**CSc 3320: Systems Programming**

Spring 2021

Homework

# 2: Total points 100

Submission instructions:

1. Create a Google doc for each homework assignment submission.
2. Start your responses from page 2 of the document and copy these instructions on page 1.
3. Fill in your name, campus ID and panther # in the fields provided. If this information is missing in your document TWO POINTS WILL BE DEDUCTED per submission.
4. Keep this page 1 intact on all your submissions. If this *submissions instructions* page is missing in your submission TWO POINTS WILL BE DEDUCTED per submission.
5. Each homework will typically have 2-3 PARTS, where each PART focuses on specific topic(s).
6. Start your responses to each PART on a new page.
7. If you are being asked to write code copy the code into a separate txt file and submit that as well.
8. If you are being asked to test code or run specific commands or scripts, provide the evidence of your outputs through a screenshot and copy the same into the document.
9. Upon completion, download a .PDF version of the document and submit the same.

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**Part 1:**

1. grep: This command will output anywhere that the word is in the file, highlighting only the word that was entered with the command. **grep ‘string’ filename** will output the word string anywhere it is located in the file.

egrep: This will output the entire string that contains the word/string entered with the command. **egrep “string” filename** will output any whole line that contains the word string.

fgrep: This command will look for the exact string and output the line with the string entered, highlighted. **fgrep “c@s” filename** will output the line that contains this string and highlight c@s

1. **tar**

Compress: tar -czvf directoryname

Decompress: tar -cxvf directoryname

Compress multiple files into single: tar -czvf directory1 directory2 directory3

1. **awk**

Separator: \t

awk -F “\t” ‘{print $1 | $2}’ filename

1. Sort command will look through the contents of each line and output it in a specific order.

**Part 2a:**

1. **Hello World!!!**
2. This goes through each line and prints out the 5th item of each line

This will print the first item of each line that is equal or greater than 5

This will print the current line

This will print the first item of every line

1. **Good**
2. **/\+$/{print $0}**
3. 1,5d

head -n-5

**Part 2b:**

1. **Function:** In the file h1.awk (**$ cat h1.awk**), using the command **NR > 2 && NR<4{print  NR  ":" $0 $ awk '/.\*ing/ {print NR  ":"  $1}' float** it will navigate to the line the command has specified and will print that line.

**Output:** When everything seemed so clear.

1. **Function:** This function will print the first item in the line that contains the phrase ‘ing’.

**Output:** 1: Wish 3: When 4: Now

1. **Function:** This will print the first item of each line followed by a separator and then followed by the last item in the line.

**Output:** Wish, strong. And, days. When, clear. Now, all…

1. **Function:** This will substitute the spaces in the lines with tab.

**Output:** Wish I was floating in blue across the sky, my imagination is strong, And I often visit the days When everything seemed so clear. Now I wonder what I'm doing here at all...

1. **Function:** The output is used to be the input for the next command, and searches for matching ‘BEGIN’ and adds color, and then prints the current line and output is printed to shell.

**Output:** h1.awk h2.awk

BEGIN {print “Start to scan file”}

1. **Function:** This will create a test directory that contains subdirectories test1 and test2. Then, it creates a text file name test.txt under the directory and it will then create backup files with .bak.

**Part 3:**

