

Assignment-4

Part-1 (Solved by group of two students or individual)

1. Write a shell script using “sed” command to take some command from a file apply that command on content of other file and display output in third file?
2. Write a shell script using “sed” command to (a) replace the word "gum" with "drum" in the first 100 lines of a file, words "apple" and "mango" in a file (b) switch the two consecutive and (c) remove the first number on line 5 in file --- and save them in new files.
3. Write a sed command to commify the numbers till thousands from a file Number.txt ? The file has numbers in multiple lines.
4. Write a sed command to displays only the first field from the /etc/passwd file.
5. Write a sed command to deletes the first line, last line and all the blank lines from input file. Also write sed command to write first and last line from an input.txt file to the output.txt file respectively.

Let we have an input file named as student-marks.

Name	ID	Marks
------	----	-------

Rohit	10 78 84	77
-------	----------	----

Virat	03 56 58	45
-------	----------	----

Dhoni	07 38	37
-------	-------	----

Sachin	05 87 97	95
--------	----------	----

Hardik	06 30	47
--------	-------	----

6. Write an awk command to check all the marks are exist in the file student-marks. Also display the name of student whose marks are missing?
7. Using awk, find the average marks and grade for every student from the file student-marks.
8. Write an awk command to concatenate every 3 lines of input file with a comma.
9. Write an awk command to execute the loop except 5th iteration while printing number from 1 to 10.
10. Write an awk command to count and display the number of fields in each line of the file student-marks.
11. Sort the data that is in human readable format say 1K, 2M, 3G, 2T, where K, M,G,T represents Kilo, Mega, Giga, Tera from the /home/user file.
12. In the example ('how;now;brown;cow') convert the semi-colon into a space and display the first, third and fourth fields on the terminal using “cut command”.
13. Using cut command write a command to change the delimiter from input delimiter : (colon) to the output delimiter # (hash) in the field location 1, 6 and 7 from the /etc/passwd file where we have pattern "/bin/bash".
14. Write a command to count number of characters in our file and save the output to new text file at the same time.

15. Write a paste command to merge 2 consecutive lines from the file student-marks into a single line.
16. Write a command using tr to squeeze the repetition of characters from a file. Also remove the character "a" from the file.
17. Write a shell script which takes input as a string on a terminal and check whether it is palindrome or not a palindrome.
18. Write a shell script to check the given year is leap year or not a leap year.
19. Write a shell script to display the list of prime number. It takes input as "How many prime numbers:" from the user. E.g.: How many prime numbers: 4 then it displays 2,3,5,7.
20. Write a shell script to reverse the input digits.
21. Write a script to generate a password of minimum length of 8. It must be alphanumeric, containing at least one upper case and one lower case character.

Part-2 (Solved by group of two students or individual)

UNIX Shell Programming

Build a menu system for new user, which allow the user to use wild cards. For all cases you make sure the user does not attempt something that will not work by implementing error checking methods. The error checking ensures that the user entering the file name must be a valid file name.

Make sure that any time the output from any command exceeds one screen of information; you break it up so that none of it scrolls off the screen before the user can read it.

Hint: Put the help display, the main menu and the three sub-menus into a total of five script files. Remember that the submenu then becomes a new process and you must ensure that the new process knows if it is in expert or novice model. You must allow the user to enter in one or more filenames also allow them to use wild cards.

I. The UNIX help main menu

The menu system will be saved as a shell script: myhelp.

myhelp without arguments

If there are no arguments, the user will be presented with the following menu on a cleared screen:

UNIX HELP MAIN MENU

1 -- File and Directory Management Commands

2 -- Text Processing Commands

3 -- System Status Commands

4 -- Exit

Enter your choice:

myhelp with one argument

The user may enter one argument with the command (considered the expert mode).
That argument will be either:

help
file
text
status

If it is argument is help, you are to clear the screen and display a short message telling the user how to use your help command. Otherwise, your script is to display the appropriate sub-menu. NOTE: The last item on each sub-menu is different based on whether help was started in the expert mode or not.

II. The File Management Commands Sub-menu

Novice Mode

FILE AND DIRECTORY MANAGEMENT COMMANDS

- 1 -- Display the contents of a file
- 2 -- Remove a file
- 3 -- Copy a file
- 4 -- List a file
- 5 -- Size of a file
- 6 -- Quit -- Return to main Menu

Enter your choice:

Expert Mode

FILE AND DIRECTORY MANAGEMENT COMMANDS

- 1 -- Display the contents of a file
- 2 -- Remove a file
- 3 -- Copy a file
- 4 -- List a file
- 5 -- Size of a file
- 6 -- Exit Program;

Enter your choice:

III. The Text Processing Commands Sub-menu

Novice Mode

TEXT PROCESSING COMMANDS

- 1 -- Search a file for a pattern
- 2 -- Count lines, words, and characters in specified files
- 3 -- Display line differences between two files
- 4 -- Quit -- Return to Main Menu

Enter your choice:

Expert Mode

TEXT PROCESSING COMMANDS

- 1 -- Search a file for a pattern
- 2 -- Count lines, words, and characters in specified files
- 3 -- Display line differences between two files
- 4 -- Quit -- Exit Program

Enter your choice:

IV. The System Status Commands Sub-menu

Novice Mode

SYSTEM STATUS COMMANDS

- 1 -- Display the current date and time
- 2 -- Current disk usage
- 3 -- List current local and environmental
- 4 -- Display process status information

- 5 -- Quit -- Return to Main Menu

Enter your choice:

Expert Mode

SYSTEM STATUS COMMANDS

- 1 -- Display the current date and time
- 2 -- Current disk usage
- 3 -- List current local and environmental
- 4 -- Display process status information

- 5 -- Exit Program

Enter your choice: