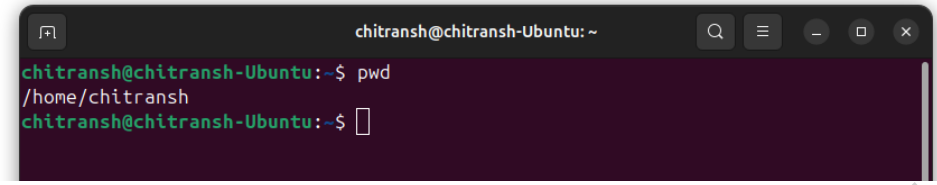
4ITRC2 Operating System Lab

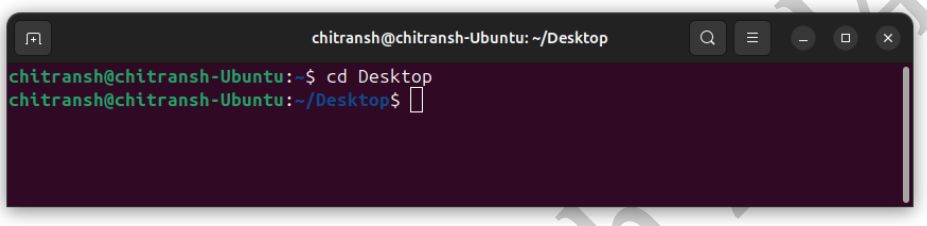
Lab Assignment 2

Part 1: Command Outputs

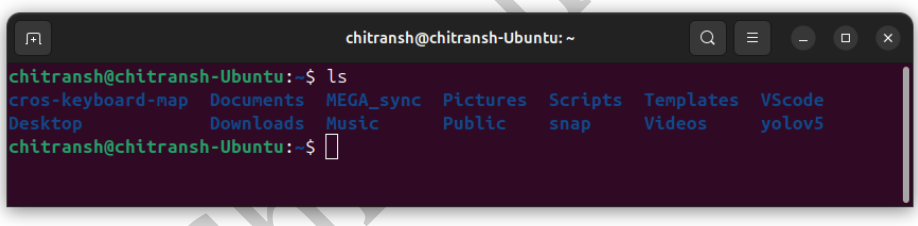
1. **pwd** - Prints the current working directory.



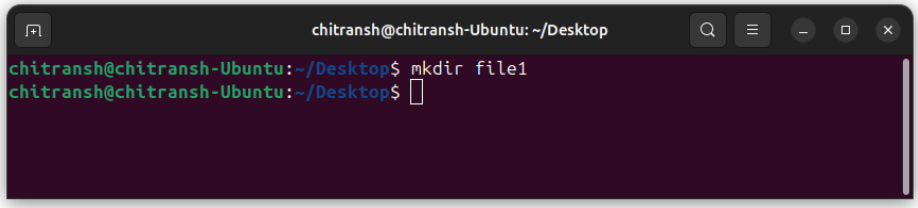
2. **cd** - Changes the current directory.



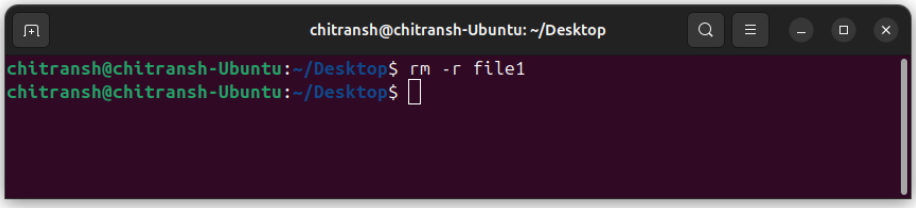
3. **ls** - Lists files and directories.



