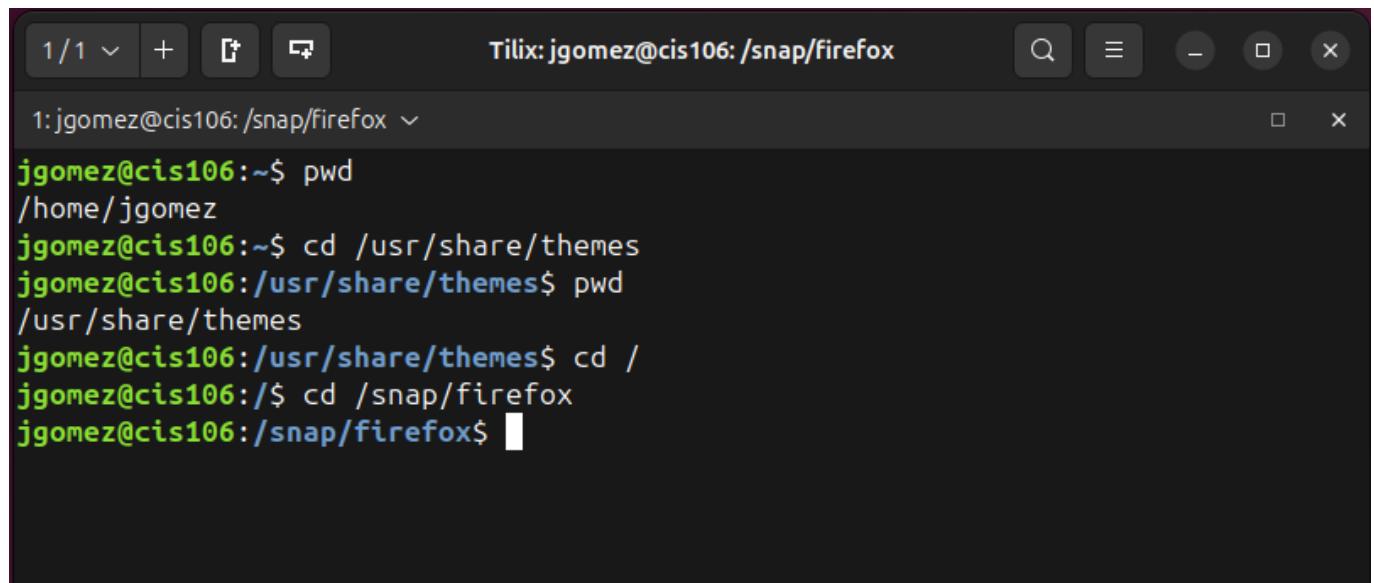


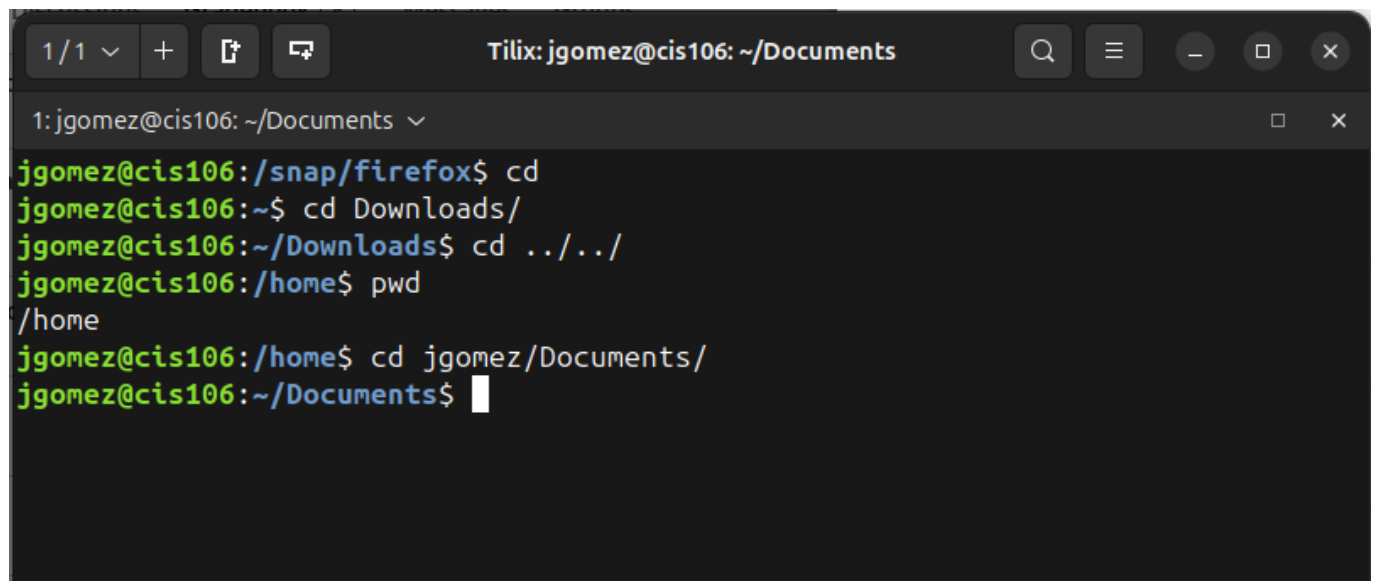
# Lab 4

---

## Question 1



```
1/1 v + [icon] [icon] Tilix: jgomez@cis106: /snap/firefox [search] [menu] [minus] [maximize] [close]
1: jgomez@cis106: /snap/firefox v [icon] [close]
jgomez@cis106:~$ pwd
/home/jgomez
jgomez@cis106:~$ cd /usr/share/themes
jgomez@cis106:/usr/share/themes$ pwd
/usr/share/themes
jgomez@cis106:/usr/share/themes$ cd /
jgomez@cis106:/$ cd /snap/firefox
jgomez@cis106:/snap/firefox$
```



```
1/1 v + [icon] [icon] Tilix: jgomez@cis106: ~/Documents [search] [menu] [minus] [maximize] [close]
1: jgomez@cis106: ~/Documents v [icon] [close]
jgomez@cis106:/snap/firefox$ cd
jgomez@cis106:~$ cd Downloads/
jgomez@cis106:~/Downloads$ cd ../../
jgomez@cis106:/home$ pwd
/home
jgomez@cis106:/home$ cd jgomez/Documents/
jgomez@cis106:~/Documents$
```

