CS35L Software Construction Laboratory

Lab 5: Sneha Shankar
Week 2; Lecture 2

Important Points

- Assignment 2 Submission on 26th Jan

- No emails regarding submission issues will be accepted henceforth

- Use piazza !!!

sed

- Substitution Flags
  - g: Replaces all matches
  - Number: replaces only the Numberth match **of every line**

- Regexes used with sed:
  - ^ $. * []
  - Use sed –r to evaluate ? Or +

grep

- grep –E or egrep switches to a special mode so as to evaluate the expression as an extended regex.

- grep will be default search for patterns within the files.

- If you want to search for files, then cat the grep with ll or ls

Task 1: Understanding a Shell Script

- Create a file testFile.sh

- Write a statement to print "Hello World" inside it

- Run the File with 'sh testFile.sh'. What do you observe?

- Now, add #!/bin/sh to the first line and repeat the above step

- Did you see any difference?

- Why?

- Now, rename the file to testFile.txt and run it again.

- Did you see any difference?

- Why?

Task 1 contd…

- Now initialize a variable j to 1 inside the script.

- Write an infinite while loop which prints j till it becomes equal to 10.

- Exit the loop when j=11

- Run the script and observe the output.

Task 2

- Create file with following text (singers.txt):
  1, Justin Timberlake

  2, Taylor Swift

  3, Mick Jagger

  4, Lady Gaga

  5, Johnny Trash

  6, Elvis Presley

  7, John Lennon
  - Print all singers having first name as 'John'
    - Ans: sed -n '/John /p' singers.txt > john.txt
  - Change all , to) in the file
    - Ans: sed 's/,/)/' singers.txt
  - Append a fullstop to the last
    - Ans: sed 's/$/./' singers.txt

Task 3

- Create a file f1.txt with the following content

  UPPER CASE LINE

  Lower case line

  Break;

  empty LINE

  Last line

- Check for the given string 'line/LINE' in *text* files which *start with 'f'* and *end with a number.txt*

- Replace all upper case letters to lower case using tr
  – Ans: tr '[:upper:]' '[:lower:]' < f*[1-9].txt

- Repeat the same using sed
  – Ans: sed 's/.*/\L&/g' f*[1-9].txt

Task 4

- Create a file exp.txt with the following content

Name Domain Expertise

ABC Banking CR

XYZ Technology Coding

- Print only the first column

- Now change the spaces to commas

- Print the name of the person whose expertise is banking

- Now repeat the above two commands using a single command

Task 5

- Write a regex to validate an email with the following rules
  - It should start with a lower case letter only
  - It should have the domain name as gmail.com (string representation is @gmail.com)
  - Ans: ^[a-z].*@gmail\.com

Lab Assignment 2

- hwnwdseng.htm -> buildwords -> hwords

- Buildwords
  – Read from STDIN and perform work on input

- Store the output in hwords
  – E.g. cat hwnwdseng.htm | sh buildwords > hwords

Lab Assignment 2 contd…

- How to construct buildwords?
  - Extract lines which contain words (both English and Hawaiian) (Hint: <td> tag)
  - Get lines with Hawaiian words
    - Even numbered lines
  - sed 's/<[^>]*>//g' a.html to remove all HTML tags
  - Remove leading space
    - sed 's/^\s*//g'
  - Substitute space in between words to newline
  - Delete all commas
  - Delete entries which have any character other than Hawaiian
  - Sort unique