

Assignment : 3

Linux Programming

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1. Difference between man and whatis commands (CO1)

- The 'man' command shows the complete manual page of a command, including description, options, usage, and examples.

Example:

```
man ls
```

Displays the full manual of the ls command.

The 'whatis' command gives only a one-line short description of the command.

Example:

```
whatis ls
```

Output: ls (1) - list directory contents.

2. Use of tee command to save and display output (CO4)

- `ls -l | tee output.txt`
This command lists files in long format, saves the result in output.txt, and also shows it on the terminal at the same time.

3. Example of tee command in logging (CO4)

- `ping google.com | tee pinglog.txt`
This shows the ping result live on screen and stores it in pinglog.txt for future reference (logging).

4. Steps to install Ubuntu 25.04 LTS on Oracle VirtualBox (CO2)

1. Download Ubuntu 25.04 LTS ISO from the official website.
2. Open VirtualBox → Click New → Enter VM name (Ubuntu).
3. Set memory (RAM) size, e.g., 4 GB.
4. Create a virtual hard disk (at least 25 GB recommended).
5. Start the VM → Choose the downloaded Ubuntu ISO.
6. Follow the on-screen installer steps: language, keyboard, installation type, disk partition, username, and password.
7. Complete installation → Restart the VM → Ubuntu is ready.

5. Troubleshooting Kernel Panic during installation (CO3)

- Check if the ISO file was corrupted → Re-download.
- Ensure enough RAM and CPU are assigned in VirtualBox.
- Enable virtualization (VT-x/AMD-V) from BIOS.
- Try booting with safe graphics mode.
- Update VirtualBox to the latest version.

6. Hostname commands (CO1)

- To display system hostname:
hostname

To change hostname using sysctl:

```
sudo sysctl kernel.hostname=newname
```

Replace 'newname' with your desired hostname.

7. Calendar for August 1984 (CO1)

- cal 8 1984
Shows the calendar of August 1984.

8. Display system uptime and logged-in users together (CO3)

- uptime && who
First shows how long the system is running, then lists logged-in users.

9. Find all “.c” files in /home/user (CO1)

- find /home/user -name "*.c"
Lists all C source code files.

10. Change file permissions (Owner: read & write only) (CO1)

- chmod 600 filename
Only the owner can read and write; others have no access.