

Dileep Reddy
Professor Ashok
CSC 3320
September 2021

Lab 4 Out-of-Lab

1) Use grep to print all lines where the mountains are at Towns or Union

```
[[dreddy2@gsuad.gsu.edu@snowball ~]$ grep --color -E "(Towns|Union)" mountainList.txt ]
Brasstown Bald, (summit),4784,feet,Union County
Hightower Bald, (summit),4568,feet,Towns County
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
Blood Mountain, (summit),4458,feet,Union County
Tray Mountain, (summit), 4430,feet,Towns County
Slaughter Mountain, (summit),4338,feet,Union County
Coosa Bald, (summit),4280,feet,Union County
```

2) Use wc and grep to count the number of mountains located at Rabun County.

```
[[dreddy2@gsuad.gsu.edu@snowball ~]$ grep "Rabun" mountainList.txt | wc -l ]
4
```

3) Finish task 2) by using only grep.

```
[[dreddy2@gsuad.gsu.edu@snowball ~]$ grep "Rabun" mountainList.txt -c ]
4
```

4)

A) Type command sed 's/ridge high point/r.h.p./p' mountainList.txt and execute it. Then attach a screenshot of the output.

```
[[dreddy2@gsuad.gsu.edu@snowball ~]$ sed 's/ridge high point/r.h.p./p' mountainList.txt ]
Brasstown Bald, (summit),4784,feet,Union County
Rabun Bald, (summit),4696,feet,Rabun County
Dick's Knob, (summit),4620,feet,Rabun County
Hightower Bald, (summit),4568,feet,Towns County
Wolfpen Ridge, (r.h.p.),4561,feet,Towns and Union
Wolfpen Ridge, (r.h.p.),4561,feet,Towns and Union
Counties
Blood Mountain, (summit),4458,feet,Union County
Tray Mountain, (summit), 4430,feet,Towns County
Grassy Ridge, (r.h.p.),4420,feet,Rabun County
Grassy Ridge, (r.h.p.),4420,feet,Rabun County
Slaughter Mountain, (summit),4338,feet,Union County
Double Spring Knob, (summit),4280,feet,Rabun County
Coosa Bald, (summit),4280,feet,Union County
```

B) Type command sed -n 's/ridge high point/r.h.p./p' mountainList.txt and execute it. Then attach a screenshot of the output.

```
[[dreddy2@gsuad.gsu.edu@snowball ~]$ sed -n 's/ridge high point/r.h.p./p' mountainList.txt ]
Wolfpen Ridge, (r.h.p.),4561,feet,Towns and Union
Grassy Ridge, (r.h.p.),4420,feet,Rabun County
```

C) Open the manual page of sed and describe what does -n do in sed?

The description given for -n by man sed is

-n, --quiet, --silent

suppress automatic printing of pattern space

The default behavior of sed is to print each line after the given commands have been applied to that line. This is seen in the output of command 4A where the lines on which the command operates have been printed twice, first by the command given and then by the default behavior of sed. -n suppresses this as seen in command 4B

D) Describe what does the sed command in (B) do?

-n means to suppress the default printing of each line. s/ridge high point/r.h.p replaces each occurrence of “ridge high point” with “r.h.p”. /p prints each line where the substitution has occurred

5) Use sed to remove the leading spaces in “mountainList.txt” and print out the processed lines.

```
[dreddy2@gsuad.gsu.edu@snowball ~]$ sed -n 's/^\s*//p' mountainList.txt
Brasstown Bald, (summit),4784,feet,Union County
Rabun Bald, (summit),4696,feet,Rabun County
Dick's Knob, (summit),4620,feet,Rabun County
Hightower Bald, (summit),4568,feet,Towns County
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
Counties
Blood Mountain, (summit),4458,feet,Union County
Tray Mountain, (summit), 4430,feet,Towns County
Grassy Ridge, (ridge high point),4420,feet,Rabun County
Slaughter Mountain, (summit),4338,feet,Union County
Double Spring Knob, (summit),4280,feet,Rabun County
Coosa Bald, (summit),4280,feet,Union County
```

