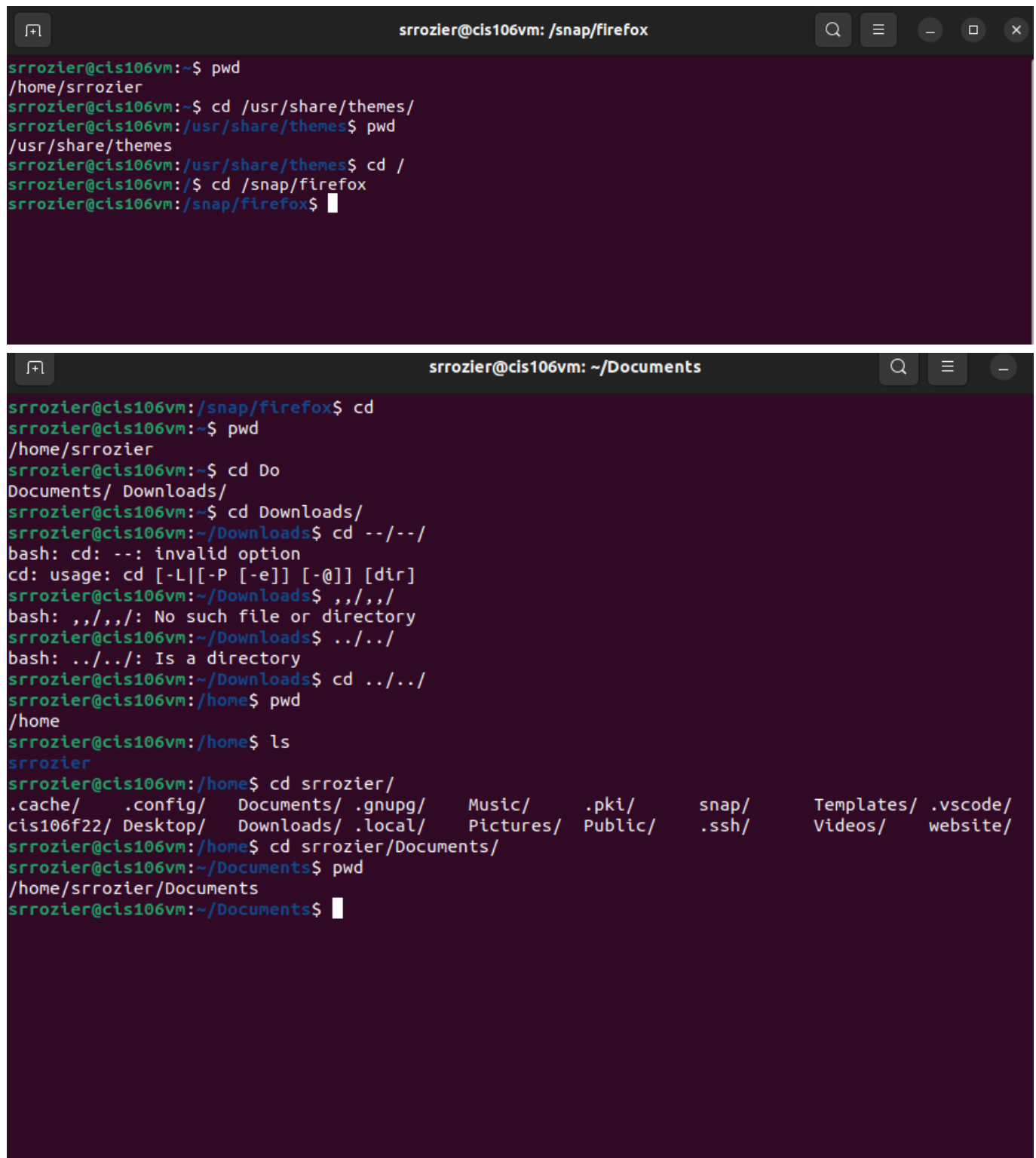


# Lab 4 submission

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## Question 1



The image contains two terminal window screenshots. The first terminal window has a title bar 'srrozier@cis106vm: /snap/firefox' and shows a sequence of commands: 'pwd' (returns /home/srrozier), 'cd /usr/share/themes/' (returns /usr/share/themes), and 'cd /' (returns /). The second terminal window has a title bar 'srrozier@cis106vm: ~/Documents' and shows a sequence of commands: 'cd' (returns /snap/firefox), 'pwd' (returns /home/srrozier), 'cd Do' (returns Documents/ Downloads/), 'cd Downloads/' (returns ~/Downloads), and an attempt to use 'cd --/--/' which fails with 'bash: cd: --: invalid option'. It then shows 'cd ../..' (returns /home) and 'ls' (lists contents of /home). Finally, it shows 'cd srrozier/' (returns /home/srrozier/) and 'cd srrozier/Documents/' (returns ~/Documents).

```
srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd /usr/share/themes/
srrozier@cis106vm:/usr/share/themes$ pwd
/usr/share/themes
srrozier@cis106vm:/usr/share/themes$ cd /
srrozier@cis106vm:/$ cd /snap/firefox
srrozier@cis106vm:/snap/firefox$
```

```
srrozier@cis106vm:/snap/firefox$ cd
srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd Do
Documents/ Downloads/
srrozier@cis106vm:~$ cd Downloads/
srrozier@cis106vm:~/Downloads$ cd --/--/
bash: cd: --: invalid option
cd: usage: cd [-L|[-P [-e]] [-@]] [dir]
srrozier@cis106vm:~/Downloads$ .././
bash: .././: No such file or directory
srrozier@cis106vm:~/Downloads$ ../../
bash: ../../: Is a directory
srrozier@cis106vm:~/Downloads$ cd ../../
srrozier@cis106vm:/home$ pwd
/home
srrozier@cis106vm:/home$ ls
srrozier
srrozier@cis106vm:/home$ cd srrozier/
.cache/  .config/  Documents/ .gnupg/  Music/    .pki/    snap/    Templates/ .vscode/
cis106f22/ Desktop/  Downloads/ .local/  Pictures/ .ssh/    Videos/ website/
srrozier@cis106vm:/home$ cd srrozier/Documents/
srrozier@cis106vm:~/Documents$ pwd
/home/srrozier/Documents
srrozier@cis106vm:~/Documents$
```

## Question 2



```

Activities  Terminal  srrozier@cis106vm: ~/lab4files

fwupd          linux-sound-base    ucf
gamemode       locale              ufw
games          locale-langpack     unattended-upgrades
gcc            locales             unity
GConf          lto-disabled-list   update-manager
gdb            m2300w              update-notifier
gdm            man                  upstart
geany          man-db              usb-creator
gedit          mate-panel           usb_modeswitch
GeoIP          maven-repo           vala
gettext        media-player-info    vim
ghostscript    menu                 vlc
gir-1.0        mesa-demos           vulkan
git-core       metainfo             w3m
gitweb         mfx                  wayland-sessions
glade          mime                 X11
glib-2.0       misc                 xapps-common
glvnd          mobile-broadband-provider-info xdg-desktop-portal
gnome          ModemManager         xml
gnome-applets  mousetweaks          xml-core
gnome-background-properties mythes               xsessions
gnome-bluetooth nano                  yelp
gnome-bluetooth-3.0 nautilus              yelp-xsl
gnome-control-center nautilus-python       zenity
gnome-initial-setup nautilus-share         zoneinfo
gnome-logs       nemo                  zoneinfo-icu
gnome-mahjongg   netpbm                zsh
gnome-panel      netplan

srrozier@cis106vm:~/usr/share$ ls /home/srrozier/lab4files/
countries.json  document.docx  helloWorld.c  sample.xls  Ubuntu.pdf
csvfile.csv     globe.avi      Linux.pdf     Tux.png     website.html
srrozier@cis106vm:~/usr/share$ cd /home/srrozier/lab4files/
srrozier@cis106vm:~/lab4files$ ls -l
total 6580
-rw-rw-r-- 1 srrozier srrozier  20471 Feb 22  2022 countries.json
-rw-rw-r-- 1 srrozier srrozier 284042 Feb 22  2022 csvfile.csv
-rw-rw-r-- 1 srrozier srrozier 764176 Feb 22  2022 document.docx
-rw-rw-r-- 1 srrozier srrozier 742478 Feb 22  2022 globe.avi
-rw-rw-r-- 1 srrozier srrozier    76 Feb 22  2022 helloWorld.c
-rw-rw-r-- 1 srrozier srrozier 2600138 Feb 22  2022 Linux.pdf
-rw-rw-r-- 1 srrozier srrozier   8704 Feb 22  2022 sample.xls
-rw-rw-r-- 1 srrozier srrozier  42777 Feb 22  2022 Tux.png
-rw-rw-r-- 1 srrozier srrozier 2114053 Feb 22  2022 Ubuntu.pdf
-rw-rw-r-- 1 srrozier srrozier  137453 Feb 22  2022 website.html
srrozier@cis106vm:~/lab4files$

```

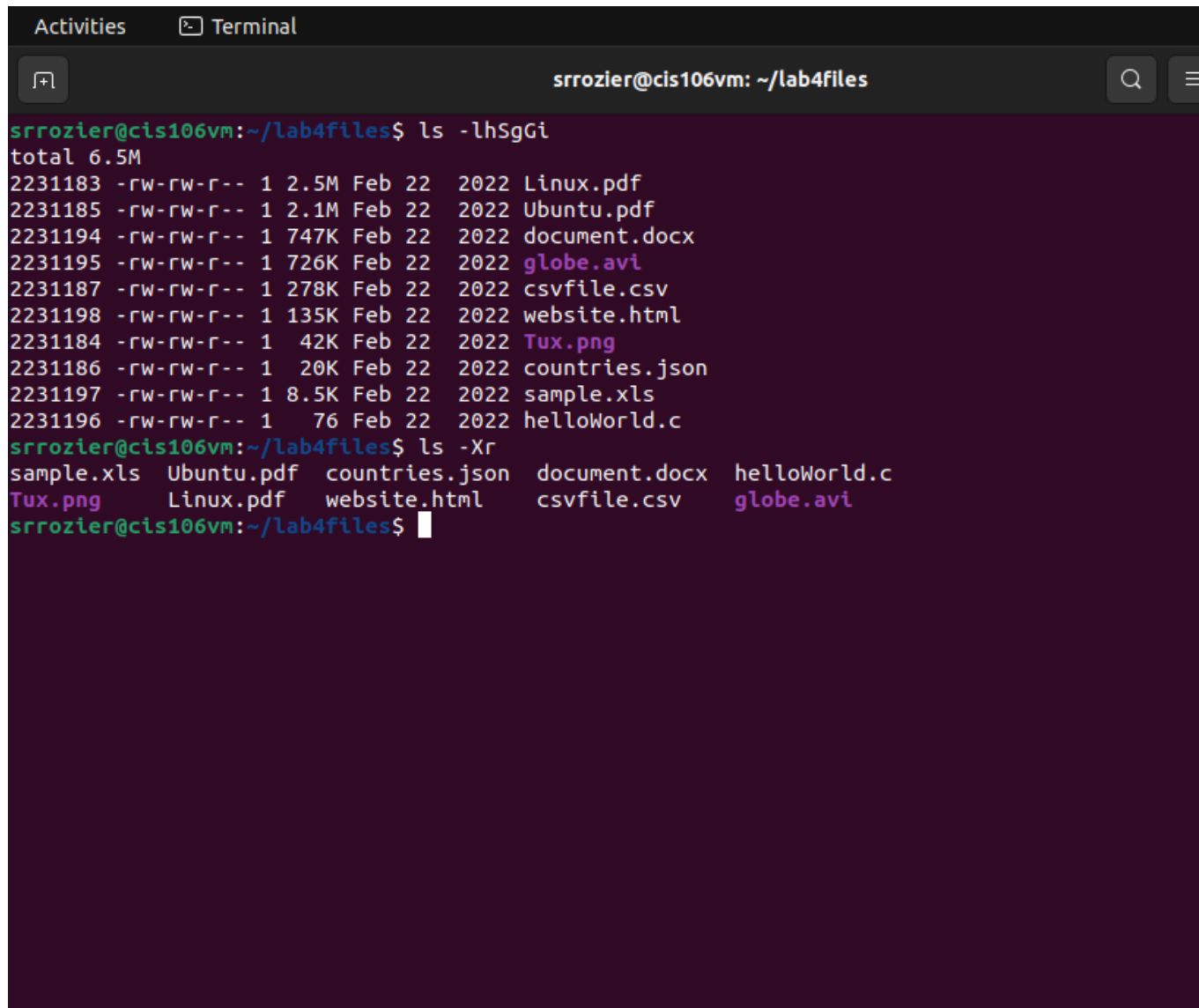
```

Activities  Terminal  srrozier@cis106vm: ~/lab4files

srrozier@cis106vm:~/lab4files$ ls -lh
total 6.5M
-rw-rw-r-- 1 srrozier srrozier  20K Feb 22  2022 countries.json
-rw-rw-r-- 1 srrozier srrozier 278K Feb 22  2022 csvfile.csv
-rw-rw-r-- 1 srrozier srrozier 747K Feb 22  2022 document.docx
-rw-rw-r-- 1 srrozier srrozier 726K Feb 22  2022 globe.avi
-rw-rw-r-- 1 srrozier srrozier   76 Feb 22  2022 helloWorld.c
-rw-rw-r-- 1 srrozier srrozier 2.5M Feb 22  2022 Linux.pdf
-rw-rw-r-- 1 srrozier srrozier  8.5K Feb 22  2022 sample.xls
-rw-rw-r-- 1 srrozier srrozier  42K Feb 22  2022 Tux.png
-rw-rw-r-- 1 srrozier srrozier 2.1M Feb 22  2022 Ubuntu.pdf
-rw-rw-r-- 1 srrozier srrozier 135K Feb 22  2022 website.html
srrozier@cis106vm:~/lab4files$ ls -lhs
total 6.5M
-rw-rw-r-- 1 srrozier srrozier 2.5M Feb 22  2022 Linux.pdf
-rw-rw-r-- 1 srrozier srrozier 2.1M Feb 22  2022 Ubuntu.pdf
-rw-rw-r-- 1 srrozier srrozier 747K Feb 22  2022 document.docx
-rw-rw-r-- 1 srrozier srrozier 726K Feb 22  2022 globe.avi
-rw-rw-r-- 1 srrozier srrozier 278K Feb 22  2022 csvfile.csv
-rw-rw-r-- 1 srrozier srrozier 135K Feb 22  2022 website.html
-rw-rw-r-- 1 srrozier srrozier  42K Feb 22  2022 Tux.png
-rw-rw-r-- 1 srrozier srrozier  20K Feb 22  2022 countries.json
-rw-rw-r-- 1 srrozier srrozier  8.5K Feb 22  2022 sample.xls

```

```
-rw-rw-r-- 1 srrozier srrozier 76 Feb 22 2022 helloWorld.c
srrozier@cis106vm:~/lab4files$
```



The image shows a terminal window titled "srrozier@cis106vm: ~/lab4files". The window contains the following text:

```
Activities Terminal
srrozier@cis106vm: ~/lab4files
srrozier@cis106vm:~/lab4files$ ls -lhSgGi
total 6.5M
2231183 -rw-rw-r-- 1 2.5M Feb 22 2022 Linux.pdf
2231185 -rw-rw-r-- 1 2.1M Feb 22 2022 Ubuntu.pdf
2231194 -rw-rw-r-- 1 747K Feb 22 2022 document.docx
2231195 -rw-rw-r-- 1 726K Feb 22 2022 globe.avi
2231187 -rw-rw-r-- 1 278K Feb 22 2022 csvfile.csv
2231198 -rw-rw-r-- 1 135K Feb 22 2022 website.html
2231184 -rw-rw-r-- 1 42K Feb 22 2022 Tux.png
2231186 -rw-rw-r-- 1 20K Feb 22 2022 countries.json
2231197 -rw-rw-r-- 1 8.5K Feb 22 2022 sample.xls
2231196 -rw-rw-r-- 1 76 Feb 22 2022 helloWorld.c
srrozier@cis106vm:~/lab4files$ ls -Xr
sample.xls  Ubuntu.pdf  countries.json  document.docx  helloWorld.c
Tux.png     Linux.pdf   website.html   csvfile.csv    globe.avi
srrozier@cis106vm:~/lab4files$
```

### Question 3



```
Activities Terminal
srrozier@cis106vm: ~/Downloads

srrozier@cis106vm: ~/Downloads
srrozier@cis106vm:~$ cd /etc/
srrozier@cis106vm:/etc$ tree ~/lab4files/
/home/srrozier/lab4files/
├── countries.json
├── csvfile.csv
├── document.docx
├── globe.avi
├── helloWorld.c
├── Linux.pdf
├── sample.xls
├── Tux.png
├── Ubuntu.pdf
└── website.html

0 directories, 10 files
srrozier@cis106vm:/etc$ cd ~/Downloads/
bash: cd: /home/srrozier/Downloads/: No such file or directory
srrozier@cis106vm:/etc$ cd ~/Downloads/
srrozier@cis106vm:~/Downloads$ tree -fph ../lab4files/
[drwxrwxr-x 4.0K] ../lab4files
├── [-rw-rw-r-- 20K] ../lab4files/countries.json
├── [-rw-rw-r-- 277K] ../lab4files/csvfile.csv
├── [-rw-rw-r-- 746K] ../lab4files/document.docx
├── [-rw-rw-r-- 725K] ../lab4files/globe.avi
├── [-rw-rw-r-- 76] ../lab4files/helloWorld.c
├── [-rw-rw-r-- 2.5M] ../lab4files/Linux.pdf
├── [-rw-rw-r-- 8.5K] ../lab4files/sample.xls
├── [-rw-rw-r-- 42K] ../lab4files/Tux.png
├── [-rw-rw-r-- 2.0M] ../lab4files/Ubuntu.pdf
└── [-rw-rw-r-- 134K] ../lab4files/website.html

0 directories, 10 files
srrozier@cis106vm:~/Downloads$
```

```
Activities Terminal
srrozier@cis106vm: ~/Downloads

srrozier@cis106vm: ~/Downloads
srrozier@cis106vm:~/Downloads$ tree -tug ../lab4files/
[srrozier srrozier] ../lab4files/
├── [srrozier srrozier] Linux.pdf
├── [srrozier srrozier] Tux.png
├── [srrozier srrozier] Ubuntu.pdf
├── [srrozier srrozier] sample.xls
├── [srrozier srrozier] globe.avi
├── [srrozier srrozier] document.docx
├── [srrozier srrozier] csvfile.csv
├── [srrozier srrozier] countries.json
├── [srrozier srrozier] website.html
└── [srrozier srrozier] helloWorld.c

0 directories, 10 files
srrozier@cis106vm:~/Downloads$ exa --help
```