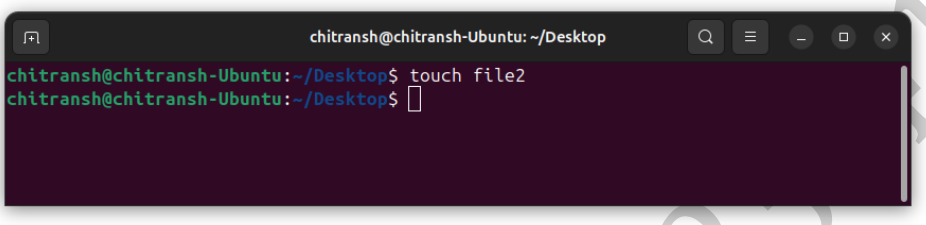
4. **mkdir** - Creates a new directory.



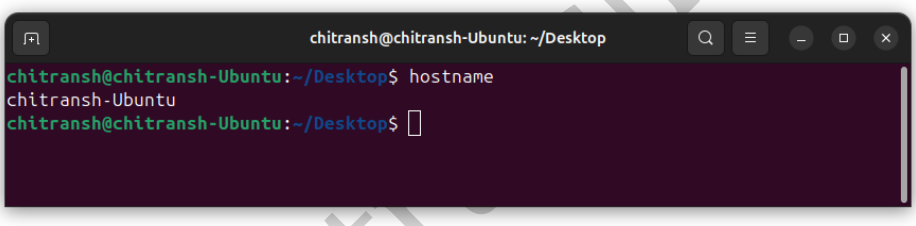
5. **rm** - Removes files or directories.



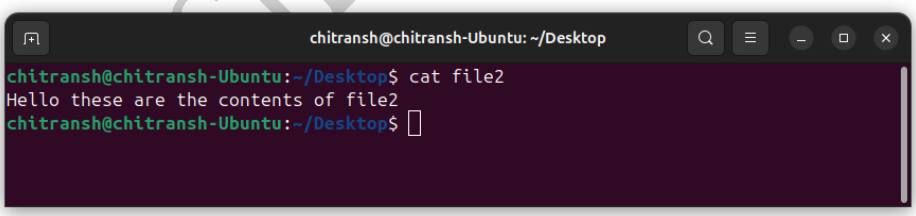
6. **touch** - Creates an empty file.



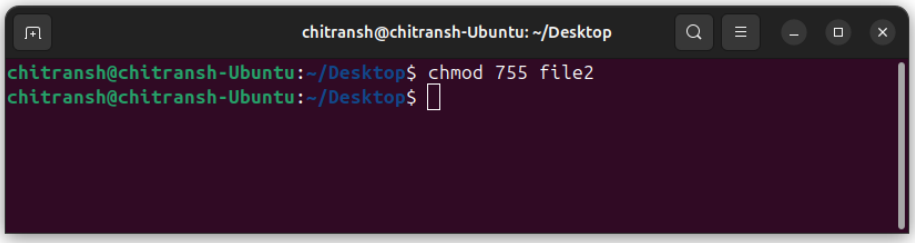
7. **hostname** - Displays the system's hostname.



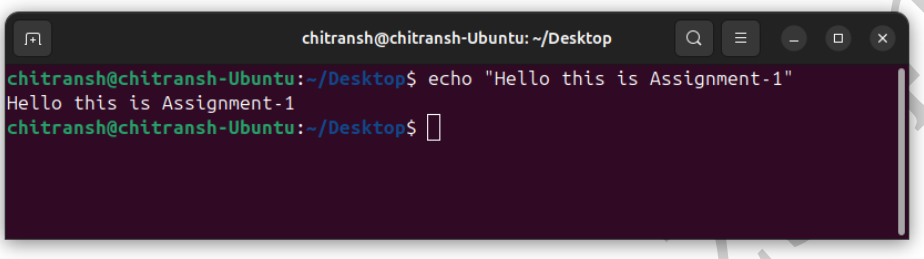
8. cat - Displays the content of a file.



