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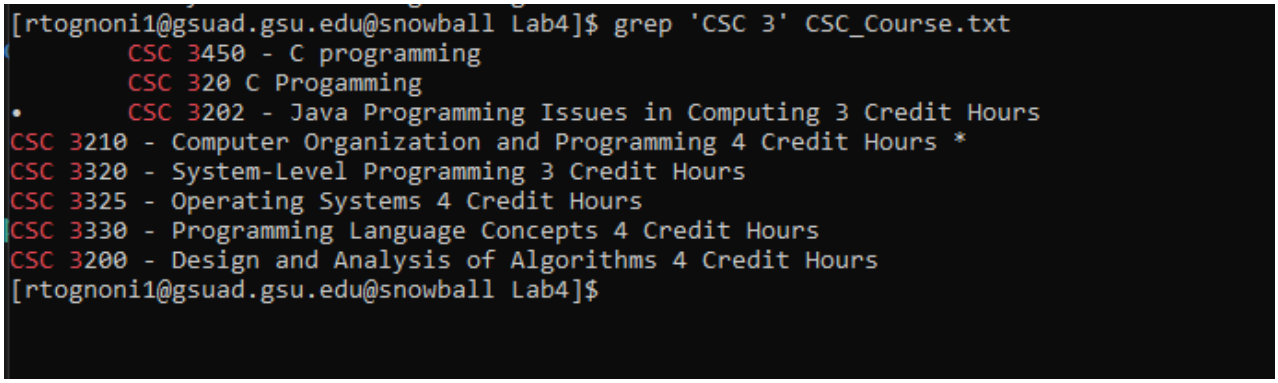
CSC3320 System Level Programming Lab Assignment 4 - Part 1

(In-Lab)

4) $ grep 'CSC 3' CSC_Course.txt

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

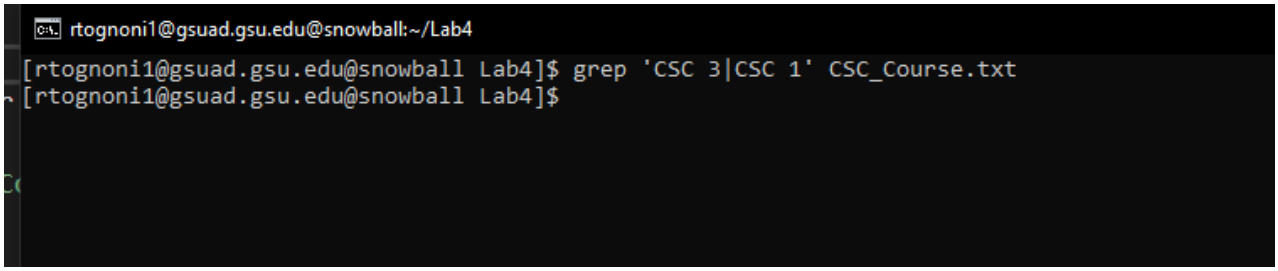



**ANSWER:** This command will use grep to search for any lines in the file containing the phrase “CSC 3” in any context.



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

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




**ANSWER:** This command will search lines for the exact text “'CSC 3|CSC 1”

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

```
rtognoni1@gsuad.gsu.edu@snowball:~/Lab4
[rtognoni1@gsuad.gsu.edu@snowball Lab4]$ grep -E 'CSC 3|CSC 1' CSC_Course.txt
•       CSC 1301 - Principles of Computer Science I 4 Credit Hours
•       CSC 1302 - Principles of Computer Science II 4 Credit Hours
        CSC 3450 - C programming
        CSC 320 C Progamming
        CSC 100 Computer Introduction
•       CSC 3202 - Java Programming Issues in Computing 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
[rtognoni1@gsuad.gsu.edu@snowball Lab4]$
```

