

Lab Assignment – 2

Objective: - To learn the working of VI editor and regular expressions in Linux.

Theory: - What Are Regular Expressions?

Regular expressions are symbolic notations used to identify patterns in text. In some ways, they resemble the shell's wildcard method of matching file and pathnames, but on a much grander scale. Regular expressions are supported by many commands line tools and by most programming languages to facilitate the solution of text manipulation problems. To further confuse things, not all regular expressions are the same; they vary slightly from tool to tool and from programming language to language.

VI Editor:- The default editor that comes with the UNIX operating system is called vi (visual editor). Using vi editor, we can edit an existing file or create a new file from scratch. we can also use this editor to just read a text file.

Command Mode: When vi starts up, it is in Command Mode. This mode is where vi interprets any characters we type as commands and thus does not display them in the window. This mode allows us to move through a file, and to delete, copy, or paste a piece of text. To enter into Command Mode from any other mode, it requires pressing the [Esc] key. If we press [Esc] when we are already in Command Mode, then vi will beep or flash the screen.

Insert mode: This mode enables you to insert text into the file. Everything that's typed in this mode is interpreted as input and finally, it is put in the file. The vi always starts in command mode. To enter text, you must be in insert mode. To come in insert mode you simply type i. To get out of insert mode, press the Esc key, which will put you back into command mode.

Last Line Mode(Escape Mode): Line Mode is invoked by typing a colon [:], while vi is in Command Mode. The cursor will jump to the last line of the screen and vi will wait for a command. This mode enables you to perform tasks such as saving files, executing commands.

1. Manipulating Files with Vim editor.
 - a. Opening a file (vi lab1.txt)
 - b. Entering the insert mode. (press i)
 - c. Saving the work. (:w)
 - d. Moving the cursor around (l,h,j,k)
 - e. Cutting/deleting (d), undone (u), copying (y) and pasting the text.
 - f. Search (f, /)

Final task:

Open the file Dataset1_facial_recog.txt using vi editor and perform all the operations using the above commands.

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2. Perform the following tasks that with the help of regular expressions.
 - a. List all the files in a specific directory(suppose /usr/bin) whose names contain the substring “zip”.
 - b. Search all the listed files for the string bzip.
 - c. Find the list of remaining files which were not present in the previous question
 - d. Search for any line in our files that matches the regular expression “.zip”.
 - e. Search the list of files for the string “zip” located at the beginning of the line.
 - f. Search the list of files for the string “zip” located at the end of the line.
 - g. Search the list of files for the string “zip” located at the beginning and end of the line.
 - h. Find all the words in our dictionary file that are five letters long and have a “j” in the third position and an “r” in the last position.
 - i. Find the match in any line that contains the string “bzip” or “gzip”
 - j. Find the list of files that contain the string “zip” preceded by any character except “b” or “g”.
 - k. construct a regular expression that would find every file in our lists beginning with an uppercase letter.
 - l. Get a list of files that contain the string “zip” preceded by any character except “b” or “g”.
 - m. Construct a regular expression that would find every file in our lists beginning with an uppercase letter.
 - n. Construct a regular expression that would find every file in the list with uppercase letter and integers.
 - o. Match every filename containing a dash, or an uppercase “A” or an uppercase “Z”