4ITRC2 Operating System Lab

Lab Assignment 2

**Outputs of the following commands**

1. **Pwd**(Prints the current working directory.)

/home/kanishk

1. **cd** - Changes the current directory.

cd Desktop

cd OS

pwd

output­🡪cd - Changes the current directory.

1. **ls** - Lists files and directories in the current directory.

abc.text defg.text first.sh hijk.text second.sh xyz.text

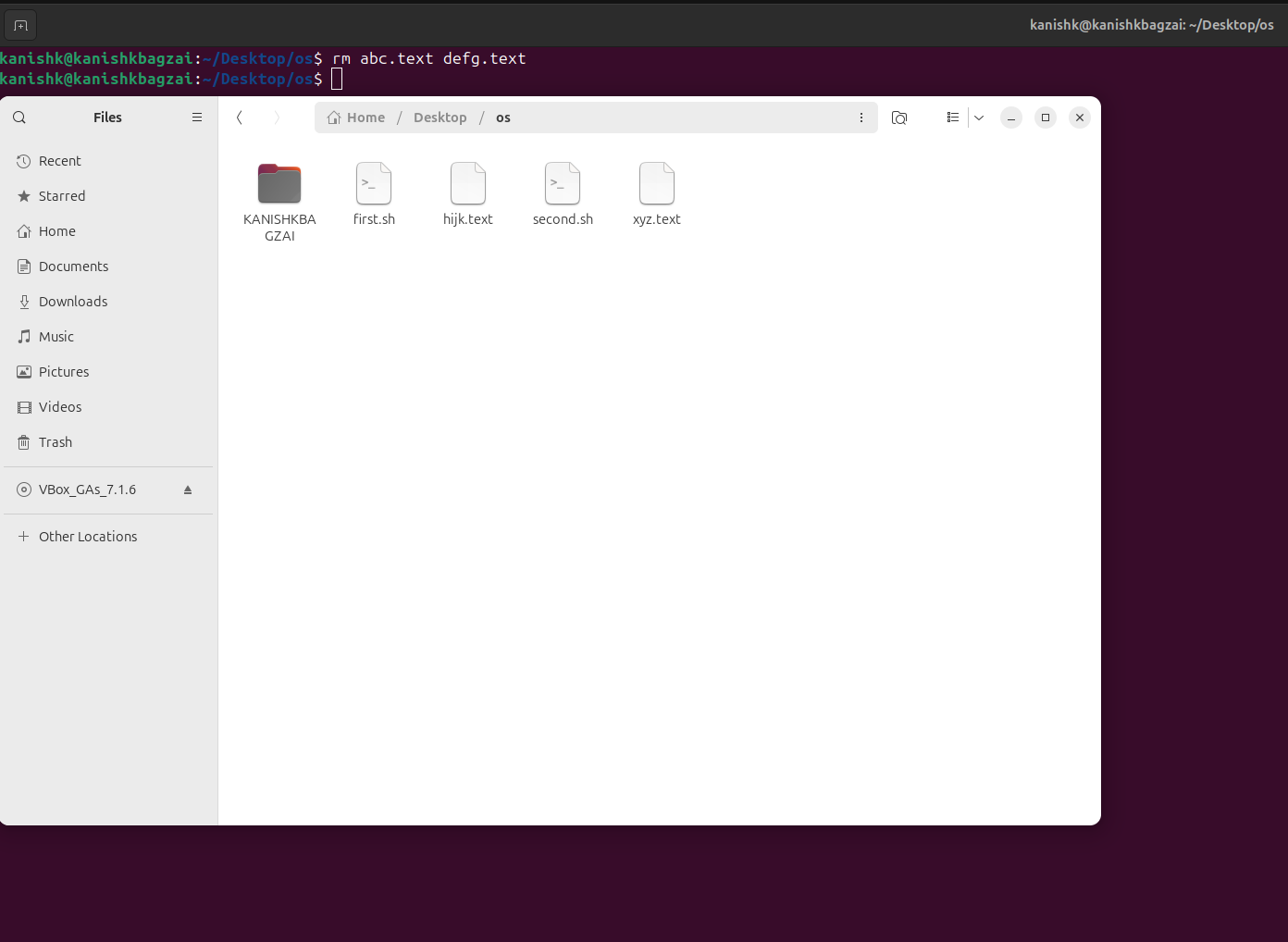
1. **mkdir -** Creates a new directory.

mkdir KANISHKBAGZA

OUTPUT🡪A screenshot of a computer

Description automatically generated

5.**rm** - Removes files or directories. OUPUT🡪



**6.touch** - Creates an emptyfile or updates the timestamp.A screenshot of a computer

Description automatically generated

7.**hostname** - Displays the system's hostnameA screenshot of a computer

Description automatically generated8. **cat** – Concatenates and displays file contentA screenshot of a computer

Description automatically generated

9. **chmod** - Changes file permissions.A screenshot of a computer

Description automatically generated10. **echo** - Displays a line of text.

A screenshot of a computer

Description automatically generated11. **grep** - Searches for patterns within text.