## Question 2

```
1/1 v + T T Tilix: jgomez@cis106: ~/lab4files
1: jgomez@cis106: ~/lab4files v AI x 2: jgomez@cis106: ~ v x
jgomez@cis106:~$ cd /usr/share/
jgomez@cis106:/usr/share$ ls ~/lab4files/
countries.json document.docx helloWorld.c sample.xls Ubuntu.pdf
csvfile.csv globe.avi Linux.pdf Tux.png website.html
jgomez@cis106:/usr/share$ cd ~/lab4files/
jgomez@cis106:~/lab4files$ ls -lh
total 6.5M
-rw-rw-r-- 1 jgomez jgomez 20K Feb 22 2022 countries.json
-rw-rw-r-- 1 jgomez jgomez 278K Feb 22 2022 csvfile.csv
-rw-rw-r-- 1 jgomez jgomez 747K Feb 22 2022 document.docx
-rw-rw-r-- 1 jgomez jgomez 726K Feb 22 2022 globe.avi
-rw-rw-r-- 1 jgomez jgomez 76 Feb 22 2022 helloWorld.c
-rw-rw-r-- 1 jgomez jgomez 2.5M Feb 22 2022 Linux.pdf
-rw-rw-r-- 1 jgomez jgomez 8.5K Feb 22 2022 sample.xls
-rw-rw-r-- 1 jgomez jgomez 42K Feb 22 2022 Tux.png
-rw-rw-r-- 1 jgomez jgomez 2.1M Feb 22 2022 Ubuntu.pdf
-rw-rw-r-- 1 jgomez jgomez 135K Feb 22 2022 website.html
jgomez@cis106:~/lab4files$ ls -lhs
total 6.5M
-rw-rw-r-- 1 jgomez jgomez 2.5M Feb 22 2022 Linux.pdf
-rw-rw-r-- 1 jgomez jgomez 2.1M Feb 22 2022 Ubuntu.pdf
-rw-rw-r-- 1 jgomez jgomez 747K Feb 22 2022 document.docx
-rw-rw-r-- 1 jgomez jgomez 726K Feb 22 2022 globe.avi
-rw-rw-r-- 1 jgomez jgomez 278K Feb 22 2022 csvfile.csv
-rw-rw-r-- 1 jgomez jgomez 135K Feb 22 2022 website.html
-rw-rw-r-- 1 jgomez jgomez 42K Feb 22 2022 Tux.png
-rw-rw-r-- 1 jgomez jgomez 20K Feb 22 2022 countries.json
-rw-rw-r-- 1 jgomez jgomez 8.5K Feb 22 2022 sample.xls
-rw-rw-r-- 1 jgomez jgomez 76 Feb 22 2022 helloWorld.c
time, newest first
-U do not sort; list entries in directory order
-v natural sort of (version) numbers within text
-w, --width=COLS set output width to COLS. 0 means no limit
-x list entries by lines instead of by columns
-X sort alphabetically by entry extension
-Z, --context print any security context of each file
--zero end each output line
ge ls(1) line 278/398 76% (press h for help or q to quit)
```

```
1/1 v + T T Tilix: jgomez@cis106: ~/lab4files
1: jgomez@cis106: ~/lab4files v AI x 2: jgomez@cis106: ~ v x
jgomez@cis106:~/lab4files$ ls -lhs
total 6.5M
-rw-rw-r-- 1 jgomez jgomez 2.5M Feb 22 2022 Linux.pdf
-rw-rw-r-- 1 jgomez jgomez 2.1M Feb 22 2022 Ubuntu.pdf
-rw-rw-r-- 1 jgomez jgomez 747K Feb 22 2022 document.docx
