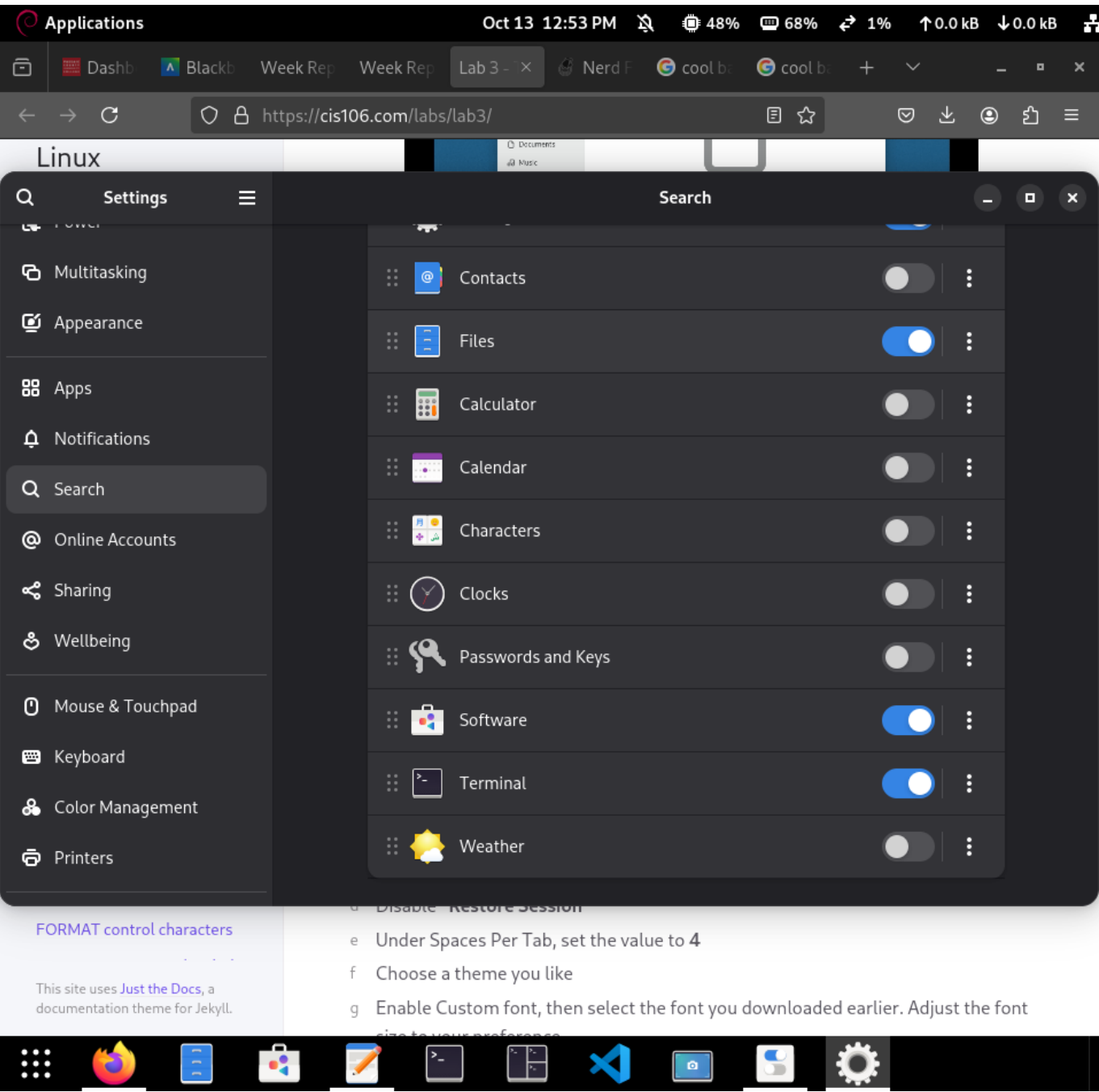