A screenshot of a computer program

Description automatically generated12. **fgrep** - Searches for fixed string patterns. A screenshot of a computer

Description automatically generated13. **mv** - Moves or renames files and directories.

A screenshot of a computer

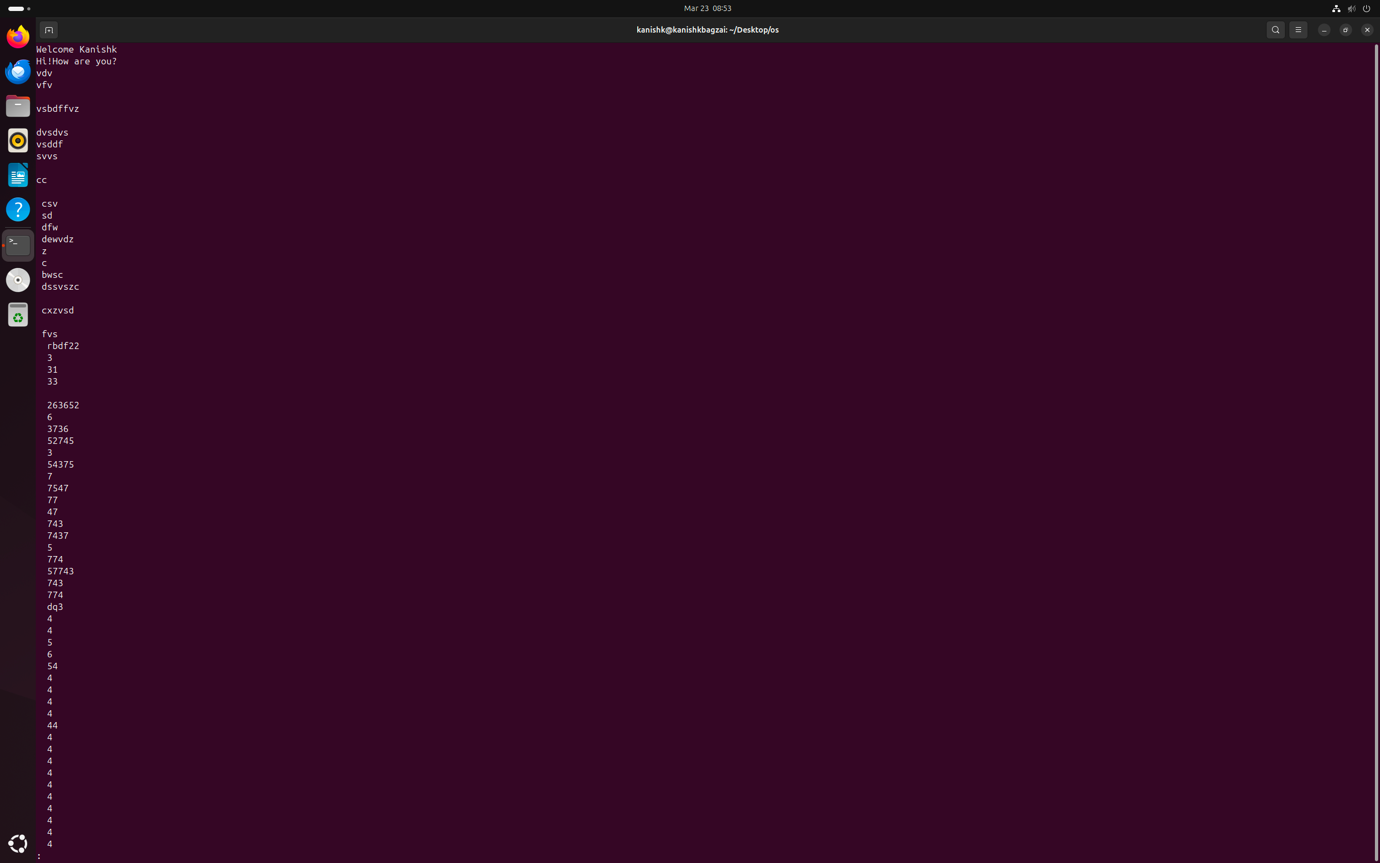
Description automatically generated14. **cp** - Copies files or directories.

A screenshot of a computer

Description automatically generated15. **more** - Views file content one screen at a time.

