

Jamie Lopez

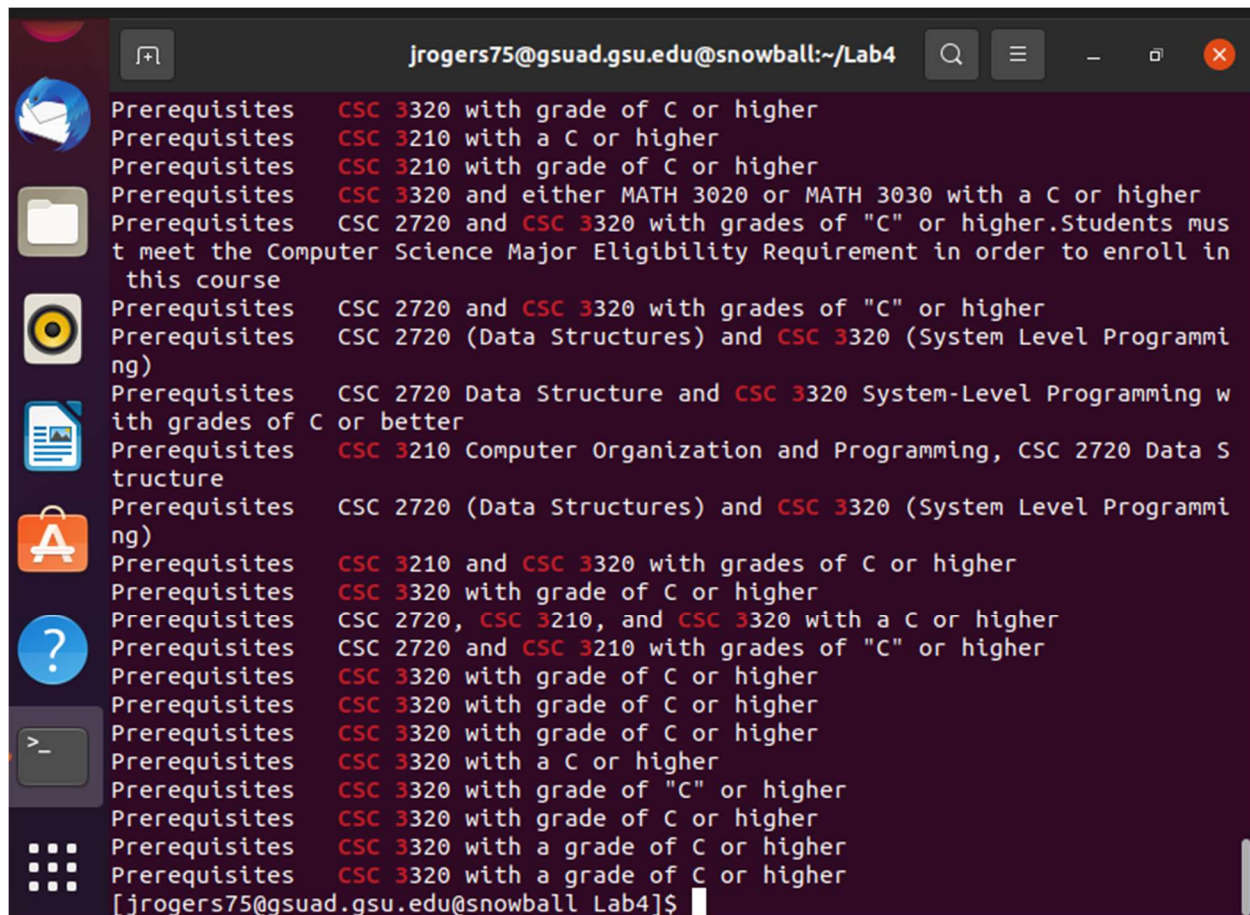
CSC3320 Lab 4

Due: 2/6/2021

CRN 11173

Lab 4 – Practice with grep family commands to process text in files

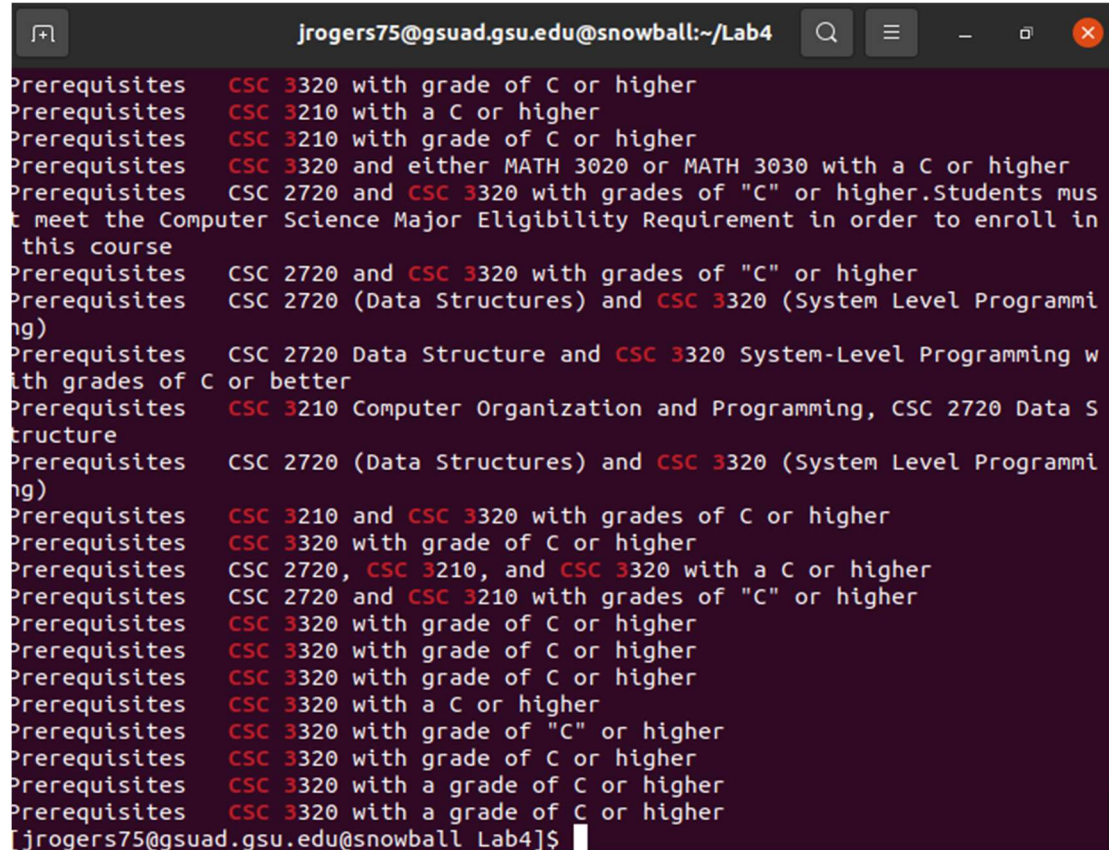
4) This command displays (outputs) all the lines with the string “CSC 3” in them from the file CSC_Course.txt.

A terminal window titled "jrogers75@gsuad.gsu.edu@snowball:~/Lab4" with a search bar and window controls. The terminal displays the output of a grep command, showing lines from a file where the string "CSC 3" is present. The output is as follows:

```
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 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
[jrogers75@gsuad.gsu.edu@snowball Lab4]$
```

5) N/A - The pipe (|) is an extended metacharacter that should be treated as an extended metacharacter.

6) The command returned the lines that had strings CSC 3 or CSC 1 once the '-E' was added:



```
jrogers75@gsuad.gsu.edu@snowball:~/Lab4
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
jrogers75@gsuad.gsu.edu@snowball Lab4]$
```

7) This command returns lines with strings of CSC 3 or CSC 1

```
[jrogers75@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 S
```

