Lab 4

Question 1

Question 2

```
1/1  +  ⟳  ⤢                              Tilix: jcpachtinger@cis106:~/lab4files
1: jcpachtinger@cis106:~/lab4files ∨
jcpachtinger@cis106:~/Documents$ cd /usr/share/
jcpachtinger@cis106:/usr/share$ ls /home/jcpachtinger/lab4files
countries.json  document.docx  helloWorld.c   sample.xls   Ubuntu.pdf
csvfile.csv     globe.avi      Linux.pdf      Tux.png      website.html
jcpachtinger@cis106:/usr/share$ cd ~/lab4files
jcpachtinger@cis106:~/lab4files$ ls -lh
total 6.5M
-rw-rw-r-- 1 jcpachtinger jcpachtinger  20K Feb 22  2022 countries.json
-rw-rw-r-- 1 jcpachtinger jcpachtinger 278K Feb 22  2022 csvfile.csv
-rw-rw-r-- 1 jcpachtinger jcpachtinger 747K Feb 22  2022 document.docx
-rw-rw-r-- 1 jcpachtinger jcpachtinger 726K Feb 22  2022 globe.avi
-rw-rw-r-- 1 jcpachtinger jcpachtinger   76 Feb 22  2022 helloWorld.c
-rw-rw-r-- 1 jcpachtinger jcpachtinger 2.5M Feb 22  2022 Linux.pdf
-rw-rw-r-- 1 jcpachtinger jcpachtinger 8.5K Feb 22  2022 sample.xls
-rw-rw-r-- 1 jcpachtinger jcpachtinger  42K Feb 22  2022 Tux.png
-rw-rw-r-- 1 jcpachtinger jcpachtinger 2.1M Feb 22  2022 Ubuntu.pdf
-rw-rw-r-- 1 jcpachtinger jcpachtinger 135K Feb 22  2022 website.html
jcpachtinger@cis106:~/lab4files$ ls -lhS
total 6.5M
-rw-rw-r-- 1 jcpachtinger jcpachtinger 2.5M Feb 22  2022 Linux.pdf
-rw-rw-r-- 1 jcpachtinger jcpachtinger 2.1M Feb 22  2022 Ubuntu.pdf
-rw-rw-r-- 1 jcpachtinger jcpachtinger 747K Feb 22  2022 document.docx
-rw-rw-r-- 1 jcpachtinger jcpachtinger 726K Feb 22  2022 globe.avi
-rw-rw-r-- 1 jcpachtinger jcpachtinger 278K Feb 22  2022 csvfile.csv
-rw-rw-r-- 1 jcpachtinger jcpachtinger 135K Feb 22  2022 website.html
-rw-rw-r-- 1 jcpachtinger jcpachtinger  42K Feb 22  2022 Tux.png
-rw-rw-r-- 1 jcpachtinger jcpachtinger  20K Feb 22  2022 countries.json
-rw-rw-r-- 1 jcpachtinger jcpachtinger 8.5K Feb 22  2022 sample.xls
-rw-rw-r-- 1 jcpachtinger jcpachtinger   76 Feb 22  2022 helloWorld.c
```

```
-rw-rw-r-- 1 jcpachtinger jcpachtinger   76 Feb 22  2022 helloWorld.c
jcpachtinger@cis106:~/lab4files$ ls -lhSgG
total 6.5M
-rw-rw-r-- 1 2.5M Feb 22  2022 Linux.pdf
-rw-rw-r-- 1 2.1M Feb 22  2022 Ubuntu.pdf
-rw-rw-r-- 1 747K Feb 22  2022 document.docx
-rw-rw-r-- 1 726K Feb 22  2022 globe.avi
-rw-rw-r-- 1 278K Feb 22  2022 csvfile.csv
-rw-rw-r-- 1 135K Feb 22  2022 website.html
-rw-rw-r-- 1  42K Feb 22  2022 Tux.png
-rw-rw-r-- 1  20K Feb 22  2022 countries.json
-rw-rw-r-- 1 8.5K Feb 22  2022 sample.xls
