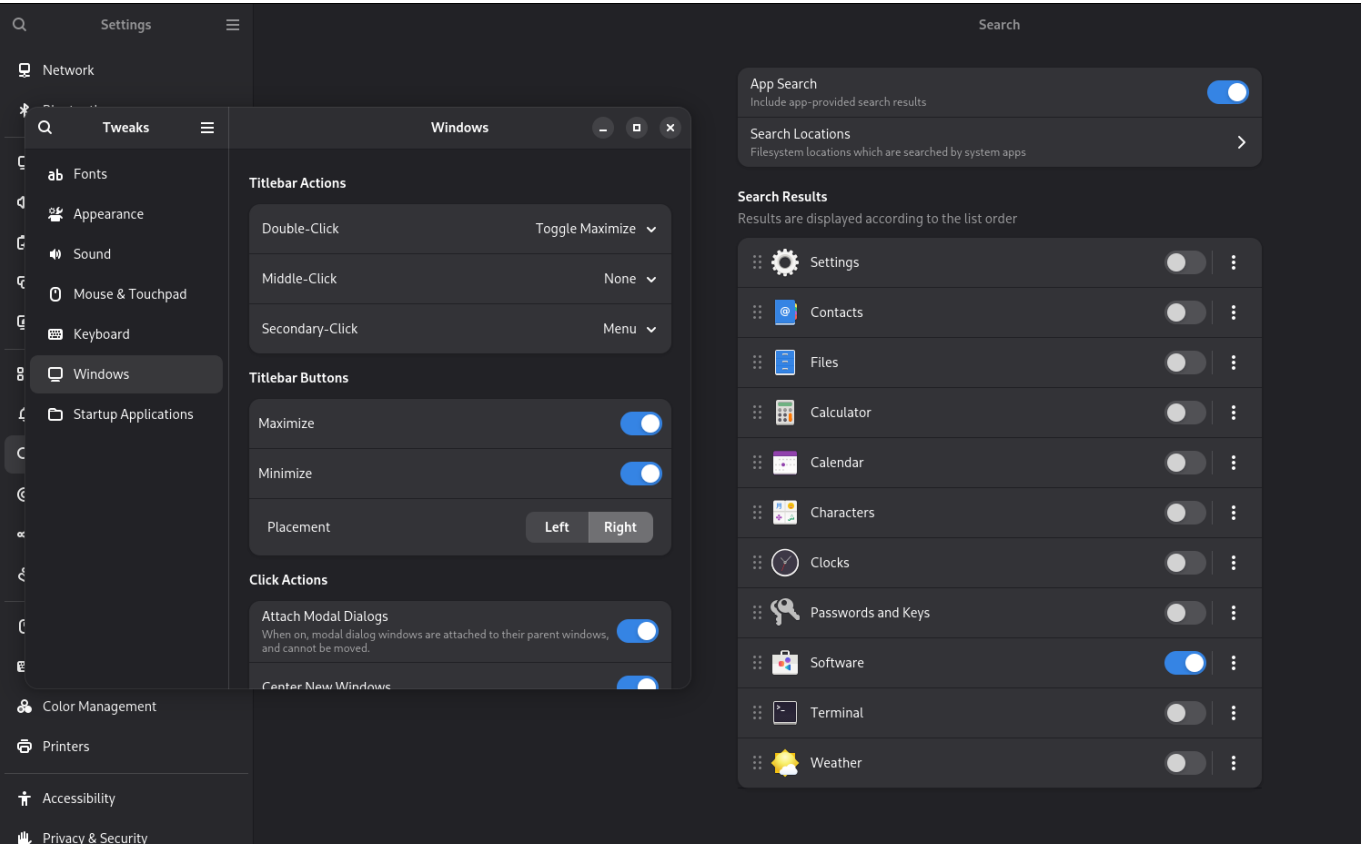