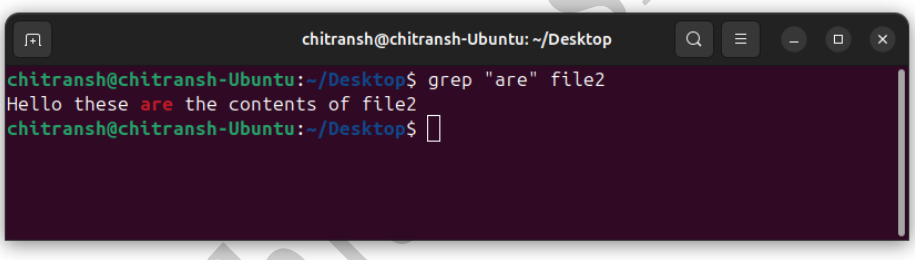
9. **chmod** - Changes file permissions.



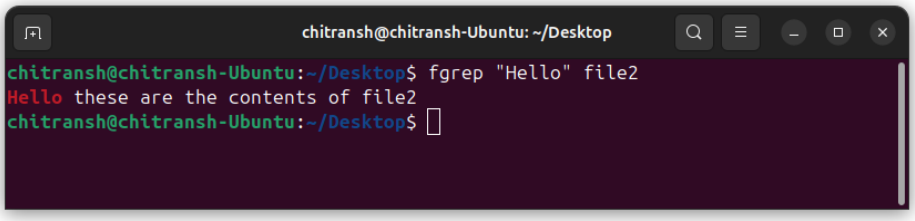
10. **echo** - Prints text to the terminal.



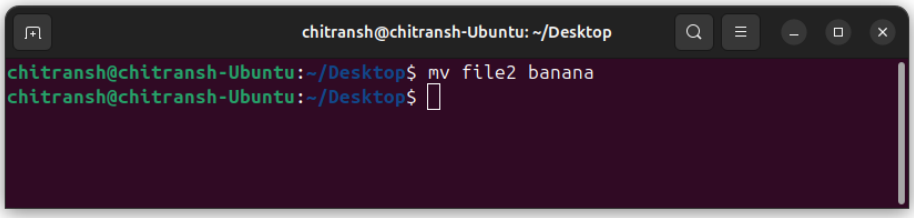
11. **grep** - Searches for a pattern in files.



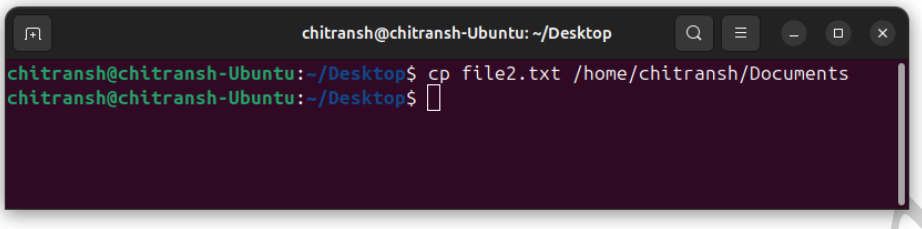
12. **fgrep** - Searches for fixed strings.



