SHRI G.S INSTITUTE OF TECHNOLOGY AND SCIENCE, INDORE
DEPARTMENT OF INFORMATION TECHNOLOGY
MCA I YEAR II SEM SECTION A
SUBJECT CODE: CT10709/SUBJECT NAME: OPERATING SYSTEM
SESSION 2024-25
LAB ASSIGNMENT 2

Experiments Date :19-2-25/ 20-2-25/21-2-25 Submission-Date : 26-2-25/27-2-25/28-2-25

Objective:
To understand and manipulate file permissions in a Linux environment using the command line.

Prerequisites:
Basic knowledge of Linux command line.
Access to a Linux system (local or virtual machine).

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	Tasks:		
1.	**Check Current User and Group:** Open a terminal and run the command to check your current user and group.	1	2,3
2.	**Setting Up the Environment:** ❖ Create a directory named file_permission_lab. ❖ Inside this directory, create three files: file1.txt, file2.txt, and file3.txt.	1	2,3
3.	**Viewing File Permissions:** ❖ Use the command to view the permissions of the files you created. Document the output.	1	2,3
4.	**Changing File Permissions:** ❖ Change the permissions of file1.txt to allow the owner to read and write, the group to read, and others to have no permissions. Use both symbolic and numeric methods. ❖ Change the permissions of file2.txt to allow everyone to read and execute, but not write. ❖ Change the permissions of file3.txt to allow only the owner to read, write, and execute.	1	2,3

	Documenting Changes: ❖ After each permission change, use ls -l to document the new permissions for each file.	**1**	**2,3**
5	**File Handling Tasks:** 1. Create a script called file_handling.sh that: o Creates a directory named test_dir. o Creates a file named test_file.txt inside test_dir. o Writes "This is a test file." to the file. o Displays the contents of the file. o Deletes the file and the directory. 2. Make the script executable and run it with different arguments.	**1**	**2,3**
6.	**Change Ownership:** ❖ If you have another user account on the system, change the ownership of file1.txt to that user (replace otheruser with the actual username)	**1**	**2,3**
7.	**Cleanup:** ❖ After completing the tasks, remove the file_permission_lab directory and its contents	**1**	**2,3**
8.	**File commands :** **Create a Directory:** ❖ Create a new directory named file_commands_lab in your home directory. **Navigate to the Directory:** ❖ Change to the newly created directory ❖ Create five text files named file1.txt, file2.txt, file3.txt, file4.txt, and file5.txt. ❖ Use the command to list the files in the directory.	**1**	**2,3**
9.	**Write to Files:** ❖ Use the echo command to write “This is file 1” text into file1.txt on the terminal not in the directly writing text file. ❖ Append text to file2.txt.write the contents "This is file 2” in the file2.txt and that append.	**1**	**2,3**

	❖ Use the cat command to display the contents of file1.txt. ❖ Use the less command to view the contents of 'file2.txt'		
10	**Copy Files:** ❖ Copy 'file1.txt' to create a new file named 'file1_copy.txt' ❖ Rename 'file2.txt ' to 'file2_renamed.txt' ❖ Delete 'file3.txt'.: ❖ Change to the 'backup directory and list the files:	**1**	**2,3**
11	**Create a Compressed Archive:** ❖ Go back to the 'file_commands_lab' directory and create a compressed archive of the backup directory.	**1**	**2,3**
12.	**Extract the Archive:** ❖ Create a new directory named 'extracted_backup' and extract the contents of 'backup.tar.gz' into it:	**1**	**2,3**
13.	**Verify Extraction:** ❖ List the contents of the 'extracted_backup' directory to verify that the files were extracted correctly	**1**	**2,3**
14.	**Cleanup:** ❖ After completing the tasks, remove the 'file_commands_lab' directory and its contents.	**1**	**2,3**
15.	**Create a text file named " count.txt " and write the 10 line sentences and use the command to count the word ,lines , character and also use command for highlighting a patten in this file .**	**1**	**2,3**