Lab Assignment 2

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Aim: To study and understand Ubuntu Commands

* **PART 1- Outputs of the following commands:**

**1. pwd (Print Working Directory):**

/home/user

* Displays the current working directory.

**2. cd (Change Directory):**

cd Documents

* Changes the current directory to "Documents".
* Running cd alone takes you to the home directory.

**3. ls (List Directory Contents):**

file1.txt file2.txt Documents Downloads

* Lists files and directories in the current folder.

**4. mkdir (Make Directory):**

mkdir new\_folder

* Creates a new directory named "new\_folder".

**5. rm (Remove File/Directory):**

rm file1.txt

* Deletes "file1.txt".
* Use rm -r directory\_name to remove directories.

**6. touch (Create Empty File):**

touch newfile.txt

* Creates an empty file named "newfile.txt".

**7. hostname (Displays System Name):**

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ubuntu-pc

* Shows the hostname of the system.

**8. cat (View File Contents):**

cat file1.txt

Hello, this is a test file.

* Displays the contents of "file1.txt".

**9. chmod (Change File Permissions):**

chmod 777 file1.txt

* Grants all permissions (read, write, execute) to "file1.txt".

**10. echo (Print Text to Terminal):**

echo "Hello, World!"

Hello, World!

* Prints "Hello, World!" to the terminal.

**11. grep (Search for a Pattern in a File):**

grep "Hello" file1.txt

Hello, this is a test file.

* Searches for "Hello" in "file1.txt" and prints matching lines.

**12. fgrep (Fixed String Search):**

fgrep "Hello" file1.txt

Hello, this is a test file.

* Similar to grep but does not recognize regular expressions.

**13. mv (Move/Rename Files):**

mv file1.txt newfile.txt

* Renames "file1.txt" to "newfile.txt".

**14. cp (Copy Files):**

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cp file1.txt backup.txt

* Copies "file1.txt" to "backup.txt".

**15. more (View File Contents Page by Page):**

more largefile.txt

* Displays the contents of "largefile.txt" one page at a time.

**16. less (View File with Scrolling):**

less largefile.txt

* Opens "largefile.txt" for viewing, allowing backward and forward navigation.

**17. wc (Word Count in a File):**

wc file1.txt

5 10 50 file1.txt

* Outputs the number of lines, words, and characters in "file1.txt".

**18. awk (Pattern Scanning and Processing):**

awk '{print $1}' file.txt

Hello

This

* Prints the first word from each line of "file.txt".

**19. sed (Stream Editor for Text Manipulation):**

sed 's/Hello/Hi/g' file.txt

* Replaces "Hello" with "Hi" in "file.txt".

**20. tail (Display Last Few Lines of a File):**

tail file1.txt

* Shows the last 10 lines of "file1.txt". Use tail -n 5 file1.txt for the last 5 lines.
* **PART 2 - Answers to the following Questions:**

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**1. How to navigate to a specific directory?**

cd /path/to/directory

* Example: cd /home/user/Documents

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

ls -l

* Displays file permissions, ownership, size, and modification date.

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

mkdir dir1 dir2 dir3

* Creates three directories: dir1, dir2, and dir3.

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

rm file1.txt file2.txt file3.txt

* Deletes multiple files at once.

**5. Can rm be used to delete directories?**

rm -r directory\_name

* The -r flag allows recursive deletion of directories.

**6. How do you copy files and directories in Linux?**

cp file1.txt /destination/path/

* Copies file1.txt to the specified directory.

cp -r folder1 /destination/path/

* Copies folder1 and its contents.

**7. How to rename a file in Linux using mv command?**

mv oldname.txt newname.txt

* Renames oldname.txt to newname.txt.

**8. How to move multiple files in Linux using mv command?**

mv file1.txt file2.txt /destination/path/

* Moves multiple files to a new location.

**9. How to create multiple empty files using touch in Linux?**

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touch file1.txt file2.txt file3.txt

* Creates multiple empty files.

**10. How to view the content of multiple files in Linux?**

cat file1.txt file2.txt

* Displays contents of file1.txt and file2.txt.

**11. How to create a file and add content in Linux using cat command?**

cat > file.txt

* Type content and press Ctrl + D to save.

**12. How to append the contents of one file to another using cat?**

cat file1.txt >> file2.txt

* Appends file1.txt content to file2.txt.

**13. How to use cat if the file has too much content?**

cat file.txt | less

* Allows scrolling through long files.

**14. How to merge contents of multiple files using cat?**

cat file1.txt file2.txt > merged.txt

* Merges two files into merged.txt.

**15. How to use cat to append to an existing file?**

cat >> file.txt

* Adds new content without overwriting.

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

chmod 777 file.txt # Full permissions to everyone

chmod 755 file.txt # Owner: full, Others: read & execute

chmod +x script.sh # Adds execute permission

chmod a+x script.sh # Grants execute permission to all users

**17. How to find the number of lines that match a given string?**

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grep -c "pattern" file.txt

* Counts lines containing "pattern".

**18. How to display files that contain a given string?**

grep -l "pattern" \*.txt

* Lists files containing "pattern".

**19. How to show the line number of matched lines?**

grep -n "pattern" file.txt

* Shows line numbers of matches.

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

grep "^pattern" file.txt

* Matches lines that start with "pattern".

**21. Can the sort command sort files in descending order by default?**

sort -r file.txt

* No, by default it sorts in ascending order. Use -r for descending.

**22. How to sort a file based on a specific column?**

sort -k2 file.txt

* Sorts based on the second column.