## Usage:

```
exa [options] [files...]
```

## META OPTIONS

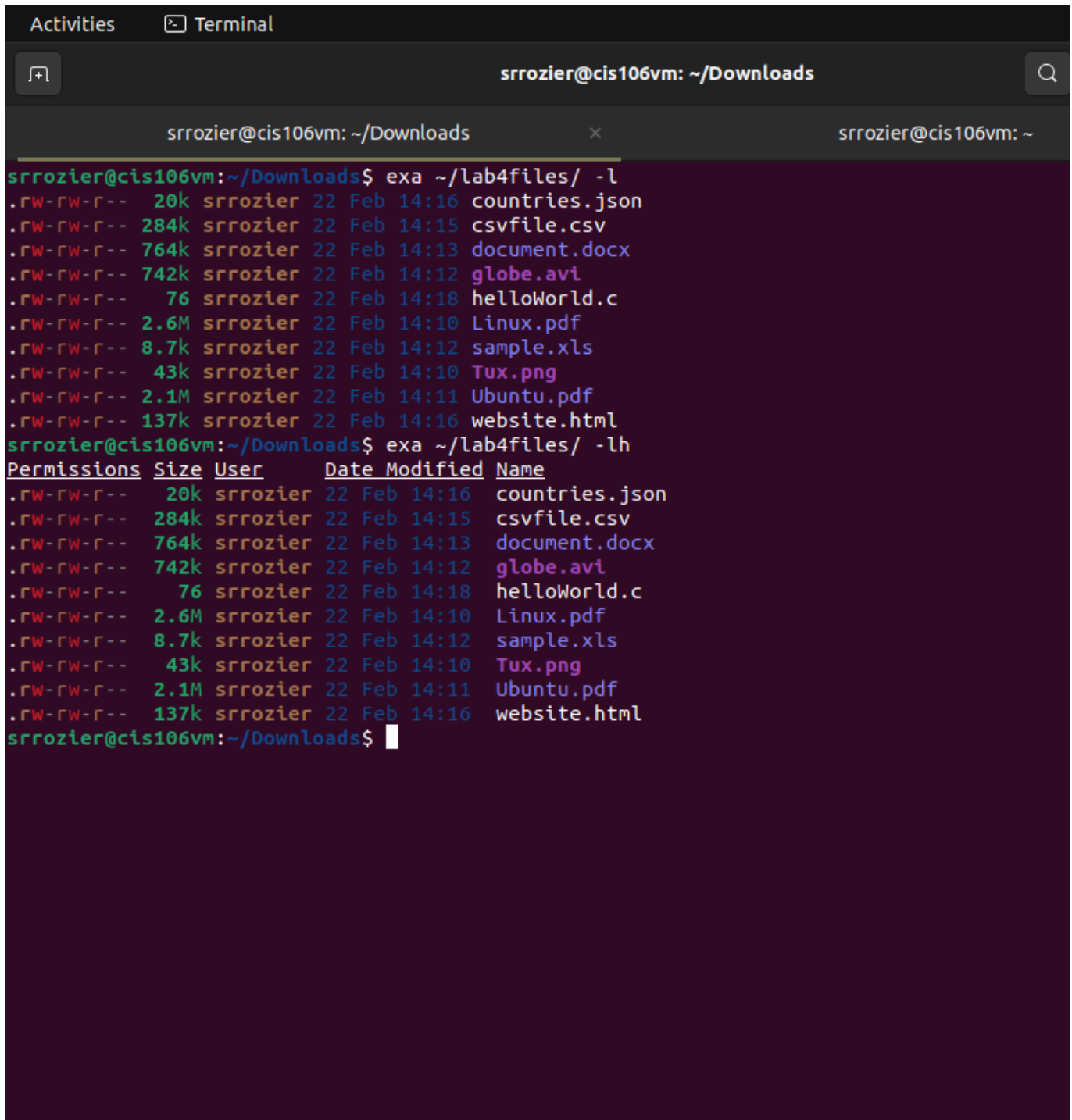
```
-?, --help      show list of command-line options  
-v, --version   show version of exa
```

## DISPLAY OPTIONS

```
-1, --oneline   display one entry per line  
-l, --long      display extended file metadata as a table  
-G, --grid      display entries as a grid (default)  
-x, --across    sort the grid across, rather than downwards  
-R, --recurse   recurse into directories  
-T, --tree      recurse into directories as a tree  
-F, --classify display type indicator by file names  
--colo[u]r=WHEN when to use terminal colours (always, auto, never)  
--colo[u]r-scale highlight levels of file sizes distinctly  
--icons         display icons  
--no-icons      don't display icons (always overrides --icons)
```

## FILTERING AND SORTING OPTIONS

```
-a, --all        show hidden and 'dot' files  
-d, --list-dirs  list directories as files; don't list their contents  
-L, --level DEPTH limit the depth of recursion
```