6) Finish task 5) and save the output to file “newList.txt”.

```
Brasstown Bald, (summit),4784,feet,Union County
Rabun Bald, (summit),4696,feet,Rabun County
Dick's Knob, (summit),4620,feet,Rabun County
Hightower Bald, (summit),4568,feet,Towns County
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
Counties
Blood Mountain, (summit),4458,feet,Union County
Tray Mountain, (summit), 4430,feet,Towns County
Grassy Ridge, (ridge high point),4420,feet,Rabun County
Slaughter Mountain, (summit),4338,feet,Union County
Double Spring Knob, (summit),4280,feet,Rabun County
Coosa Bald, (summit),4280,feet,Union County
~
~
~
~
"newList.txt" 12L, 554C                               12,1           All
```

7) Use sed to list the lines beginning with white spaces in “mountainList.txt”.

```
[dreddy2@gsuad.gsu.edu@snowball ~]$ sed -n '/^\s./p' mountainList.txt
    Brasstown Bald, (summit),4784,feet,Union County
        Hightower Bald, (summit),4568,feet,Towns County
        Blood Mountain, (summit),4458,feet,Union County
        Grassy Ridge, (ridge high point),4420,feet,Rabun County
```

8) Use sed to delete the lines where the mountains are only at Union County in “mountainList.txt”.

```
[dreddy2@gsuad.gsu.edu@snowball ~]$ sed '/Union County/d' mountainList.txt
Rabun Bald, (summit),4696,feet,Rabun County
Dick's Knob, (summit),4620,feet,Rabun County
        Hightower Bald, (summit),4568,feet,Towns County
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
Counties
Tray Mountain, (summit), 4430,feet,Towns County
        Grassy Ridge, (ridge high point),4420,feet,Rabun County
Double Spring Knob, (summit),4280,feet,Rabun County
```

9) Use sed to remove the middle three fields in each line of “mountainList.txt”.

```
[dreddy2@gsuad.gsu.edu@snowball ~]$ sed -r 's/,[^,]*,[^,]*,[^,]*,/,/g' mountainList.txt
    Brasstown Bald,Union County
Rabun Bald,Rabun County
Dick's Knob,Rabun County
        Hightower Bald,Towns County
Wolfpen Ridge,Towns and Union
Counties
        Blood Mountain,Union County
Tray Mountain,Towns County
        Grassy Ridge,Rabun County
Slaughter Mountain,Union County
Double Spring Knob,Rabun County
Coosa Bald,Union County
```

10) Use awk to finish task 9).

```
[dreddy2@gsuad.gsu.edu@snowball ~]$ awk -F, '{ print $1","$5 }' mountainList.txt
Brasstown Bald,Union County
Rabun Bald,Rabun County
Dick's Knob,Rabun County
Hightower Bald,Towns County
Wolfpen Ridge,Towns and Union
Counties,
Blood Mountain,Union County
Tray Mountain,Towns County
Grassy Ridge,Rabun County
Slaughter Mountain,Union County
Double Spring Knob,Rabun County
Coosa Bald,Union County
```

11) Use sed to insert a new line "Table: Eleven highest mountains in Georgia" at the beginning of "mountainList.txt".

```
[dreddy2@gsuad.gsu.edu@snowball ~]$ sed '1i\Table\ : Eleven Highest Mountains in Georgia' mountainList.txt
Table: Eleven Highest Mountains in Georgia
Brasstown Bald, (summit),4784,feet,Union County
Rabun Bald, (summit),4696,feet,Rabun County
Dick's Knob, (summit),4620,feet,Rabun County
Hightower Bald, (summit),4568,feet,Towns County
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
Counties
Blood Mountain, (summit),4458,feet,Union County
Tray Mountain, (summit), 4430,feet,Towns County
Grassy Ridge, (ridge high point),4420,feet,Rabun County
Slaughter Mountain, (summit),4338,feet,Union County
Double Spring Knob, (summit),4280,feet,Rabun County
Coosa Bald, (summit),4280,feet,Union County
```

