CSC3320 System Level Programming Lab

Assignment 4 - Part 1 (In- Lab)

Instructor: Bello Babatunde

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

Note: Please follow the instructions below, and write a report by answering the questions and upload the report (named as Lab4_P1_FirstNameLastName.pdf or Lab4_P1_FirstNameLastName.doc) to Google Classroom.

Please add the lab assignment NUMBER and your NAME at the top of your file sheet.

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

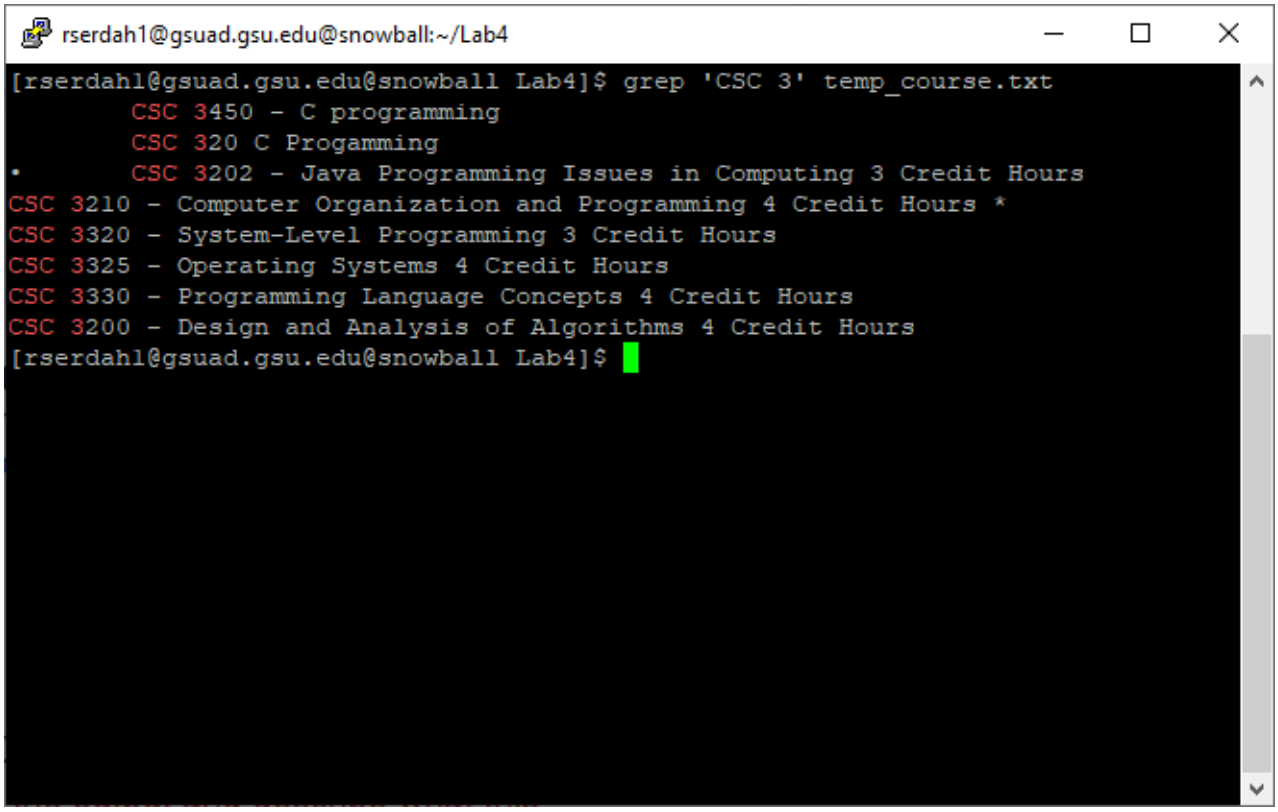
Output the lines containing the string "CSC 3320" via ignoring case (search the information related to CSC3320)