-rw-rw-r-- 1 jgomez jgomez 726K Feb 22 2022 globe.avi
-rw-rw-r-- 1 jgomez jgomez 278K Feb 22 2022 csvfile.csv
-rw-rw-r-- 1 jgomez jgomez 135K Feb 22 2022 website.html
-rw-rw-r-- 1 jgomez jgomez 42K Feb 22 2022 Tux.png
-rw-rw-r-- 1 jgomez jgomez 20K Feb 22 2022 countries.json
-rw-rw-r-- 1 jgomez jgomez 8.5K Feb 22 2022 sample.xls
-rw-rw-r-- 1 jgomez jgomez 76 Feb 22 2022 helloWorld.c
jgomez@cis106:~/lab4files$ ls -lhSGi
total 6.5M
1180687 -rw-rw-r-- 1 jgomez 2.5M Feb 22 2022 Linux.pdf
1180689 -rw-rw-r-- 1 jgomez 2.1M Feb 22 2022 Ubuntu.pdf
1180693 -rw-rw-r-- 1 jgomez 747K Feb 22 2022 document.docx
1180694 -rw-rw-r-- 1 jgomez 726K Feb 22 2022 globe.avi
1180692 -rw-rw-r-- 1 jgomez 278K Feb 22 2022 csvfile.csv
1180697 -rw-rw-r-- 1 jgomez 135K Feb 22 2022 website.html
1180688 -rw-rw-r-- 1 jgomez 42K Feb 22 2022 Tux.png
1180690 -rw-rw-r-- 1 jgomez 20K Feb 22 2022 countries.json
1180696 -rw-rw-r-- 1 jgomez 8.5K Feb 22 2022 sample.xls
1180695 -rw-rw-r-- 1 jgomez 76 Feb 22 2022 helloWorld.c
jgomez@cis106:~/lab4files$ ls -lhSGi
total 6.5M
1180687 -rw-rw-r-- 1 jgomez 2.5M Feb 22 2022 Linux.pdf
time, newest first
-U do not sort; list entries in directory order
-v natural sort of (version) numbers within text
-w, --width=COLS set output width to COLS. 0 means no limit
-x list entries by lines instead of by columns
-X sort alphabetically by entry extension
-Z, --context print any security context of each file
--zero end each output line
ge ls(1) line 278/398 76% (press h for help or q to quit)
```

The terminal window shows two panes. The left pane displays the output of `ls -lhSGgi` in the `~/lab4files` directory, listing files like `Ubuntu.pdf`, `document.docx`, `globe.avi`, `csvfile.csv`, `website.html`, `Tux.png`, `countries.json`, `sample.xls`, and `helloWorld.c`. The right pane shows the output of `ls(1)` with various options and their descriptions:

- `-U` do not sort; list entries in directory order
- `-v` natural sort of (version) numbers within text
- `-w, --width=COLS` set output width to COLS. 0 means no limit
- `-x` list entries by lines instead of by columns
- `-X` sort alphabetically by entry extension
- `-Z, --context` print any security context of each file
- `--zero` end each output line

The terminal prompt is `jgomez@cis106:~/lab4files$`.

