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CSC3320 Lab Assignment 4 - Part 1 (In- Lab)

Purpose: Practices on the grep family commands to process texts in files.

Open your terminal and connect to snowball server. Change your directory to your home directory (cd ~ ), and then create a new directory named as “Lab4” (mkdir Lab4). After that, go to directory Lab4 (cd Lab4) and please download the file "CSC\_Course.txt" by the following command (internet access required):

cp /home/bbello1/Public/CSC\_Course.txt CSC\_Course.txt Be sure it succeeds using “ls” to see the file name “CSC\_Course.txt” listed.

Try the following commands step by step and finish the required tasks from step 4) to step 16).

Note: marks a single space.

1) $more CSC\_Course.txt

Check the content of "CSC\_Course.txt" using more.

Note: When viewing the file, you may need to use command f (forward one screen), b (backward one screen) and q(quit).

2) $grep 'CSC 3320' CSC\_Course.txt 

Note: there is a single space between "CSC" and "3320"

Output the lines containing the string "CSC 3320"(search the course the number of which is "CSC 3320")

3) $grep -i 'CSC 3320' CSC\_Course.txt 

Output the lines containing the string "CSC 3320" via ignoring case (search the information related to CSC3320)

4) $ grep 'CSC 3' CSC\_Course.txt 

Attach a screenshot of the output and describe what this command does.

This command searches for ‘CSC 3’ in CSC\_Course.txt and prints those lines.

Graphical user interface

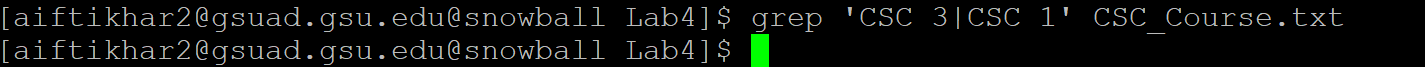
Description automatically generated with low confidence

1

5) $ grep 'CSC 3|CSC 1' CSC\_Course.txt

Attach a screenshot of the output and describe what this command does.

This command prints nothing because it is looking for ‘CSC 3|CSC 1’ which is not found in txt file.



6) $ grep -E 'CSC 3|CSC 1' CSC\_Course.txt

Attach a screenshot of the output and describe what this command does. Use extend regular expression

This command prints all lines containing either CSC 3 or CSC 1. Here, -e is extension of grep command that understands extended regular expressions.

A picture containing graphical user interface

Description automatically generated

7) $ egrep 'CSC 3|CSC 1' CSC\_Course.txt

Attach a screenshot of the output and describe what this command does.

This command prints all lines containing either CSC 3 or CSC 1. Here, egrep is extension of grep (works same as command in step6).

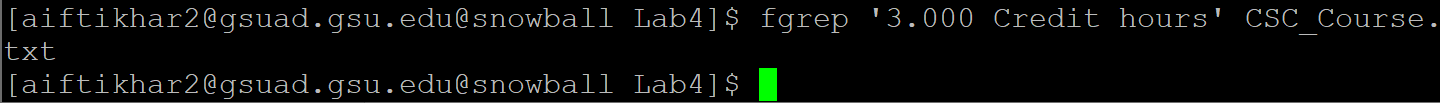
Graphical user interface, text

Description automatically generated

8) $ fgrep '3.000 Credit hours' CSC\_Course.txt

Attach a screenshot of the output and describe what this command does.

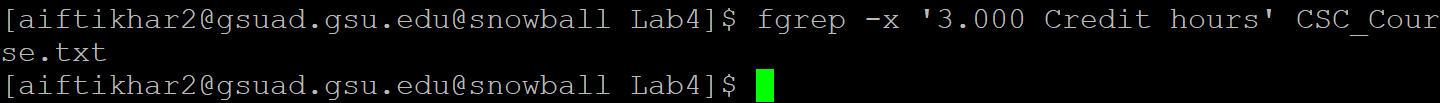
This command prints nothing, as no such string ‘3.000 Credit hours’ found.



9) $ fgrep -x '3.000 Credit hours' CSC\_Course.txt 

Attach a screenshot of the output and describe what this command does. Only match the whole line

This command prints nothing as it searches for a line containing 3.000 Credit hours only (which is not present in given txt file).



10) $ grep 'CSC.\*Programming' CSC\_Course.txt

Attach a screenshot of the output and describe what this command does.

This command searches for 'CSC.\*Programming' here \* can be any character appearing 0 to multiple times.

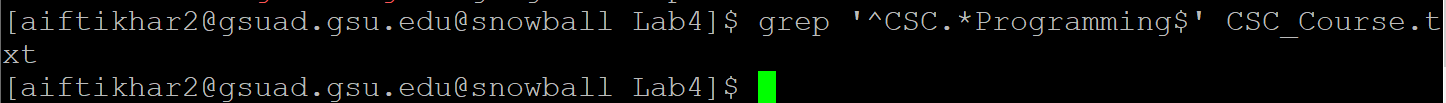
A picture containing graphical user interface

Description automatically generated

11) $ grep '^CSC.\*Programming$' CSC\_Course.txt

Attach a screenshot of the output and describe what this command does.