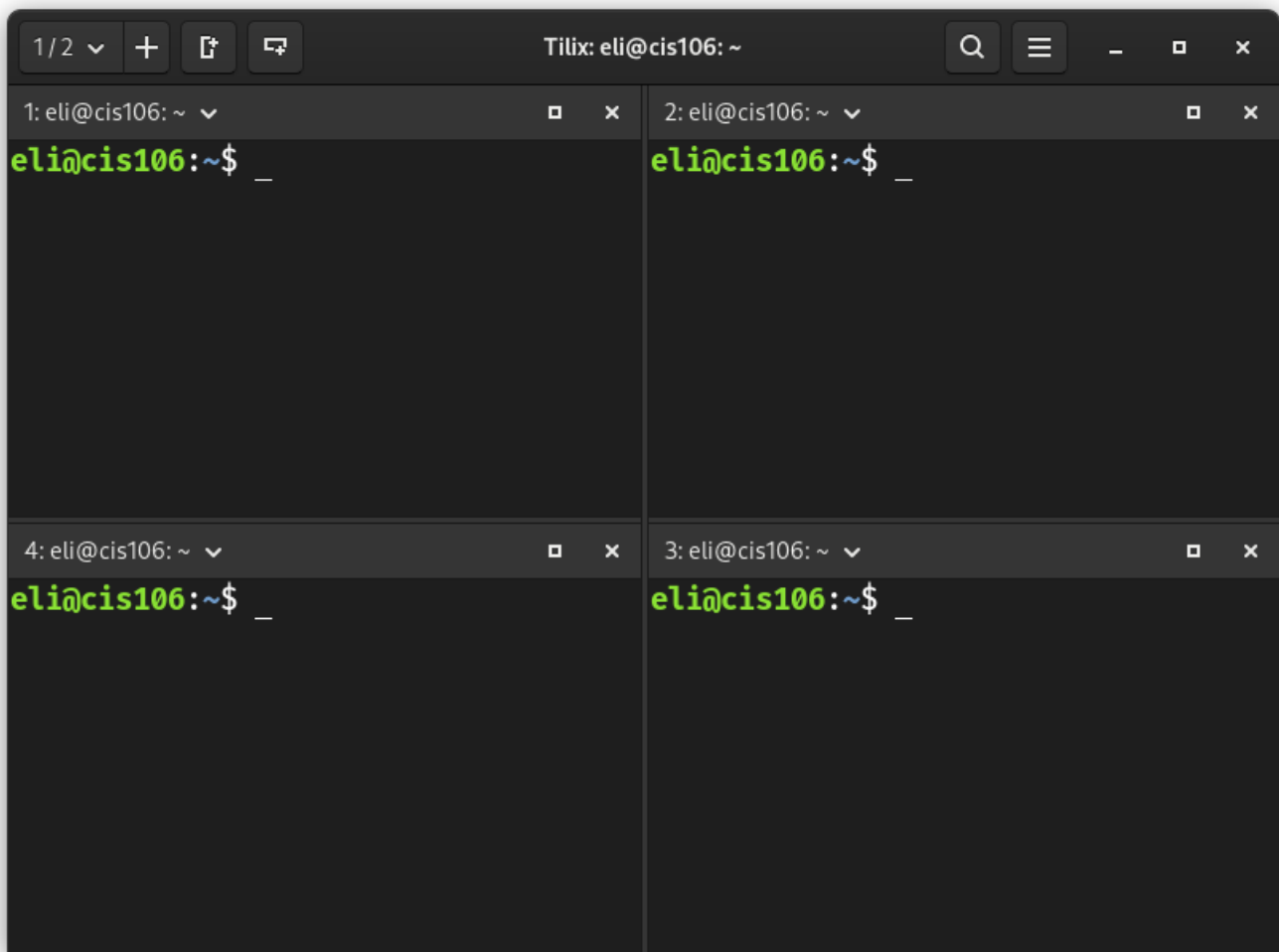


