax -

grep [options] pattern [files]

Options –

**Options Description**

**-c** : This prints only a count of the lines that match a pattern

**-h :** Display the matched lines, but do not display the filenames.

**-i :** Ignores, case for matching

**-l :** Displays list of a filenames only.

**-n :** Display the matched lines and their line numbers.

**-v :** This prints out all the lines that do not matches the pattern

**-e exp :** Specifies expression with this option. Can use multiple times.

**-f file :** Takes patterns from file, one per line.

**-E :** Treats pattern as an extended regular expression (ERE)

**-w :** Match whole word

**-o :** Print only the matched parts of a matching line,

with each such part on a separate output line.

Properties of grep command–

1. **Case insensitive search :**The -i option enables to search for a string case insensitively in the give file. It matches the words like “UNIX”, “Unix”, “unix”.
2. **2. Displaying the count of number of matches :** We can find the number of lines that matches the given string/pattern
3. **3. Display the file names that matches the pattern :**We can just display the files that contains the given string/pattern.
4. **4. Checking for the whole words in a file :**By default, grep matches the given string/pattern even if it found as a substring in a file. The -w option to grep makes it match only the whole words.
5. **5. Displaying only the matched pattern :**By default, grep displays the entire line which has the matched string. We can make the grep to display only the matched string by using the -o option.
6. **6. Show line number while displaying the output using grep -n :**To show the line number of file with the line matched.
7. **7. Inverting the pattern match :**You can display the lines that are not matched with the specified search sting pattern using the -v option.
8. **8. Matching the lines that start with a string :**The ^ regular expression pattern specifies the start of a line. This can be used in grep to match the lines which start with the given string or pattern.
9. **9. Matching the lines that end with a string :**The $ regular expression pattern specifies the end of a line. This can be used in grep to match the lines which end with the given string or pattern.
10. **10.Specifies expression with -e option. Can use multiple times :**
11. **11. -f file option Takes patterns from file, one per line.**

**7] Find :**

Purpose –

The find command in UNIX is a command line utility for walking a file hierarchy. It can be used to find files and directories and perform subsequent operations on them. It supports searching by file, folder, name, creation date, modification date, owner and permissions. By using the ‘-exec’ other UNIX commands can be executed on files or folders found.

Syntax –

$ find [where to start searching from]

[expression determines what to find] [-options] [what to find]

Options –

* -exec CMD: The file being searched which meets the above criteria and returns 0 for as its exit status for successful command execution.
* -ok CMD : It works same as -exec except the user is prompted first.
* -inum N : Search for files with inode number ‘N’.
* -links N : Search for files with ‘N’ links.
* -name demo : Search for files that are specified by ‘demo’.
* -newer file : Search for files that were modified/created after ‘file’.
* -perm octal : Search for the file if permission is ‘octal’.
* -print : Display the path name of the files found by using the rest of the criteria.
* -empty : Search for empty files and directories.
* -size +N/-N : Search for files of ‘N’ blocks; ‘N’ followed by ‘c’can be used to measure size in characters; ‘+N’ means size > ‘N’ blocks and ‘-N’ means size < 'N' blocks.
* -user name : Search for files owned by user name or ID ‘name’.
* \(expr \) : True if ‘expr’ is true; used for grouping criteria combined with OR or AND.
* ! expr : True if ‘expr’ is false.

Properties of find command–

1. **1. Search a file with specific name. -** It will search for sample.txt in GFG directory.
2. **2. Search a file with pattern. -** It will give all files which have ‘.txt’ at the end.
3. **3. How to find and delete a file with confirmation. -** When this command is entered, a prompt will come for confirmation, if you want to delete sample.txt or not. if you enter ‘Y/y’ it will delete the file.
4. **4. Search for empty files and directories. -** This command find all empty folders and files in the entered directory or sub-directories.
5. **5. Search for file with entered permissions. -** This command find all the files in the GFG directory or sub-directory with the given permissions.
6. **6. Search text within multiple files. -** This command print lines which have ‘Geek’ in them and ‘-type f’ specifies the input type is a file.

