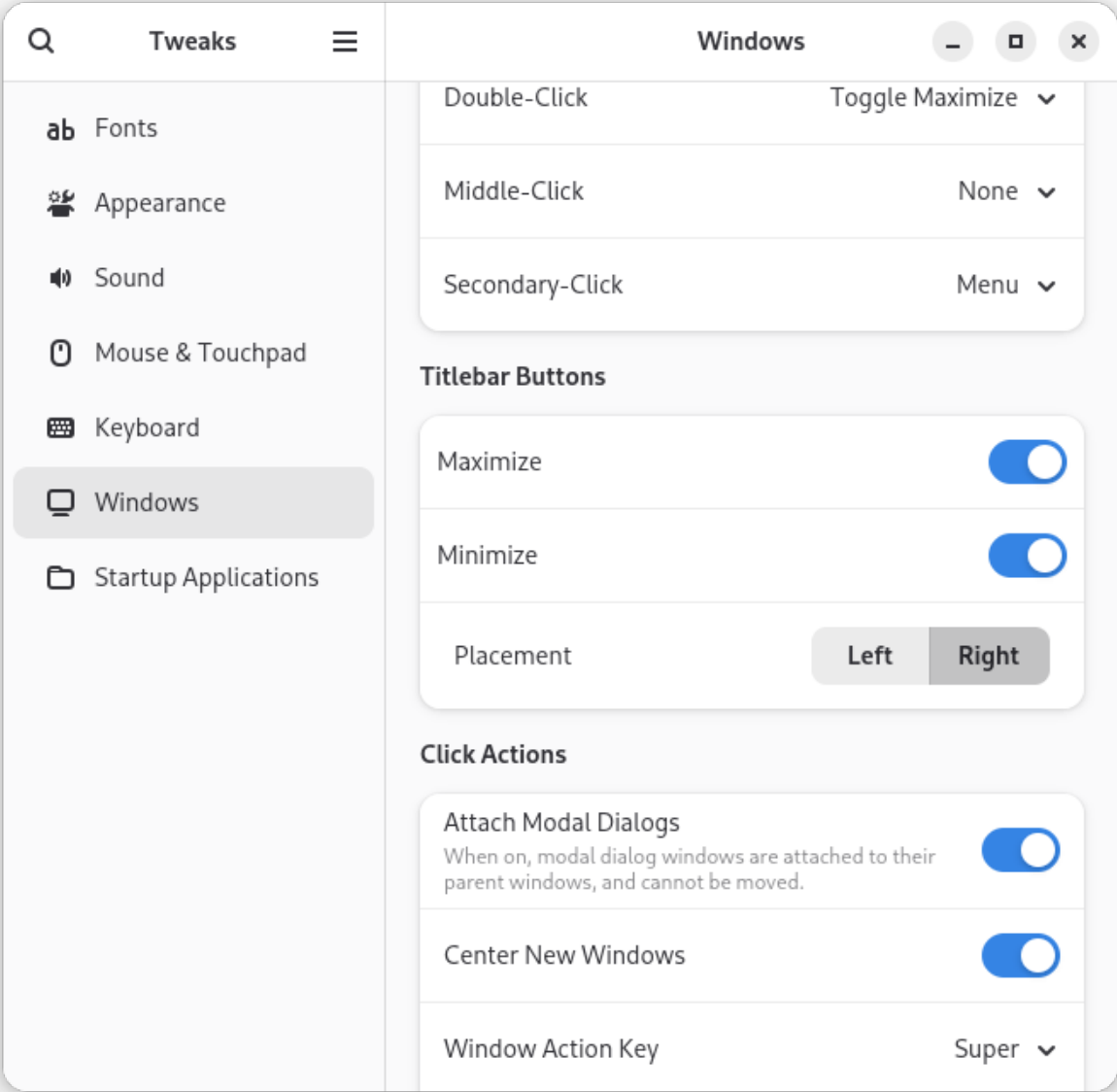