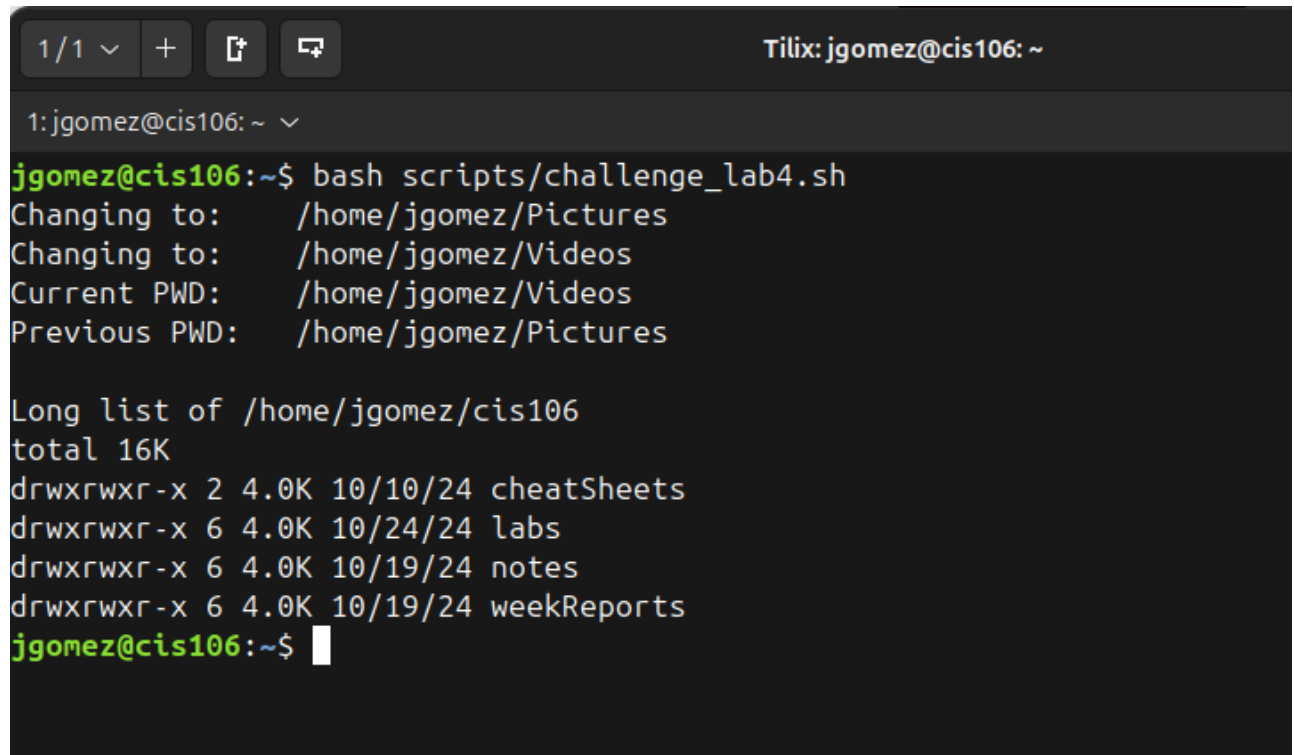
### Question 3

The terminal window shows the output of a script `scripts/lab4_script.sh`. The script displays the current user (`jgomez`), home directory (`/home/jgomez`), and current directory (`/home/jgomez/cis106`). It then lists all files (including hidden files) in the root directory (`/`), the user's home directory (`/home/jgomez`), and the user's Downloads directory (`/home/jgomez/Downloads`). The output shows various system files, user files, and application data.

The terminal prompt is `jgomez@cis106:~$`.

### Question 4 (Challenge Question)

- [Script Source Code](#)



A terminal window titled 'Tilix: jgomez@cis106: ~' showing the execution of a script. The prompt is 'jgomez@cis106:~\$'. The script 'bash scripts/challenge\_lab4.sh' is run, resulting in directory changes and a long listing of the home directory. The listing shows a total of 16K and four directories: 'cheatSheets', 'labs', 'notes', and 'weekReports', each with a size of 4.0K and permissions 'drwxrwxr-x'.

```
1/1  +  [f]  [c]  Tilix: jgomez@cis106: ~  
1:jgomez@cis106: ~  ▾  
jgomez@cis106:~$ bash scripts/challenge_lab4.sh  
Changing to:    /home/jgomez/Pictures  
Changing to:    /home/jgomez/Videos  
Current PWD:    /home/jgomez/Videos  
Previous PWD:   /home/jgomez/Pictures  
  
Long list of /home/jgomez/cis106  
total 16K  
drwxrwxr-x 2 4.0K 10/10/24 cheatSheets  
drwxrwxr-x 6 4.0K 10/24/24 labs  
drwxrwxr-x 6 4.0K 10/19/24 notes  
drwxrwxr-x 6 4.0K 10/19/24 weekReports  
jgomez@cis106:~$
```