**8] chmod :**

Purpose – In Unix-like operating systems, the chmod command is used to change the access mode of a file.  
The name is an abbreviation of change mode.

Syntax –

chmod [reference][operator][mode] file...

The references are used to distinguish the users to whom the permissions apply i.e. they are list of letters that specifies whom to give permissions. The references are represented by one or more of the following letters:

Reference Class Description

u owner file's owner

g group users who are members of

the file's group

o others users who are neither the

file's owner nor members of

the file's group

a all All three of the above, same as ugo

The operator is used to specify how the modes of a file should be adjusted. The following operators are accepted:

Operator Description

+ Adds the specified modes to the

specified classes

- Removes the specified modes from

the specified classes

= The modes specified are to be made

the exact modes for the specified

classes

Note : Putting blank space(s) around operator would make the command fail.

The modes indicate which permissions are to be granted or removed from the specified classes. There are three basic modes which correspond to the basic permissions:

r Permission to read the file.

w Permission to write (or delete) the file.

x Permission to execute the file, or, in

the case of a directory, search it.

**9] df :**

The **df** command (short for disk free), is used to display information related to file systems about total space and available space.

OPTIONS : -a, -B, -H, -I, -l, -P, -sync, -total, etc.

**10] init :**

Name –

init – Upstart process management daemon

Syntax –

init [OPTION]. . .

Description –

init is the parent of all the process on the system, it is executed by the kernel and is responsible for starting all other processes; it is the parent of all processes whose natural parents have died and it is responsible for reaping those when they die. Processes managed by init are known as jobs are defined by files in the /etc/init directory.

Options –

-confdir , --default-console (value), --no-dbus, --no-inherit-env, --logdir, --no-log, --no-sessions,

--no-startup-event, --session, --startup-event, --user, -q –quiet, -v –verbose, --version

**11] cmp :**

cmp command in Linux/UNIX is used to compare the two files byte by byte and helps you to find out whether the two files are identical or not.

* When cmp is used for comparison between two files, it reports the location of the first mismatch to the screen if difference is found and if no difference is found *i.e* the files compared are identical.
* cmp displays no message and simply returns the prompt if the the files compared are identical.

OPTIONS :

-b, --print-bytes , -I, --ignore-initial=SKIP , -I , -n , -s , --help.

**12] cp command (copy command) :**

**cp** stands for **copy**. This command is used to copy files or group of files or directory. It creates an exact image of a file on a disk with different file name. cp command require at least two filenames in its arguments.

OPTIONS : -I , -b , -f , -r , -p.

**13] stat command :**

In UNIX basex operating systems stat command gives information regarding storage, file permissions,etc for a file or file system.

OPTIONS : -f , -c , -L , -Z , -t

**14] fdisk command :**

fdisk also known as format disk is a dialog-driven command in Linux used for creating and manipulating disk partition table. It is used for the view, create, delete, change, resize, copy and move partitions on a hard drive using the dialog-driven interface.  
fdisk allows you to create a maximum of four primary partitions and the number of logical partition depends on the size of the hard disk you are using. It allows the user:

* To Create space for new partitions.
* Organizing space for new drives.
* Re-organizing old drives.
* Copying or Moving data to new disks(partitions).

Eg. $sudo fdisk -l

Shows all the partitions on the system.

OPTIONS : -b , -c , -H , -S , -l , -u , -v

**15] ps command :**

ps command is used to list the currently running processes and their PIDs along with some other information depends on different options. It reads the process information from the virtual files in **/proc** file-system. /proc contains virtual files, this is the reason it’s referred as a virtual file system.

ps provides numerous options for manipulating the output according to our need.

OPTIONS : -a , -A , -e , -d , -r , -x , -g , etc.

**16] ls command :**

**ls** is a Linux shell command that lists directory contents of files and directories.

OPTIONS :

-l , -t , -lh , -ld , -lt , -ltr , -a , -A , -I , -R , -q , -n , -F.