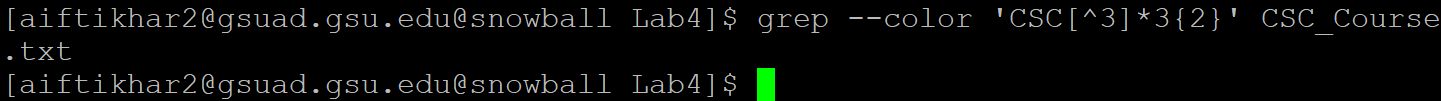
This command prints nothing as not a single line found in txt file that starts with CSC and ends with Programming.



12) $ grep --color 'CSC[^3]\*3{2}' CSC\_Course.txt

Attach a screenshot of the output and describe what this command does. No result, {} is not a special character

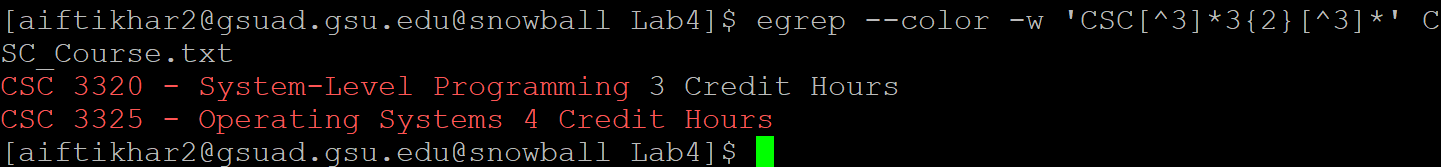
This command will not print anything as it is only capable of understanding basic regular expressions.



13) $ egrep --color -w 'CSC[^3]\*3{2}[^3]\*' CSC\_Course.txt

Attach a screenshot of the output and describe what this command does. -w Select only those lines containing matches that form whole words.

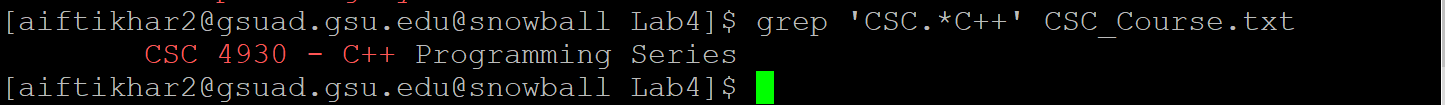
Egrep will understand extended regular expressions, and print accordingly:



14) $ grep 'CSC.\*C++' CSC\_Course.txt

Attach a screenshot of the output and describe what this command does. + is not a special character in basic regular expression

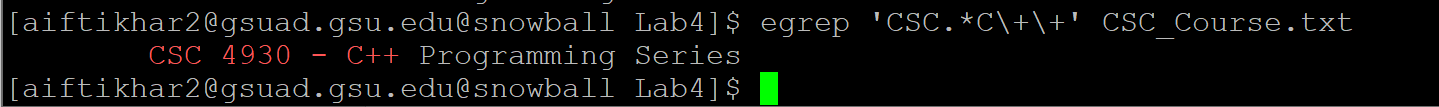
This command will print CSC (something) C++ lines.



15) $ egrep 'CSC.\*C\+\+' CSC\_Course.txt

Attach a screenshot of the output and describe what this command does. Convert +

This command works same as above. Only difference is that we used egrep instead of grep so we have to add \ with + so it is not taken as extended regular expression.



16) $ egrep 'CSC.\*C++' CSC\_Course.txt

Please only describe what this command does.

This command searches for CSC(blahblah)C(any characters, can occur multiple times).

Here, actually ++ at the end is treated as regular expression. Single + means any character can occur, one occurrence is compulsory and same character or other characters can occur multiple times.

A picture containing text

Description automatically generated

Optional Part:

1) $ sed -E -n 's/(CSC 3[0-9]{3})(.\*)/\1/p' CSC\_Course.txt

Attach a screenshot of the output and describe what this command does.

This command is actually supposed to search CSC 3(any three numbers) followed by any characters, and replace character part with nothing and print only lines which were changed (-n)

Text

Description automatically generated

2)$ awk –F'-' '/(CSC 3[0-9]{3})(.\*)/{print $1}' CSC\_Course.txt Attach a screenshot of the output and describe what this command does.

This command does nothing and gives error that invalid char space is present.

A screenshot of a computer

Description automatically generated with medium confidence

3) $ sed -E -n 's/(CSC [0-9]{4})( - )(.\*)/\3/p' CSC\_Course.txt 

Attach a screenshot of the output and describe what this command does.

This command replaces CSC (any four numbers) with nothing and print those lines who were changed.

Graphical user interface

Description automatically generated with medium confidence

4) $ sed -E -n 's/(CSC [0-9]{4})( - )(.\*)/\3/p' CSC\_Course.txt| sort 

Attach a screenshot of the output and describe what this command does.

This command in addition to previous question sorts name of programming courses and prints sorted lines.

Text

Description automatically generated