4) $ grep 'CSC 3' CSC_Course.txt

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

1

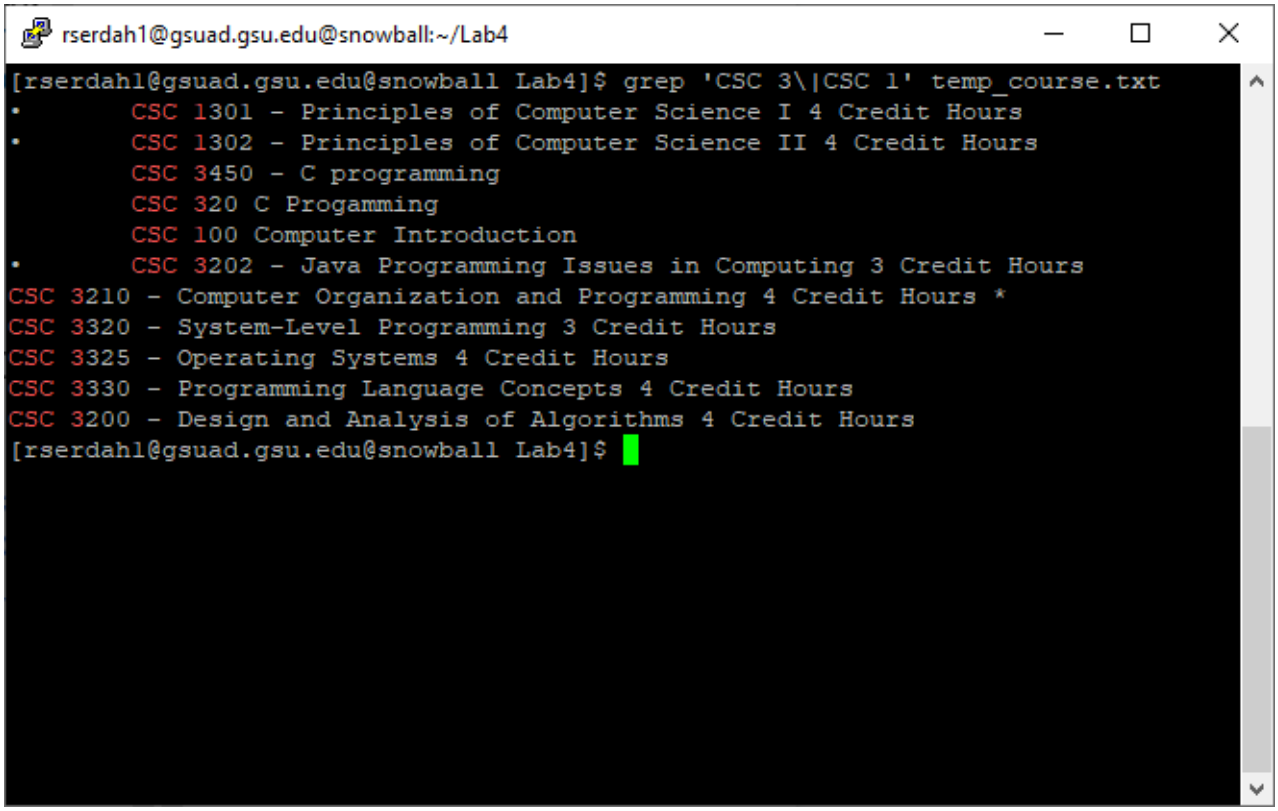
This searches the file for “CSC 3” and displays the results.



5) $ grep 'CSC 3|CSC 1' CSC_Course.txt

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

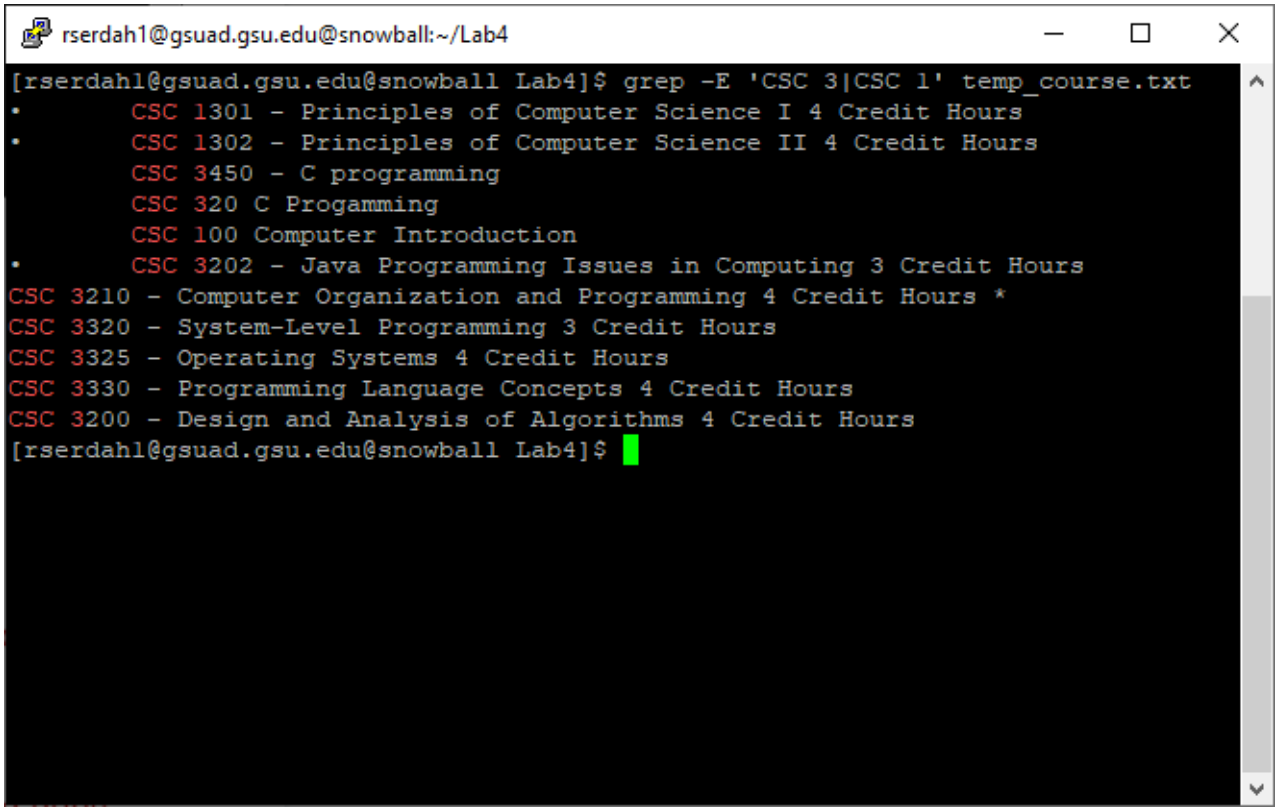
This command does not work because it needs an escape character before the pipe to allow the pipe to work. The command `grep 'CSC 3\|CSC 1' temp_course.txt` will work because of the backslash.



