

Notes 9

1. grep

- Definition
 - grep (Global Regular Expression Print) searches files or input for lines that match a pattern.
- Usage / Formula
 - grep [options] "pattern" filename
- Examples
 - grep "error" logfile.txt (Search for lines containing the word "error".)
 - grep -i "warning" system.log. (Case-insensitive search.)
 - ps aux | grep "firefox".(Search running processes for "firefox".)

2. awk

- Definition
 - awk is a text-processing and pattern-scanning language used to manipulate data in lines and columns.
- Usage / Formula
 - awk 'pattern { action }' filename
- Examples
 - awk '{print \$1}' employees.txt (Print the first column.)
 - awk '/error/ {print \$0}' server.log (Print lines containing the word "error".)
 - awk -F ":" '{print \$1, \$3}' /etc/passwd (Use : as a delimiter and print specific fields.)

3. sed

- Definition
 - sed (Stream Editor) performs editing operations on text, such as replacing, deleting, or inserting lines.
- Usage / Formula
 - sed 'command' filename
- Examples
 - sed 's/apple/orange/' fruits.txt (Replace first occurrence of "apple" with "orange" on each line.)

- sed 's/error/ERROR/g' log.txt (Replace all occurrences.)
- sed '2d' data.txt (Delete line 2.)

Pipes (|)

- Definition
 - A pipe sends the output of one command as the input of another command.
- Usage / Formula
 - command1 | command2
- Examples
 - ls -l | grep ".txt" (Filter the list of files to only .txt files.)
 - cat access.log | awk '{print \$1}' (Show only the first column from a log file.)
- ps aux | grep firefox | awk '{print \$2}' (Find the process ID of Firefox.)

Saving Output to a File (>)

- Definition
 - The > operator redirects output to a file. It overwrites the file if it already exists.
- Usage / Formula
 - command > filename
- Examples
 - ls > filelist.txt
 - grep "error" server.log > errors.txt
 - df -h > disk_usage.txt

Appending Output to a File (>>)

- Definition
 - The >> operator redirects output to a file but appends instead of overwriting.
- Usage / Formula
 - command >> filename
- Examples

- echo "New log entry" >> output.log
- grep "login" auth.log >> activity_report.txt
- date >> timestamps.txt