**Answer:** Will search each line for the text “CSC 3” OR “CSC 1” using an extended regex string.

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

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

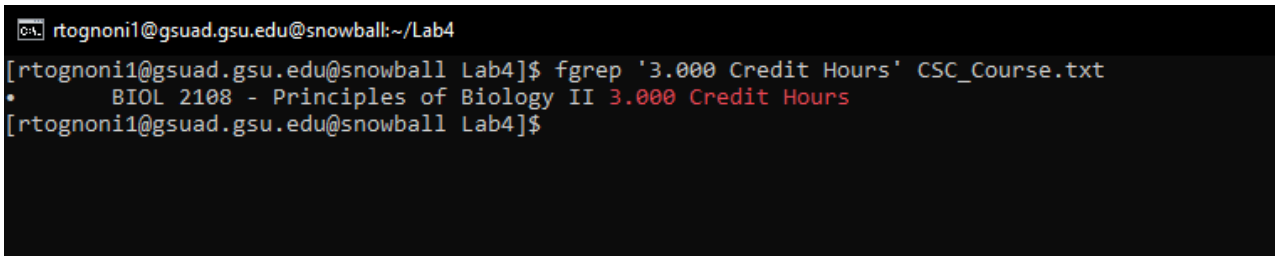
```
rtognoni1@gsuad.gsu.edu@snowball:~/Lab4
[rtognoni1@gsuad.gsu.edu@snowball Lab4]$ egrep 'CSC 3|CSC 1' CSC_Course.txt
•       CSC 1301 - Principles of Computer Science I 4 Credit Hours
•       CSC 1302 - Principles of Computer Science II 4 Credit Hours
        CSC 3450 - C programming
        CSC 320 C Progamming
        CSC 100 Computer Introduction
•       CSC 3202 - Java Programming Issues in Computing 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
[rtognoni1@gsuad.gsu.edu@snowball Lab4]$
```

**Answer:** Will search each line for the text “CSC 3” OR “CSC 1” using an

extended regex string. This is the same as #6. egrep is a legacy version of grep -E.

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

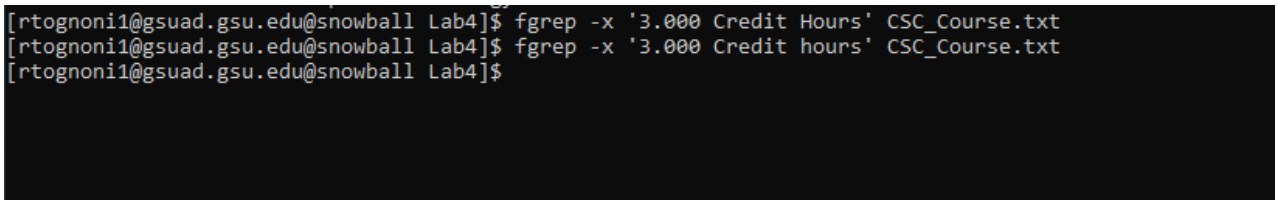
Attach a screenshot of the output and describe what this command does.