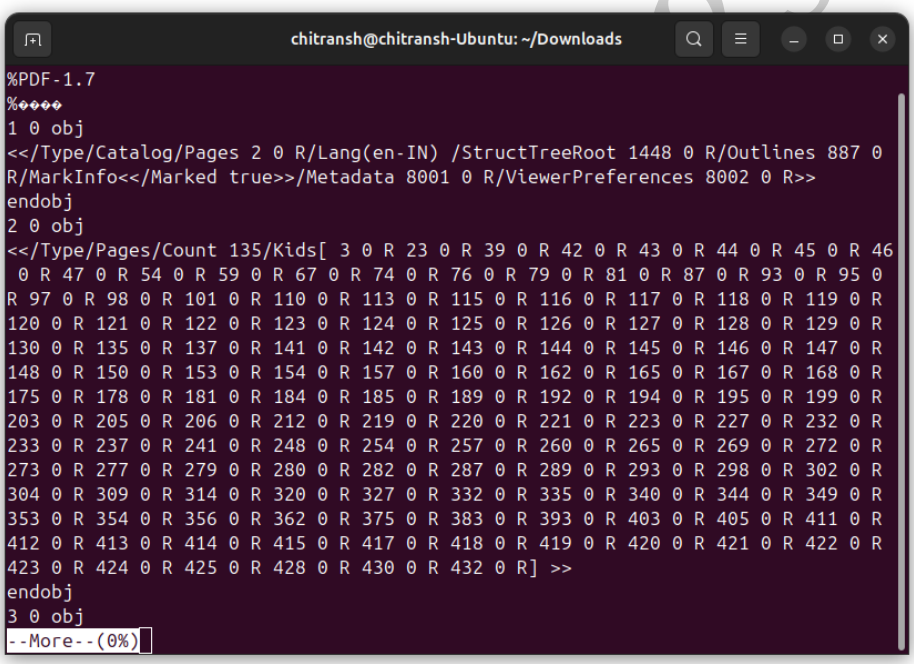
13. **mv** - Moves or renames files.



14. **cp** - Copies files or directories.

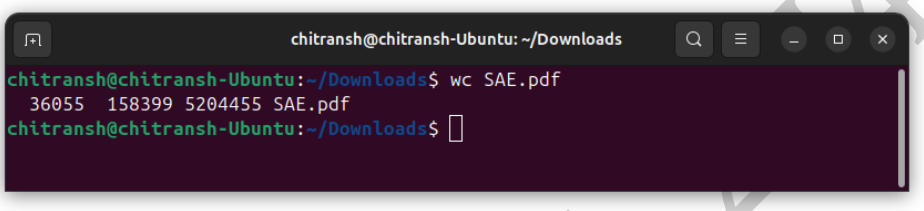


15. **more** - Displays content one page at a time.

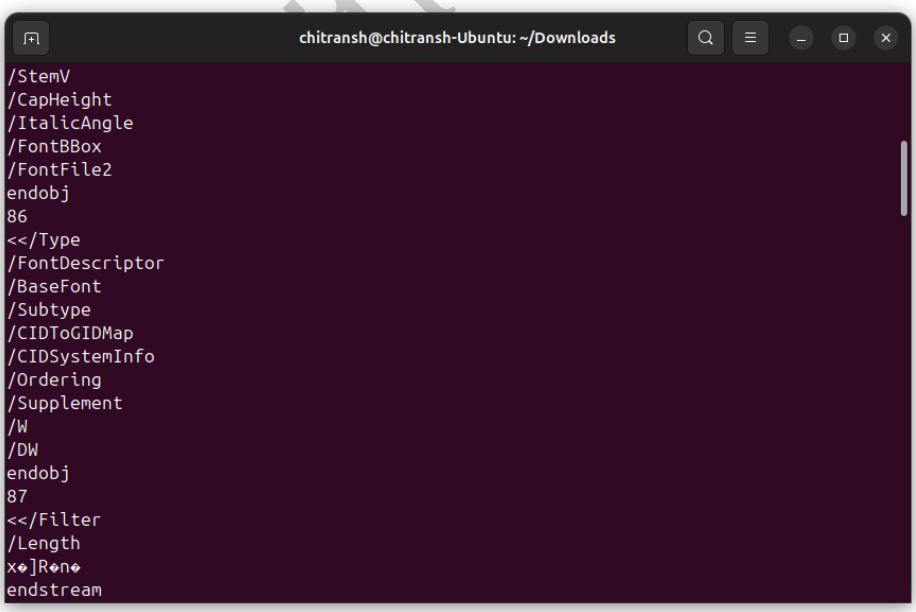


16. **less** - Similar to more, but with more features. Allows backward scrolling.

