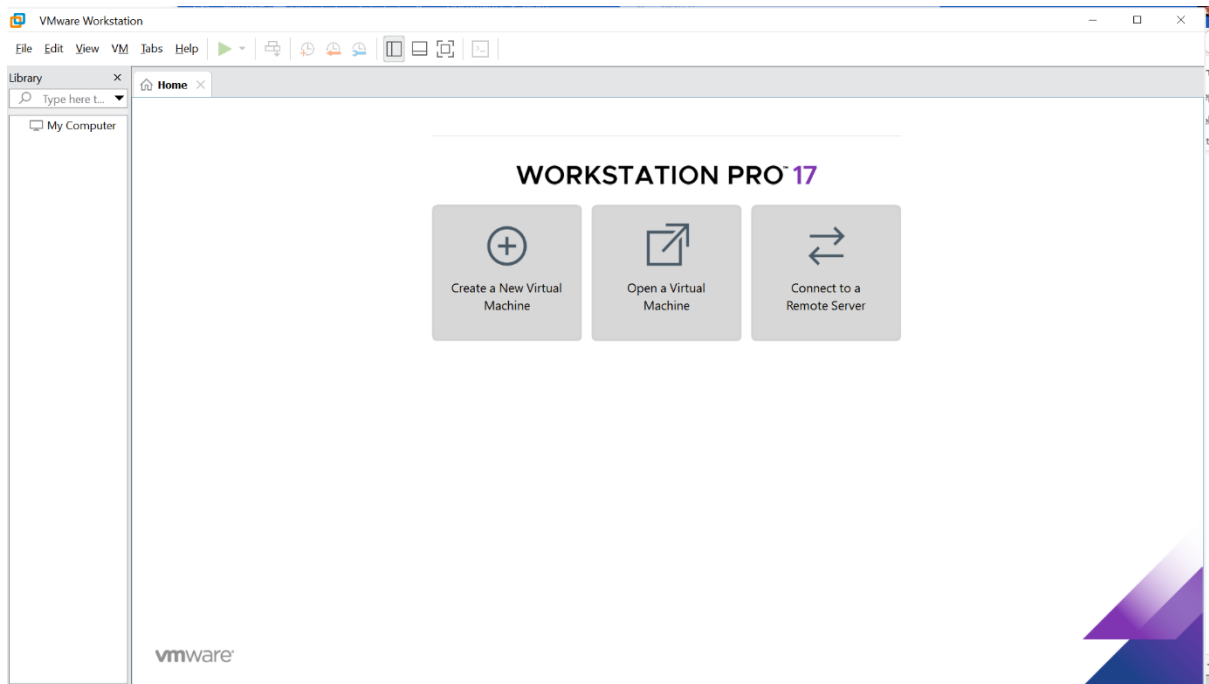


ASSIGNMENT 1:

Part I

1.



```
thien@Choppi-Pie: /var
thien@Choppi-Pie:~$ cd
thien@Choppi-Pie:~$ ls -a
. . . .bash_logout .bashrc .cache .motd_shown .profile
thien@Choppi-Pie:~$ ls -l
total 0
thien@Choppi-Pie:~$ cd ..
thien@Choppi-Pie:/home$ pwd
/home
thien@Choppi-Pie:/home$ cd ..
thien@Choppi-Pie:/ $ pwd
/
thien@Choppi-Pie:/ $ cd var
thien@Choppi-Pie:/var$ ls -l
total 44
drwxr-xr-x  2 root root   4096 Apr 22  2024 backups
drwxr-xr-x 13 root root   4096 Jan 10 05:59 cache
drwxrwsrwt  2 root root   4096 Sep 27 20:14 crash
drwxr-xr-x 32 root root   4096 Sep 27 20:14 lib
drwxrwsr-x  2 root staff  4096 Apr 22  2024 local
lrwxrwxrwx  1 root root    9 Sep 27 20:13 lock -> /run/lock
drwxrwxr-x  8 root syslog 4096 Jan 10 05:59 log
drwxrwsr-x  2 root mail   4096 Sep 27 20:13 mail
drwxr-xr-x  2 root root   4096 Sep 27 20:13 opt
lrwxrwxrwx  1 root root    4 Sep 27 20:13 run -> /run
drwxr-xr-x  2 root root   4096 Aug 20 22:39 snap
drwxr-xr-x  4 root root   4096 Sep 27 20:13 spool
drwxrwsrwt  7 root root   4096 Jan 10 05:59 tmp
thien@Choppi-Pie:/var$ pwd
/var
thien@Choppi-Pie:/var$
```

2.

