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Course Code: CAP448 CA1 - Assignment

SET-C

Qⁿ-① Explain commands with syntax and example for:

1. Remove a non-empty directory.

Ans: We use the "rm" command to delete a directory that is non-empty. Whenever we use "rm" command for directories we should use -r or -R option.

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

Example: Trying to remove festival-pictures directory with the `rmdir`
`rmdir festival-pictures`

Output: `rmdir: failed to remove 'festival-pictures/': Directory not empty`

Then use `rm -rf festival-pictures`

Output: No such file or directory

2. Check all commands used in past.

Ans: We can use "history" command to view all the previous executed

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command. By default, the "history" command will show you the last five hundred commands you have entered.

Syntax: history

Example: If we want to see the commands that we have entered.

history

Output: 1 ls -l
2 clear
3 mkdir dir1
4 ifconfig
:
so on

3. Different ways to create a file.

Ans: There are different commands to create file in linux.

① cat command - It is the most universal command for creating file.

Syntax: cat > filename

Example: cat > personal

② touch command - We can create an empty file or multiple empty files by using this command.

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Syntax: touch filename

Example: touch personal

- ③ vi command: Its main function is to edit files but it also create a file.

Syntax: vi filename

Example: vi personal

To save & exit from vi text editor press the Escape key and then typing press enter.

4. Usage of more and less commands.

Ans: more command: more command is used for paging program that open a given file for interactive reading - If the content of the file is too large to fit on the one screen it displays the contents page by page. You can scroll through the contents of the file by pressing ENTER or SPACE BAR.

Syntax: more filename

Example: more file.txt

Output: It will display first page

Enter to view next line, Space to view next page.

less command: The "less" command is also used to open a given file for interactive reading, allowing scrolling and search. The less command doesn't load the entire file, but loads it part by part which makes it faster.

Syntax: less filename

Example: less file.txt

Output: It will display first page. Press ENTER or SPACE BAR key to go down and press 'b' to go up.

5. Check all disk partition.

Soln: There are many commands to check disk partition in linux:

① **fdisk:** fdisk is the most common used command to check the partitions on a disk. The fdisk command can display the partitions and details like file system type.

Syntax: fdisk -l

Example: fdisk -l (-l stands for listing all partitions)

Output: Disk /dev/sda: 637.8 GB,

- ② `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`

- ③ `parted`: `parted` is yet another command line utility to list out partition and modify them if needed.

Syntax: `parted -l`

- ④ `cfdisk`: `cfdisk` is also used to displays or manipulates the disk partitions.

Syntax: `cfdisk /dev/sda`

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Q-02 How to create a shortcut and take a backup of file in linux. Explain with the help of suitable command and syntaxes.

Ans:- a) Create a shortcut of a file:-

To create a shortcut of a file in linux we can use Command "ln -s <filename> <filename-soft>".

ln stand for link and -s stand for symbolic link.

Syntax: ln -s <source file> <symbolic link>

When we execute this command, it will generate a symbolic link and this link is called as the shortcut of the file i.e suppose we have a file named as "testfile" after using the command "ln -s testfile testfile-soft"

Output: testfile-soft → testfile

Hence "testfile" stands for main file (target file) and "testfile-soft" stands for symbolic link and we also see the permission and inode number is different from the target file.

⑥ Take a Backup of a file:-

To take a backup of a file in linux we can use:-

Command: "ln <filename> <filename_hard>
where ln stands for link.

Syntax: ln <filename> <file linkname>

When we execute this command, it will generate a hard link and the link is called as the backup of a file. Suppose we have a file named as "fruit" after using the command "ln fruit fruit-hard" it will create a backup file of fruit (target file) with same permission and same i-node number of target file. When the target file is deleted or missing we can easily recover with the help of backup file.

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Q3: Suppose you are an administrator and wants to reboot all users system. Explain all steps to achieve this scenario?

Ans:- To reboot all user ~~system~~ system in linux we can use "reboot" and "shutdown" command. Make sure that you are the root user otherwise you can't do this action.

Syntax: #reboot

Wait for sometime and the linux server will reboot itself.

If you want to use "shutdown" command you will use [-option] and you can also set shutdown time and some messages that all logged-in user see that the system is going down within the given time.

Syntax: shutdown -r +5

Now the system is going to shutdown within last 5 minutes of time. Here -r stands for reboot and +m(+5) stands for the number of minutes.

We can also use word "now" for immediately shutdown the system

Syntax: shutdown -r now

If you want to add some messages

Syntax: shutdown [option] [time] [message]

Ex: shutdown -r +10 "System is going to down in 10 minutes."