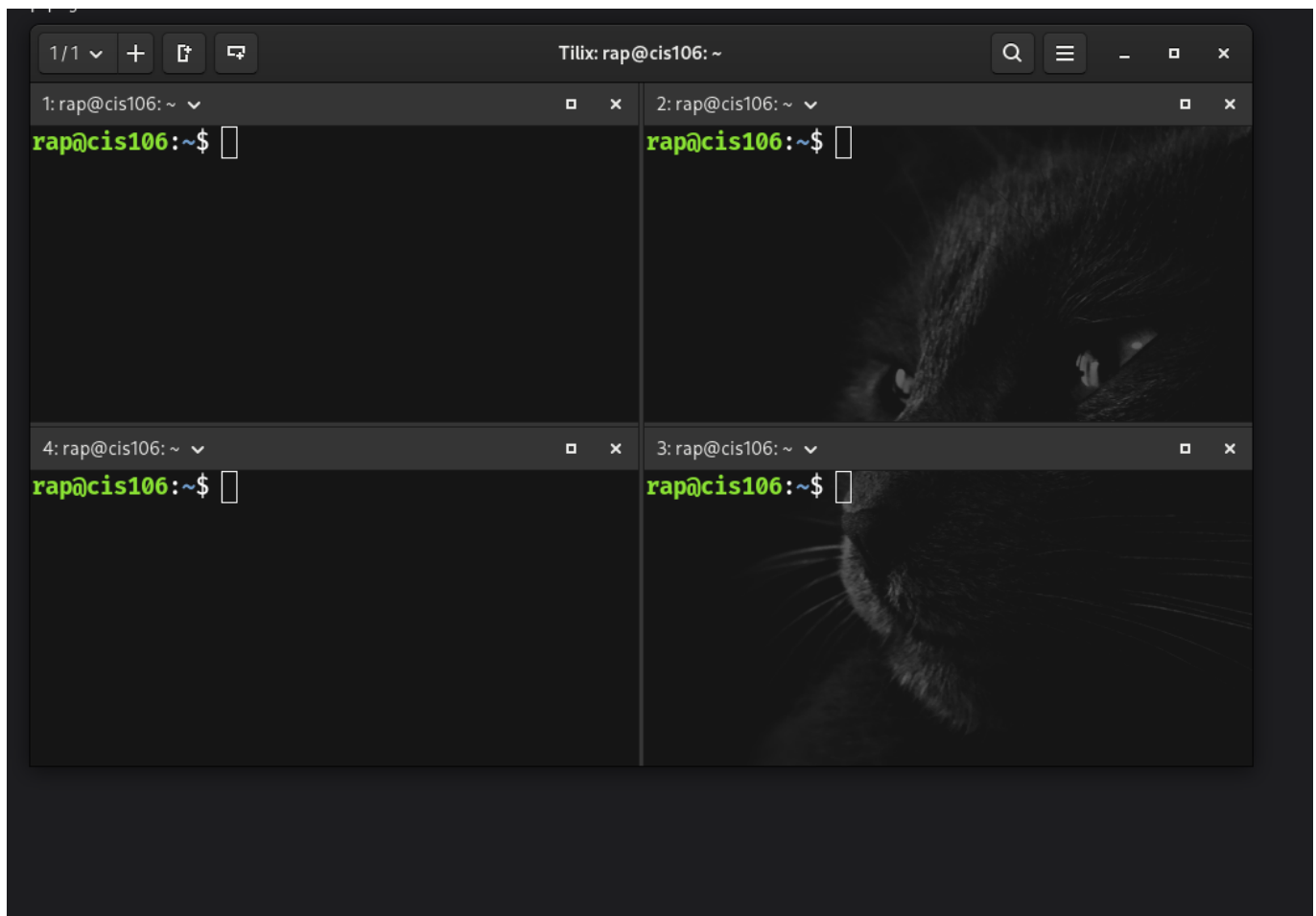