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

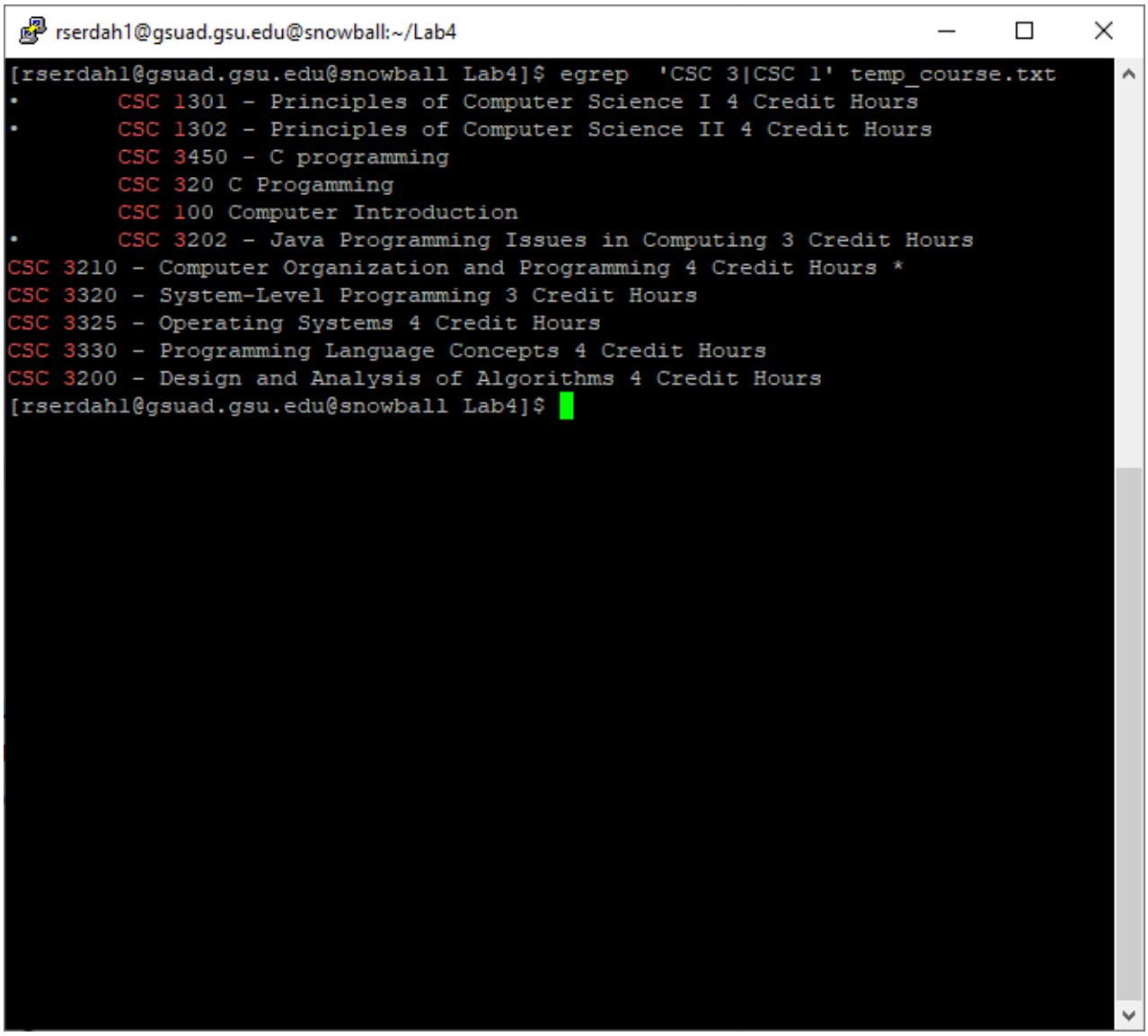
The -E parameter allows the grep command to use regular expressions in the search. It allows it to use the pipe to search two strings.



