

# Practice Questions

Topic - “Filters in Linux”

## Multiple-Choice Questions (MCQs) –

1. What is the primary purpose of the more command in Linux?

- A) To sort text files
- B) To display text files one screen at a time
- C) To count words in a file
- D) To compare two files

**Answer: B**

2. Which command is used to count the number of lines, words, and characters in a file?

- A) sort
- B) wc
- C) uniq
- D) paste

**Answer: B**

3. What does the less command allow that the more command does not?

- A) Forward-only navigation
- B) Both forward and backward navigation in a file
- C) Sorting of text
- D) Counting words

**Answer: B**

# Practice Questions

4. Which command is used to compare two files and display the differences?

- A) wc
- B) diff
- C) sort
- D) cut

**Answer: B**

5. What is the purpose of the sort command in Linux?

- A) To display the first few lines of a file
- B) To arrange lines of text in alphabetical or numerical order
- C) To merge multiple files
- D) To count lines in a file

**Answer: B**

6. Which command is used to remove duplicate consecutive lines from a file?

- A) uniq
- B) paste
- C) cut
- D) nl

**Answer: A**

7. What does the paste command do in Linux?

- A) Compares two files
- B) Merges lines of multiple files side by side
- C) Sorts text files
- D) Counts words in a file

**Answer: B**

# Practice Questions

8. Which command is used to extract specific columns or fields from a file?

- A) sort
- B) cut
- C) uniq
- D) tee

**Answer: B**

9. What is the purpose of the nl command in Linux?

- A) To sort text files
- B) To add line numbers to a file
- C) To merge multiple files
- D) To count words in a file

**Answer: B**

10. What does the tee command do in Linux?

- A) Displays the first few lines of a file
- B) Writes output to both a file and the terminal
- C) Sorts text files
- D) Compares two files

**Answer: B**

11. Which command is used to display the first 10 lines of a file by default?

- A) head
- B) tail
- C) more
- D) less

**Answer: A**

# Practice Questions

12. What is the purpose of the tail command in Linux?

- A) To display the first few lines of a file
- B) To display the last few lines of a file
- C) To sort text files
- D) To count words in a file

**Answer: B**

13. Which command is used to translate or delete characters in a file?

- A) sort
- B) tr
- C) uniq
- D) paste

**Answer: B**

14. What is the purpose of the -r option in the sort command?

- A) To sort in ascending order
- B) To sort in descending order
- C) To sort numerically
- D) To sort alphabetically

**Answer: B**

15. Which command is used to display the differences between two files in a unified format?

- A) diff -u
- B) wc
- C) sort
- D) cut

**Answer: A**

# Practice Questions

16. What does the `cut -d',' -f2` command do in Linux?

- A) Sorts a file by the second column
- B) Extracts the second field from a comma-separated file
- C) Counts the number of lines in a file
- D) Merges two files

**Answer: B**

17. Which command is used to display a file one screen at a time with the ability to search within it?

- A) `more`
- B) `less`
- C) `wc`
- D) `sort`

**Answer: B**

18. What is the purpose of the `-c` option in the `uniq` command?

- A) To count the number of occurrences of each line
- B) To sort the file
- C) To merge multiple files
- D) To extract specific columns

**Answer: A**

19. Which command is used to convert lowercase characters to uppercase in a file?

- A) `tr 'a-z' 'A-Z'`
- B) `sort`
- C) `uniq`
- D) `paste`

**Answer: A**

# Practice Questions

20. What is the purpose of the -n 5 option in the head command?

- A) To display the last 5 lines of a file
- B) To display the first 5 lines of a file
- C) To sort the first 5 lines of a file
- D) To count the first 5 lines of a file

**Answer: B**

## Short Descriptive Questions –

1. Explain the difference between the more and less commands in Linux, with examples of their use.
2. Describe the purpose of the wc command and provide examples of how it can be used to count lines, words, and characters.
3. Discuss the role of the diff command in comparing files and provide an example of its use.
4. Explain how the sort command can be used to arrange data in ascending and descending order, with examples.
5. Describe the purpose of the uniq command and explain how it can be used to remove duplicate lines, with an example.
6. Explain the role of the paste command in merging files and provide an example of its use.
7. Discuss the purpose of the cut command and provide an example of how it can be used to extract specific fields from a file.
8. Describe the role of the tee command in Linux and provide an example of its use in a pipeline.
9. Explain how the head and tail commands can be used to display specific portions of a file, with examples.
10. Discuss the purpose of the tr command and provide examples of how it can be used to translate and delete characters.

# Practice Questions

## Long Descriptive Questions –

1. Compare and contrast the use of more, less, head, and tail commands in Linux, highlighting their strengths and weaknesses in viewing and analyzing file contents.
2. Discuss the steps involved in using filters like sort, uniq, cut, and paste to process and manipulate data in Linux, emphasizing their role in data analysis. Provide examples for each command in a pipeline.
3. Analyze the role of the diff command in comparing files and the wc command in analyzing file contents, focusing on their practical applications in system administration and scripting. Provide examples of how these commands can be used together.
4. Evaluate the challenges users face in working with Linux filters, such as handling large files, managing delimiters, and ensuring proper sorting, and suggest strategies to overcome these challenges.
5. Explain the concept of pipelines in Linux and discuss how filters like sort, uniq, cut, tee, and tr can be combined in a pipeline to process and analyze data. Provide a step-by-step plan for creating a pipeline to extract, sort, and count unique entries from a log file.

**THE END**