Activity: Exploring All Possible `grep` Commands

Week 4 Topic: File and Text Management

Objective:

By the end of this activity, students should be able to:

- Use various `grep` command options for text searching.

- Understand how to refine searches using `grep` options.

Instructions:

Perform the following tasks on a Linux system and provide screenshots of your commands and outputs.

Part 1: Basic `grep` Usage

1. Create a file named `data.txt` with the following content:

```

Linux is an open-source operating system.

The grep command is used for searching text in files.

Learning Linux commands can be very useful.

File searching can be done efficiently with grep.

GREP is case-sensitive by default.

```

2. Use `grep` to search for the word **Linux** in `data.txt`.

   - Command: `grep "Linux" data.txt`

3. Search for the word **grep** in `data.txt` and display the matching line.

   - Command: `grep "grep" data.txt`

Part 2: Case-Insensitive and Exact Match Searching

4. Search for **linux** (lowercase) using a case-insensitive option.

   - Command: `grep -i "linux" data.txt`

5. Search for lines that contain only the exact word **grep**, not as part of another word.

   - Command: `grep -w "grep" data.txt`

Part 3: Filtering and Counting Matches

6. Display all lines that **do not** contain the word **Linux**.

   - Command: `grep -v "Linux" data.txt`

7. Count the number of lines that contain the word **grep**.

   - Command: `grep -c "grep" data.txt`

Part 4: Advanced `grep` Options

8. Display line numbers where **grep** appears.

   - Command: `grep -n "grep" data.txt`

9. Highlight matches using color.

   - Command: `grep --color=auto "grep" data.txt`

10. Search for multiple words (`Linux` and `grep`) at once.

   - Command: `grep -E "Linux|grep" data.txt`

11. Show only the matched word instead of the entire line.

   - Command: `grep -o "grep" data.txt`

Part 5: Searching in Multiple Files

12. Create another file named `info.txt` and add:


   ```

   Linux is widely used in servers.

   grep is a powerful text search tool.

   Many developers prefer using Linux.

   ```


13. Search for **Linux** in both `data.txt` and `info.txt`.

   - Command: `grep "Linux" data.txt info.txt`

Part 6: Searching Recursively in Directories

14. Search for **Linux** in all `.txt` files in the current directory.

   - Command: `grep -r "Linux" *.txt`

15. Search for **Linux** in all files, even hidden ones.

   - Command: `grep -r --hidden "Linux" ~/`

Submission Guidelines:

- Submit a document (PDF or Word) containing the commands and outputs.

- Include screenshots for verification.

Deadline: March 11, 2025