

Linux Programming:

Assignment: 03

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1.Distinguish between man and whatis commands. Justify with example.

Ans :

man command: This command displays the complete manual of a Linux command, including its description, syntax, options, and examples.

Example:

man ls

This opens the full manual page for the ls command.

whatis command: This command gives a short, one-line description of a command.

Example:

whatis ls

Output:

ls(1) – list directory contents

Difference: The man command provides detailed information about a command, whereas whatis gives only a brief summary.

2. Use the tee command to save the output of ls -l into a file while also displaying it.

Ans :

```
ls -l | tee output.txt
```

This command displays the output of ls -l on the screen and simultaneously saves it in output.txt.

3. Explain with an example how the tee command can be used in logging.

Ans:

The tee command is useful for logging outputs into a file while still displaying them on the terminal.

Example:

ping -c 4 google.com | tee pinglog.txt

This logs the ping results into pinglog.txt and also shows the results on the terminal in real-time.

4.Steps to install Ubuntu 25.04 LTS on Oracle VirtualBox:

Ans :

- i.Download the Ubuntu 25.04 LTS ISO from the official website.
- ii. Install and open Oracle VirtualBox.
- iii. Create a new virtual machine → choose Linux / Ubuntu (64-bit).
- iv.Allocate memory (recommended \geq 4GB).
- v.Create a virtual hard disk (minimum 20GB).

- vi. Mount the ISO file in the VM settings → Optical Drive.
- vii. Start the VM and follow the Ubuntu installation wizard (select language, keyboard layout, partitions, username).
- viii. Complete the installation and reboot into Ubuntu.

5. How to troubleshoot a Kernel Panic Error during Ubuntu installation?

Ans :

- i. Verify the ISO file integrity using checksums.
- ii. Ensure virtualization (VT-x/AMD-V) is enabled in BIOS.
- iii. Allocate more RAM and CPU cores to the virtual machine.

iv. Use the “safe graphics” or compatibility mode during installation.

v. Update VirtualBox to the latest version.

6. Command to display and change system hostname:

Ans :

Display hostname:

`hostname`

Change hostname using `sysctl`:

`sudo sysctl kernel.hostname=newhostname`

7. Show the calendar for August 1984:

Ans:

`cal81984`

8. Display system uptime and logged-in users together:

Ans:

w

This command shows the system uptime, load averages, and details of logged-in users.

9.List all .c files in /home/user using find:

Ans:

find/home/user -name "*.c"

10.Change file permissions to allow only the owner to read and write:

Ans : chmod 600 filename

This gives read and write permissions to the owner only, removing all permissions for others.