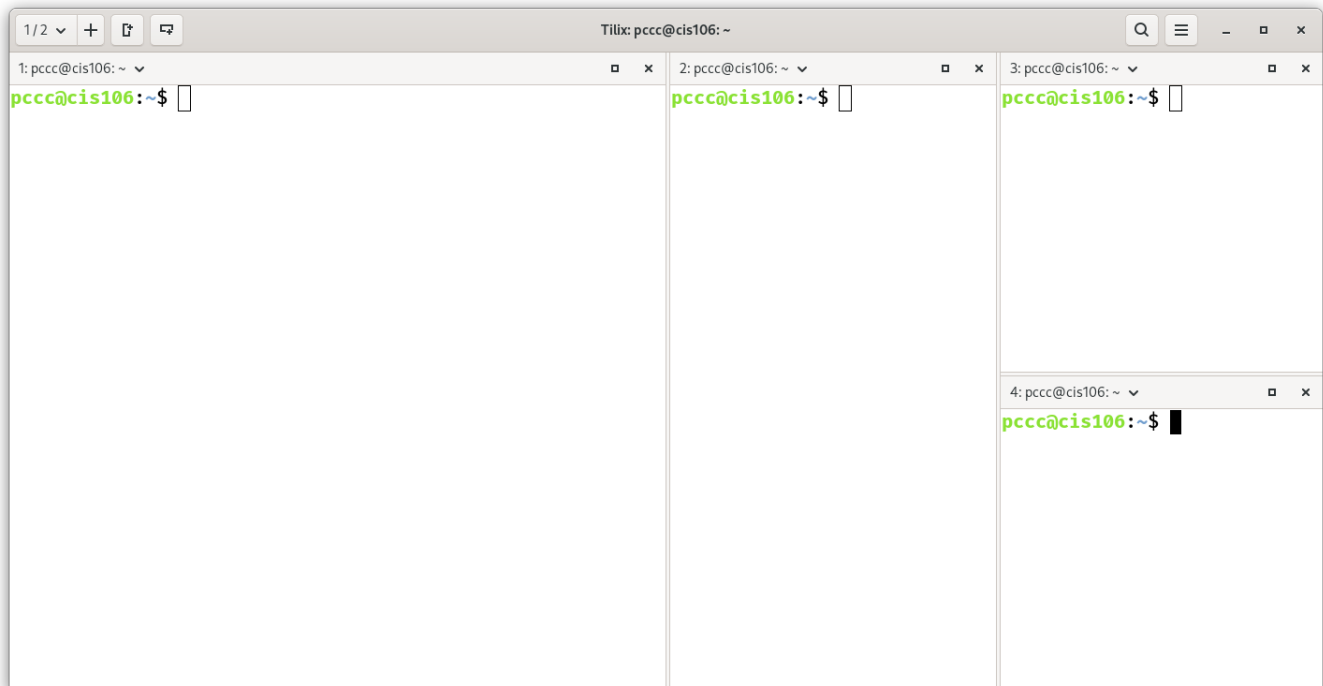