8) N/A - as instructed during lab time

9) N/A – as instructed during lab time

10) This command returns all lines with strings 'CSC' and 'Programming'. Everything between those two strings is highlighted.

```
.txt
grep: CSC.Course.txt: No such file or directory
[jrogers75@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
Prerequisites CSC 2720 (Data Structures) and CSC 3320 (System Level Programmi
ng)
CSC 4225      Internetwork Programming
Prerequisites CSC 2720 Data Structure and CSC 3320 System-Level Programming w
ith grades of C or better
Prerequisites CSC 3210 Computer Organization and Programming, CSC 2720 Data S
tructure
Prerequisites CSC 2720 (Data Structures) and CSC 3320 (System Level Programmi
ng)
CSC 4330      Programming Language Concepts
CSC 4370      Web Programming
CSC 4380      Windowing Systems Programming
CSC 4760      Big Data Programming
Students must meet the Computer Science Major Eligibility Requirement in order
to enroll in this course. Crosslisted with CSC 6760. This course will cover the
technologies, tools, frameworks and languages that are most commonly used in B
ig Data Programming. Focus will be on algorithms for analyzing and mining massi
ve datasets, graphs and social network data. Topics include the storage, manage
ment, processing and analysis of massive datasets, as well as Big Data governan
ce, security, and privacy issues.
CSC 4840      Advanced Computer Graphics Programming
[jrogers75@gsuad.gsu.edu@snowball Lab4]$
```

11) This command returns the lines that start with 'CSC' and end with 'Programming' due to the characters ^ and \$ that are included in the command.

```
Prerequisites    CSC 2720 Data Structure and CSC 3320 System-Level Programming w
ith grades of C or better
Prerequisites    CSC 3210 Computer Organization and Programming, CSC 2720 Data S
tructure
Prerequisites    CSC 2720 (Data Structures) and CSC 3320 (System Level Programmi
ng)
CSC 4330         Programming Language Concepts
CSC 4370         Web Programming
CSC 4380         Windowing Systems Programming
CSC 4760         Big Data Programming
Students must meet the Computer Science Major Eligibility Requirement in order
to enroll in this course. Crosslisted with CSC 6760. This course will cover the
technologies, tools, frameworks and languages that are most commonly used in B
ig Data Programming. Focus will be on algorithms for analyzing and mining massi
ve datasets, graphs and social network data. Topics include the storage, manage
ment, processing and analysis of massive datasets, as well as Big Data governan
ce, security, and privacy issues.
CSC 4840         Advanced Computer Graphics Programming
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ grep '^CSC.*Programming$' CSC_Course.t
xt
CSC 2301         Introduction to Python Programming
CSC 3210         Computer Organization and Programming
CSC 3320         System-Level Programming
CSC 4225         Internetwork Programming
CSC 4370         Web Programming
CSC 4380         Windowing Systems Programming
CSC 4760         Big Data Programming
CSC 4840         Advanced Computer Graphics Programming
[jrogers75@gsuad.gsu.edu@snowball Lab4]$
```

12) N/A – In the expression, curly brackets ({}) are used within the single quotes but should not be unless a backslash (\) precedes each bracket.

13) This command returns lines that include CSC, no 3, any number of any characters, 33, and other characters.

```
.txt
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ egrep --color -w 'CSC[^3]*3{2}[^3]*' C
SC_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 mus
t 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 Programmi
ng)
Prerequisites CSC 2720 Data Structure and CSC 3320 System-Level Programming w
ith grades of C or better
Prerequisites CSC 2720 (Data Structures) and CSC 3320 (System Level Programmi
ng)
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
[jrogers75@gsuad.gsu.edu@snowball Lab4]$
```

14) N/A - No output was given because the character '+' is not a defined special character for basic regular expressions. If a backslash (\) was directly preceding each + symbol, it would list an output.

15) N/A – No output was given because the backslash was included but the command egrep was used. The command would need to be grep or the backslashes should be removed to make this work with the + symbols.

16) This command returns lines with 'CSC' and has one or more character 'C' in the same line.

Optional Part:

1) This command returns a list that end with an s, then has string 'CSC' followed by a '3' and 3 more numbers in the range of 0-9.

```
CSC 4982      Undergraduate Research in Computer Science
CSC 4995      Directed Readings B.I.S.-CTW
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC 3[0-9]{3})(.*)/\1/p'
CSC_Course.txt
CSC 3210
CSC 3320
Prerequisites CSC 3320
Prerequisites CSC 3210
Prerequisites CSC 3210
Prerequisites CSC 3320
Prerequisites CSC 2720 and CSC 3320
Prerequisites CSC 2720 and CSC 3320
Prerequisites CSC 2720 (Data Structures) and CSC 3320
Prerequisites CSC 2720 Data Structure and CSC 3320
Prerequisites CSC 3210
Prerequisites CSC 2720 (Data Structures) and CSC 3320
Prerequisites CSC 3210
Prerequisites CSC 3320
Prerequisites CSC 2720, CSC 3210
Prerequisites CSC 2720 and CSC 3210
Prerequisites CSC 3320
Prerequisites CSC 3320
Prerequisites CSC 3320
Prerequisites CSC 3320
Prerequisites CSC 3320
Prerequisites CSC 3320
Prerequisites CSC 3320
Prerequisites CSC 3320
[jrogers75@gsuad.gsu.edu@snowball Lab4]$
```


2) This command prints the first column of lines with the data found by the search which was CSC 3320 and any characters after that.

```
CSC 3320      System
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
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
[jrogers75@gsuad.gsu.edu@snowball Lab4]$
```

3) Command didn't work as listed in the assignment. There was no data to match the part of (-). I was able to get the command to pull up using (,) instead. Screenshot attached.

```
/p' CSC_Course.txt
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC [0-9]{4})( -)(.*)/\3
/p' CSC_Course.txt
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC [0-9]{4})(*-*)(.*)/\3
3/p' CSC_Course.txt
sed: -e expression #1, char 30: Invalid preceding regular expression
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC [0-9]{4})( )(.*)/\3
/p' CSC_Course.txt
sed: -e expression #1, char 29: Unmatched ( or \(
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC [0-9]{4})( \()(.*)/\3
3/p' CSC_Course.txt
Prerequisites Data Structures) and CSC 3320 (System Level Programming)
Prerequisites Data Structures) and CSC 3320 (System Level Programming)
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC [0-9]{4})( \()(.*)/\3
3/p' CSC_Course.txt
Prerequisites Data Structures) and CSC 3320 (System Level Programming)
Prerequisites Data Structures) and CSC 3320 (System Level Programming)
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC [0-9]{4})( - )(.*)/\3
3/p' CSC_Course.txt
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC [0-9]{4})( , )(.*)/\3
/p' CSC_Course.txt
Prerequisites MATH 2211, and CSC 2510 or MATH 2420 with grades of "C" or high
er
Prerequisites and CSC 2510 or MATH 2420 with A C or higher
Prerequisites CSC 3210, and CSC 3320 with a C or higher
Prerequisites BIOL 1103K, [or BIOL 1103 and BIOL 1103L] and CHEM 1211K [or CH
EM 1211 and CHEM 1211L] with grades of "C" or higher.Students must meet the Com
puter Science Major Eligibility Requirement in order to enroll in this course
[jrogers75@gsuad.gsu.edu@snowball Lab4]$
```

4) Made the same adjustment as #3 to this command. Data was found using (,) instead of (-).

```
Prerequisites Data Structures) and CSC 3320 (System Level Programming)
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC [0-9]{4})( - )(.*)/\3/p' CSC_Course.txt
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC [0-9]{4})(, )(.*)/\3/p' CSC_Course.txt
Prerequisites MATH 2211, and CSC 2510 or MATH 2420 with grades of "C" or higher
er
Prerequisites and CSC 2510 or MATH 2420 with A C or higher
Prerequisites CSC 3210, and CSC 3320 with a C or higher
Prerequisites BIOL 1103K, [or BIOL 1103 and BIOL 1103L] and CHEM 1211K [or CHEM 1211 and CHEM 1211L] with grades of "C" or higher.Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course
[jrogers75@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC [0-9]{4})(, )(.*)/\3/p' CSC_Course.txt|sort
Prerequisites and CSC 2510 or MATH 2420 with A C or higher
Prerequisites BIOL 1103K, [or BIOL 1103 and BIOL 1103L] and CHEM 1211K [or CHEM 1211 and CHEM 1211L] with grades of "C" or higher.Students must meet the Computer Science Major Eligibility Requirement in order to enroll in this course
Prerequisites CSC 3210, and CSC 3320 with a C or higher
Prerequisites MATH 2211, and CSC 2510 or MATH 2420 with grades of "C" or higher
er
[jrogers75@gsuad.gsu.edu@snowball Lab4]$
```