-rw-rw-r-- 1   76 Feb 22  2022 helloWorld.c
jcpachtinger@cis106:~/lab4files$ ls -lhSgGi
total 6.5M
525645 -rw-rw-r-- 1 2.5M Feb 22  2022 Linux.pdf
525647 -rw-rw-r-- 1 2.1M Feb 22  2022 Ubuntu.pdf
525650 -rw-rw-r-- 1 747K Feb 22  2022 document.docx
525651 -rw-rw-r-- 1 726K Feb 22  2022 globe.avi
525649 -rw-rw-r-- 1 278K Feb 22  2022 csvfile.csv
525654 -rw-rw-r-- 1 135K Feb 22  2022 website.html
525646 -rw-rw-r-- 1  42K Feb 22  2022 Tux.png
525648 -rw-rw-r-- 1  20K Feb 22  2022 countries.json
525653 -rw-rw-r-- 1 8.5K Feb 22  2022 sample.xls
525652 -rw-rw-r-- 1   76 Feb 22  2022 helloWorld.c
jcpachtinger@cis106:~/lab4files$ ls -Xr
sample.xls  Ubuntu.pdf  countries.json  document.docx  helloWorld.c
Tux.png     Linux.pdf   website.html    csvfile.csv    globe.avi
jcpachtinger@cis106:~/lab4files$ _
```

Question 4

```
jcpachtinger@cis106:~$ pwd
/home/jcpachtinger
jcpachtinger@cis106:~$ cd /usr/share/icons/default
jcpachtinger@cis106:/usr/share/icons/default$ cd /proc/sys/net/ipv4/
jcpachtinger@cis106:/proc/sys/net/ipv4$ cd -
/usr/share/icons/default
jcpachtinger@cis106:/usr/share/icons/default$ ls /usr/share/backgrounds
contest
Copper_Mountain_by_Eduardo_Battaglia.jpg
Flow_by_Emanuele_Santoro.png
Lobster_Wallpaper_Grey.png
LunarCatcher_by_Espio347.png
Lunar-lobster-side_by_Gixo-dark.png
Lunar-lobster-side_by_Gixo-light.png
Multiverse_by_Emanuele_Santoro.png
Startrail_by_Hajime_Mizuno.jpg
ubuntu-default-greyscale-wallpaper.png
Warm_Filament_by_Eduardo_Battaglia.jpg
warty-final-ubuntu.png
winter-is-leaving_by_Gixo-dark.png
winter-is-leaving_by_Gixo-light.png
jcpachtinger@cis106:/usr/share/icons/default$ ls ~/cis106
CheatSheets  Labs  WeekReports
jcpachtinger@cis106:/usr/share/icons/default$ cd /home
jcpachtinger@cis106:/home$ ls jcpachtinger/Downloads
 FiraMono
 Games
 Inconsolata
 InconsolataGo
 Iosevka
 JetBrainsMono
 lab4files.zip
 Lekton
 Lilex
'Linux Workshop Ubuntu Software installation cheat sheet.png'
 lionelmessi.txt
 Monofur
 Mononoki
 new.txt
 practicels.tar.xz
 roberto
 soccer.txt
 SpaceMono
 spiderman2.txt
 which-style-of-the-hunters-mark-would-look-best-as-a-tattoo-v0-n2ibn5fc4z6a1.jpg
jcpachtinger@cis106:/home$ cd /dev/disk/by-id
jcpachtinger@cis106:/dev/disk/by-id$ ls -l ~
```

```
jcpachtinger@cis106:/dev/disk/by-id$ ls -la ~
total 172
drwxr-x--- 23 jcpachtinger jcpachtinger  4096 Oct 26 19:01 .
drwxr-xr-x  3 root         root          4096 Sep 29 19:43 ..