# Lab 3 Submission

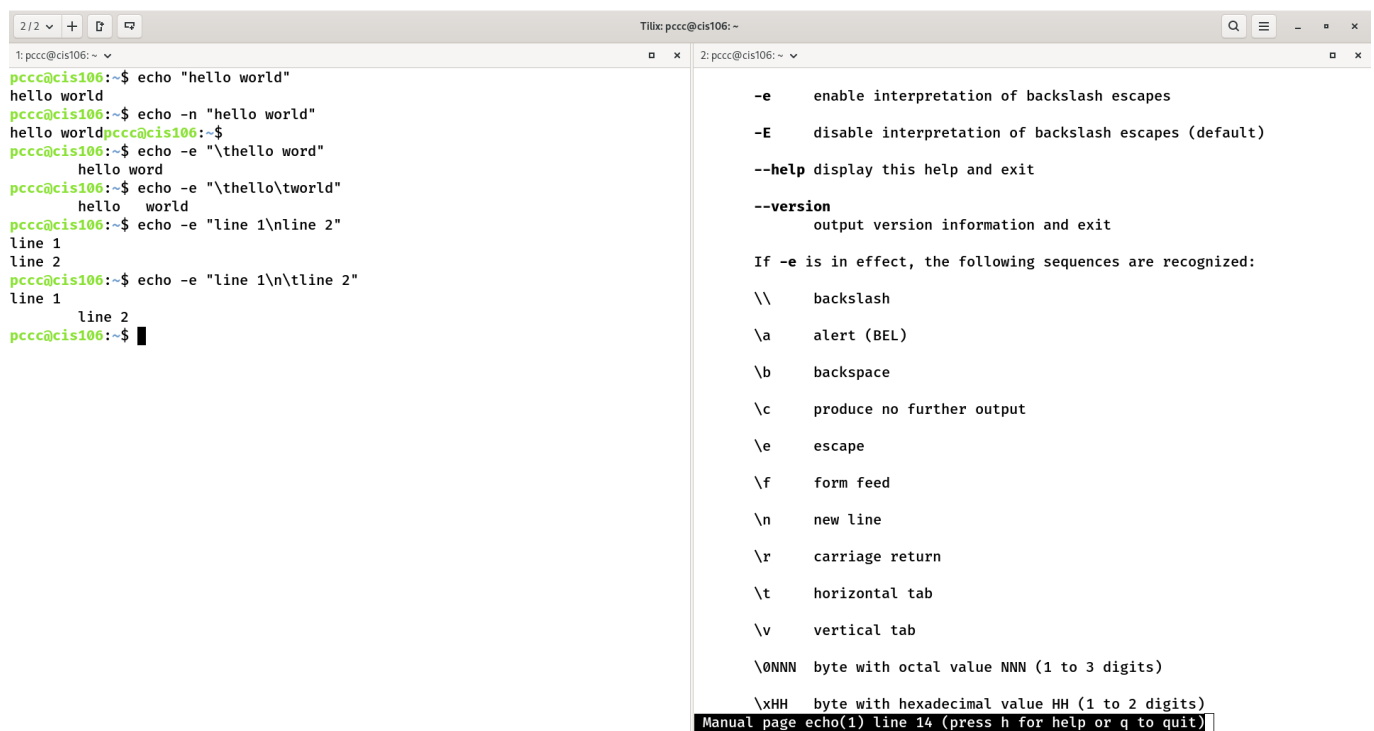
## Question 1



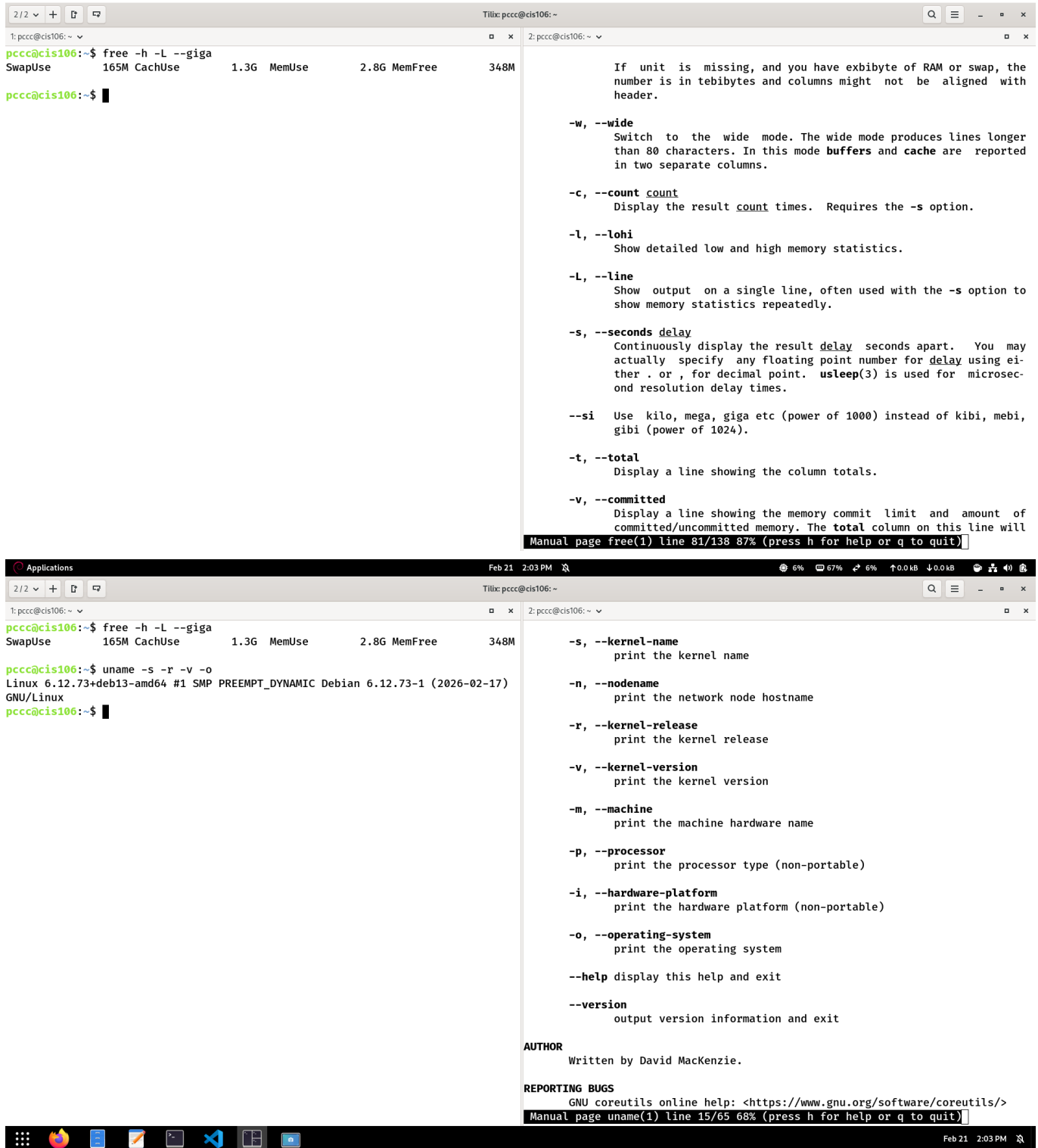
## Question 2



## Question 3



## Challenge Question



Terminal window showing the output of the `free` command and the manual page for `free(1)`.

**Terminal Output (Left Pane):**

```
pccc@cis106:~$ free -h -L --giga
SwapUse      165M  CachUse      1.3G  MemUse      2.8G  MemFree      348M

pccc@cis106:~$
```

**Manual Page (Right Pane):**

If unit is missing, and you have exbibyte of RAM or swap, the number is in tebibytes and columns might not be aligned with header.

**-w, --wide**  
Switch to the wide mode. The wide mode produces lines longer than 80 characters. In this mode **buffers** and **cache** are reported in two separate columns.

**-c, --count count**  
Display the result **count** times. Requires the **-s** option.

**-l, --lohi**  
Show detailed low and high memory statistics.

**-L, --line**  
Show output on a single line, often used with the **-s** option to show memory statistics repeatedly.

**-s, --seconds delay**  
Continuously display the result **delay** seconds apart. You may actually specify any floating point number for **delay** using either **.** or **,** for decimal point. **usleep(3)** is used for microsecond resolution delay times.

**--si** Use kilo, mega, giga etc (power of 1000) instead of kibi, mebi, gibi (power of 1024).

**-t, --total**  
Display a line showing the column totals.

**-v, --committed**  
Display a line showing the memory commit limit and amount of committed/uncommitted memory. The **total** column on this line will

Manual page free(1) line 81/138 87% (press h for help or q to quit)

**-s, --kernel-name**  
print the kernel name

**-n, --nodename**  
print the network node hostname

**-r, --kernel-release**  
print the kernel release

**-v, --kernel-version**  
print the kernel version

**-m, --machine**  
print the machine hardware name

