**Linux module: 2**

**Assignment**

**Que: View running process with ps.**  
**Ans:**

1) Basic ps command: To view the processes running in the current terminal session:

Command: ps

2) List all processes: To list all running processes for all users on the system:

Command: ps -e

3) Show processes with detailed information: To display a more detailed list of all processes, including PID, memory usage, CPU time, etc.

Command: ps aux

4) Show processes with specific user: To show processes for a specific user:

Command: ps -u username

5) Show hierarchical process tree: To display processes in a tree format, showing parent-child relationship:

Command: ps axjf

**Que: Terminate process with kill.**

**Ans:**

1. Find the process ID (PID): First, you need to identify the processes you want to terminate. Use ps, top, or grep to find the PID.
2. Send a termination signal: The default signal is SIGTERM (signal number 15), which gracefully asks the process to terminate.
3. Kill multiple processes: You can kill multiple processes at once by passing multiple PIDs to the kill command.
4. Kill a process by name: if you want to terminate a process by its name, you can combine pgrep with kill.

**Que: Use top to monitor system resources and processes.**

**Ans:**

1. Start top: To start monitoring system resources, simply run the top command. Once top is running, it will display the system’s CPU usage, memory usage, process list and other information.
2. Understanding the top output:

* Summary area: This provides high-level information about the system.
* Uptime: How long the system has been running.
* Load average: The system load over the last 1,5 and 15 minutes.
* CPU usage: The percentage of CPU time used by user processes, system processes and idle time.
* Memory usage: The total physical memory and how much is used, free, or buffered.

1. Basic command inside top:

* Quit top: press q to exit top.
* Change the update interval: You can change the refresh rate by pressing d, then entering the number of seconds between updates.
* Search for a specific process: press / and type the process name or part of it, then press enter. Top will highlight the matching processes.
* Kill a process: press k, then type the PID of the process you want to terminate. It will prompt you to confirm the signal to send.

1. Advanced options for top:

* Display all processes: To show processes from all users, use: top -u <username>
* Show system resources summary only: To get a summary of system resources without the full process list, use the -d option to specify a delay and -b for batch mode.
* Interactive search and help: Press h to get a list of available commands while top is running.

**Que: Configure one of your lab computers to boot to the CLI using system and reboot to confirm that you were successfully.**

**Ans:** done in lab.