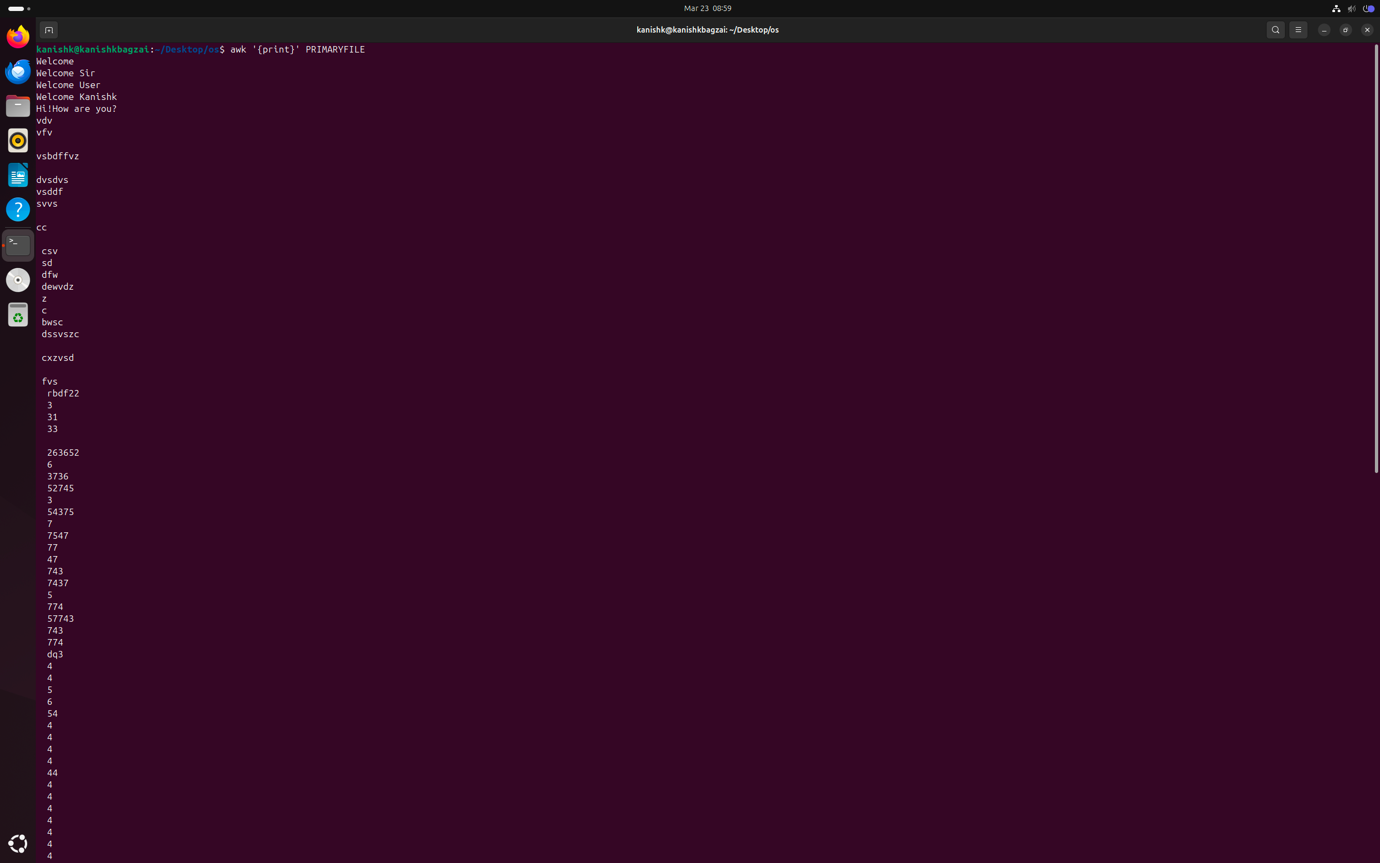
A screenshot of a computer

Description automatically generated16. **less** - Similar to more, but allows backward navigation.



17. **wc** - Counts lines, words, and bytes in a file. A screenshot of a computer

Description automatically generated18. **awk** - A programming language for text processing.

19**. sed** - Stream editor for filtering and transforming text.A screenshot of a computer

Description automatically generated20. **tail** - Displays the last part of a file.

A screenshot of a computer

Description automatically generatedPart 2 Answers to the following Questions: (you need to supply commands)

1. How to navigate to a Specific Directory?

cd /path/to/directory

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

ls -l

ls -la # Includes hidden files

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

mkdir dir1 dir2 dir3

mkdir -p parentdir/subdir1/subdir2 # Create nested

directories

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

rm file1 file2 file3

rm \*.txt # Remove all .txt files

5.Can rm be used to delete directories?

rm -r directory\_name

rm -rf directory\_name # Force remove without prompt

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

cp file1 /destination/path/

cp -r dir1 /destination/path/ # Copy directory recursively

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

mv old\_filename new\_filename

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

mv file1 file2 file3 /destination/path/

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

touch file1 file2 file3

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

cat file1 file2

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

cat > file.txt

# Type your content

# Press Ctrl+D to save and exit

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

cat file1 >> file2

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

cat largefile.txt | less

or

less largefile.txt

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

cat file1 file2 > merged\_file.txt

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

cat >> existing\_file.txt

# Type your content

# Press Ctrl+D to save and exit

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

Chmod 777🡪 Grants **read , write , and execute**  to **owner, group, and others**.

Chmod755🡪Grants **read, write, and execute** to the **owner**; **read and execute** to **group and others**.

Chmod +x or chmod a+x. 🡪 Adds **execute** permission for **all (owner, group, others)**.

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

grep -c "pattern" file.txt

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

grep -l "pattern" \*.txt

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

grep -n "pattern" file.txt

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

grep "^pattern" file.txt

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

sort -r file.txt

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

sort -k 2 file.txt

(Sorts by the second column)