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Ans:-1 (i) Remove a non-empty directory:

We are use rm command to delete a non-empty directory.

Syntax is:-

```
rm -rf dir-name
rm -rf /path/to/dir/name
```

When you use the rm command with -r and -f option
The -r option remove directories and their contents recursively including all files.

Example for removing non empty directory:-

```
rmdir trip-pictures
```

To delete all files inside trippictures including folder inself run the following rm command

```
rm- rf trip pictures
```

(ii) Check all commands used in past:-

We can use history command to check all the commands used in the past:

Syntax:-

```
history
```

By default, the history command displays the last 16 commands to the standard output.

The history command allows us to remove the data from the history library. We can remove a particular line or complete history.

To remove a particular command, execute the history command by specifying the command number in history as follows:

history -d <linenumber>

Ex:

history -d 500

To remove the complete history of executed command, run the below command:-

Syntax:-

history -c

The above command will delete the entire history from the history library.

(iii):- Different ways to create a file:-

There are mainly six ways to creating files. All of them have their own purpose and benefits.

1. Cat command:-

It is most universal command for creating files. We cannot edit a file using the cat command.

To create files and write the data into them

Syntax:-

cat > file name

Note: After writing the text into the file, press ctrl+d to save and exit from the writing mode.

2. touch command:-

The touch command is also one of the popular commands in Linux. It is used to create a new file, update the time stamp on existing files and directories. It can also create empty files.

The touch command is used to create a new file from the command line. We can create multiple file by executing this command at once.

Syntex for One file:-

touch test1.txt

Syntex for multiple file:-

touch test1.txt text2.txt text3.txt

3:- vi command:-

Its main function is to edit files. It is commonly used by programmers to edit the textual ~~actual~~ content of any file on vi text editor.

Syntex:-

vi file-1

4:- nano command:-

It may/may not be found in all distributions. of LINUX. We can create as well as edit files.

Syntex:-

nano file1

5:- gedit command:-

"gedit" stands for GNOME text editor, It's a standard default text editor found in any system.

Using gedit we can create as well as write/edit the text files.

Syntex:-

```
gedit file_2
```

Note! To use the terminal again, press ctrl+c
This command opens gedit text editor as a back ground task.

6:- mv command:-

We normally use mv command to move the files or directories from one place to another. But we can also use it to create new files with the contents of some other file on the system.

Syntex:-

```
mv file_2 file_3
```

Note:- This command copies the content of file_2 to file_3 and deletes file_2.

4:- Usage of more and less commands:-

more command:-

more command is used to view the text files in the command prompt, displaying one screen at a time in case the file is large.

The more command also allows the user do scroll up and down through the page.

The syntex along with options and command is as follows:

Syntax:-

more [-option][-num] [+/pattern][+linenum][file_name]

More is a unix command line used to display the contents of a file in a console

Second way to use more command in conjunction (pipe) with other command.

Less command:-

less command allows you to view the contents of a file and navigate through file.

You can also search for text and monitor files in real time with it.

It has faster access because if file is large it doesn't access the complete file, but accesses it page by page.

Syntax :-

less filename

The main difference between more and less is that less command is faster

V4:- Check all disk partition:-

Check all disk partition command would check what partitions there are on each disk and other details.

(i) fdisk:- fdisk is the most commonly used command to check partition on a disk. The fdisk command can display the partitions and details like file system type. However it does not report the size of each partitions.

Syntax:-

fdisk -l

(ii) sfdisk:- Sfdisk is another utility with a purpose similar to fdisk but with more features. It can display the size of each partitions in MB.

Syntax:- sfdisk -l -uM

(iii) cfdisk:- cfdisk is a linux partition editor with an interactive user interface based on ncurses. It can be used to list out the existing partitions as well as create or modify them.

Syntax: cfdisk /dev/sdb

(iv) Parted:- Parted is yet another command line utility to list out partitions and modify them if needed.

Syntax:- parted -l

(v) df :- Df is not a partitioning utility, but prints out details about only mounted file systems. The list generated by df even includes file system that are not real disk partitions.