7) $ egrep 'CSC 3|CSC 1' CSC_Course.txt

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

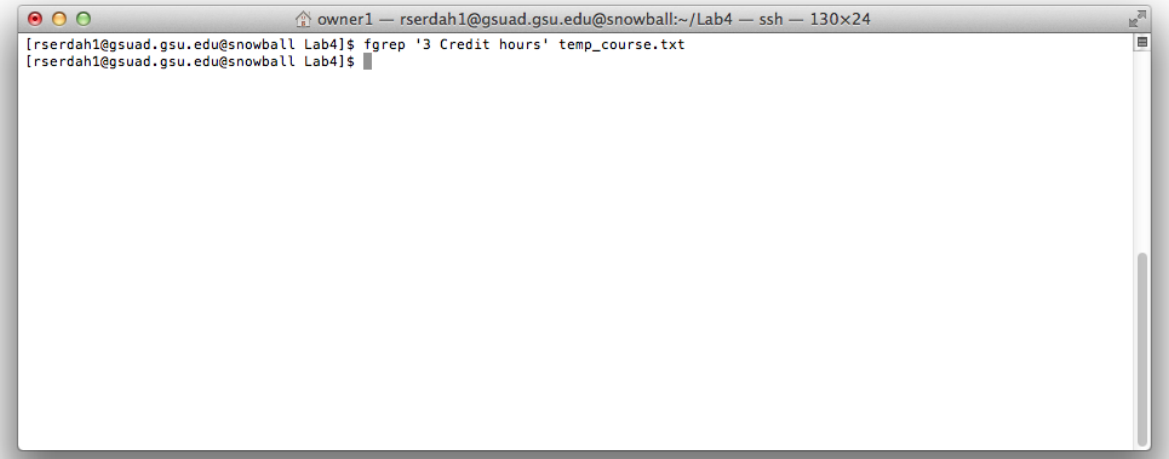
The egrep command behaves like grep with the -E parameter. It allows the search to use regular expressions like the pipe to search for two strings.



8) $ fgrep '3.000 Credit hours' CSC_Course.txt

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

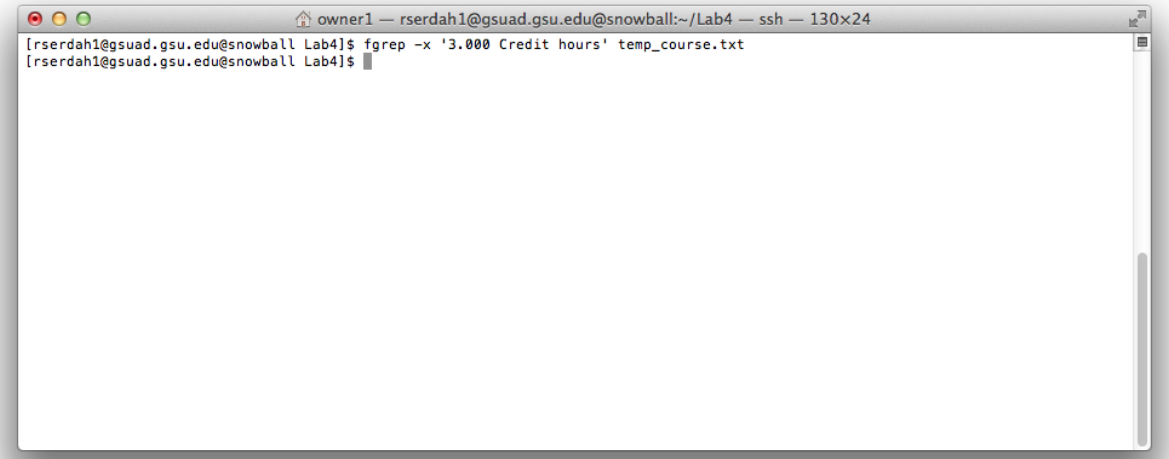
This command does not return anything because the credit hours are not formatted like this. The command fgrep is supposed to use fixed expressions and to not use regular expressions.



