

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

### Kimani Guchu

Question 4: This command will search the file and return all the statements containing the words “CSC 3”.

```
mac — kguchu1@gsuad.gsu.edu@snowball:~/Lab4 — ssh kguchu1@snowb...
[kguchu1@gsuad.gsu.edu@snowball Lab4]$ grep 'CSC 3' CSC_Course.txt
CSC 3210      Computer Organization and Programming
CSC 3320      System-Level Programming
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3210 with a C or higher
Prerequisites CSC 3210 with grade of C or higher
Prerequisites CSC 3320 and either MATH 3020 or MATH 3030 with a C or higher
Prerequisites CSC 2720 and CSC 3320 with grades of "C" or higher.Students mu
st meet the Computer Science Major Eligibility Requirement in order to enroll
in this course
Prerequisites CSC 2720 and CSC 3320 with grades of "C" or higher
Prerequisites CSC 2720 (Data Structures) and CSC 3320 (System Level Programm
ing)
Prerequisites CSC 2720 Data Structure and CSC 3320 System-Level Programming
with grades of C or better
Prerequisites CSC 3210 Computer Organization and Programming, CSC 2720 Data
Structure
Prerequisites CSC 2720 (Data Structures) and CSC 3320 (System Level Programm
ing)
Prerequisites CSC 3210 and CSC 3320 with grades of C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 2720, CSC 3210, and CSC 3320 with a C or higher
Prerequisites CSC 2720 and CSC 3210 with grades of "C" or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with a C or higher
Prerequisites CSC 3320 with grade of "C" or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with a grade of C or higher
Prerequisites CSC 3320 with a grade of C or higher
[kguchu1@gsuad.gsu.edu@snowball Lab4]$ grep 'CSC 3|CSC 1' CSC_Course.txt
[kguchu1@gsuad.gsu.edu@snowball Lab4]$
```

Question 5. Does not produce an output because it is an improper command, ( / ) should be used instead of ( | )

```
mac — kguchu1@gsuad.gsu.edu@snowball:~/Lab4 — ssh kguchu1@snowball.cs.gsu.edu — 104x7
Prerequisites CSC 3320 with a grade of C or higher
Prerequisites CSC 3320 with a grade of C or higher
[kguchu1@gsuad.gsu.edu@snowball Lab4]$ grep 'CSC 3|CSC 1' CSC_Course.txt
[kguchu1@gsuad.gsu.edu@snowball Lab4]$ grep 'CSC 3|CSC 1' CSC_Course.txt
[kguchu1@gsuad.gsu.edu@snowball Lab4]$ grep -E 'CSC 3|CSC 1' CSC_Course.txt
CSC 1010      Computers and Applications
CSC 1301      Principles of Computer Science I
```

Question6. Searchesfileandreturnsall wordscontaining ‘CSC3’ or ‘CSC 1’.

```
mac — kguchu1@gsuad.gsu.edu@snowball:~/Lab4 — ssh kguchu1@snowball.cs.gsu.edu — 104x36
[kguchu1@gsuad.gsu.edu@snowball Lab4]$ grep -E 'CSC 3|CSC 1' CSC_Course.txt
CSC 1010      Computers and Applications
CSC 1301      Principles of Computer Science I
CSC 1302      Principles of Computer Science II
Prerequisites CSC 1301 with a "C" or higher
Prerequisites CSC 1301 or CSC 2301 with a C or higher, or permission of instructor
Prerequisites (CSC 1301 or DSCI 1301) and (MATH 1113 or MATH 2211) with a C or higher.
Prerequisites CSC 1302, MATH 2211, and CSC 2510 or MATH 2420 with grades of "C" or higher
Prerequisites CSC 1301 and CSC 1302 with a C or higher or permission of the department
CSC 3210      Computer Organization and Programming
Prerequisites CSC 1302, and CSC 2510 or MATH 2420 with A C or higher
CSC 3320      System-Level Programming
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3210 with a C or higher
Prerequisites CSC 3210 with grade of C or higher
Prerequisites CSC 3320 and either MATH 3020 or MATH 3030 with a C or higher
Prerequisites CSC 2720 and CSC 3320 with grades of "C" or higher.Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course
Prerequisites CSC 2720 and CSC 3320 with grades of "C" or higher
Prerequisites CSC 2720 (Data Structures) and CSC 3320 (System Level Programming)
Prerequisites CSC 2720 Data Structure and CSC 3320 System-Level Programming with grades of C or better
Prerequisites CSC 3210 Computer Organization and Programming, CSC 2720 Data Structure
Prerequisites CSC 2720 (Data Structures) and CSC 3320 (System Level Programming)
Prerequisites CSC 3210 and CSC 3320 with grades of C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 2720, CSC 3210, and CSC 3320 with a C or higher
Prerequisites CSC 2720 and CSC 3210 with grades of "C" or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with a C or higher
Prerequisites CSC 3320 with grade of "C" or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with a grade of C or higher
Prerequisites CSC 3320 with a grade of C or higher
[kguchu1@gsuad.gsu.edu@snowball Lab4]$
```