Lab 3 Submission

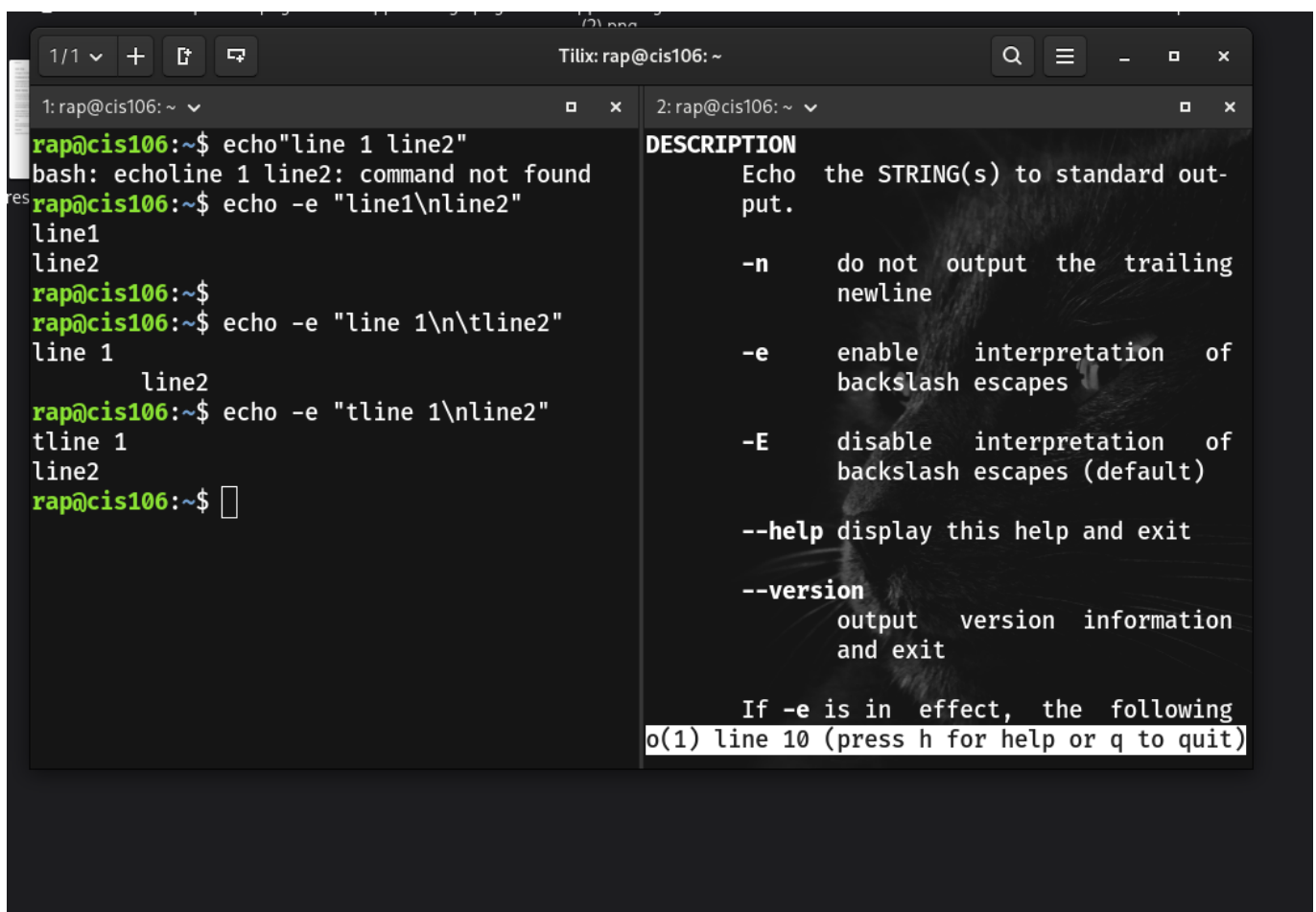
Question 1



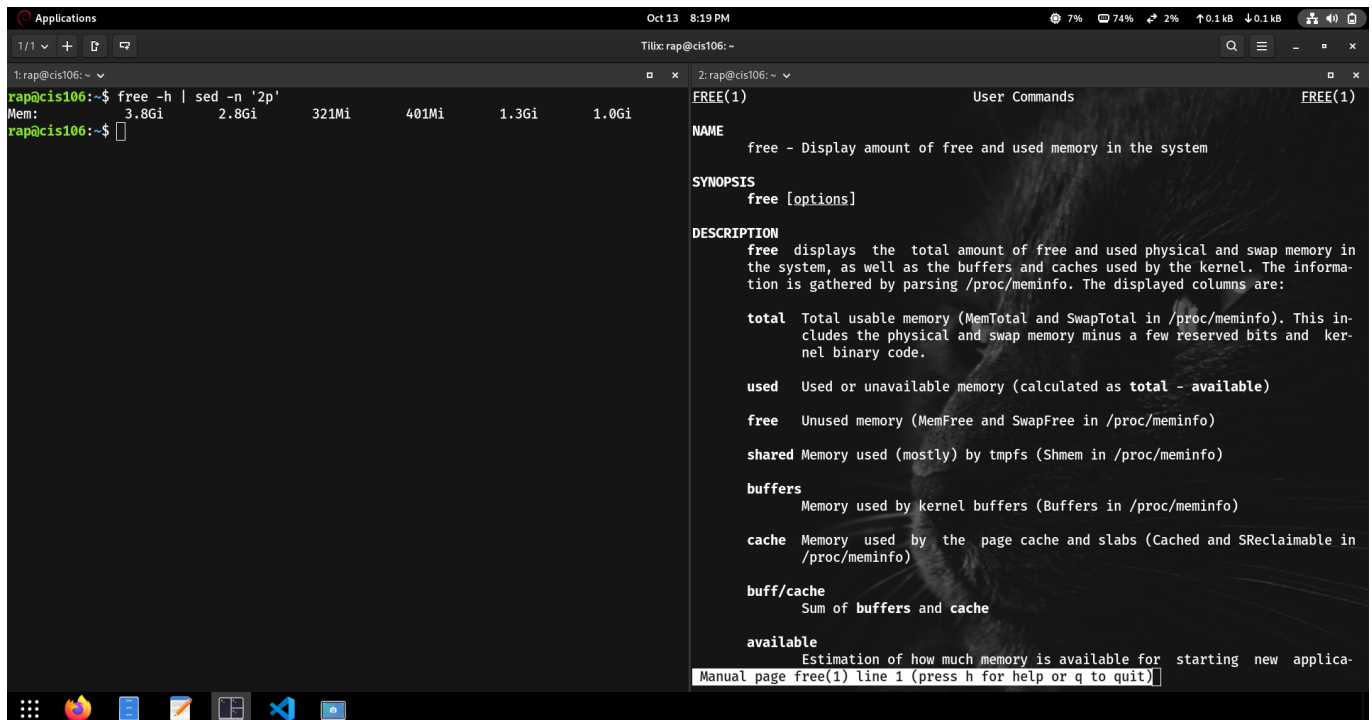
Question 2



Question 3



Challenge Question



The screenshot shows a terminal window with two panes. The left pane displays the output of the command `free -h | sed -n '2p'`, which shows memory usage in GiB and MiB. The right pane displays the help text for the `free` command, including its name, synopsis, description, and a list of options.

```
rap@cis106:~$ free -h | sed -n '2p'
```

Mem:	3.8Gi	2.8Gi	321Mi	401Mi	1.3Gi	1.0Gi
------	-------	-------	-------	-------	-------	-------

```
rap@cis106:~$
```

FREE(1) User Commands **FREE(1)**

NAME

`free` - Display amount of free and used memory in the system

SYNOPSIS

`free` [*options*]

DESCRIPTION

`free` displays the total amount of free and used physical and swap memory in the system, as well as the buffers and caches used by the kernel. The information is gathered by parsing `/proc/meminfo`. The displayed columns are:

total Total usable memory (MemTotal and SwapTotal in `/proc/meminfo`). This includes the physical and swap memory minus a few reserved bits and kernel binary code.

used Used or unavailable memory (calculated as `total - available`)

free Unused memory (MemFree and SwapFree in `/proc/meminfo`)

shared Memory used (mostly) by tmpfs (Shmem in `/proc/meminfo`)

