

Unit - 4

VISION DATE:
PAGE NO.

⇒ Objectives

- 1) To see the list of files on your UNIX or Linux System, use the ls Command is used.
- 2) -R option with ls command is used to show all the files not only in directories but also subdirectories.
- 3) -a option with ls Command is used to show hidden file.
- 4) Write cat command to combine two files.
→ cat file1 file2 > combined_file
- 5) history command shows all the commands that you have used in the Past for the current terminal session.
- 6) To display line numbers in file cat -n command is used.
- 7) cat test >> test1 what this command will perform?
→ This command appends the contents of test to test1.
- 8) tail <file name> what this command will perform?
→ This command prints last 10 line from the file.
- 9) Nohup Command creates the nohup.out file in working directory.
- 10) chmod u=rw EXAM what above command will perform?
→ This command sets read and write permission for the user on the EXAM file.
- 11) nl <file name> what above command perform?
→ The nl command displays a file with line numbers.

- 12) od command in Linux is used to convert the content of input in different formats with octal format
- 13) Write the name of the command which works opposite of cat.
→ tac
- 14) The tr command in UNIX is a command line utility for translating or deleting characters
- 15) The System utilities perform individual specialized management tasks.
- 16) The fork system call creates a new process.
- 17) Define process ID.
→ Process ID is a unique integer identifier assigned by the operating system to each process.
- 18) The file table is an array of pointers to kernel file structures
- 19) Write and explain the task of clone system call.
→ The clone() system call is used in Linux to create a new process similar to fork(), but with finer control over what resources are shared between parent and child.
- 20) User processes can always be preempted by another process when a time-sharing scheduling interrupt occurs. → True
- 21) Dynamic linking is more efficient in terms of both physical memory and disk space. Why?
→ Code sharing, Reduced Disk Space, Faster updates.

⇒ Descriptive

1) Write a command for the following

(i) To create file from shell.

→ You can use the touch command to create an empty file.
touch myfile.txt

→ Alternatively, you can use cat command

cat > myfile.txt

(ii) To save the file

→ If using cat > myfile.txt, Press $\text{ctrl} + \text{D}$ to save and exit.

→ If using a text editor like nano, then
nano myfile.txt

Type the content, then press $\text{ctrl} + \text{x}$, then Y, and hit Enter to save.

(iii) Display the content of the created file.

→ Cat myfile.txt

less myfile.txt

more myfile.txt

2) Write a command for the following

(i) Remove the file.

→ rm myfile.txt

→ To remove multiple files

rm file1.txt file2.txt

(ii) To rename file

→ mv oldname.txt newname.txt

(iii) To create directory

→ mkdir mydirectory

→ To create multiple directories at once:

mkdir dir1 dir2 dir3

3) What PS command shows about?

→ The PS command in linux is used to display information about active process running on the system. It provides details such as process ID, user, CPU usage, memory usage, and command name.

→ Basic usage

Shows currently running processes for the current user.

ps

→ Detailed process list

Shows additional details

ps -f

→ View all processes running on system

ps -e

→ View processes by a specific user

ps -u username

→ View processes in a tree format

Shows parent-child relationships

ps -ejH

→ Find a specific process by name

ps aux | grep process name

4) fgrep -f words.txt file1

What above command does? Explain with suitable example

→ fgrep Searches for fixed strings instead of regular expression

→ -f words.txt tells fgrep to take multiple search patterns from the file words.txt

→ file1 is the file where the search is performed.

→ This Command displays all lines from file1 that contain any of the words listed in words.txt

→ Example:

→ Contents of words.txt

error

warning

failed

→ Contents of file1

System boot successful.

Disk error detected.

Warning: low memory

Network connection failed.

Backup completed successfully.

→ Command

fgrep -f words.txt file1

→ Output

Disk error detected.

Warning: low memory.

Network connection failed.

5) The join command in UNIX is a command line utility for joining lines of two files on a common field. Explain this with suitable example.

→ The join command in UNIX is used to merge lines from two files based on a common field. It works like a SQL JOIN operation on text files.

→ Syntax:

join [OPTION] file1 file2

- file1 and file2 → The input files that should be sorted on the join field

- The default join field is the first column in both files.

→ Example

- Contents of student.txt

1 Alice

2 Bob

3 Charlie

4 David

- Contexts of marks.txt

1 85

2 90

3 78

4 92

→ Command

join students.txt marks.txt

→ Output

1 Alice 85

2 Bob 90

3 Charlie 78

4 David 92

1 Alice 85
2 Bob 90
3 Charlie 78
4 David 92