

Experiment 2

Advanced Linux Command Line Mastery Challenge

By **Jonathan Day**



University of Southern Maine

Spring 2024

COS 350 System Programming

Contents

Problem.....	3
Implementation.....	3
Results	4
Conclusion	6

Problem

In this experiment, you are asked to use Linux command lines to accomplish 3 tasks.

Task 1: Linux permissions.

Task 2: Advanced text file manipulation.

Task 3: Vi text editor.

Implementation

Provide a brief description of the commands and arguments you intend to use to complete the tasks. Especially for task 3, illustrate how you accomplished it through Vi commands.

Task 1:

Touch

Vim

i

:wq

Chmod

:wq!

Task 2:

Wget 'link'

Echo "How many lines are in this file?" | cat > task2.txt

Wc -l

Head -n file | grep "you" | >> task2.txt

grep -E '^.{10}\$' pg1342.txt | >> task2.txt

awk '!seen[\$0]++' pg1342.txt | > pg1342.txt

grep -wc "you" pg1342.txt

task 3:

I used VIM for these commands

save and exit: wq

:10

To navigate to line 10

:5,15s/Linux/Unix/g

To replace Linux with Unix in lines 1,15

:10,15m\$

To move these lines to the end of the file

:g/Linux/d

To delete the lines containing Linux

:20,21j

To join lines 20 and 21

/Operating System Unix

To go to the line that contains this phrase

Wc task3.txt

Results

For Task1 and Task2, include all the results from each step in a single screenshot and paste it in this section. Ensure that the screenshot encompasses both the execution outcomes of every step, and the command lines you used for every step.

For Task 3, including screenshots is not obligatory, just ensure that you clearly explain your solution in the Implementation Section.

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±5 (0.045s)  
touch task1.txt
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±6 (25.565s)  
vim task1.txt
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±6 (0.036s)  
cat task1.txt  
I love Linux Commands
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±6 (0.03s)  
chmod 544 task1.txt
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±6 (33.735s)  
vim task1.txt
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±6 (0.031s)  
cat task1.txt  
Everyone loves Linux Commands
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±6 (0.78s)
wget https://www.gutenberg.org/cache/epub/1342/pg1342.txt
--2024-02-27 20:18:55-- https://www.gutenberg.org/cache/epub/1342/pg1342.tx
t
Resolving www.gutenberg.org (www.gutenberg.org)... 152.19.134.47
Connecting to www.gutenberg.org (www.gutenberg.org)|152.19.134.47|:443... co
nnected.
HTTP request sent, awaiting response... 200 OK
Length: 772450 (754K) [text/plain]
Saving to: 'pg1342.txt'

pg1342.txt          100%[=====>] 754.35K  2.16MB/s   in 0.3s

2024-02-27 20:18:56 (2.16 MB/s) - 'pg1342.txt' saved [772450/772450]
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±7 (0.033s)
echo "How many lines are in this file?" | >> task2.txt
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±8 (0.033s)
wc -l pg1342.txt | >> task2.txt
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±8 (0.034s)
head -n 1000 pg1342.txt | grep 'you' | >> task2.txt
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±8 (0.035s)
echo "8.7" | >> task2.txt
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±8 (0.07
grep -E '^.{160}$' pg1342.txt | >> task2.txt
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±8 (0.07s)
grep -E '^.{160}$' pg1342.txt
```

Credits: Chuck Greif and the Online Distributed Proofreading Team at <http://www.pgdp.net> (This file was produced from images available at The Internet Archive)

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±8 (0.048s)
```

```
grep -E '^.{10}$' pg1342.txt >> task2.txt
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±8 (0.08s)
```

```
awk '!seen[$0]++' pg1342.txt > temp_file && mv temp_file pg1342.txt
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±8 (0.043s)
```

```
grep -wc "you" pg1342.txt
```

```
1060
```

```
~/Documents/GitHub/Spring-2024/Systems/Experiment_2 git:(main)±8 (0.044s)
```

```
grep -wc "you" pg1342.txt | >> task2.txt
```

Conclusion

Did you encounter any challenges during the execution of this experiment? If yes, state the issue and explain how to solve it. If not, elaborate on the insights gained from this experiment.

I have been using Vim recently as a code editor and I learned some useful commands for searching and editing code files.