**-p, --processor**  
print the processor type (non-portable)

**-i, --hardware-platform**  
print the hardware platform (non-portable)

**-o, --operating-system**  
print the operating system

**--help** display this help and exit

**--version**  
output version information and exit

**AUTHOR**  
Written by David MacKenzie.

**REPORTING BUGS**  
GNU coreutils online help: <<https://www.gnu.org/software/coreutils/>>

Manual page uname(1) line 15/65 68% (press h for help or q to quit)

**Terminal Output (Left Pane):**

```
pccc@cis106:~$ uname -s -r -v -o
Linux 6.12.73+deb13-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.12.73-1 (2026-02-17)
GNU/Linux

pccc@cis106:~$
```

```
1: pccc@cis106: ~  
pccc@cis106:~$ date --rfc-3339='seconds'  
2026-02-21 14:10:45-05:00  
pccc@cis106:~$
```

```
2: pccc@cis106: ~  
annotate the parsed date, and warn about questionable usage to  
stderr  
  
-f, --file=DATEFILE  
    like --date; once for each line of DATEFILE  
  
-I[FMT], --iso-8601[=FMT]  
    output date/time in ISO 8601 format. FMT='date' for date only  
    (the default), 'hours', 'minutes', 'seconds', or 'ns' for date  
    and time to the indicated precision. Example:  
    2006-08-14T02:34:56-06:00  
  
--resolution  
    output the available resolution of timestamps Example:  
    0.000000001  
  
-R, --rfc-email  
    output date and time in RFC 5322 format. Example: Mon, 14 Aug  
    2006 02:34:56 -0600  
  
--rfc-3339=FMT  
    output date/time in RFC 3339 format. FMT='date', 'seconds', or  
    'ns' for date and time to the indicated precision. Example:  
    2006-08-14 02:34:56-06:00  
  
-r, --reference=FILE  
    display the last modification time of FILE  
  
-s, --set=STRING  
    set time described by STRING  
  
-u, --utc, --universal  
    print or set Coordinated Universal Time (UTC)  
  
--help display this help and exit  
Manual page date(1) line 21/219 30% (press h for help or q to quit)
```