1. Which command is used to list the contents of a directory? Justify with proper example.
•The ls command is the primary tool to list directory contents. For example, typing ls /home displays all files and folders inside the /home directory, giving you a quick overview of what's stored there.

2.Write the command to create a new directory named 123test_dir.
•Use the command mkdir 123test_dir . This command acts like creating a new folder, providing a dedicated space for your files or projects.

3.What is the purpose of the sed command? Justify with proper example.
• sed , short for stream editor, is used to perform text transformations on the fly. For example, sed 's/apple /orange/g' fruits.txt searches through fruits.txt and replaces every occurrence of "apple" with "orange" without opening the file manually.

4.Which distinct command is used to display one-line descriptions of any commands?
•The command whatis fulfills this purpose. For example, whatis ls will quickly give you a brief description of the ls command.

5.Write the command to create an empty file named "notes.txt".
•You can create a blank file using touch notes.txt . Think of it as adding a new empty sheet in your folder, ready for you to write on later.

6.Differentiate between grep and awk commands with an example.
• grep searches for specific patterns in text files; for example, grep "error" logfile.log shows only lines containing "error."
• awk is a powerful text processor, especially for columns; for example, awk '{print $1}' logfile.log displays only the first word of each line, useful for extracting specific data.
. Write the command to give read, write, and execute permission to the owner of a file script.sh.
•Use chmod u+rwx script.sh . This grants the owner full control over the script, allowing them to read, modify, or execute it.

8.How is chown different from chgrp? Give one example for each.
• chown changes the owner of a file—e.g., chown user1 file.txt transfers ownership to user1.
• chgrp changes the group associated with a file—e.g., chgrp staff file.txt assigns the group "staff" to the file.

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?
•The first step is to check permissions with ls -l filename . If the execute permission (x) is not set for the user, the file won't run. Use whoami to verify the current user. If needed, grant execute permission with chmod u+x filename . Afterward, the user should be able to run 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.
•The command is: find /var/log -name "*.log" -mtime -2 | tee recent_logs.txt
•This command searches for .log files changed in the past two days, displays the list on your terminal, and simultaneously saves it into recent_logs.txt .