9) $ fgrep -x '3.000 Credit hours' CSC_Course.txt

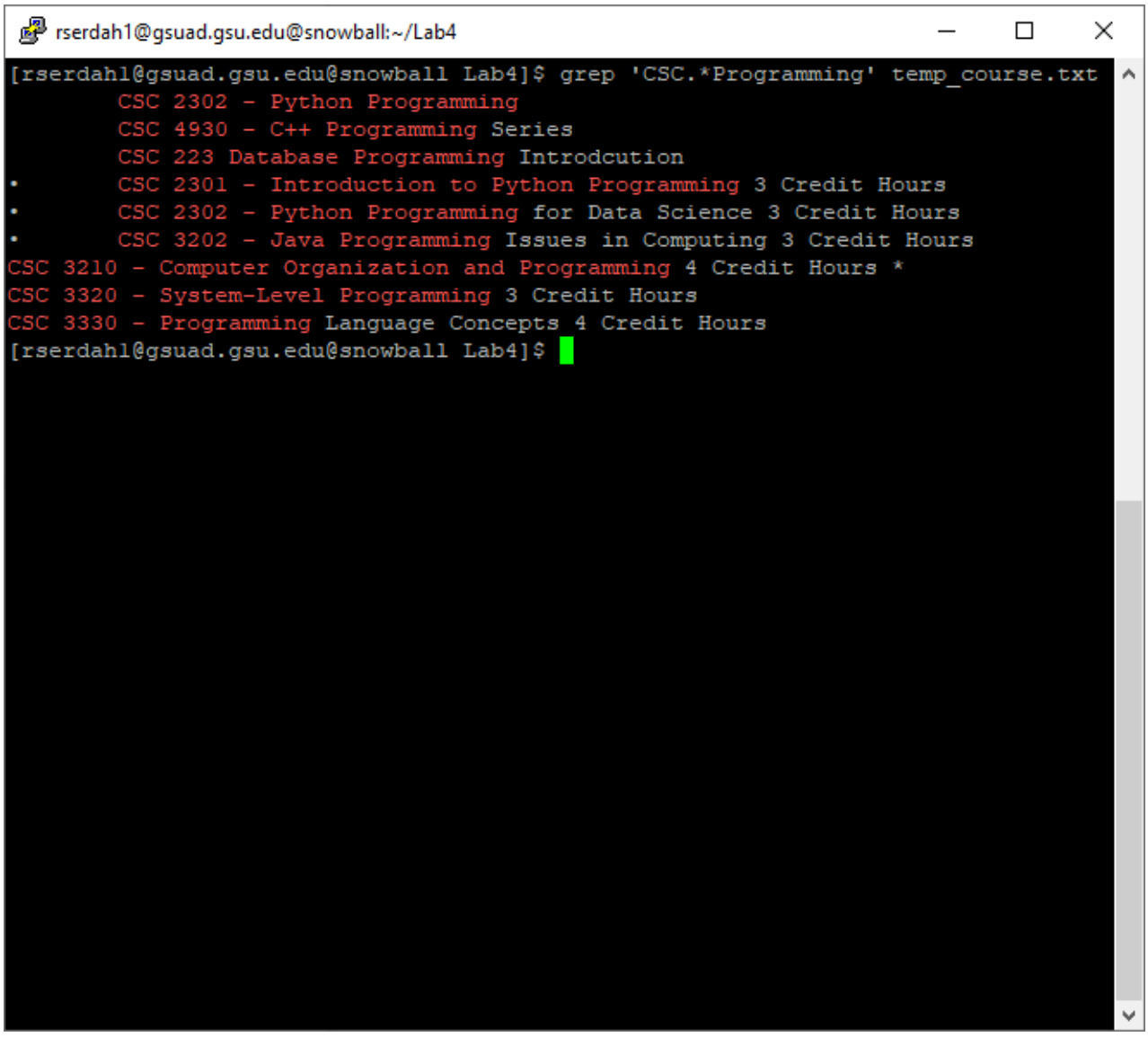
Attach a screenshot of the output and describe what this command does. Only match the whole line

This command does not return anything because the credit hours are not formatted like this. If the command omitted the -x to not match the whole like, used -i to ignore case, and searched for 3 instead of 3.000, it would return some results.



