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COMP205 – Systems Programming

Fall 2024-2025

Kerim Ercan 042401167

Necati Onur Yaman 042301115

COMP205 Systems Programming

Week #4 Lab #2

Section #1

Complete the tasks given and answer the questions using the appropriate commands. You MUST show all the commands you run to get full credits.

PART #1:

You're given midnight_library.txt

1. **[5 PTS]** Download it and send it to your home directory on the server using **scp. Use the tutorial which was uploaded to BlackBoard BEFORE the 1st lab.**

```
(base) kerim@kerim:~/Masaüstü$ scp midnight_library.txt kerim@10.2.1.117:~/
```

2. **[10 PTS]** Count the occurrences of "Nora" and "library" ignoring the case (upper/lower letters don't matter)

```
(base) kerim@kerim:~/Masaüstü$ grep -o -i nora midnight_library.txt | wc -l
2
(base) kerim@kerim:~/Masaüstü$ grep -o -i library  midnight_library.txt | wc -l
3
```

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3. **[10+5 PTS]** Find all words starting with “t” or “T”. Your output must have 19 words. HINT: check grep man page for word boundaries (The Backslash Character and Special Expressions)

```
(base) kerim@kerim:~/Masaüstü$ grep -Eo1 '\b[tT]\w+' midnight_library.txt | head -n 19
the
to
things
things
to
The
the
to
things
the
tries
to
things
they
the
time
the
the
to
(base) kerim@kerim:~/Masaüstü$ grep -Eo1 '\b[tT]\w+' midnight_library.txt | wc -l
19
```

   a. **[5 PTS]** How many of your output is unique words?

```
(base) kerim@kerim:~/Masaüstü$ grep -Eo '\b[tT]\w+' midnight_library.txt | sort | uniq | wc -l
7
(base) kerim@kerim:~/Masaüstü$
```

4. **[30 PTS]** Calculate and print how many lines contain “regret” or “danger”. Ignore the case (upper/lower letters don’t matter) Your output will look like this:

   Regret count: 2
   Danger count: 1
   Total occurrences: 3

```
(base) kerim@kerim:~/Masaüstü$ grep -i -E "regret" midnight_library.txt | wc -l
2
(base) kerim@kerim:~/Masaüstü$ grep -i -E "danger" midnight_library.txt | wc -l
1
(base) kerim@kerim:~/Masaüstü$ grep -o -i -E "danger|regret" midnight_library.txt | wc -l
3
(base) kerim@kerim:~/Masaüstü$
```

PART#2:

1. **[2 PTS]** Run the file manager (do you remember its name from the last lecture?) from your terminal as a background process (don’t terminate it for the following tasks)

```
(base) kerim@kerim:~$ man kill
(base) kerim@kerim:~$ nautilus &
[1] 73731
(base) kerim@kerim:~$ ** Message: 12:02:54.491: Connecting to org.freedesktop.Tracker3.Miner.Files
pgrep nautilus
73731
(base) kerim@kerim:~$ kill -15 73731
(base) kerim@kerim:~$
```

2. **[3 PTS]** Find nautilus background process' process ID (PID)


```
(base) kerim@kerim:~$ man kill
(base) kerim@kerim:~$ nautilus &
[1] 73731
(base) kerim@kerim:~$ ** Message: 12:02:54.491: Connecting to org.freedesktop.Tracker3.Miner.Files
pgrep nautilus
73731
(base) kerim@kerim:~$ kill -15 73731
(base) kerim@kerim:~$
```


3. **[5 PTS]** Kill the nautilus process in a safe way (cleanup after killing it) using the appropriate signal. **HINT: see kill command's man page**


```
(base) kerim@kerim:~$ man kill
(base) kerim@kerim:~$ nautilus &
[1] 73731
(base) kerim@kerim:~$ ** Message: 12:02:54.491: Connecting to org.freedesktop.Tracker3.Miner.Files
pgrep nautilus
73731
(base) kerim@kerim:~$ kill -15 73731
(base) kerim@kerim:~$
```