3.

```
thien@Choppi-Pie:/var$ ls -l
total 44
drwxr-xr-x  2 root root   4096 Apr 22  2024 backups
drwxr-xr-x 13 root root   4096 Jan 10 05:59 cache
drwxrwsrwt  2 root root   4096 Sep 27 20:14 crash
drwxr-xr-x 32 root root   4096 Sep 27 20:14 lib
drwxrwsr-x  2 root staff  4096 Apr 22  2024 local
lrwxrwxrwx  1 root root      9 Sep 27 20:13 lock -> /run/lock
drwxrwxr-x  8 root syslog 4096 Jan 10 05:59 log
drwxrwsr-x  2 root mail   4096 Sep 27 20:13 mail
drwxr-xr-x  2 root root   4096 Sep 27 20:13 opt
lrwxrwxrwx  1 root root      4 Sep 27 20:13 run -> /run
drwxr-xr-x  2 root root   4096 Aug 20 22:39 snap
drwxr-xr-x  4 root root   4096 Sep 27 20:13 spool
drwxrwsrwt  6 root root   4096 Jan 10 06:00 tmp
thien@Choppi-Pie:/var$
```

```
thien@Choppi-Pie:/var$ ls -la
total 56
drwxr-xr-x 13 root root   4096 Jan 10 05:59 .
drwxr-xr-x 22 root root   4096 Jan 10 05:59 ..
-rw-r--r--  1 root root    208 Sep 27 20:13 .updated
drwxr-xr-x  2 root root   4096 Apr 22  2024 backups
drwxr-xr-x 13 root root   4096 Jan 10 05:59 cache
drwxrwsrwt  2 root root   4096 Sep 27 20:14 crash
drwxr-xr-x 32 root root   4096 Sep 27 20:14 lib
drwxrwsr-x  2 root staff  4096 Apr 22  2024 local
lrwxrwxrwx  1 root root      9 Sep 27 20:13 lock -> /run/lock
drwxrwxr-x  8 root syslog 4096 Jan 10 05:59 log
drwxrwsr-x  2 root mail   4096 Sep 27 20:13 mail
drwxr-xr-x  2 root root   4096 Sep 27 20:13 opt
lrwxrwxrwx  1 root root      4 Sep 27 20:13 run -> /run
drwxr-xr-x  2 root root   4096 Aug 20 22:39 snap
drwxr-xr-x  4 root root   4096 Sep 27 20:13 spool
drwxrwsrwt  6 root root   4096 Jan 10 06:00 tmp
thien@Choppi-Pie:/var$
```

4.

5.

```
thien@Choppi-Pie:/var$ sudo mkdir CSE302
```

6.

```
thien@Choppi-Pie:/var$ ls -l
total 48
drwxr-xr-x  2 root root   4096 Jan 10 06:06 CSE302
```

7.

```
thien@Choppi-Pie:/var$ cd CSE302
thien@Choppi-Pie:/var/CSE302$
```

8.

```
thien@Choppi-Pie:/var/CSE302$ cd /home
thien@Choppi-Pie:/home$
```

9.

```
thien@Choppi-Pie:/var$ sudo mkdir SCIT
```

10.

```
thien@Choppi-Pie:/var$ ls
CSE302  SCIT  backups  cache
```

```
thien@Choppi-Pie:/var$ cd SCIT
thien@Choppi-Pie:/var/SCIT$
```

11.

```
thien@Choppi-Pie:/var/SCIT$ cd /home
thien@Choppi-Pie:/home$ ls -a
.  ..  thien
```

12.

```
thien@Choppi-Pie:/var/CSE302$ sudo touch Lab1
thien@Choppi-Pie:/var/CSE302$ ls
Lab1
```

13.

14.

```
thien@Choppi-Pie:/var/CSE302$ ls
Lab1  Lab2
thien@Choppi-Pie:/var/CSE302$ sudo cp Lab1 Lab2
```

15.

```
thien@Choppi-Pie:/var/CSE302$ sudo mv Lab1 Practice1
thien@Choppi-Pie:/var/CSE302$ ls
Lab2  Practice1
```

16.

```
thien@Choppi-Pie:/var/CSE302$ sudo rm Lab2
thien@Choppi-Pie:/var/CSE302$ ls
Practice1
```

17.

```
thien@Choppi-Pie:/var/CSE302$ sudo rm -r /var/SCIT
thien@Choppi-Pie:/var/CSE302$ cd /var
thien@Choppi-Pie:/var$ ls
CSE302  backups  cache  crash  lib  local  lock  log  mail  opt  run  snap  spool  tmp
```

