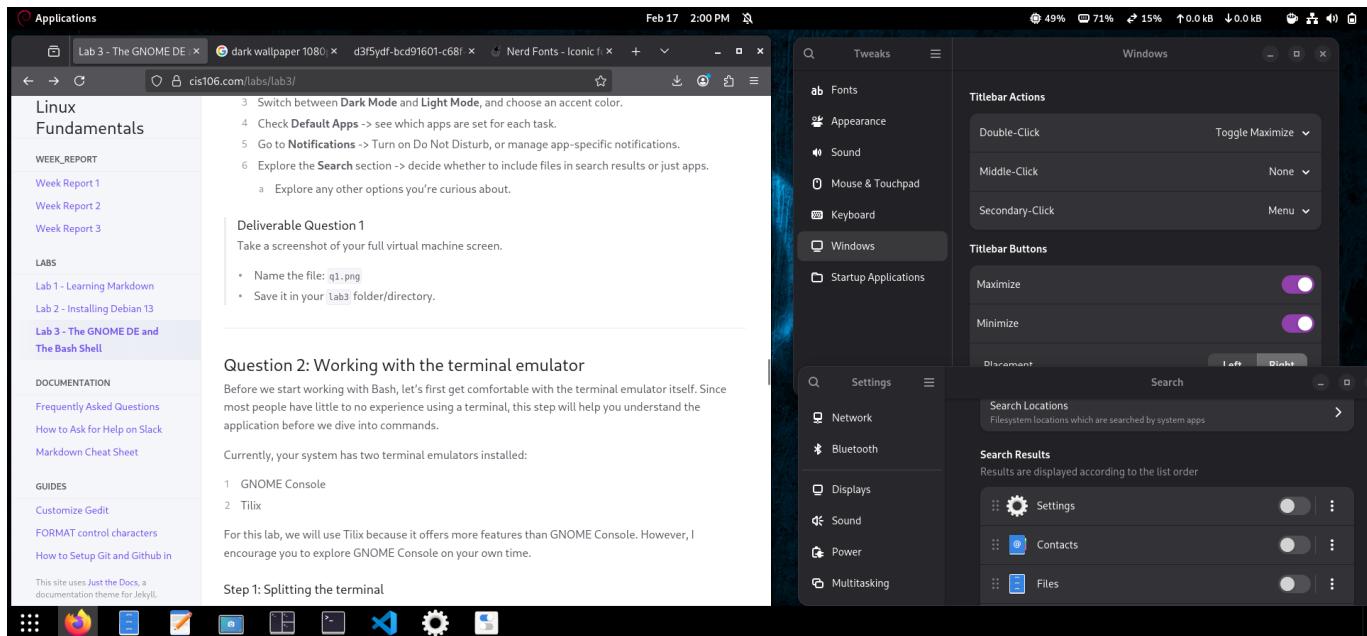
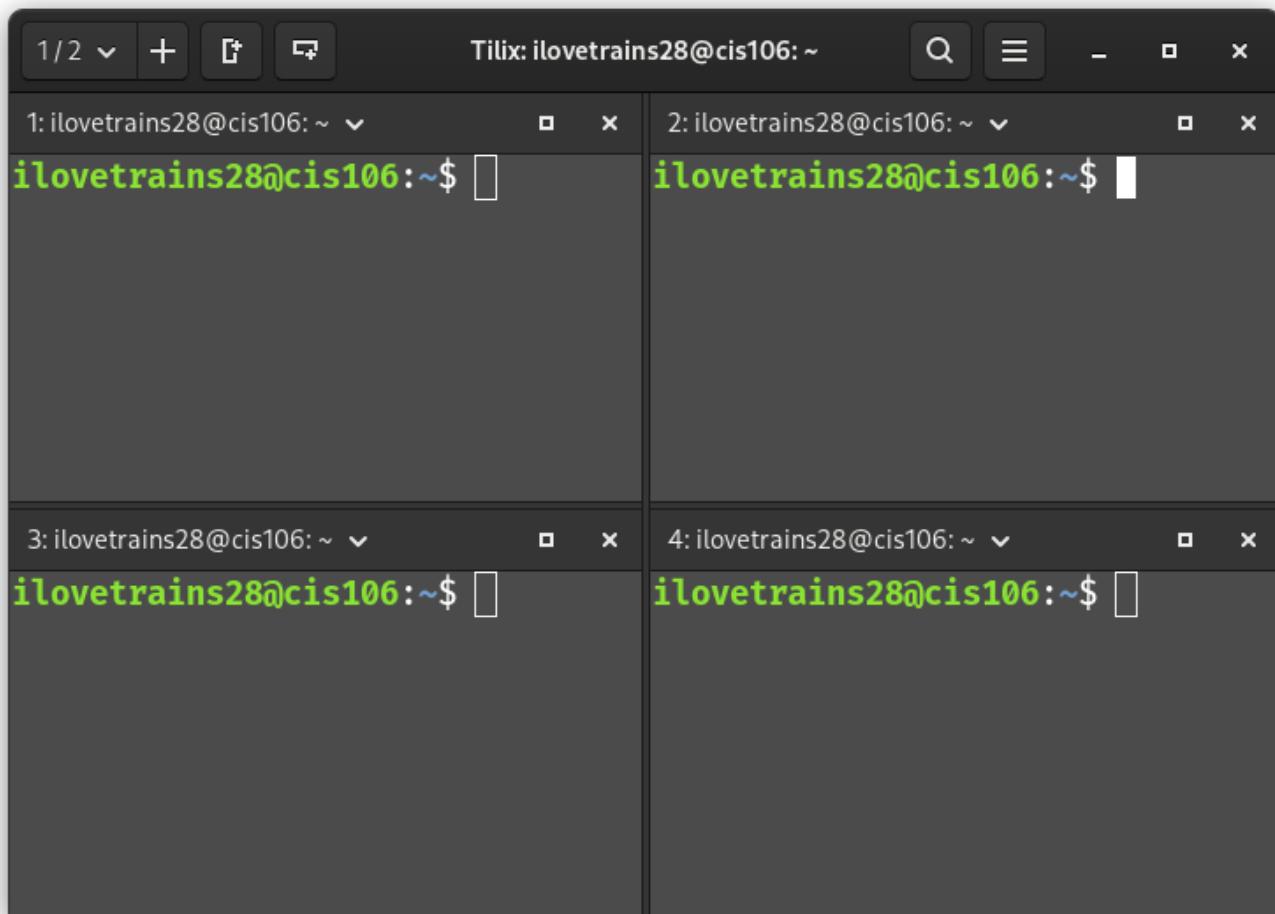