12) Use sort to print out the sorted lines in alphabetical order according to the names of mountains.

```
[dreddy2@gsuad.gsu.edu@snowball ~]$ sort -b mountainList.txt
Blood Mountain, (summit),4458,feet,Union County
Brasstown Bald, (summit),4784,feet,Union County
Coosa Bald, (summit),4280,feet,Union County
Counties
Dick's Knob, (summit),4620,feet,Rabun County
Double Spring Knob, (summit),4280,feet,Rabun County
Grassy Ridge, (ridge high point),4420,feet,Rabun County
Hightower Bald, (summit),4568,feet,Towns County
Rabun Bald, (summit),4696,feet,Rabun County
Slaughter Mountain, (summit),4338,feet,Union County
Tray Mountain, (summit), 4430,feet,Towns County
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
```

13) Use sort to print out the sorted lines in descending order according to the height of mountains.

```
[dreddy2@gsuad.gsu.edu@snowball ~]$ sort -k 3 -t, -r -b mountainList.txt
Brasstown Bald, (summit),4784,feet,Union County
Rabun Bald, (summit),4696,feet,Rabun County
Dick's Knob, (summit),4620,feet,Rabun County
Hightower Bald, (summit),4568,feet,Towns County
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
Blood Mountain, (summit),4458,feet,Union County
Tray Mountain, (summit), 4430,feet,Towns County
Grassy Ridge, (ridge high point),4420,feet,Rabun County
Slaughter Mountain, (summit),4338,feet,Union County
Coosa Bald, (summit),4280,feet,Union County
Double Spring Knob, (summit),4280,feet,Rabun County
Counties
```

14) “When a pattern groups all or part of its content into a pair of parentheses, it captures that content and stores it temporarily in memory. You can reuse that content if you wish by using a back-reference, in the form: \1 or \$1, where \1 or \$1 reference the first captured group” (Refer to [1]). For example, the following command add a colon between Union and County sed -E ‘s/(Union)\s(County)/\1:\2/g’ mountainList.txt.

Attach a screenshot of the output of the above sed command.

```
[dreddy2@gsuad.gsu.edu@snowball ~]$ sed -E 's/(Union)\s(County)/\1:\2/g' mountainList.txt
Brasstown Bald, (summit),4784,feet,Union:County
Rabun Bald, (summit),4696,feet,Rabun County
Dick's Knob, (summit),4620,feet,Rabun County
      Hightower Bald, (summit),4568,feet,Towns County
Wolfpen Ridge, (ridge high point),4561,feet,Towns and Union
Counties
      Blood Mountain, (summit),4458,feet,Union:County
Tray Mountain, (summit), 4430,feet,Towns County
      Grassy Ridge, (ridge high point),4420,feet,Rabun County
Slaughter Mountain, (summit),4338,feet,Union:County
Double Spring Knob, (summit),4280,feet,Rabun County
Coosa Bald, (summit),4280,feet,Union:County
```

15) Now can you write a command to finish task 9) using sed with backreference?

```
[dreddy2@gsuad.gsu.edu@snowball ~]$ sed -r 's/([^\s,]*) ([^\s,]*){3}([^\s,]*)/\1\3/g' mountainList.txt
Brasstown Bald,Union County
Rabun Bald,Rabun County
Dick's Knob,Rabun County
      Hightower Bald,Towns County
Wolfpen Ridge,Towns and Union
Counties
      Blood Mountain,Union County
Tray Mountain,Towns County
      Grassy Ridge,Rabun County
Slaughter Mountain,Union County
Double Spring Knob,Rabun County
Coosa Bald,Union County
```