-rw-------  1 jcpachtinger jcpachtinger  7071 Oct 26 18:23 .bash_history
-rw-r--r--  1 jcpachtinger jcpachtinger   220 Jan  7  2023 .bash_logout
-rw-r--r--  1 jcpachtinger jcpachtinger  3771 Jan  7  2023 .bashrc
-rw-rw-r--  1 jcpachtinger jcpachtinger     0 Oct 25 17:59 Bread
drwx------ 21 jcpachtinger jcpachtinger  4096 Oct  1 18:38 .cache
-rw-rw-r--  1 jcpachtinger jcpachtinger     0 Oct 25 18:08 cheesepizza.txt
drwxrwxr-x  6 jcpachtinger jcpachtinger  4096 Oct 26 19:01 cis106
drwx------ 25 jcpachtinger jcpachtinger  4096 Oct 26 19:26 .config
drwxr-xr-x  3 jcpachtinger jcpachtinger  4096 Oct 11 18:48 Desktop
drwxr-xr-x  3 jcpachtinger jcpachtinger  4096 Oct 25 17:53 Documents
drwxrwxr-x  3 jcpachtinger jcpachtinger  4096 Sep 29 20:26 .dotnet
drwxr-xr-x 14 jcpachtinger jcpachtinger  4096 Oct 26 18:29 Downloads
drwxrwxr-x  2 jcpachtinger jcpachtinger 20480 Oct  1 17:48 .fonts
drwxrwxr-x  2 jcpachtinger jcpachtinger  4096 Oct  1 17:39 Games
-rw-rw-r--  1 jcpachtinger jcpachtinger    68 Sep 29 20:45 .gitconfig
drwx------  2 jcpachtinger jcpachtinger  4096 Oct 26 17:54 .gnupg
drwxrwxr-x  2 jcpachtinger jcpachtinger  4096 Feb 22  2022 lab4files
-rw-------  1 jcpachtinger jcpachtinger    20 Oct 25 18:52 .lesshst
```
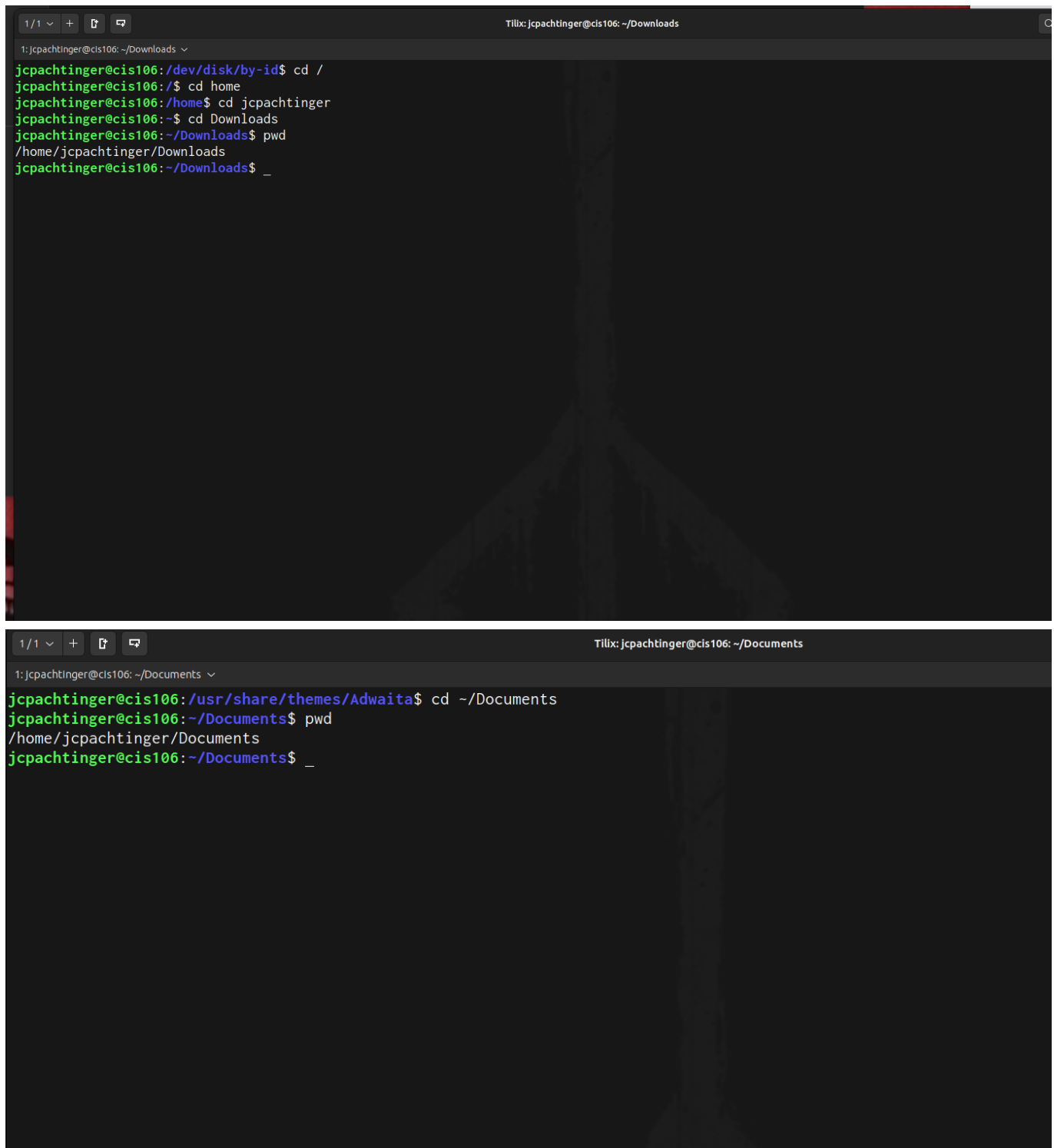
```
drwx------  4 jcpachtinger jcpachtinger  4096 Sep 29 19:45 .local
drwxr-xr-x  2 jcpachtinger jcpachtinger  4096 Oct 25 18:05 Music
-rw-rw-r--  2 jcpachtinger jcpachtinger     0 Oct 25 18:27 oreo.png
drwxr-xr-x  3 jcpachtinger jcpachtinger  4096 Oct 25 18:35 Pictures
-rw-rw-r--  1 jcpachtinger jcpachtinger     0 Oct 25 18:07 pizza.pz
drwx------  3 jcpachtinger jcpachtinger  4096 Sep 29 20:25 .pki
-rw-r--r--  1 jcpachtinger jcpachtinger   807 Jan  7  2023 .profile
drwxr-xr-x  2 jcpachtinger jcpachtinger  4096 Sep 29 19:45 Public
drwx------  5 jcpachtinger jcpachtinger  4096 Sep 29 20:22 snap
drwx------  2 jcpachtinger jcpachtinger  4096 Sep 29 20:50 .ssh
-rw-r--r--  1 jcpachtinger jcpachtinger     0 Sep 29 19:53 .sudo_as_admin_successful
drwxr-xr-x  2 jcpachtinger jcpachtinger  4096 Sep 29 19:45 Templates
-rw-r-----  1 jcpachtinger jcpachtinger     6 Oct 26 16:13 .vboxclient-clipboard-tty2-control.pid