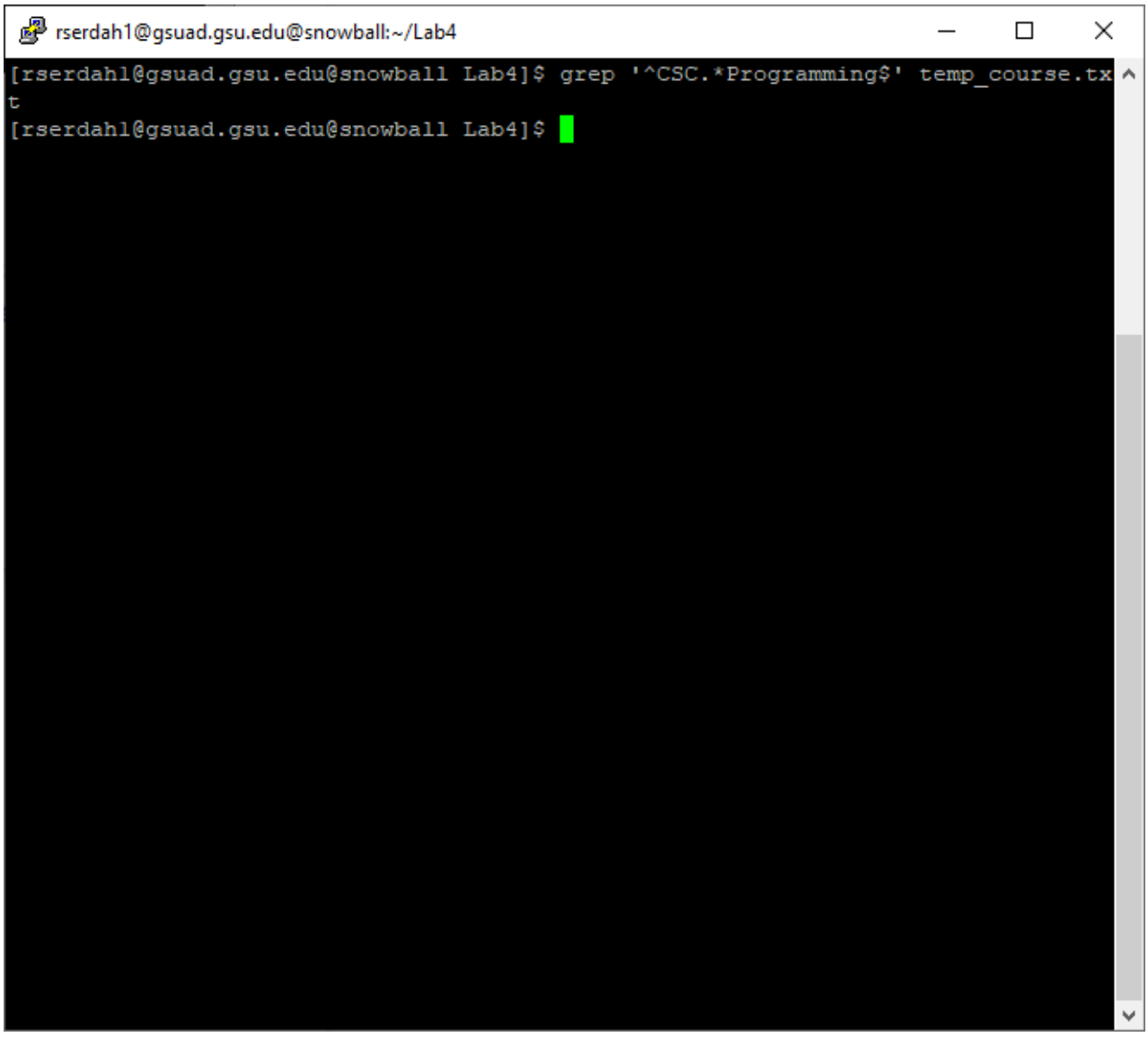
10) $ grep 'CSC.*Programming' CSC_Course.txt

This grep command uses a wildcard to search for anything that has “CSC”, any string, and then “Programming”.



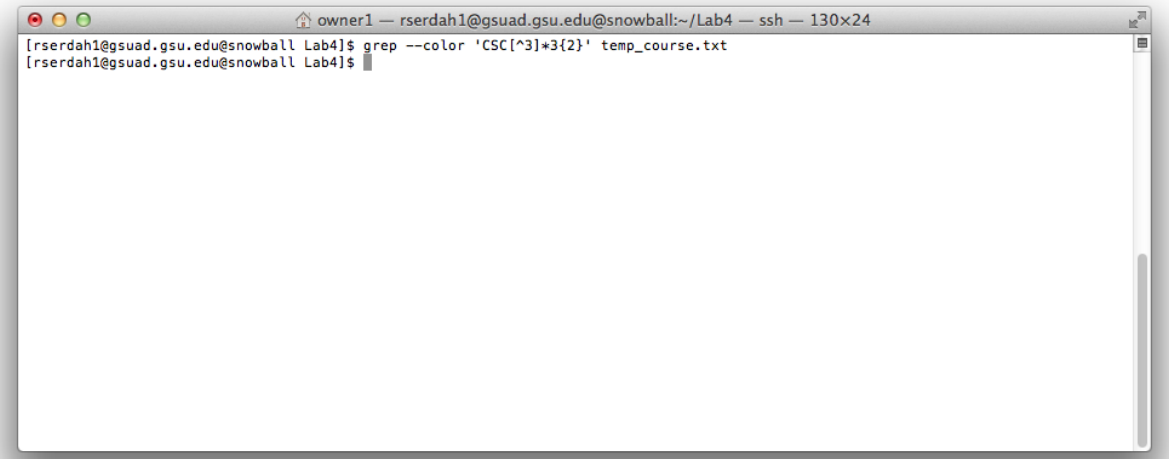
11) $ grep '^CSC.*Programming$' CSC_Course.txt

This command does not return any results. The command is supposed to search for any line that does not start with “CSC” but does end in “Programming”. It also uses a wildcard to include any string in between “CSC” and “Programming”