**Answer:** Will search for a fixed string '3.000 Credit Hours' in the file. Does not register regex strings.

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

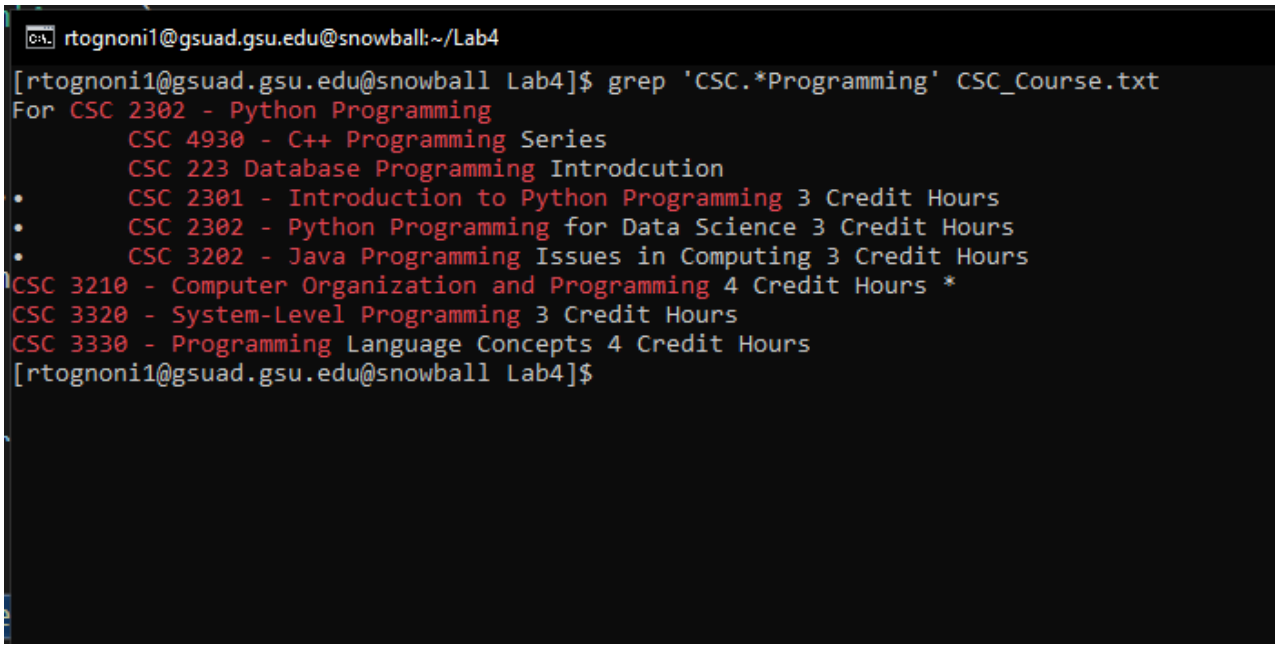
Attach a screenshot of the output and describe what this command does. Only match the whole line




**Answer:** Will search for a fixed string '3.000 Credit Hours' in the file but only if it is the entire line. There were no instances of this in the provided file.

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

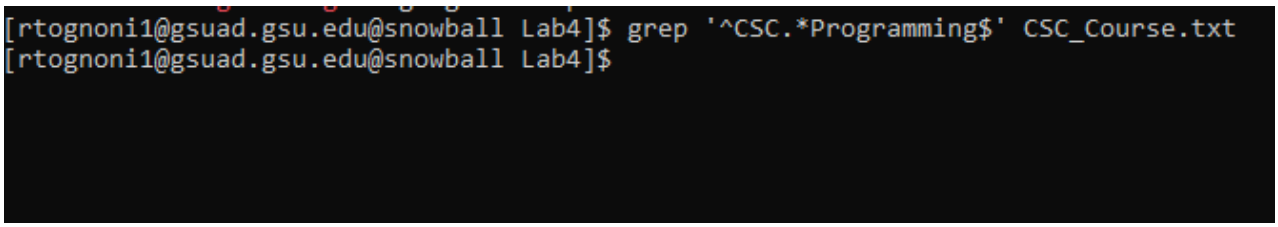
Attach a screenshot of the output and describe what this command does.




**Answer:** Will for the regex 'CSC.*Programming' in the file which will match the text "CSC" with any number of any character followed by "Programming"

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

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




**Answer:** Will search for the text starting with CSC and following #10 and ending in "Programming". There are no lines that match this text.

