

Operating System

(4ITRC2)

IT IV Semester

Submitted by

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Information Technology -A

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LAB ASSIGNMENT-2

Aim: To study and understand Ubuntu Commands.

To perform: Execute different Commands.

Part1 :- Outputs of the following commands.

1. **pwd Command** - checks his current directory:

pwd -> Output: (/home/himanshu/documents)

2. **ls Command** - Lists files and directories in the current directory:

Output: (document1.txt document2.txt folderA folder)

3. **cd Command** - Changes to another directory:

cd /home/himanshu/projects -> No output.

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

mkdir new_folder

Output: (No output, but new_folder2 is created in /home/himanshu/images)

5. **touch Command** - Creates an empty file:

touch newfile.txt

Output: (No output, but newfile2.txt is created in /home/himanshu/images)

6. **rm Command** - Deletes a file:

rm newfile.txt

Output: (No output, but newfile2.txt is deleted)

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

hostname

Output: (himanshu-PC)

8. mv Command – Renames or moves a file:

`mv backup.txt folder1/backup.txt`

Output: (No output, but oldfile.txt is moved to /home/himanshu/images/folderA/)

9. cat Command – Displays file content:

`cat file1.txt`

Output: (Displays the content of document1.txt)

10. echo Command – Prints a message or writes to a file:

`echo "Hello, himanshu!"`

Output: Hello, himanshu!

11. fgrep Command – Searches for an exact word or phrase in a file:

`fgrep "test-1" file1.txt`

Output: (Displays lines in file1.txt containing the exact word "test-1")

12. chmod Command – Changes file permissions:

`chmod 755 file1.txt`

Output: (No output, but document1.txt now has new permissions)

13. cp Command – Copies a file or directory:

`cp file1.txt backup.txt`

Output: (No output, but document1.txt is copied as backup_document.txt)

14. more Command – Displays file content page by page:

`more document1.txt`

Output: (Displays the contents of document1.txt one screen at a time; press Space to scroll)

15. grep Command – Searches inside files for text:

```
grep "password" file1.txt
```

Output: (Displays lines in file1.txt containing "password")

16. less Command – Similar to more, but allows backward navigation:

```
less file1.txt
```

Output: (Displays file1.txt with the ability to scroll up and down using arrow keys)

17. tail Command – Displays the last 10 lines of a file:

```
tail doc1.txt
```

Output: (Displays the last 10 lines of doc1.txt)

18. wc Command – Counts words, lines, and characters in a file:

```
wc doc1.txt
```

Output: 10 50 200 file1.txt (Shows lines, words, and characters in doc1.txt)

19. awk Command – Extracts and manipulates text in a file:

```
awk '{print $10}' doc1.txt
```

Output: (Displays the first word from each line of doc1.txt)

20. sed Command – Edits text in a file:

```
sed 's/test/example/' doc1.txt
```

Output: (Replaces the first occurrence of "test" with "example" in each line of doc1.txt)

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

1. How to navigate to a Specific Directory?

- use the cd (change directory) command followed by the directory path.
cd /path/to/directory
- Go Up One Directory Level:

cd ..

- Navigate to Your Home Directory:
cd ~
- Return to the Previous Directory:
cd -

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

- Use the -l option to list files with details:
ls -l
- Use the -a option to show hidden files:
ls -a
- Combine both options for a detailed view including hidden files:
ls -la

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

- Create multiple directories at once:
mkdir dir1 dir2 dir3
- Create nested directories:
mkdir -p parent/child/grandchild

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

- Remove multiple files at once:

`rm file1 file2 file3`

- Remove multiple files with a wildcard:
`rm *.txt`
- Remove multiple files with confirmation:
`rm -i file1 file2 file3`
- Force remove multiple files:
`rm -f file1 file2 file3`

5. Can rm be used to delete directories?

- Yes, use `rm -r` to delete directories and their contents: `rm -r directory_name`

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

- To copy a file:
`cp source.txt destination.txt`
- To copy a directory:
`cp -r source_directory/ destination_directory/`
- Copy files interactively:
`cp -i source.txt destination.txt`
- Preserve file attributes when copying:
`cp -p source.txt destination.txt`

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

- Rename a file: use the `mv` command followed by the current file name and the new file name:
`mv oldname.txt newname.txt`

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

- Move multiple files to a directory:
`mv file1.txt file2.txt /destination/`

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

- Create multiple empty files:
`touch file1.txt file2.txt file3.txt`

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

- Use cat to display multiple files:
`cat file1.txt file2.txt`
- Use more to read large files one page at a time:
`more file1.txt`

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

- Create a file and add content:
`cat > filename.txt`
- (Press Ctrl + D to save)

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

- Append contents of one file to another:
`cat source_file >> destination_file`

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

- View content with less
`cat filename.txt | less`
- View content with more:
`cat filename.txt | more`

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

- Merge file1.txt and file2.txt into merged.txt:

`cat file1.txt file2.txt > merged.txt`

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

- Append text to an existing file:
`cat >> myfile.txt`
- Press **Ctrl + D** to save and exit.

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

- `chmod 777 file.txt` → Full permissions (read, write, execute) for all users.

`chmod 777 file.txt`

- `chmod 755 file.txt` → Owner has full permissions; others can only read and execute.

`chmod 755 file.txt`

- `chmod +x file.txt` → Makes the file executable.
`chmod +x file.txt`

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

- Using `grep -c`:
`grep -c "your_pattern" your_file.txt`

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

- Use `grep -l` to list matching files:
`grep -l "pattern" *.txt`

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

- Use grep -n to show matching lines with numbers:
grep -n "pattern" file.txt

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

- you can use the caret (^) symbol
grep '^string' filename

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

- No, but you can sort in descending order using -r:
sort -r file.txt

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

- Sort a file based on the second column:
sort -k2 file.txt