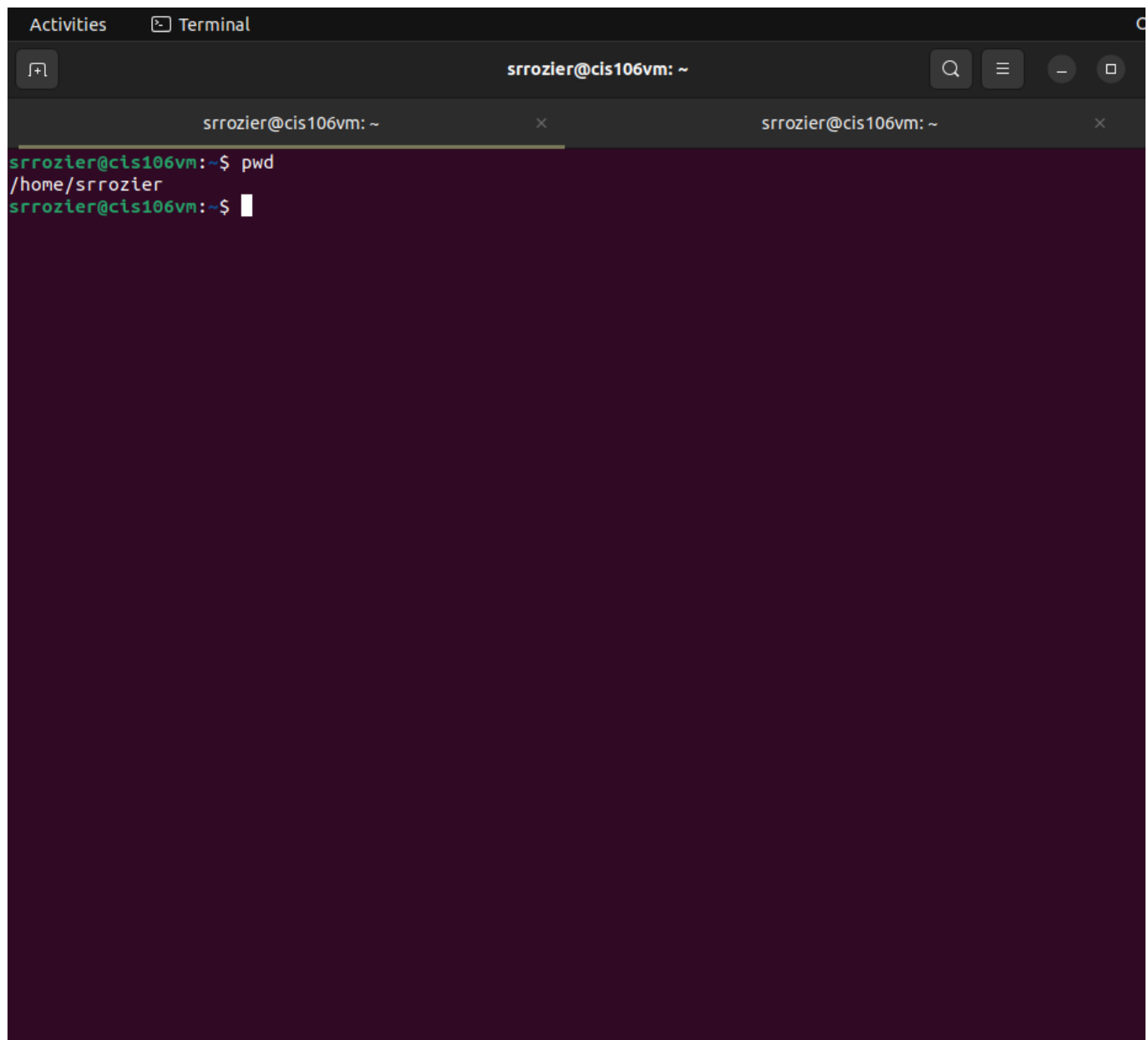


The image shows a terminal window titled "Terminal" with the user "srrozier" at "cis106vm" in the directory "~/Downloads". The terminal displays the output of two commands: "exa ~/lab4files/ -l" and "exa ~/lab4files/ -lh". The first command lists files with permissions, size, user, date, and name. The second command lists the same files with a header row: "Permissions", "Size", "User", "Date Modified", and "Name".

```
srrozier@cis106vm: ~/Downloads
srrozier@cis106vm: ~/Downloads$ exa ~/lab4files/ -l
.rw-rw-r-- 20k srrozier 22 Feb 14:16 countries.json
.rw-rw-r-- 284k srrozier 22 Feb 14:15 csvfile.csv
.rw-rw-r-- 764k srrozier 22 Feb 14:13 document.docx
.rw-rw-r-- 742k srrozier 22 Feb 14:12 globe.avi
.rw-rw-r-- 76 srrozier 22 Feb 14:18 helloWorld.c
.rw-rw-r-- 2.6M srrozier 22 Feb 14:10 Linux.pdf
.rw-rw-r-- 8.7k srrozier 22 Feb 14:12 sample.xls
.rw-rw-r-- 43k srrozier 22 Feb 14:10 Tux.png
.rw-rw-r-- 2.1M srrozier 22 Feb 14:11 Ubuntu.pdf
.rw-rw-r-- 137k srrozier 22 Feb 14:16 website.html
srrozier@cis106vm: ~/Downloads$ exa ~/lab4files/ -lh
Permissions Size User Date Modified Name
.rw-rw-r-- 20k srrozier 22 Feb 14:16 countries.json
.rw-rw-r-- 284k srrozier 22 Feb 14:15 csvfile.csv
.rw-rw-r-- 764k srrozier 22 Feb 14:13 document.docx
.rw-rw-r-- 742k srrozier 22 Feb 14:12 globe.avi
.rw-rw-r-- 76 srrozier 22 Feb 14:18 helloWorld.c
.rw-rw-r-- 2.6M srrozier 22 Feb 14:10 Linux.pdf
.rw-rw-r-- 8.7k srrozier 22 Feb 14:12 sample.xls
.rw-rw-r-- 43k srrozier 22 Feb 14:10 Tux.png
.rw-rw-r-- 2.1M srrozier 22 Feb 14:11 Ubuntu.pdf
.rw-rw-r-- 137k srrozier 22 Feb 14:16 website.html
srrozier@cis106vm: ~/Downloads$
```