-rw-r-----  1 jcpachtinger jcpachtinger     5 Oct 26 16:13 .vboxclient-clipboard-tty2-service.pid
-rw-r-----  1 jcpachtinger jcpachtinger     6 Oct 26 16:13 .vboxclient-draganddrop-tty2-control.pid
-rw-r-----  1 jcpachtinger jcpachtinger     5 Oct 26 16:13 .vboxclient-draganddrop-tty2-service.pid
-rw-r-----  1 jcpachtinger jcpachtinger     6 Oct 26 16:14 .vboxclient-hostversion-tty2-control.pid
-rw-r-----  1 jcpachtinger jcpachtinger     6 Oct 26 16:13 .vboxclient-seamless-tty2-control.pid
-rw-r-----  1 jcpachtinger jcpachtinger     5 Oct 26 16:13 .vboxclient-seamless-tty2-service.pid
-rw-r-----  1 jcpachtinger jcpachtinger     6 Oct 26 16:13 .vboxclient-vmsvga-session-tty2-control.pid
-rw-r-----  1 jcpachtinger jcpachtinger     5 Oct 26 16:13 .vboxclient-vmsvga-session-tty2-service.pid
drwxr-xr-x  2 jcpachtinger jcpachtinger  4096 Oct 25 17:49 Videos
drwxrwxr-x  4 jcpachtinger jcpachtinger  4096 Sep 29 20:25 .vscode
```

```
jcpachtinger@cis106:/dev/disk/by-id$ ls -t usr/share/themes
ls: cannot access 'usr/share/themes': No such file or directory
jcpachtinger@cis106:/dev/disk/by-id$ ls -t /usr/share/themes
Yaru                Yaru-hdpi           Yaru-purple-dark    Default
Yaru-bark           Yaru-magenta        Yaru-red            Emacs
Yaru-bark-dark      Yaru-magenta-dark   Yaru-red-dark       Raleigh
Yaru-blue           Yaru-olive          Yaru-sage           Adwaita
Yaru-blue-dark      Yaru-olive-dark     Yaru-sage-dark      Adwaita-dark
Yaru-dark           Yaru-prussiangreen  Yaru-viridian       HighContrast
Yaru-dark-hdpi      Yaru-prussiangreen-dark  Yaru-viridian-dark
Yaru-dark-xhdpi     Yaru-purple         Yaru-xhdpi
jcpachtinger@cis106:/dev/disk/by-id$ ls -x /usr/share/
accountsservice              aclocal
aisleriot                    alacarte
alsa                         alsa-base
alsa-card-profile            appdata
applications                 apport
apps                         aspell
avahi                        backgrounds
base-files                   base-passwd
bash-completion              binfmts
branding                     brltty
bug                          build-essential
ca-certificates              caffeine-indicator
catdoc                       cmake
code                         cogl
color                        colord