buffers Memory used by kernel buffers (Buffers in `/proc/meminfo`)

cache Memory used by the page cache and slabs (Cached and SReclaimable in `/proc/meminfo`)

buff/cache Sum of **buffers** and **cache**

available Estimation of how much memory is available for starting new applications.

Manual page `free(1)` line 1 (press h for help or q to quit)

Challenge Question Script Source code:

The terminal window is titled 'Tilix: rap@cis106: ~'. It has two panes. The left pane shows a JSON configuration for network interfaces. The right pane shows help text for the 'si' option.

```

1: rap@cis106: ~
7:2:a00:27ff:febd:1cb7",
    "prefixlen": 64,
    "scope": "global",
    "dynamic": true,
    "mngtmpaddr": true,
    "noprefixroute": true,
    "valid_life_time": 8621
4,
    "preferred_life_time":
14214
    }, {
    "family": "inet6",
    "local": "fe80::a00:27f
f:febd:1cb7",
    "prefixlen": 64,
    "scope": "link",
    "noprefixroute": true,
    "valid_life_time": 4294
967295,
    "preferred_life_time":
4294967295
    } ]
} ]
rap@cis106:~$

2: rap@cis106: ~
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
Ki = kibibyte
Mi = mebibyte
Gi = gibibyte
Ti = tebibyte
Pi = pebibyte

If unit is missing, and
you have exbibyte of RAM
or swap, the number is
in tebibytes and columns
might not be aligned
line 115 (press h for help or q to quit)

