

Q1. Explain what the following commands do (with examples) and practice them:**lockfile**

The lockfile command is used to create semaphore files.

These files act as simple locks that prevent multiple processes from simultaneously accessing a shared resource or critical section.

`lockfile /tmp/my_lock_file.lock`

cksum

Prints CRC checksum and byte counts of each FILE. `cksum`

`/home/aqiba/Desktop/CEW-OEL/main.c`

comm

Compares two sorted files line by line. `comm file1.txt`

`file2.txt`

csplit

Splits a file into sections determined by context lines `csplit myfile.txt 'a'`

chattr

Changes file attributes on a Linux file system `chattr +i myfile.txt`

touch

Changes file timestamps to current time `touch myfile.txt`

Q2. What do the following do:**cat ch1**

Prints whatever is mentioned in the file `cat`

cat ch1 ch2 ch3 > "your-practical-group"

Concatenates the contents of three files (ch1, ch2, and ch3) into a new file named "your-practical-group".

cat note5 >> notes

Appends the content of note5 to the end of the file named notes.

cat > temp1

This command is used to create or overwrite the content of a file named temp1. Whatever text we give to it after this command is overwritten in the file temp1.

cat > temp2 << "yourname"

This command creates or overwrites a file named temp2 and allows you to input multiple lines of text interactively. The content input continues until you type a line that matches the specified delimiter, in this case, "yourname". The delimiter is used to signal the end of the input.

Q3. Practice the following commands and explain each:

- **❓ cpio**

The cpio command is used to copy files to and from archives. It's often used in combination with find to archive or copy files.

- **❓ sort**

The sort command is used to sort lines of text files. It can be used to sort files or the output of other commands.

- **❓ fuser**

The fuser command is used to identify processes using files or sockets. It can be helpful to find which processes are accessing a particular file or device.

- **❓ file**

The file command is used to determine the file type of a file. It examines the content and provides information about the file.

Q4. Differentiate between cp and cpio command?

The cp command is used for copying files and directories from one location to another.

The cpio command is used for creating or extracting archives. It can copy files to or from an archive, making it suitable for backup purposes.

Q5. What does the z option of the tar command do? Explain with examples.

Tar is an archiving utility. It's -z option compresses or decompresses the archive through gzip.

Example:

```
tar -czvf archive.tar.gz directory_to_compress
```

- -c: Create a new archive
- -z: Compress the archive using gzip
- -v: Verbose mode (display progress)
- -f: Specify the name of the archive file

This command compresses the contents of directory_to_compress into a tar archive named archive.tar.gz.

Q6. Write two commands to take the backup of your home-folder and all sub-folders. The destination folder should be /home/bkup. NOTE: size of backup should be smaller than original folder.

- Using gzip compression:

```
tar -czvf /home/bkup/home_backup.tar.gz /home/aqiba
```
- Using bzip2 compression:

```
tar -cjvf /home/bkup/home_backup.tar.bz2 /home/aqiba
```

Q7. What is the difference between the permissions 777 and 775 of the chmod command?

- The 777 permission allows complete read, write and execute rights to the owner, groups and others.
- The 775 permission allows complete read, write and execute rights to the owner and groups, but only read and execute command to others.