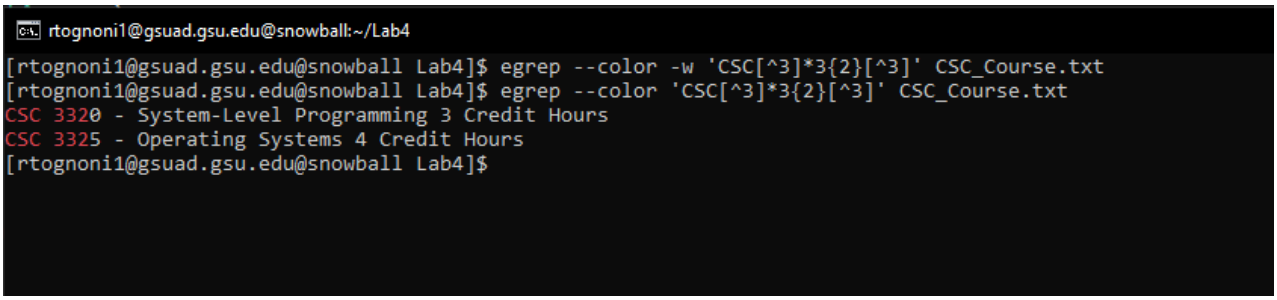
12) $ grep --color 'CSC[^3]*3{2}' CSC_Course.txt

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


**ANSWER:** Text 'CSC' matched to (not the character 3) zero or more times followed the characters '3{2}' (not extended regex)

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

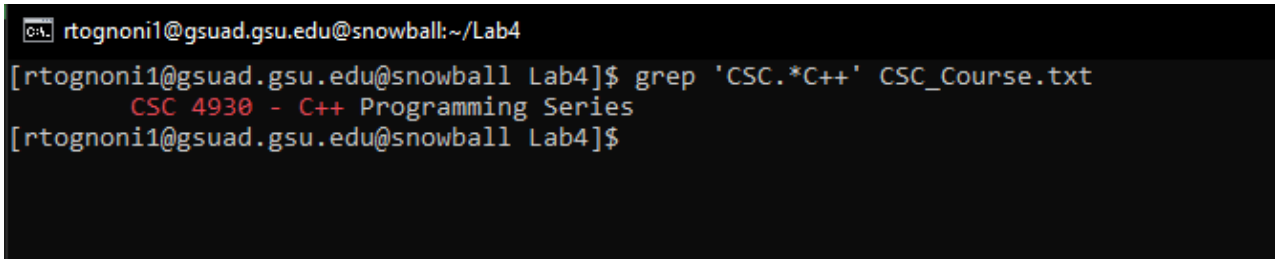
Attach a screenshot of the output and describe what this command does. -w Select only those lines containing matches that form whole words.




**ANSWER:** Text 'CSC' matched to (not the character 3) zero or more times followed by character 3 exactly two times followed by any character that is not '3'. -w matches whole words only, no items show up in this case. Removing -w produces two matches.

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




**ANSWER:** Text 'CSC' followed by zero or more of any character followed by "C++"

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

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

```
rtognoni1@gsuad.gsu.edu@snowball:~/Lab4
[rtognoni1@gsuad.gsu.edu@snowball Lab4]$ egrep 'CSC.*C\+\+' CSC_Course.txt
        CSC 4930 - C++ Programming Series
[rtognoni1@gsuad.gsu.edu@snowball Lab4]$
```

**ANSWER:** Same as #14 but uses extended regex version of “+” which is “\+”

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

Please only describe what this command does.

```
[rtognoni1@gsuad.gsu.edu@snowball Lab4]$ egrep 'CSC.*C++' CSC_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 3450 - C programming
        CSC 4930 - C++ Programming Series
        CSC 320 C Progamming
        CSC 100 Computer Introduction
•       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
[rtognoni1@gsuad.gsu.edu@snowball Lab4]$
```