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

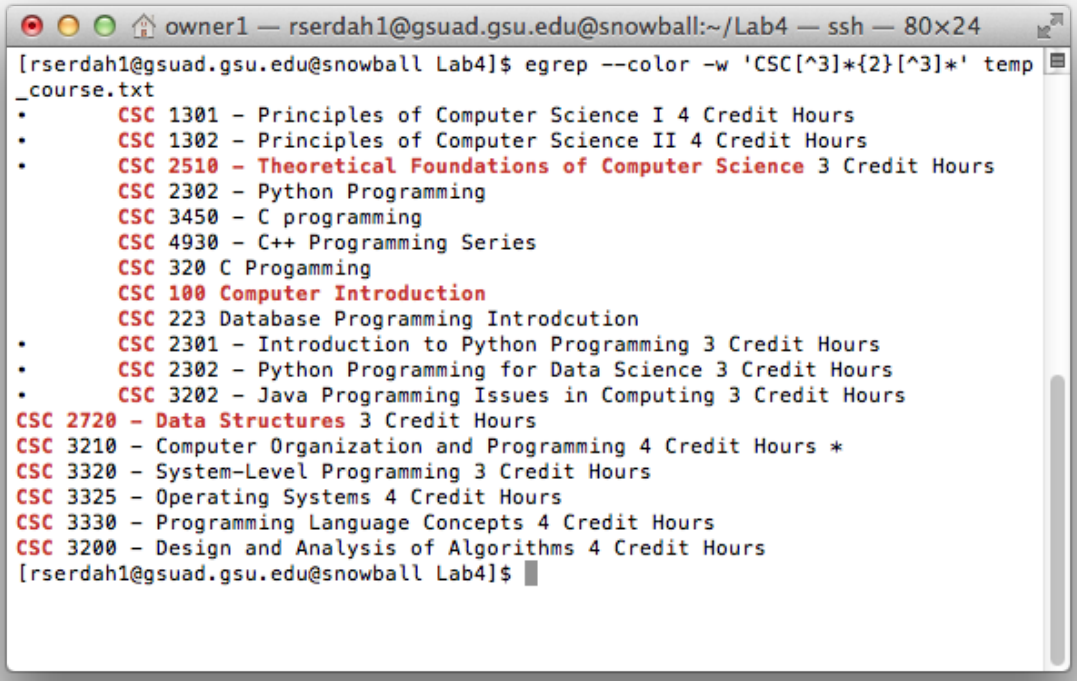
Attach a screenshot of the output and describe what this command does. No result, {} is not a special character



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.

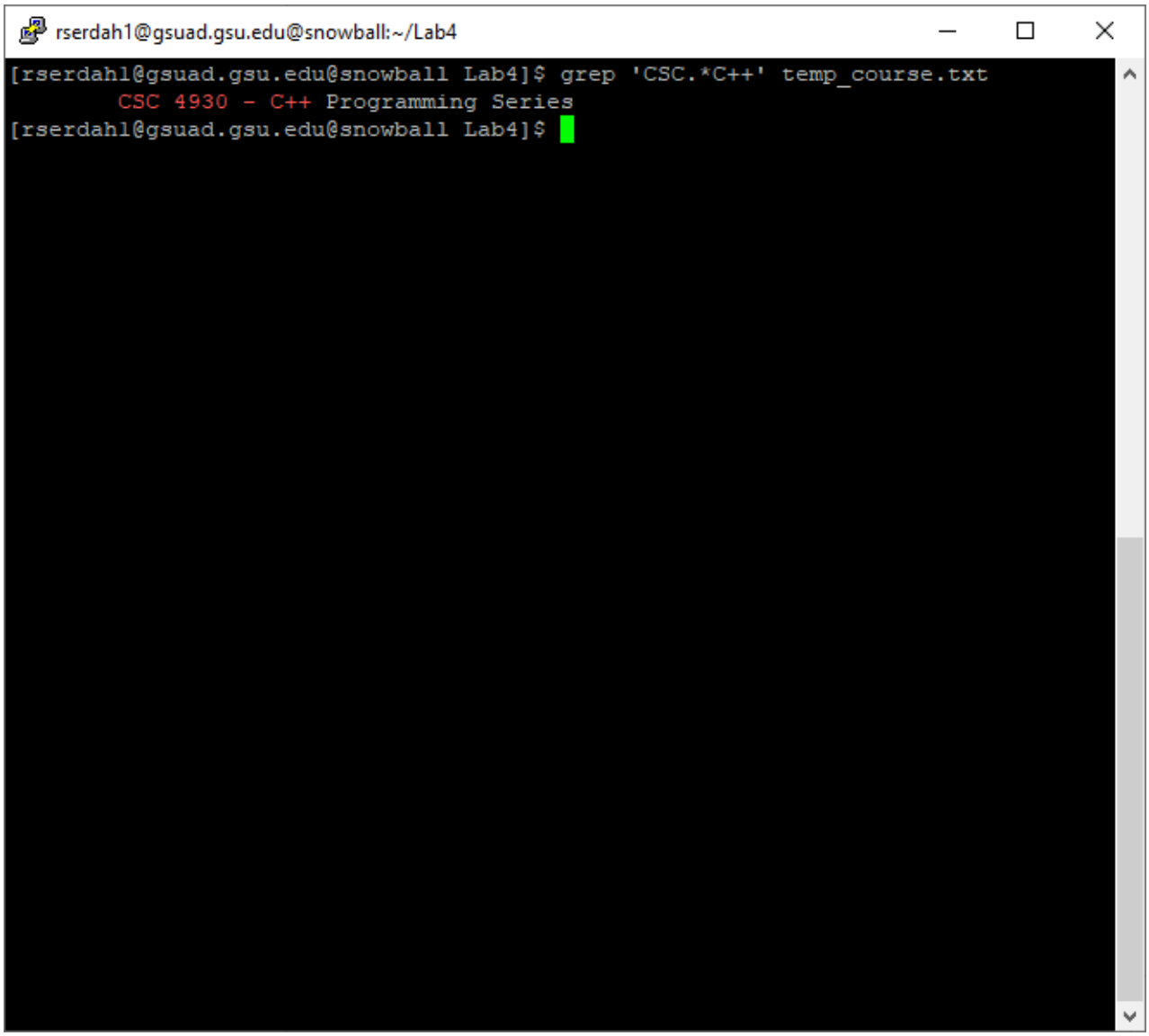
This uses -w to match whole words, [^3] to search for any course number that does not start with 3, * as a wildcard, and {2}, to match that wildcard two times.