common-licenses              consolefonts
console-setup                consoletrans
cowsay                       cups
dbus-1                       dconf
debconf                      debhelper
debianutils                  defaults
desktop-directories          dict
dictionaries-common          distro-info
djvu                         dns
dnsmasq-base                 doc
doc-base                     dot.bashrc
dot.profile                  dot.profile.md5sums
dpkg                         drirc.d
emacs                        emacsen-common
enchant-2                    eog
epiphany-browser             evince
evolution-data-server        figlet
file                         file-roller
fish                         flameshot
flatpak                      fontconfig
fonts                        fonts-droid-fallback
fonts-sil-abyssinica         fonts-sil-annapurna
fonts-sil-padauk             foo2qpdl
foo2zjs                      fwupd
gamemode                     games
gcc                          GConf
gdb                          gdm
geany                        geary
GeoIP                        gettext
ghostscript                  gir-1.0
git-core                     gitweb
glade                        glib-2.0
glvnd                        gnome
gnome-applets                gnome-background-properties
gnome-bluetooth-3.0          gnome-control-center
gnome-initial-setup          gnome-logs
gnome-mahjongg               gnome-panel
```

Question 5

```
1/1 ∨ + ⬚ ⬚                           Tilix: jcpachtinger@cis106: ~/Downloads                    ◌

1: jcpachtinger@cis106: ~/Downloads ∨

jcpachtinger@cis106:/dev/disk/by-id$ cd /
jcpachtinger@cis106:/$ cd home
jcpachtinger@cis106:/home$ cd jcpachtinger
jcpachtinger@cis106:~$ cd Downloads
jcpachtinger@cis106:~/Downloads$ pwd
/home/jcpachtinger/Downloads
jcpachtinger@cis106:~/Downloads$ _
                                                         8 / 8
```

```
1/1 ∨ + ⬚ ⬚                           Tilix: jcpachtinger@cis106: ~/Documents

1: jcpachtinger@cis106: ~/Documents ∨

jcpachtinger@cis106:/usr/share/themes/Adwaita$ cd ~/Documents
jcpachtinger@cis106:~/Documents$ pwd
/home/jcpachtinger/Documents
jcpachtinger@cis106:~/Documents$ _
```