4ITRC2 Operating System Lab

Lab Assignment 2

**Aim**: To study and understand Ubuntu Commands Name: Rishabharaj Sharma

**To perform**: Execute different Commands Roll\_no: 23I4059

**To Submit**: **Part1** Outputs of the following commands

**pwd**

/home/username/lab2\_demo

Outputs the current working directory.

**cd**

# Navigate to home directory

cd ~

*No output. Changes director.*

**ls**

practice.txt password.csv folder2

Lists files and directories in the current folder.

**mkdir**

mkdir new\_folder

Creates a directory named *new\_folder*.

**rm**

rm file1.txt

Deletes *file1.txt*.

**touch**

touch newfile.txt

Creates an empty file *newfile.txt*.

**hostname**

ubuntu-VirtualBox

Displays the system’s hostname.

**cat**

cat newfile.txt

output:

Hello, Ubuntu!

Displays the content of *newfile.txt*.

**chmod**

chmod 755 script.sh

Changes file permissions to *rwxr-xr-x*.

**echo**

echo "Welcome to lab assignment"

output:

Welcome to lab assignment

Prints text to the terminal.

**grep**

grep "Ubuntu" newfile.txt

Output:

Hello, Ubuntu!

Searches for the word "Ubuntu" in the file.

**fgrep**

fgrep -f patterns.txt data.txt

Searches for fixed strings from *patterns.txt* in *data.txt*.

**mv**

mv oldfile.txt newfile.txt

Renames *oldfile.txt* to *newfile.txt*.

mv oldfile.txt /home/rishabh/lab2\_demo

Move *oldfile.txt* to /home/rishabh/lab2\_demo

cp

cp file1.txt file1\_backup.txt

Copies files & directory- *source* to *path.*

more

more largefile.txt

Displays file content page-by-page.

less

less largefile.txt

Similar to *more* but allows backward navigation.

wc

wc newfile.txt

Output:

1 2 15 newfile.txt

Counts lines, words, and characters.

awk

awk '{print $1}' data.txt

Prints the first column of *data.txt*.

awk '{print}' employee.txt

output:

rishabh account 45000  
 raghav account 25000  
 riya account 15000

*prints every line of data from the specified file*.

sed

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

output:

linux is great os.

learn operating system.

I love linux .

Replaces "old" with "new" in *file.txt*. (stream editor for modifying text)

tail

tail -n 2 logfile.txt

output:

rishabh

rounak

Displays the last 2 lines of *logfile.txt*.

Part 2 Answers to the following Questions: (you need to supply commands)

1. How to navigate to a Specific Directory?

by the cd command: cd /path/to/directory .

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

ls -l

The *-l* flag shows permissions, owner, size, and modification time.

1. How to create multiple directories in Linux using ‘mkdir’ command?

mkdir dir1 dir2 dir3

Or use braces for sequential names

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

rm file1.txt file2.txt file3.txt

*Or use wildcards:*

rm \*.tmp

1. Can rm be used to delete directories?

rm -r directory\_name

The *-r* flag removes directories recursively.

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

For files:

cp source.txt destination/

For directories:

cp -r sourcedir/ destination/

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

mv oldname.txt newname.txt

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

mv file1.txt file2.txt /target/directory/

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

touch file{1..5}.txt

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

cat file1.txt file2.txt

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

cat > newfile.txt

This is line 1.

Ctrl+D

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

cat file1.txt >> file2.txt

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

cat largefile.txt | less

Use *less* or *more* for pagination.

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

cat file1.txt file2.txt > merged.txt

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

cat >> existing.txt

New content here.

Ctrl+D

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

**chmod 777**: Grants read, write, execute to all users (owner, group, others).

**chmod 755**: Owner has full access; others can read/execute.

**chmod +x**: Adds execute permission for all users.

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

grep -c "pattern" file.txt

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

grep -l "pattern" \*.txt

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

grep -n "pattern" file.txt

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

grep "^string" file.txt

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

sort -r file.txt

The *-r* flag reverses the order.

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

sort -k 2n data.csv

Sorts based on the second column numerically.