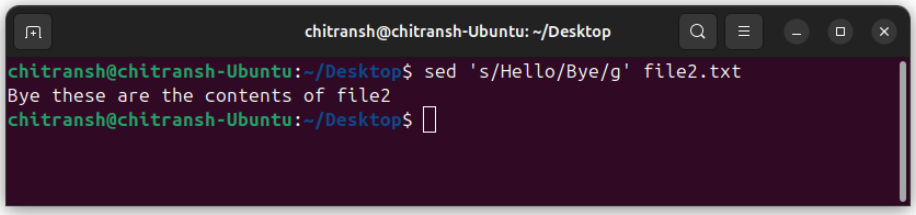
17. **wc** - Counts lines, words, and characters in a file.



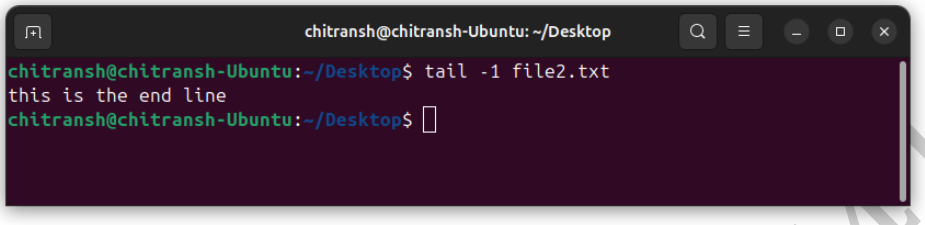
18. **awk** - Pattern scanning and processing.



19. **sed** - Stream editor for text manipulation.



20. **tail** - Displays the last few lines of a file.



Part 2

1. **How to navigate to a Specific Directory?**
   Use: `cd /path/to/directory`
2. **How to see detailed information about files and directories using ls?**
   Use: `ls -l`
3. **How to create multiple directories in Linux using mkdir command?**
   Use: `mkdir dir1 dir2 dir3`
4. **How to remove multiple files at once with rm?**
   Use: `rm file1 file2 file3`
5. **Can rm be used to delete directories?**
   Yes, use: `rm -r directory`
6. **How Do You Copy Files and Directories in Linux?**
   Use: `cp file1 destination/` or `cp -r dir1 destination/`

7. **How to Rename a file in Linux Using mv Command?**
   Use: mv oldfile newfile

8. **How to Move Multiple files in Linux Using mv Command?**
   Use: mv file1 file2 file3 destination/

9. **How to Create Multiple Empty Files by Using Touch Command in Linux?**
   Use: touch file1 file2 file3

10. **How to View the Content of Multiple Files in Linux?**
    Use: cat file1 file2

11. **How to Create a file and add content in Linux Using cat Command?**
    Use: cat > filename and type content, then press Ctrl+D

12. **How to Append the Contents of One File to the End of Another File using cat command?**
    Use: cat file1 >> file2

13. **How to use cat command if the file has a lot of content and can't fit in the terminal?**
    Use: cat filename | less

14. **How to Merge Contents of Multiple Files Using cat Command?**
    Use: cat file1 file2 > mergedfile

15. **How to use cat Command to Append to an Existing File?**
    Use: cat >> filename and type content, then press Ctrl+D

16. **What is "chmod 777 ", "chmod 755" and "chmod +x "or "chmod a+x"?**

    - **chmod 777** (gives full permissions (read, write, execute) to everyone.)
    - **chmod 755** (allows the owner full permissions but only read and execute for others.)
    - **chmod +x** or **chmod a+x** (makes a file executable.)

17. **How to find the number of lines that match the given string/pattern?**
    Use: grep -c 'pattern' filename

18. **How to display the files that contain the given string/pattern?**
    Use: grep -l 'pattern' *

19. **How to show the line number of a file with the line matched?**
    Use: grep -n 'pattern' filename

20. **How to match the lines that start with a string using grep?**
    Use: grep '^pattern' filename

21. **Can the 'sort' command be used to sort files in descending order by default?**
    No, use sort -r for descending order.

22. **How can I sort a file based on a specific column using the 'sort' command?**
    Use: sort -k column_number filename