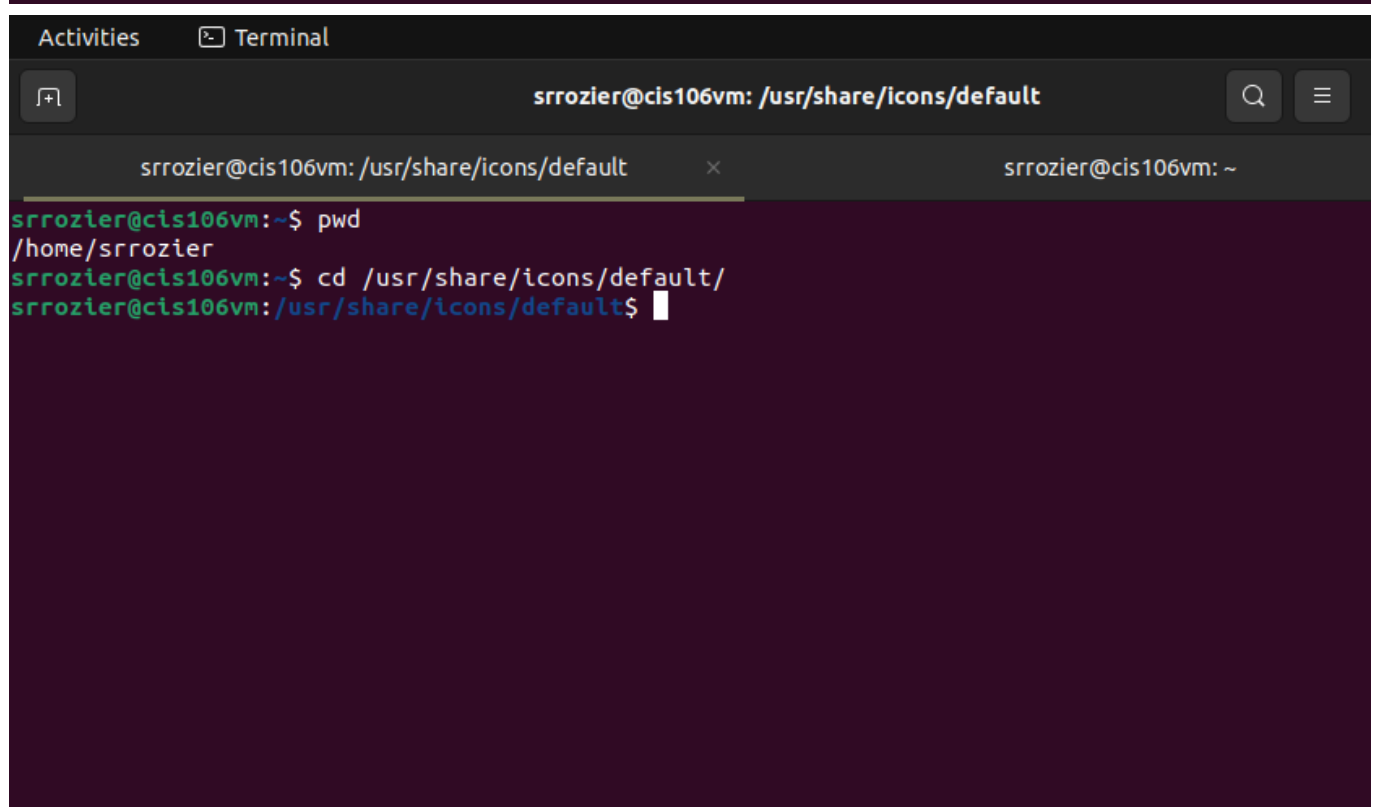
## Question 4 Challenge Questions





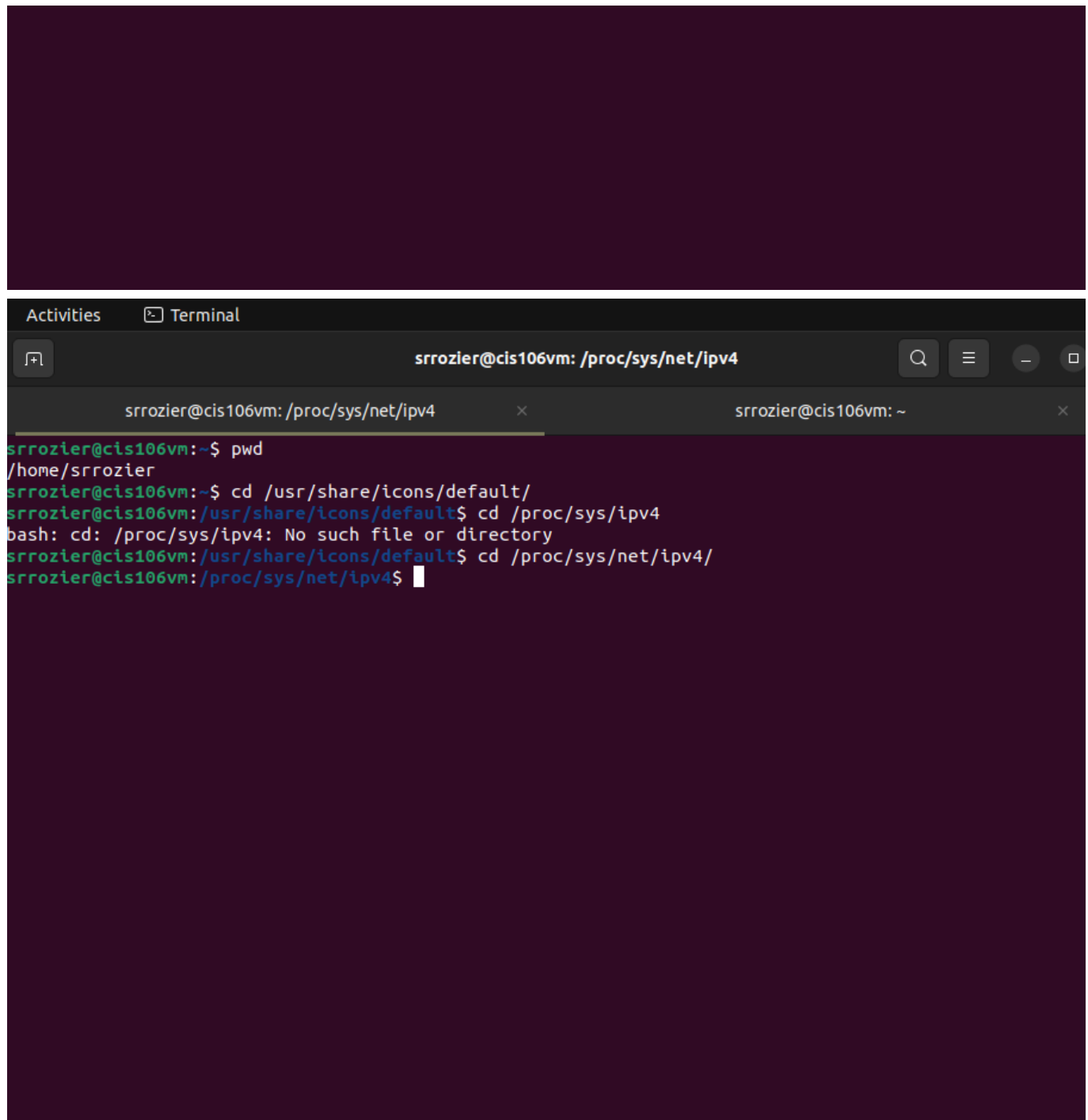
A terminal window titled "Activities" and "Terminal" with a search icon, a menu icon, and window control buttons. The title bar shows "srrozier@cis106vm: ~". The terminal has two tabs, both labeled "srrozier@cis106vm: ~". The active tab shows the command "pwd" being executed, with the output "/home/srrozier" displayed on the next line. The prompt "srrozier@cis106vm:~\$" is followed by a cursor.

```
srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$
```



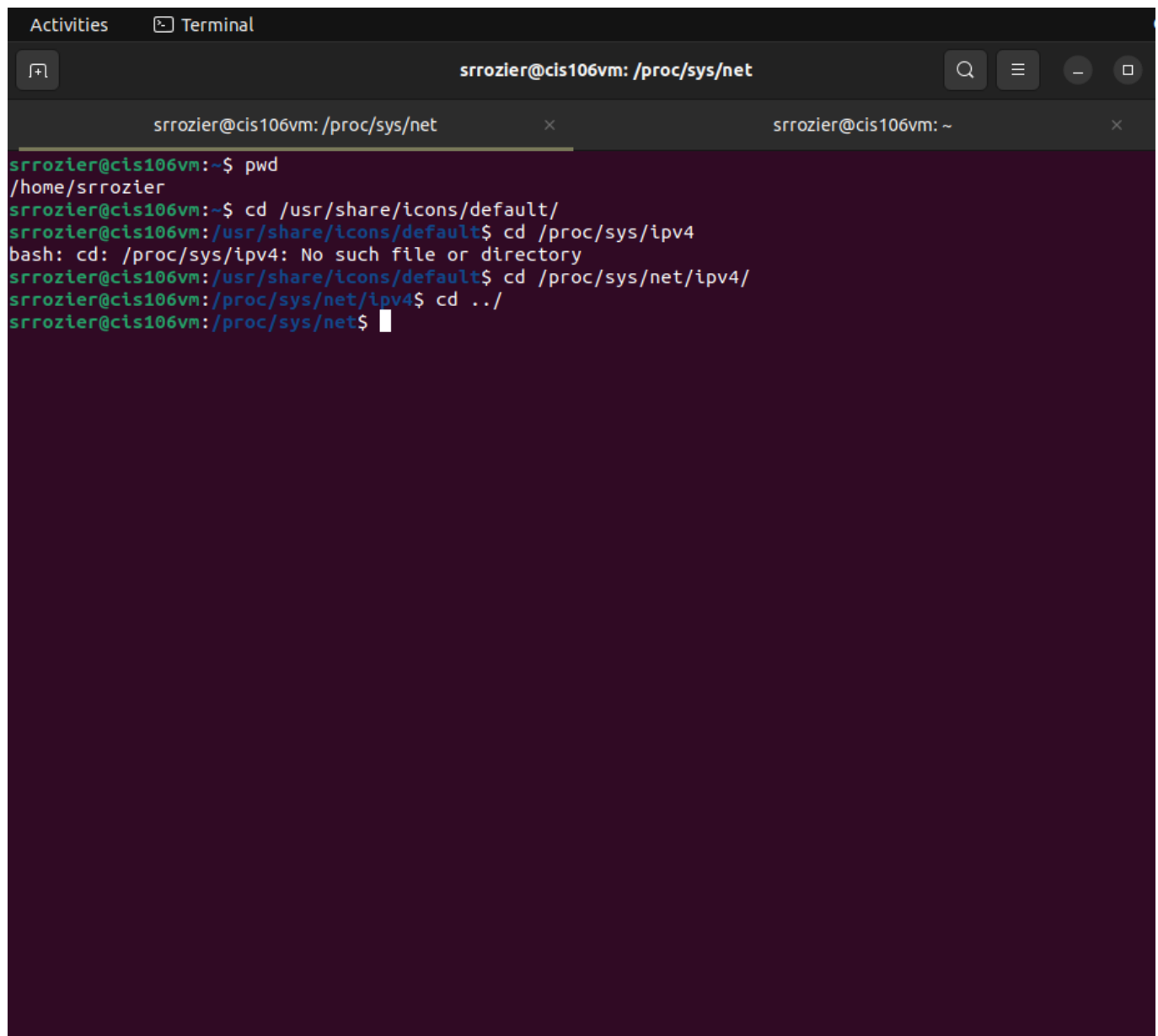
A terminal window titled "Activities" and "Terminal" with a search icon, a menu icon, and window control buttons. The title bar shows "srrozier@cis106vm: /usr/share/icons/default". The terminal has two tabs, both labeled "srrozier@cis106vm: /usr/share/icons/default". The active tab shows the command "pwd" being executed, with the output "/home/srrozier" displayed on the next line. Then, the command "cd /usr/share/icons/default/" is executed, and the prompt changes to "srrozier@cis106vm:/usr/share/icons/default\$".

```
srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd /usr/share/icons/default/
srrozier@cis106vm:/usr/share/icons/default$
```