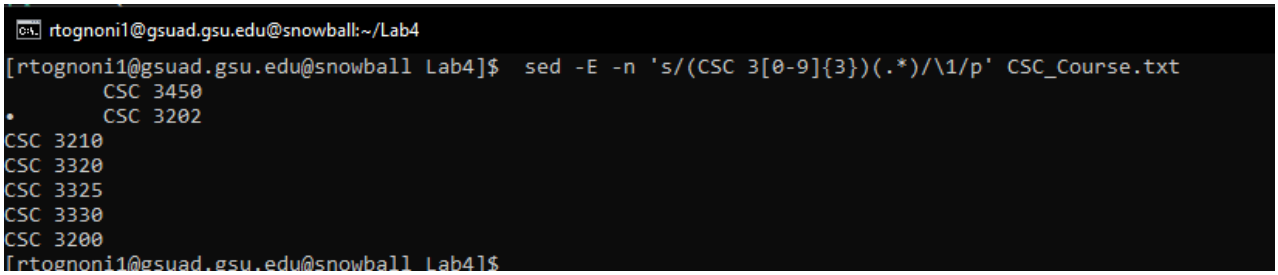
**ANSWER:** Text ‘CSC’ followed by zero or more of any character followed by the character ‘C’ matched one or more times using extended regex character “+”.



# Optional Part:

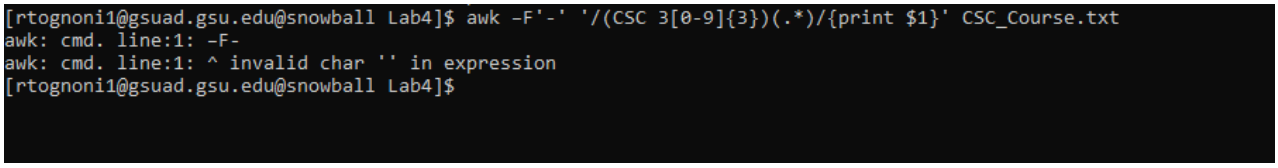
1) $ sed -E -n 's/(CSC 3[0-9]{3})(.*)/\1/p' CSC_Course.txt

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




Produces list of text CSC followed by 3 and numbers 0-9 three times

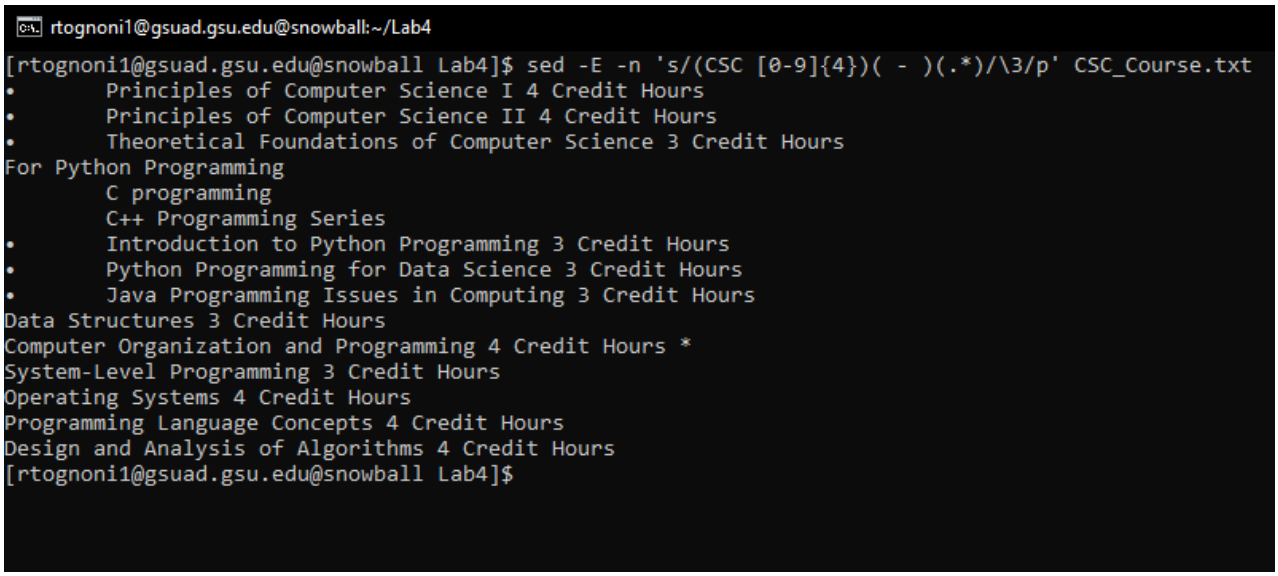
2)$ awk –F'-' '/(CSC 3[0-9]{3})(.*)/{print $1}' CSC_Course.txt Attach a screenshot of the output and describe what this command does.




