DAYANANDA SAGAR UNIVERSITY

Name: AMANPATEL BIRADAR
Subject: LINUX PROGRAMMING
USN: ENG24CY0081
Roll no. : 13

LINUX COMMANDS ASSIGNMENT

1. Which command is used to list the contents of a directory? Justify with proper example. (CO1)

The command used to list the contents of a directory is:
ls
The ls command displays all files and folders in the current directory.
Example:
ls /home/user
This command lists all files and directories inside the /home/user directory.

2. Write the command to create a new directory named 123test_dir. (CO1)

To create a new directory, the mkdir command is used.
Example:
mkdir 123test_dir
This creates a new directory named 123test_dir in the current working directory.

3. What is the purpose of the sed command? Justify with proper example. (CO1)

The sed command (Stream Editor) is used for text manipulation — it edits text in a stream or file without opening it.
Example:
sed 's/Linux/Ubuntu/' file.txt
This command replaces the first occurrence of the word “Linux” with “Ubuntu” in each line of file.txt.

4. Which distinct command is used to display one-line descriptions of any commands? (CO1)

The command used is:
whatis
Example:
whatis ls
This shows a short, one-line description of the ls command, such as:
ls (1) - list directory contents

5. Write the command to create an empty file named “notes.txt”. (CO1)

You can use the touch command to create an empty file.
Example:
touch notes.txt
This creates a new empty file named notes.txt in the current directory.

6. Differentiate between grep and awk commands with an example. (CO2)

grep:
Used to search for specific text patterns.
Example:
grep 'error' logfile.txt → Finds lines containing “error”.

awk:
Used for pattern scanning and data processing.
Example:
awk '{print $1, $3}' data.txt → Prints the 1st and 3rd columns.

7. Write the command to give read, write, and execute permission to the owner of a file script.sh. (CO1)

Command:
chmod u+rwx script.sh
This command gives the file owner (user) all permissions — read, write, and execute — for script.sh.

8. How is chown different from chgrp? Give one example for each. (CO1)

chown: Changes the owner of a file.
Example:
chown aman script.sh

chgrp: Changes the group ownership of a file.
Example:
chgrp students script.sh

So, chown changes who owns the file, while chgrp changes which group owns it.

9. A user complains that they cannot execute a file even though it exists in their directory. How would you troubleshoot this using ls -l, chmod, and whoami? (CO3)

Step 1: Use ls -l to check permissions:
ls -l filename.sh
If it shows something like -rw-r--r--, the execute (x) permission is missing.

Step 2: Give execute permission:
chmod u+x filename.sh

Step 3: Verify the user identity:
whoami
This checks whether the current user has the rights to execute the file.

10. Design a command pipeline to: find all .log files modified in the last 2 days in /var/log, display them on screen, and save the results into a file recent_logs.txt using tee command. (CO4)

Command:
find /var/log -name "*.log" -mtime -2 | tee recent_logs.txt

Explanation:
find /var/log -name "*.log" → Finds all .log files in /var/log.
-mtime -2 → Filters files modified in the last 2 days.
tee recent_logs.txt → Displays results on screen and saves them to recent_logs.txt.