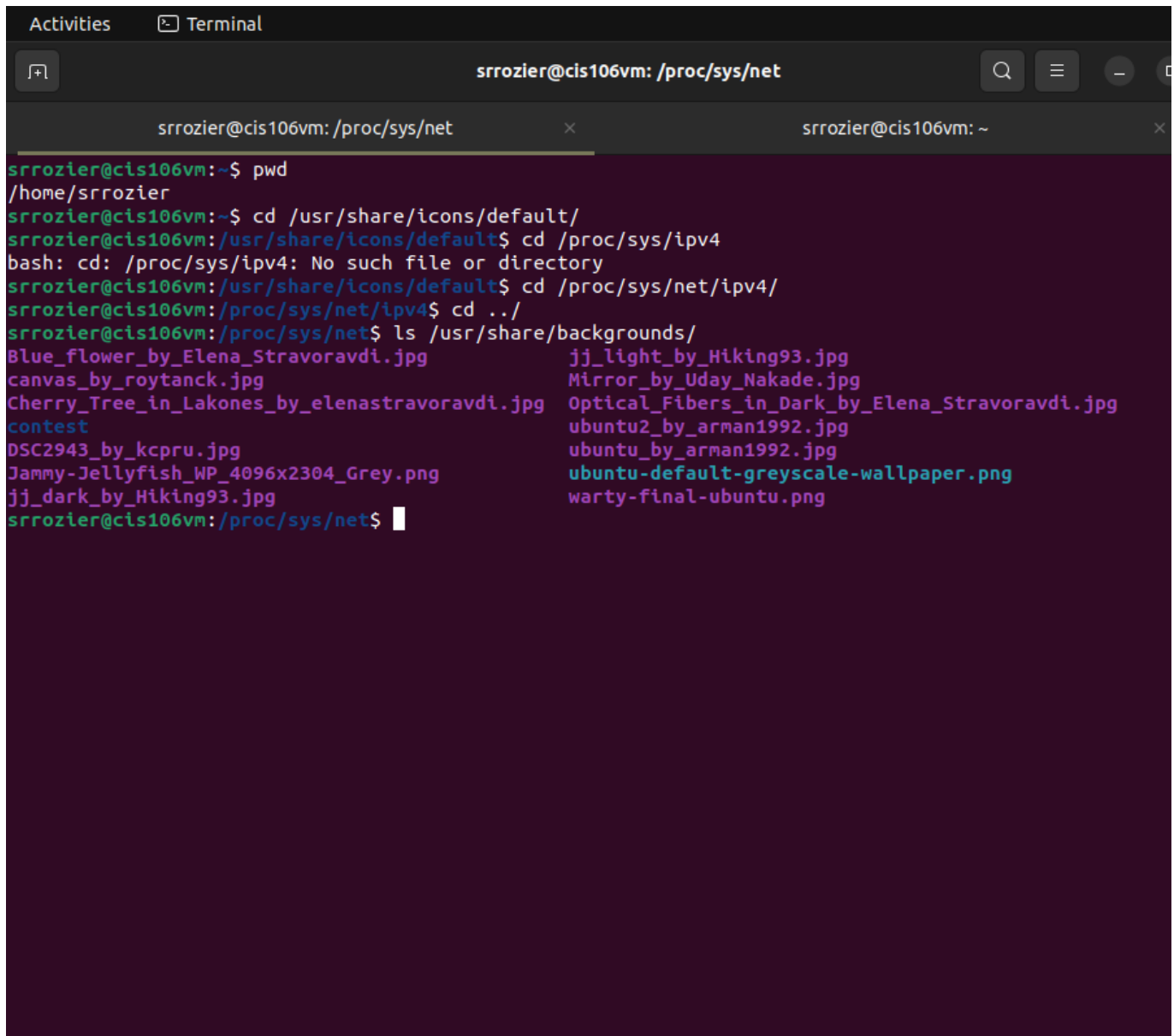
A terminal window titled "srrozier@cis106vm: /proc/sys/net/ipv4" is shown. The window has a dark background and a light-colored text. The terminal output shows the following sequence of commands and responses:

```
srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd /usr/share/icons/default/
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/ipv4
bash: cd: /proc/sys/ipv4: No such file or directory
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/net/ipv4/
srrozier@cis106vm:/proc/sys/net/ipv4$
```



A terminal window titled "Terminal" with a search icon, a menu icon, and window control buttons. The terminal shows a series of commands and their outputs. The user starts in the home directory, then navigates to /usr/share/icons/default/, then attempts to navigate to /proc/sys/ipv4 (which fails with an error), then to /proc/sys/net/ipv4/, and finally to /proc/sys/net/. The terminal has a dark purple background and a light-colored cursor.

```
srrozier@cis106vm: /proc/sys/net
srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd /usr/share/icons/default/
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/ipv4
bash: cd: /proc/sys/ipv4: No such file or directory
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/net/ipv4/
srrozier@cis106vm:/proc/sys/net/ipv4$ cd ../
srrozier@cis106vm:/proc/sys/net$
```