Lab 3 Submission

Question 1



Question 2



Question 3

The screenshot shows two terminal windows side-by-side. The left terminal window (Tilix) displays the following command-line interactions:

```
1: ilovetrains28@cis106: ~$ echo "line 1 line2"
line 1 line2
2: ilovetrains28@cis106: ~$ echo -e "line 1\nline2"
line 1
line2
3: ilovetrains28@cis106: ~$ echo -e "line 1\n\tline2"
line 1
    line2
4: ilovetrains28@cis106: ~$ echo -e "\tline 1\nline2"
    line 1
line2
5: ilovetrains28@cis106: ~$
```

The right terminal window (Tilix) displays the man page for the `ECHO(1)` command:

```
[ECHO(1) User Commands ECHO(1)]
NAME
    echo - display a line of
    text
SYNOPSIS
    echo [SHORT-OPTION]...
    [STRING]...
    echo LONG-OPTION
DESCRIPTION
    Echo the STRING(s) to
    standard output.
    -n      do not output the
            trailing newline
    -e      enable interpre-
            tation of back-
            slash escapes
    -E      disable interpre-
            tation of back-
            slash escapes
            (default)
-- MOST: *stdin* (1,1)0%
```

Challenge Question

1: ilovetrains28@cis106: ~

```
ilovetrains28@cis106: $ free
total used free shared buff/cache available
Mem: 401016 2324276 361148 285484 1873888 1691740
Swap: 271564 38884 2676760
ilovetrains28@cis106: $ free -h -L
SwapUse 37Mi CachUse 1.8Gi MemUse 2.2Gi MemFree 354Mi
ilovetrains28@cis106: $
```

2: ilovetrains28@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. Follow ing units are used.
B = bytes
Ki = kibibyte
Mi = mebibyte
Gi = gibibyte
Ti = tebibyte
Pi = pebibyte

If unit is missing, and you have exhibyte of RAM or swap, the number is in terabytes 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 > option.

-l, --tall
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.

-- MOST: *stdin*
Press 'Q' to quit, 'H' for help, and SPACE to scroll.
```

(89,1)52%

1: ilovetrains28@cis106: ~

```
ilovetrains28@cis106: $ uname
Linux
ilovetrains28@cis106: $ uname -s -r -v -o
Linux 6.12.63+deb13+and64 #1 SMP PREEMPT_DYNAMIC Debian 6.12.63-1 (2025-12-30) GNU/Linux
ilovetrains28@cis106: $
```

2: ilovetrains28@cis106: ~

```
UNAME(1) User Commands 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
        print the hardware platform (non-portable)
    -c, --operating-system
        print the operating system

-- MOST: *stdin*
Press 'Q' to quit, 'H' for help, and SPACE to scroll.
```

(1,1)0%

1: ilovetrains28@cis106: ~

```
ilovetrains28@cis106: $ date --rfc-3339=ns
2026-02-20 08:22:27.09422916-05:00
ilovetrains28@cis106: $
```

2: ilovetrains28@cis106: ~

```
--debug
    annotate the parsed date, and warn about questionable usage to stderr

-f, --file=DATEFILE
    like --date; once for each line of DATEFILE

-1[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-3339
    output date and time in RFC 3339 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, --res olution.

-- MOST: *stdin*
Press 'Q' to quit, 'H' for help, and SPACE to scroll.
```

(17,1)10%