```

The terminal window is titled 'Applications' and 'Tilix: rap@cis106: ~'. It has two panes. The left pane shows the output of the 'uname -a' command. The right pane shows the help text for the 'uname' command.

```

1: rap@cis106: ~
rap@cis106:~$ uname -a
Linux cis106 6.12.48+deb13-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.12.48-1 (2025-09-20) x
86_64 GNU/Linux
rap@cis106:~$

2: rap@cis106: ~
UNAME(1)
NAME
uname - print system information

SYNOPSIS
uname [OPTION]...

DESCRIPTION
Print certain system information. With no OPTION, same as -s.

-a, --all
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

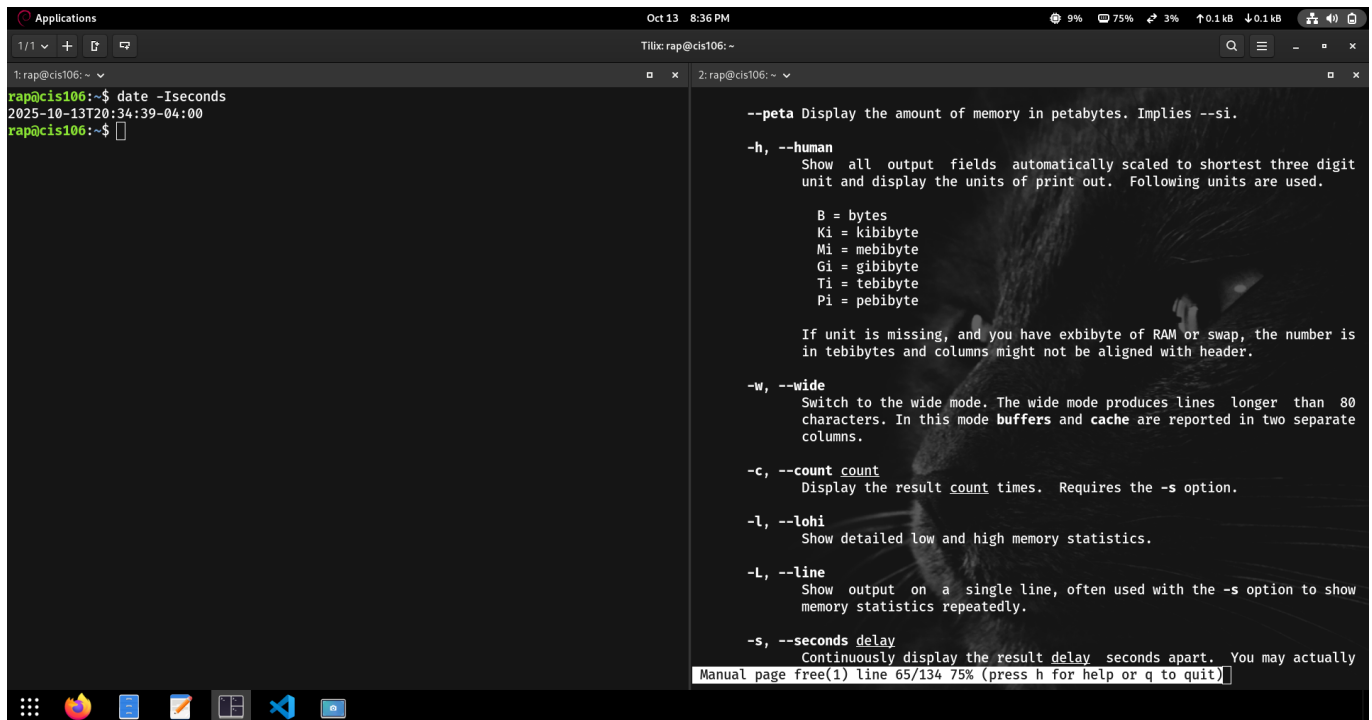
-m, --machine
print the machine hardware name

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

-i, --hardware-platform

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

```



```
Applications Oct 13 8:36 PM 9% 75% 3% ↑0.1kB ↓0.1kB
1/1 + [ ]
Tilix: rap@cis106: ~
1: rap@cis106: ~ 2: rap@cis106: ~
rap@cis106:~$ date -Iseconds
2025-10-13T20:34:39-04:00
rap@cis106:~$

--peta Display the amount of memory in petabytes. Implies --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
    Ki = kibibyte
    Mi = mebibyte
    Gi = gibibyte
    Ti = tebibyte
    Pi = pebibyte

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
Manual page free(1) line 65/134 75% (press h for help or q to quit)
```