**Day 5 - Assignment 1,2&3 (Linux)**

**Assignment 1:**

**Write 30 Linux commands with example.**

1. **ls:** Lists directory contents.

**Ex:** ls

1. **cd:** Changes the current directory.

**Ex:** cd /path/to/directory

1. **pwd:** Prints the current working directory.

**Ex:** pwd

1. **mkdir:** Creates a new directory.

**Ex:** mkdir new\_directory

1. **rmdir:** Removes empty directories.

**Ex:** rmdir empty\_directory

1. **cp:** Copies files and directories.

**Ex:** cp source\_file destination\_file

1. **mv:** Moves or renames files and directories.

**Ex:** mv old\_name new\_name

1. **rm:** Removes (deletes) files or directories.

**Ex:** rm file\_to\_delete

1. **touch:** Updates the access and modification times of files or creates empty files.

**Ex:** touch new\_file

1. **cat:** Concatenates and displays the content of files.

**Ex:** cat file.txt

1. **less:** Views the content of files interactively.

**Ex:** less file.txt

1. **head:** Outputs the first part of files.

**Ex:** head -n 10 file.txt

1. **tail:** Outputs the last part of files.

**Ex:** tail -n 10 file.txt

1. **grep:** Searches for patterns in files.

**Ex:** grep "pattern" file.txt

1. **find:** Searches for files in a directory hierarchy.

**Ex:** find /path/to/search -name "filename"

1. **chmod:** Changes file permissions.

**Ex:** chmod 755 script.sh

1. **chown:** Changes file owner and group.

**Ex:** chown user:group file.txt

1. **sudo:** Executes a command with superuser privileges.

**Ex:** sudo apt-get update

1. **su:** Switches user ID or becomes another user.

**Ex:** su - username

1. **ps:** Displays information about running processes.

**Ex:** ps aux

1. **kill:** Sends a signal to terminate processes.

**Ex:** Ex: kill 1234

1. **top:** Displays real-time information about running processes.

**Ex:** top

1. **df:** Reports file system disk space usage.

**Ex:** df -h

1. **du:** Estimates file space usage.

**Ex:** du -sh /path/to/directory

1. **tar:** Archives files into a tarball.

**Ex:** tar -cvf archive.tar /path/to/directory

1. **zip:** Packages and compresses files into a zip archive.

**Ex:** zip archive.zip file1 file2

1. **unzip:** Extracts files from a zip archive.

**Ex:** unzip archive.zip

1. **wget:** Downloads files from the web.

**Ex:** wget http://example.com/file.txt

1. **ssh:** Connects to a remote SSH server.

**Ex:** ssh user@hostname

1. **scp:** Securely copies files between hosts.

**Ex:** scp file.txt user@remote:/path/to/destination

**Assignment 2:**

**2. basic task**

**a. Write a command to create a file named demo.txt inside Movies directory**

-> touch Movies/demo.txt

**b. Write a command to copy hello.txt files from Desktop to Downloads directory**

-> cp Desktop/hello.txt Downloads/

**c. Write a command to display all the files from Movies Directory**

-> ls Movies

**d. Write a command display first 15 lines of demo.txt file**

-> head -n 15 demo.txt

**e. Using cat command, create a new file and write the data to the file.**

-> cat > newfile.txt

**f. Write a command to read the file content of demo.txt**

-> cat demo.txt

**Assignment 3:**

**Explain absolute and relative path**

**Absolute Path:** An absolute path specifies the precise location of a file or directory in the file system hierarchy, starting from the root directory.

-> Absolute paths differ between Unix/Linux and Windows due to their respective file system conventions (/ for Unix/Linux and drive letters like C:\ for Windows).

-> Commonly used in scripts and automation tasks where the exact location of files needs to be specified without dependency on the current directory.

-> Useful for accessing system files or resources that require specific permissions, ensuring accurate file access.

-> When troubleshooting or debugging, absolute paths can pinpoint the exact location of files involved in an issue.

-> Includes all directory levels from the root directory to the target file or directory, making it easy to trace the file's location.

**Relative Path:** A relative path specifies the location of a file or directory relative to the current working directory.

-> Uses to refer to the parent directory and to refer to the current directory.

-> Commonly used in software development for referencing files within the same project or module.

-> Facilitates operations such as file linking, importing, and including files within a project's structure.

-> More portable across different systems since it adapts to the current working directory.

-> Useful in scripts and configuration files where the current directory may change, ensuring that paths remain valid relative to the script's location.