



School Of Engineering

Linux Programming Assignment-3

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Q1. Distinguish between man and whatis commands? Justify with proper example.

Ans: - The **man** command displays the complete manual page with detailed information about the command.

Example:

```
LS(1)                                User Commands                                LS(1)

NAME
    ls - list directory contents

SYNOPSIS
    ls [OPTION]... [FILE]...

DESCRIPTION
    List information about the FILES (the current directory by default).
    Sort entries alphabetically if none of -cftuvSUX nor --sort is speci-
    fied.

    Mandatory arguments to long options are mandatory for short options
    too.

    -a, --all
        do not ignore entries starting with .

    -A, --almost-all
        do not list implied . and ..

    --author
        with -l, print the author of each file

    -b, --escape
        print C-style escapes for nongraphic characters

    --block-size=SIZE
        with -l, scale sizes by SIZE when printing them; e.g.,
        '--block-size=M'; see SIZE format below

Manual page ls(1) line 1 (press h for help or q to quit)
```

- **whatis** command shows only a one-line description of what the command does.

Example:

```
127 neehara@spookyman:~$ whatis ls
ls (1) - list directory contents
```

Q2. Use the tee command to save the output of ls -l into a file while also displaying it.

Ans: The **tee** command is essential for anyone who needs to both monitor command output in real-time and maintain a permanent record of that output for later analysis.

Command: `ls -l | tee filelist.txt`

Q3. Explain with an example how the tee command can be used in logging.

Ans: `./myscript.sh | tee script.log`

This runs the script and saves all output to script.log while also displaying it on screen.

Q4. List the steps involved in installing Ubuntu 25.04 LTS on Oracle VirtualBox.

Ans: The following are the steps involving:

- Download Ubuntu 25.04 LTS ISO.
- Create new VM in VirtualBox.
- Allocate RAM and storage.
- Mount ISO as installation media.
- Start VM and follow installation wizard.
- Create user account and complete setup.

Q5. During Ubuntu OS installation, you face a Kernel Panic Error. How would you troubleshoot it?

Ans: Check the ISO file integrity and re-download if needed. Increase VM RAM to at least 2GB and enable PAE/NX. Boot with the 'nomodeset' parameter or use Safe Graphics mode. Update VirtualBox to the latest version. Test with Ubuntu Server or an older LTS version if problems continue.

Q6. Write the command to display the system's hostname? How to change hostname using sysctl command?

Ans: To display host name we use:

Command: `hostname`

To change hostname using sysctl we use:

Command: `sudo sysctl kernel.hostname=new-hostname.`

The sysctl method changes the hostname immediately but temporarily. It will revert after reboot.

Q7. Which command is used to show the calendar of the year 1984 with August month?

Ans: Command to show August 1984 calendar: `cal august 1984`

Q8. Write a command to display system uptime and logged-in users together.

Ans: We use `w` command.

It gives you a complete image of system usage, stability, and who's doing what, which are essential for system administration and troubleshooting.

Q9. Use the find command to list all “.c” files in /home/user

Ans: command is: **find /home/user -type f -name “*.c”**

find /home/user = search starting from the /home/user directory

- type f = only look for regular files (not directories)
- name "*.c" = match files whose names end with .c

Q10. How do you change file permissions to allow only the owner to read and write?

Ans: **chmod u=rw,go= filename.**

Here u=rw = user/owner gets read and write and go= means group and others get no permissions.

THANK YOU