Syntax:- df -h

(vi) Pydf:- Improved version of df, written in Python. Prints out all the hard disk partitions in a easy to read manner.

Syntax:

Pydf

Pydf is limited to showing only the mounted file.

(vii) Lsblk:-

Lists out all the storage blocks, which includes disk partitions and optical drives. Details include the total size of the partition /blocks and the mount point if any.

Does not report the used/free disk space on the partitions.

Syntex:- lsblk

Lsblk is capable of displaying more information about each device like the label and model.

(viii) blkid :-

Print the block device attributes like uuid and file system type. Does not report the space on the partitions.

Syntax :- blkid

(IX) hwinfo

The hwinfo is a general purpose hardware information tool and can be used to print out the disk and partition list.

Syntax :- hwinfo --block --short

(X) Inxi :-

Inxi is a very useful command line program that can display information about various hardware component present on the system. To display information about the disk drives and storage devices use the "-D" option with Inxi.

Ans 2:- Create a shortcut in Linux:-

To create a shortcut (symlink) in the terminal you can use the following commands:-

Syntax:-

ln -s /home/Documents/mnt/docs

If you find more command in ln to check the man ln command.

Once the shortcut is create it can be followed from the context menu:

→ Right click on shortcut (it will apper arrow in the right bottom corner)

→ follow the link to go original file.

The shortcuts are displayed differently from the folder.

Another way to create the shortcut would be using the command line. There are following in given below:-

→ Create new shortcut (symlink):-

ln -s /path/to file/path/to symlink

ln -s /home/user/Pictures/home/user/Audio

→ Create/Update new shortcut (symlink):-

ln -sf /path/to/file/path/to/symlink

Backup of file in Linux:-

If the file you want to copy already exists in the destination directory, you can backup your existing file with the use of this command:-

Syntax:-

cp --backup <filename><destinationDirectory>

Example:-

cp --backup file.txt /home/sssit/Downloads

file.txt already exits in the destination directory. We have created a backup file and copied it in the same directory.

dump command:-

dump command in Unix is used for backup the file system to some storage device.

It backs up the complete file system and not the individual files.

Syntax:- dump [-ut] [-w]

One special feature of dump is that it allows incremental backups.

It print the general syntax of the command along with the various options that can be used with the dump command.

It also prints the version number of the dump command being used.

Syntax with option:-

dump [-level#] [-a autosize] [-A file] [-B records] [-b blocksize] [-d density] [-D file] [-e inode numbers] [-E file] [-f file] [-F script] [-h level] [-l max errors] [-jcompression level] [-L label] [-Q file] [-s feet] [-T date] etc.

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Ans:-3 For this situation there are following way which ~~are~~ ~~this~~ command is use:-~~fast~~

(i) Run the system ctl command:-

The most modern linux distribution, system is the init system, so both rebooting and powering down can be performed through the system user-interface. systemctl. The systemctl command accepts, among many other options, halt reboot. These commands are mostly equivalent to starting the target file of the same name.

Syntax:-

sudo systemctl start reboot.target

(ii) Run the shutdown command:-

The shutdown command in linux is used to shutdown in a safe way.

This command is needed a time argument.

Syntax:-

sudo shutdown -r now

The shutdown command ~~is~~ is use for power off or reboot the system in safe way.

(iii) Run the reboot command:-

This command is used restart or reboot the system. In a linux system administration there comes a need to restart the servers after the completion of some networks and other major updates

Syntax:-

sudo reboot

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Note: The usage of the reboot, halt and poweroff is almost similar in syntax and effect.

4:- Init:- It is the parent of all processess. Its primary role is to create processes from a script stored in the file /etc/inittab.
It also controls autonomous processes required by any particular system.
The telinit command is the front-end to your init system. Or
Syntax:-
sudo telinit

If you are using systemctl, then this command is a link to systemctl with the appropriate options.

5:- Proc:-
Proc file system (procfs) is virtual file system created on fly when system boots and is dissolved at time of system shutdown.

Syntax:-
sudo echo1 > proc/sys//kernal/sysrq