Question 7. Returns all phrases that contain either the term “CSC 3” or “CSC 1”.

```

[kguchui@gsuad.gsu.edu@snowball Lab4]$ egrep 'CSC 3|CSC 1' CSC_Course.txt
CSC 1010      Computers and Applications
CSC 1301      Principles of Computer Science I
CSC 1302      Principles of Computer Science II
Prerequisites CSC 1301 with a "C" or higher
Prerequisites CSC 1301 or CSC 2301 with a C or higher, or permission of instructor
Prerequisites (CSC 1301 or DSCI 1301) and (MATH 1113 or MATH 2211) with a C or higher.
Prerequisites CSC 1302, MATH 2211, and CSC 2510 or MATH 2420 with grades of "C" or higher
Prerequisites CSC 1301 and CSC 1302 with a C or higher or permission of the department
CSC 3210      Computer Organization and Programming
Prerequisites CSC 1302, and CSC 2510 or MATH 2420 with A C or higher
CSC 3320      System-Level Programming
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3210 with a C or higher
Prerequisites CSC 3210 with grade of C or higher
Prerequisites CSC 3320 and either MATH 3020 or MATH 3030 with a C or higher
Prerequisites CSC 2720 and CSC 3320 with grades of "C" or higher.Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course
Prerequisites CSC 2720 and CSC 3320 with grades of "C" or higher
Prerequisites CSC 2720 (Data Structures) and CSC 3320 (System Level Programming)
Prerequisites CSC 2720 Data Structure and CSC 3320 System-Level Programming with grades of C or better
Prerequisites CSC 3210 Computer Organization and Programming, CSC 2720 Data Structure
Prerequisites CSC 2720 (Data Structures) and CSC 3320 (System Level Programming)
Prerequisites CSC 3210 and CSC 3320 with grades of C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 2720, CSC 3210, and CSC 3320 with a C or higher
Prerequisites CSC 2720 and CSC 3210 with grades of "C" or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with a C or higher
Prerequisites CSC 3320 with grade of "C" or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with a grade of C or higher
Prerequisites CSC 3320 with a grade of C or higher
[kguchui@gsuad.gsu.edu@snowball Lab4]$

```

Question 8: No Output. would return the phrases that contain '3.000 Credit hours' is the same as grep -f. However, no such phrase is present.

Question 9.No Output. would return the lines that contain the entire string '3.000 Credit hours'. However, no such phrases are present.

```

[kguchui@gsuad.gsu.edu@snowball Lab4]$ fgrep '3.000 Credit hours' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ fgrep '3.000 Credit hours' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ fgrep -x '3.000 Credit hours' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ fgrep -x '3.000 Credit hours' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ fgrep -x '3.000 Credit hours' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ fgrep -x '3.000 Credit hours' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$

```

Question 10. Will highlights all strings beginning with the phrase "CSC" and containing the phrase "Programming" within it.

```
[[kguchui@gsuad.gsu.edu@snowball Lab4]$ grep '^CSC.+Programming' CSC_Course.txt
CSC 2301      Introduction to Python Programming
CSC 2302      Python Programming for Data Science
CSC 3210      Computer Organization and Programming
CSC 3320      System-Level Programming
CSC 4225      Internetwork Programming
CSC 4330      Programming Language Concepts
CSC 4370      Web Programming
CSC 4380      Windowing Systems Programming
CSC 4760      Big Data Programming
CSC 4840      Advanced Computer Graphics Programming
[[kguchui@gsuad.gsu.edu@snowball Lab4]$
```