Produces an error.

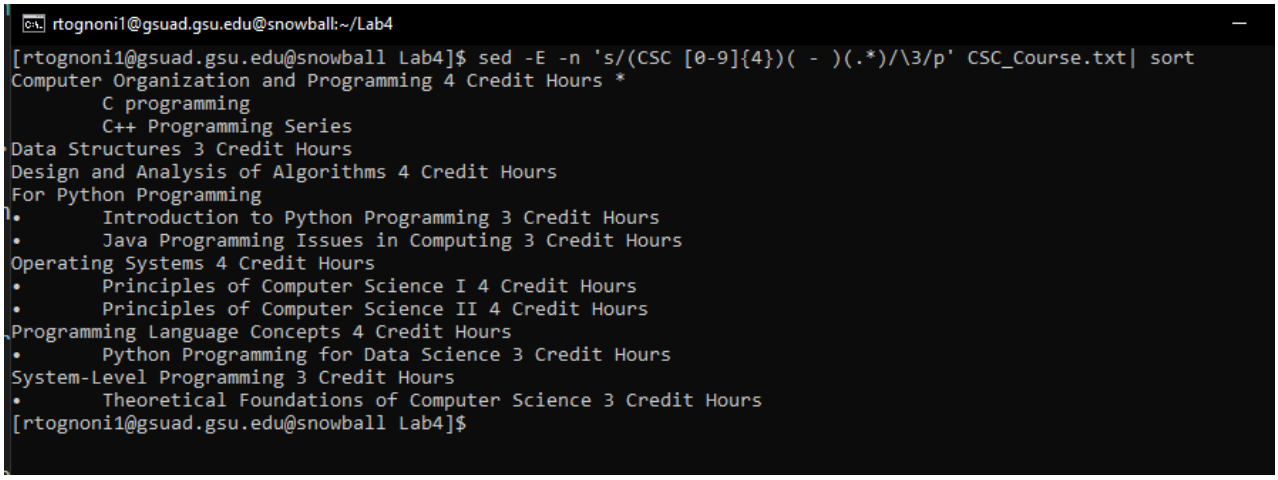
3) $ sed -E -n 's/(CSC [0-9]{4})( - )(.*)/\3/p' CSC_Course.txt

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




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.


rtognoni1@gsuad.gsu.edu@snowball:~/Lab4
[rtognoni1@gsuad.gsu.edu@snowball Lab4]$ sed -E -n 's/(CSC [0-9]{4})( - )(.*)/\3/p' CSC_Course.txt| sort
Computer Organization and Programming 4 Credit Hours *
C programming
C++ Programming Series
Data Structures 3 Credit Hours
Design and Analysis of Algorithms 4 Credit Hours
For Python Programming
• Introduction to Python Programming 3 Credit Hours
• Java Programming Issues in Computing 3 Credit Hours
Operating Systems 4 Credit Hours
• Principles of Computer Science I 4 Credit Hours
• Principles of Computer Science II 4 Credit Hours
Programming Language Concepts 4 Credit Hours
• Python Programming for Data Science 3 Credit Hours
System-Level Programming 3 Credit Hours
• Theoretical Foundations of Computer Science 3 Credit Hours
[rtognoni1@gsuad.gsu.edu@snowball Lab4]$