# Lab 3 Submission

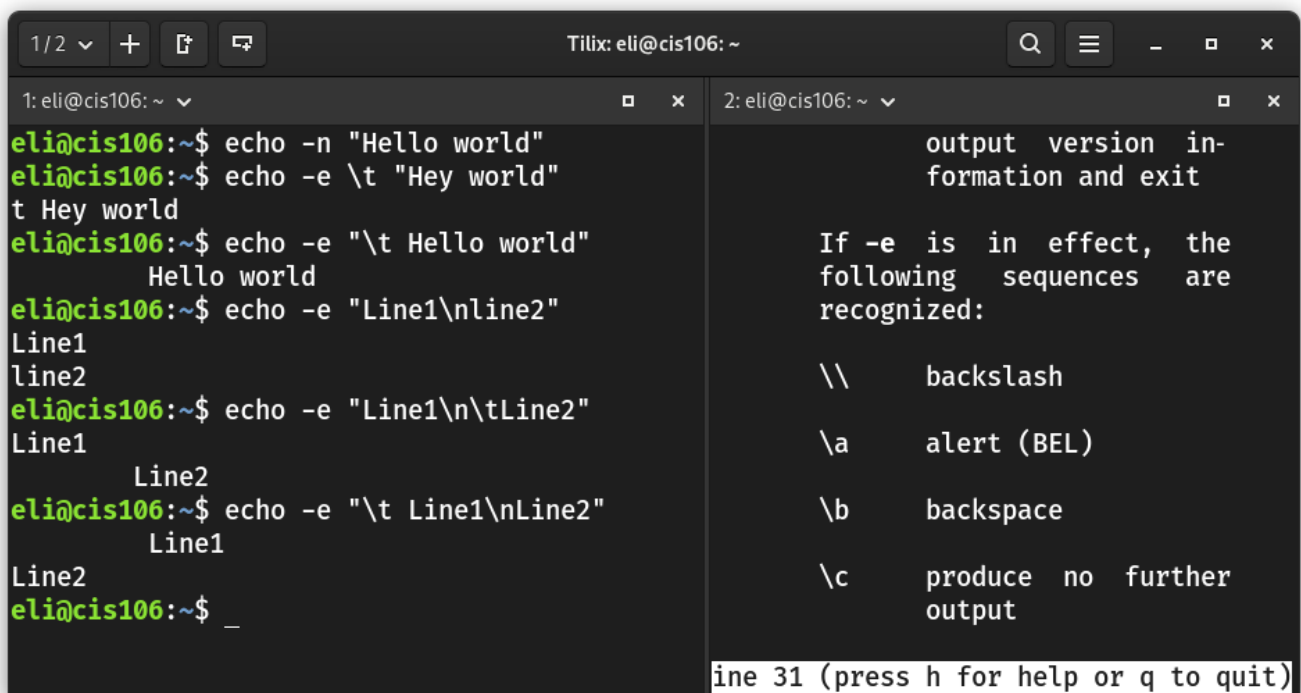
## Question 1



## Question 2



### Question 3



### Challenge Question

```

1: eli@cis106: ~
Usage:
free [options]

Options:
-b, --bytes          show output in bytes
--kilo              show output in kilobytes
--mega              show output in megabytes
--giga              show output in gigabytes
--tera              show output in terabytes
--peta              show output in petabytes
-k, --kibi           show output in kibibytes
-m, --mebi           show output in mebibytes
-g, --gibi           show output in gibibytes
--tebi             show output in tebibytes
--pebi             show output in pebibytes
-h, --human          show human-readable output
--si               use powers of 1000 not 1024
-l, --lohi           show detailed low and high memory statistics
-L, --line           show output on a single line
-t, --total          show total for RAM + swap
-v, --committed     show committed memory and commit limit
-s N, --seconds N   repeat printing every N seconds
-c N, --count N     repeat printing N times, then exit
-w, --wide           wide output

--help             display this help and exit
-V, --version       output version information and exit

For more details see free(1).
eli@cis106:~$ free -h -L
SwapUse      204Mi CachUse      1.1Gi MemUse      2.9Gi MemFree      444Mi
eli@cis106:~$ _

2: eli@cis106: ~
--peta Display the amount of
memory in petabytes. Im-
plies --si.

-h, --human
Show all output fields
automatically scaled to
shortest three digit
unit and display the
units of print out.
Following units are
used.

B = bytes
free(1) line 113/221 56% (press h for help or q to quit)

3: eli@cis106: ~
-l, --lohi
Show detailed low and high memory statis-
tics.

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

-s, --seconds delay
Continuously display the result delay
seconds apart. You may actually specify
any floating point number for delay using
al page free(1) line 119 (press h for help or q to quit)

```

```

1: eli@cis106: ~
eli@cis106:~$ uname -s -r -v -o
Linux 6.12.43+deb13-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.12.43-1 (2025-08-27) GNU/Linux
eli@cis106:~$ _

2: eli@cis106: ~
print all information, in the following order, except omit -p and -i
if unknown:

-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
Manual page uname(1) line 13 (press h for help or q to quit)

```

```

1: eli@cis106: ~
eli@cis106:~$ date --rfc-3339=ns
2025-10-13 23:30:26.077229573-04:00
eli@cis106:~$ date --rfc-3339=ns_

2: eli@cis106: ~
Display date and time in the given FORMAT.
With -s, or with [MMDDhhmm[[CC]YY][.ss]], set the date and time.

Mandatory arguments to long options are mandatory for short options too.
-d, --date=STRING      display time described by STRING, not 'now'
--debug               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
--version               output version information and exit

All options that specify the date to display are mutually exclusive.
I.e.: --date, --file, --reference, --resolution.

FORMAT controls the output. Interpreted sequences are:

%% a literal %

```