owner1 — rserdah1@gsuad.gsu.edu@snowball:~/Lab4 — ssh — 80×24
[rserdah1@gsuad.gsu.edu@snowball Lab4]$ egrep --color -w 'CSC[^3]*{2}[^3]*' temp
_course.txt
•	CSC 1301 - Principles of Computer Science I 4 Credit Hours
•	CSC 1302 - Principles of Computer Science II 4 Credit Hours
•	CSC 2510 - Theoretical Foundations of Computer Science 3 Credit Hours
	CSC 2302 - Python Programming
	CSC 3450 - C programming
	CSC 4930 - C++ Programming Series
	CSC 320 C Progamming
	CSC 100 Computer Introduction
	CSC 223 Database Programming Introdcution
•	CSC 2301 - Introduction to Python Programming 3 Credit Hours
•	CSC 2302 - Python Programming for Data Science 3 Credit Hours
•	CSC 3202 - Java Programming Issues in Computing 3 Credit Hours
CSC 2720 - Data Structures 3 Credit Hours
CSC 3210 - Computer Organization and Programming 4 Credit Hours *
CSC 3320 - System-Level Programming 3 Credit Hours
CSC 3325 - Operating Systems 4 Credit Hours
CSC 3330 - Programming Language Concepts 4 Credit Hours
CSC 3200 - Design and Analysis of Algorithms 4 Credit Hours
[rserdah1@gsuad.gsu.edu@snowball Lab4]$

14) $ grep 'CSC.*C++' CSC_Course.txt

+ is not a special character in basic regular expression

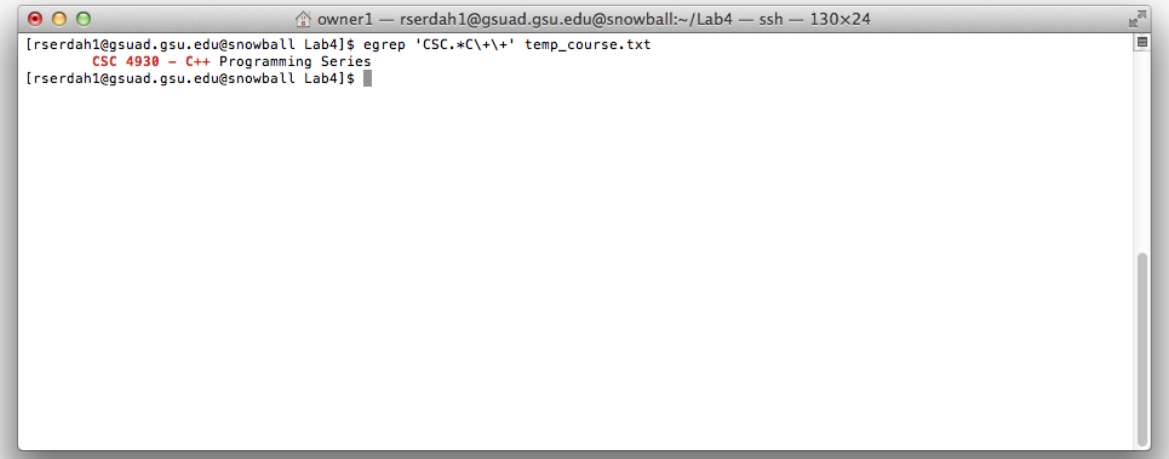
This command returns any results that contain “CSC”, any string, and then “C++”. It uses the wildcard for this.



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

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

This uses \ to escape the regular functionality of the + character in order to search for C++.



16) $ egrep 'CSC.*C++' CSC_Course.txt

This returns results but does not return any results containing C++ because the C++ in the expression searches for C, then two or more occurrences of C.