**4ITRC2 Operating System Lab**

**Lab Assignment 2**

Aim: To study and understand Ubuntu Commands

To perform: Execute different Commands.

To Submit: Part1: Outputs of the following commands

1. pwd

Ans: Displays the present working directory.

/home/ashish

2. cd

Ans: Changes the directory.

/home/user/Documents

3. ls

Ans: Lists the files and directories.

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4. mkdir

Ans: Creates a new directory.

$ mkdir new\_folder

5. rm

Ans: Removes files or directories.

$ rm file1.txt

6. touch

Ans: Creates an empty file.

$ touch newfile.txt

7. hostname

Ans: Displays the system hostname.

ashish

8. cat

Ans: Displays the content of a file.

$ cat File1.txt

Hello, this is a test file.

9. chmod

Ans: Changes file permissions.

$ chmod 755 script.sh

10. echo

Ans: Prints text to the terminal.

$ echo "Hello, World!"

Hello, World!

11. grep

Ans: Searches for a string in a file.

$ grep "hello" file1.txt

12. fgrep

Ans: Searches for a string without interpreting meta-characters.

$ fgrep "hello" file1.txt

13. mv

Ans: Moves or renames files.

$ mv oldfile.txt newfile.txt

14. cp

Ans: Copies files or directories.

$ cp file1.txt backup/

15. more

Ans: Displays file content page by page.

$ more largefile.txt

16. less

Ans: Similar to more but allows backward navigation.

$ less largefile.txt

17. wc

Ans: Counts lines, words, and characters in a file.

$ wc file1.txt

18. awk

Ans: Pattern scanning and processing language.

$ awk '{print $1}' file.txt

19. sed

Ans: Stream editor for modifying files.

$ sed 's/old/new/g' file.txt

20. tail

Ans: Displays the last few lines of a file.

$ tail -n 5 file.txt

**Part 2 Answers to the following Questions:**

1. How to navigate to a Specific Directory?

Ans: cd /path/to/directory

2. How to see detailed information about files and directories using ls?

Ans: ls -l

3. How to create multiple directories in Linux using `mkdir` command?

Ans: mkdir dir1 dir2 dir3

4. How to remove multiple files at once with rm?

Ans: rm file1.txt file2.txt file3.txt

5. Can rm be used to delete directories?

Ans: rm -r folder\_name

6. How Do You Copy Files and Directories in Linux?

Ans: cp file.txt /destination/

cp -r folder /destination/

7. How to Rename a file in Linux Using mv Command

Ans: mv oldname.txt newname.txt

8. How to Move Multiple files in Linux Using mv Command

Ans: mv file1.txt file2.txt /destination/

9. How to Create Multiple Empty Files by Using Touch Command in Linux

Ans: touch file1.txt file2.txt file3.txt

10. How to View the Content of Multiple Files in Linux

Ans: cat file1.txt file2.txt

11. How to Create a file and add content in Linux Using `cat` Command

Ans: cat > newfile.txt

This is a new file.

Press Ctrl+D to save.

12. How to Append the Contents of One File to the End of Another File using cat command

Ans: cat file1.txt >> file2.txt

13. How to use cat command if the file has a lot of content and can’t fit in the

terminal.

Ans: cat largefile.txt | less

14. How to Merge Contents of Multiple Files Using `cat` Command

Ans: cat file1.txt file2.txt > merged.txt

15. How to use cat Command to Append to an Existing File

Ans: cat >> file.txt

New content here.

Press Ctrl+D to save.

16. What is “chmod 777 “, “chmod 755” and “chmod +x “or “chmod a+x”?

Ans: chmod 777 file → Full read, write, and execute permissions for everyone.

chmod 755 file → Owner has full permissions, others have read and execute.

chmod +x file → Adds execute permission to the file.

17. How to find the number of lines that matches the given string/pattern

Ans: grep -c "pattern" file.txt

18. How to display the files that contains the given string/pattern.

Ans: grep -l "pattern" \*.txt

19. How to show the line number of file with the line matched.

Ans: grep -n "pattern" file.txt

20. How to match the lines that start with a string using grep

Ans: grep "^pattern" file.txt

21. Can the ‘sort’ command be used to sort files in descending order by default?

Ans: sort -r file.txt

22. How can I sort a file based on a specific column using the ‘sort’ command?

Ans: sort -k 2 file.txt