Question 11. Will highlights all strings beginning with the phrase “CSC” and ending in the phrase “Programming”.

```
[[kguchui@gsuad.gsu.edu@snowball Lab4]$ grep '^CSC.+Programming$' CSC_Course.txt
CSC 2301      Introduction to Python Programming
CSC 3210      Computer Organization and Programming
CSC 3320      System-Level Programming
CSC 4225      Internetwork Programming
CSC 4370      Web Programming
CSC 4380      Windowing Systems Programming
CSC 4760      Big Data Programming
CSC 4840      Advanced Computer Graphics Programming
[[kguchui@gsuad.gsu.edu@snowball Lab4]$
```

Question 12. No Output

```
[[kguchui@gsuad.gsu.edu@snowball Lab4]$ grep --color 'CSC(^3)+3{2}' CSC_Course.txt
[[kguchui@gsuad.gsu.edu@snowball Lab4]$ egrep --color -w 'CSC(^3)+3{2}[^3]+' CSC_Course.txt
CSC 3320      System-Level Programming
Prerequisites  CSC 3320 with grade of C or higher
Prerequisites  CSC 3320 and either MATH 3020 or MATH 3030 with a C or higher
```

Question 13. Will output in a highlighted color only whole words that begin with CSC followed by two “3”s



```

[kguchui@gsuad.gsu.edu@snowball Lab4]$ egrep --color -w 'CSC[^3]*3{2}[^3]*' CSC_Course.txt
CSC 3320      System-Level Programming
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 and either MATH 3020 or MATH 3030 with a C or higher
Prerequisites CSC 2720 and CSC 3320 with grades of "C" or higher.Students must meet the Computer Scien
ce Major Eligibility Requirement in order to enroll in this course
Prerequisites CSC 2720 and CSC 3320 with grades of "C" or higher
Prerequisites CSC 2720 (Data Structures) and CSC 3320 (System Level Programming)
Prerequisites CSC 2720 Data Structure and CSC 3320 System-Level Programming with grades of C or bette
Prerequisites CSC 2720 (Data Structures) and CSC 3320 (System Level Programming)
Prerequisites CSC 3210 and CSC 3320 with grades of C or higher
Prerequisites CSC 3320 with grade of C or higher
CSC 4330      Programming Language Concepts
Prerequisites CSC 2720, CSC 3210, and CSC 3320 with a C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with a C or higher
Prerequisites CSC 3320 with grade of "C" or higher
Prerequisites CSC 3320 with grade of C or higher
Prerequisites CSC 3320 with a grade of C or higher
Prerequisites CSC 3320 with a grade of C or higher
[kguchui@gsuad.gsu.edu@snowball Lab4]$

```

Question 14. No Output. Searches for file that contains phrase that starts with “CSC” and ends with “C++”

```

[kguchui@gsuad.gsu.edu@snowball Lab4]$ grep --color 'CSC[^3]*3{2}[^3]*' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ grep 'CSC.*C++' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ grep 'CSC.*C++' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ grep 'CSC.*C++' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ egrep 'CSC.*C\+\+' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ egrep 'CSC.*C\+\+' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$

```

Question 15. No Output searches file for phrases that begin with “CSC” and end with “C++”

```

[kguchui@gsuad.gsu.edu@snowball Lab4]$ grep --color 'CSC[^3]*3{2}[^3]*' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ grep 'CSC.*C++' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ grep 'CSC.*C++' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ grep 'CSC.*C++' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ egrep 'CSC.*C\+\+' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$ egrep 'CSC.*C\+\+' CSC_Course.txt
[kguchui@gsuad.gsu.edu@snowball Lab4]$

```

Question 16.

Will search the file and output the highlighted extended pattern that contains phrases that start with “CSC” and end with the letter C.