18.

```
thien@Choppi-Pie:/var$ man ls
```

```
LS(1)                                     User Commands                                     LS(1)

NAME
    ls - list directory contents

SYNOPSIS
    ls [OPTION]... [FILE]...

DESCRIPTION
    List information about the FILES (the current directory by default).  Sort entries alphabetically if none of
    -cftuvSUX nor --sort is specified.

    Mandatory arguments to long options are mandatory for short options too.

    -a, --all
        do not ignore entries starting with .

    -A, --almost-all
        do not list implied . and ..

    --author
        with -l, print the author of each file

    -b, --escape
        print C-style escapes for nongraphic characters

    --block-size=SIZE
        with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M'; see SIZE format below

    -B, --ignore-backups
        do not list implied entries ending with ~

    -c
        with -lt: sort by, and show, ctime (time of last change of file status information); with -l: show
        ctime and sort by name; otherwise: sort by ctime, newest first

    -C
        list entries by columns
```

19.

```
thien@Choppi-Pie:/var/CSE302$ sudo cp Lab1 /var/SCIT/Practice1
```

```
thien@Choppi-Pie:/var/SCIT$ ls
Practice1
```

20.

```
thien@Choppi-Pie:/var$ sudo apt install build-essential
```

```
thien@Choppi-Pie:/var$ gcc --version
gcc (Ubuntu 13.3.0-6ubuntu2~24.04) 13.3.0
Copyright (C) 2023 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

```
thien@Choppi-Pie:/var$ sudo wget https://cdn.kernel.org/pub/linux/kernel/v4.x/linux-4.17.2.tar.xz
thien@Choppi-Pie:/var$ man -k sort
alphasort (3)      - scan a directory for matching entries
apt-sortpkgs (1)   - Utility to sort package index files
bsearch (3)       - binary search of a sorted array
bunzip2 (1)       - a block-sorting file compressor, v1.0.8
bzip2 (1)         - a block-sorting file compressor, v1.0.8
comm (1)          - compare two sorted files line by line
qsort (3)         - sort an array
qsort_r (3)       - sort an array
sort (1)          - sort lines of text files
tsort (1)         - perform topological sort
versionsort (3)   - scan a directory for matching entries
```

21.

22.

23.

24.

25.

26.

```
thien@Choppi-Pie:/var$ cat docs_for_wc_program.txt
WC(1) User Commands WC(1)

NAME
    wc - print newline, word, and byte counts for each file

SYNOPSIS
    wc [OPTION]... [FILE]...
    wc [OPTION]... --files0-from=F

DESCRIPTION
    Print newline, word, and byte counts for each FILE, and a total line if more than one FILE is specified.
    word is a non-zero-length sequence of printable characters delimited by white space.

    With no FILE, or when FILE is -, read standard input.

    The options below may be used to select which counts are printed, always in the following order: newline
    word, character, byte, maximum line length.

    -c, --bytes
        print the byte counts

    -m, --chars
        print the character counts

    -l, --lines
        print the newline counts

    --files0-from=F
        read input from the files specified by NUL-terminated names in file F; If F is - then read names from
        standard input

    -L, --max-line-length
        print the maximum display width

    -w, --words
        print the word counts

    --total=WHEN
        when to print a line with total counts; WHEN can be: auto, always, only, never
```

27.

28.

```
thien@Choppi-Pie:/var$ ls
CSE302 backups cache crash lib linux-4.17.2.tar.xz
```

```
thien@Choppi-Pie:/var$ sudo nano LabInstruction.txt
```

29.

```
thien@Choppi-Pie:/var$ wc LabInstruction.txt
 3  34 247 LabInstruction.txt
```

30.

```
thien@Choppi-Pie:/var$ cat LabInstruction.txt
The laboratory courses offered cover a wide range of disciplines and methodologies aimed at
providing students with the knowledge and practical skills required for advanced studies and
future careers in biotechnology, biomedicine, and academia.
```

```
thien@Choppi-Pie:/var$ man wc > docs_for_wc_program.txt
```

31.

```
thien@Choppi-Pie:/var$ cat mylist.txt
cat
dog
horse
cow
thien@Choppi-Pie:/var$ sort < mylist.txt
cat
cow
dog
horse
```

```
thien@Choppi-Pie:/var$ man ls >> docs_for_wc_program.txt
GNU coreutils 9.4                                April 2024      WC(1)
LS(1)                                              User Commands  LS(1)

NAME
  ls - list directory contents

SYNOPSIS
  ls [OPTION]... [FILE]...

DESCRIPTION
  List information about the FILES (the current directory by default). Sort entries alphabetically if none of
  -cftuvSUX nor --sort is specified.

  Mandatory arguments to long options are mandatory for short options too.

  -a, --all
      do not ignore entries starting with .

  -A, --almost-all
      do not list implied . and ..

  --author
      with -l, print the author of each file

  -b, --escape
      print C-style escapes for nongraphic characters

  --block-size=SIZE
      with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M'; see SIZE format below

  -B, --ignore-backups
      do not list implied . and .. files that begin with a dot, except those beginning with ..
```