A terminal window titled "srrozier@cis106vm: /proc/sys/net" with a search bar and window controls. The terminal shows the following commands and output:

```
srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd /usr/share/icons/default/
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/ipv4
bash: cd: /proc/sys/ipv4: No such file or directory
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/net/ipv4/
srrozier@cis106vm:/proc/sys/net/ipv4$ cd ../
srrozier@cis106vm:/proc/sys/net$ ls /usr/share/backgrounds/
Blue_flower_by_Elena_Stravoravdi.jpg      jj_light_by_Hiking93.jpg
canvas_by_roytanck.jpg                    Mirror_by_Uday_Nakade.jpg
Cherry_Tree_in_Lakones_by_elenastravoravdi.jpg  Optical_Fibers_in_Dark_by_Elena_Stravoravdi.jpg
contest                                   ubuntu2_by_arman1992.jpg
DSC2943_by_kcpru.jpg                      ubuntu_by_arman1992.jpg
Jammy-Jellyfish_WP_4096x2304_Grey.png       ubuntu-default-greyscale-wallpaper.png
jj_dark_by_Hiking93.jpg                    warty-final-ubuntu.png
srrozier@cis106vm:/proc/sys/net$
```

```
Activities Terminal

srrozier@cis106vm: ~

srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd /usr/share/icons/default/
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/ipv4
bash: cd: /proc/sys/ipv4: No such file or directory
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/net/ipv4/
srrozier@cis106vm:/proc/sys/net/ipv4$ cd ../
srrozier@cis106vm:/proc/sys/net$ ls /usr/share/backgrounds/
Blue_flower_by_Elena_Stravoravdi.jpg      jj_light_by_Hiking93.jpg
canvas_by_roytanck.jpg                    Mirror_by_Uday_Nakade.jpg
Cherry_Tree_in_Lakones_by_elenastravoravdi.jpg  Optical_Fibers_in_Dark_by_Elena_Stravoravdi.j
contest                                   ubuntu2_by_arman1992.jpg
DSC2943_by_kcpru.jpg                     ubuntu_by_arman1992.jpg
Jammy-Jellyfish_WP_4096x2304_Grey.png      ubuntu-default-greyscale-wallpaper.png
jj_dark_by_Hiking93.jpg                   warty-final-ubuntu.png
srrozier@cis106vm:/proc/sys/net$ cd
srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd
.cache/ Desktop/ .gnupg/ Music/ Public/ Templates/ website/
cis106f22/ Documents/ lab4files/ Pictures/ snap/ Videos/
.config/ Downloads/ .local/ .pki/ .ssh/ .vscode/
srrozier@cis106vm:~$ ls cis106f22/
Cheatsheets FinalProject Labs WeekReports
srrozier@cis106vm:~$
```

```
Activities  Terminal

srrozier@cis106vm: /home

srrozier@cis106vm: /home
srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd /usr/share/icons/default/
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/ipv4
bash: cd: /proc/sys/ipv4: No such file or directory
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/net/ipv4/
srrozier@cis106vm:/proc/sys/net/ipv4$ cd ../
srrozier@cis106vm:/proc/sys/net$ ls /usr/share/backgrounds/
Blue_flower_by_Elena_Stravoravdi.jpg      jj_light_by_Hiking93.jpg
canvas_by_roytanck.jpg                    Mirror_by_Uday_Nakade.jpg
Cherry_Tree_in_Lakones_by_elenastravoravdi.jpg  Optical_Fibers_in_Dark_by_Elena_Stravoravdi.jpg
contest                                  ubuntu2_by_arman1992.jpg
DSC2943_by_kcpru.jpg                     ubuntu_by_arman1992.jpg
Jammy-Jellyfish_WP_4096x2304_Grey.png      ubuntu-default-greyscale-wallpaper.png
jj_dark_by_Hiking93.jpg                  warty-final-ubuntu.png
srrozier@cis106vm:/proc/sys/net$ cd
srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd
.cache/      Desktop/      .gnupg/      Music/      Public/      Templates/  website/
cis106f22/   Documents/  lab4files/   Pictures/   snap/        Videos/
.config/     Downloads/  .local/     .pki/       .ssh/        .vscode/
srrozier@cis106vm:~$ ls cis106f22/
Cheatsheets FinalProject Labs WeekReports
srrozier@cis106vm:~$ cd /home/
srrozier@cis106vm:/home$ ls ~/Downloads
Gemunu_Libre  Gemunu_Libre.zip  lab4files.zip  MyWallpapers  wallpaper.jpg
srrozier@cis106vm:/home$
```

```
Activities Terminal
srrozier@cis106vm: /dev/disk/by-id

srrozier@cis106vm: /dev/disk/by-id x srrozier@cis106vm: ~ x

srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd /usr/share/icons/default/
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/ipv4
bash: cd: /proc/sys/ipv4: No such file or directory
srrozier@cis106vm:/usr/share/icons/default$ cd /proc/sys/net/ipv4/
srrozier@cis106vm:/proc/sys/net/ipv4$ cd ../
srrozier@cis106vm:/proc/sys/net$ ls /usr/share/backgrounds/
Blue_flower_by_Elena_Stravoravdi.jpg      jj_light_by_Hiking93.jpg
canvas_by_roytanck.jpg                    Mirror_by_Uday_Nakade.jpg
Cherry_Tree_in_Lakones_by_elenastravoravdi.jpg Optical_Fibers_in_Dark_by_Elena_Stravoravdi.jpg
contest                                   ubuntu2_by_arman1992.jpg
DSC2943_by_kcpru.jpg                      ubuntu_by_arman1992.jpg
Jammy-Jellyfish_WP_4096x2304_Grey.png      ubuntu-default-greyscale-wallpaper.png
jj_dark_by_Hiking93.jpg                    warty-final-ubuntu.png
srrozier@cis106vm:/proc/sys/net$ cd
srrozier@cis106vm:~$ pwd
/home/srrozier
srrozier@cis106vm:~$ cd
.cache/ Desktop/ .gnupg/ Music/ Public/ Templates/ website/
cis106f22/ Documents/ lab4files/ Pictures/ snap/ Videos/
.config/ Downloads/ .local/ .pki/ .ssh/ .vscode/
srrozier@cis106vm:~$ ls cis106f22/
Cheatsheets FinalProject Labs WeekReports
srrozier@cis106vm:~$ cd /home/
srrozier@cis106vm:/home$ ls ~/Downloads
GemuNu_Libre Gemunu_Libre.zip lab4files.zip MyWallpapers wallpaper.jpg
srrozier@cis106vm:/home$ cd /dev/disk/by-id/ ls -la /home/
bash: cd: too many arguments
srrozier@cis106vm:/home$ cd /dev/disk/by-id/
srrozier@cis106vm:/dev/disk/by-id$ ls -la /home/
total 12
drwxr-xr-x 3 root root 4096 Sep 21 16:05 .
drwxr-xr-x 20 root root 4096 Sep 21 16:05 ..
drwxr-x--- 21 srrozier srrozier 4096 Oct 15 20:41 srrozier
srrozier@cis106vm:/dev/disk/by-id$
```