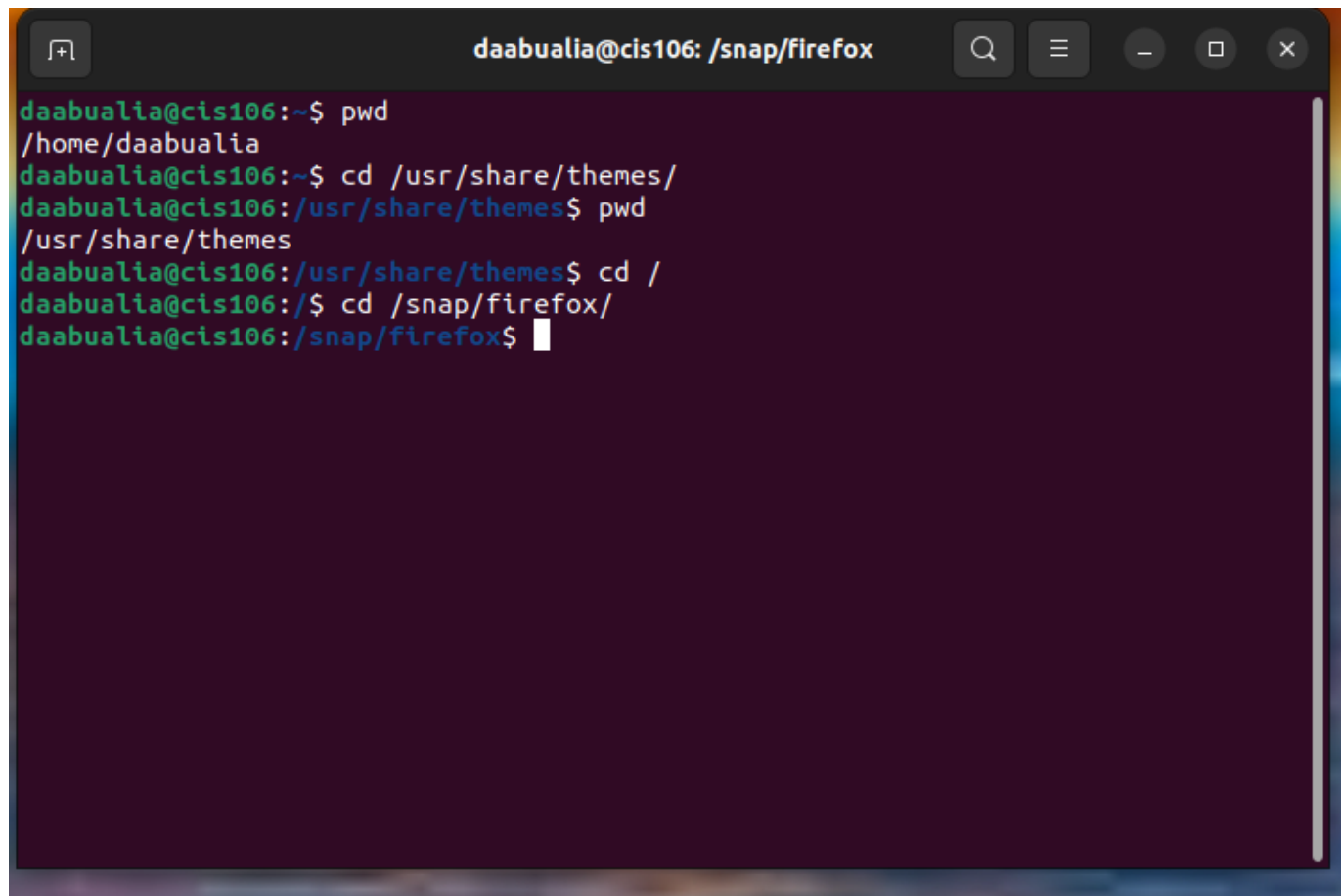
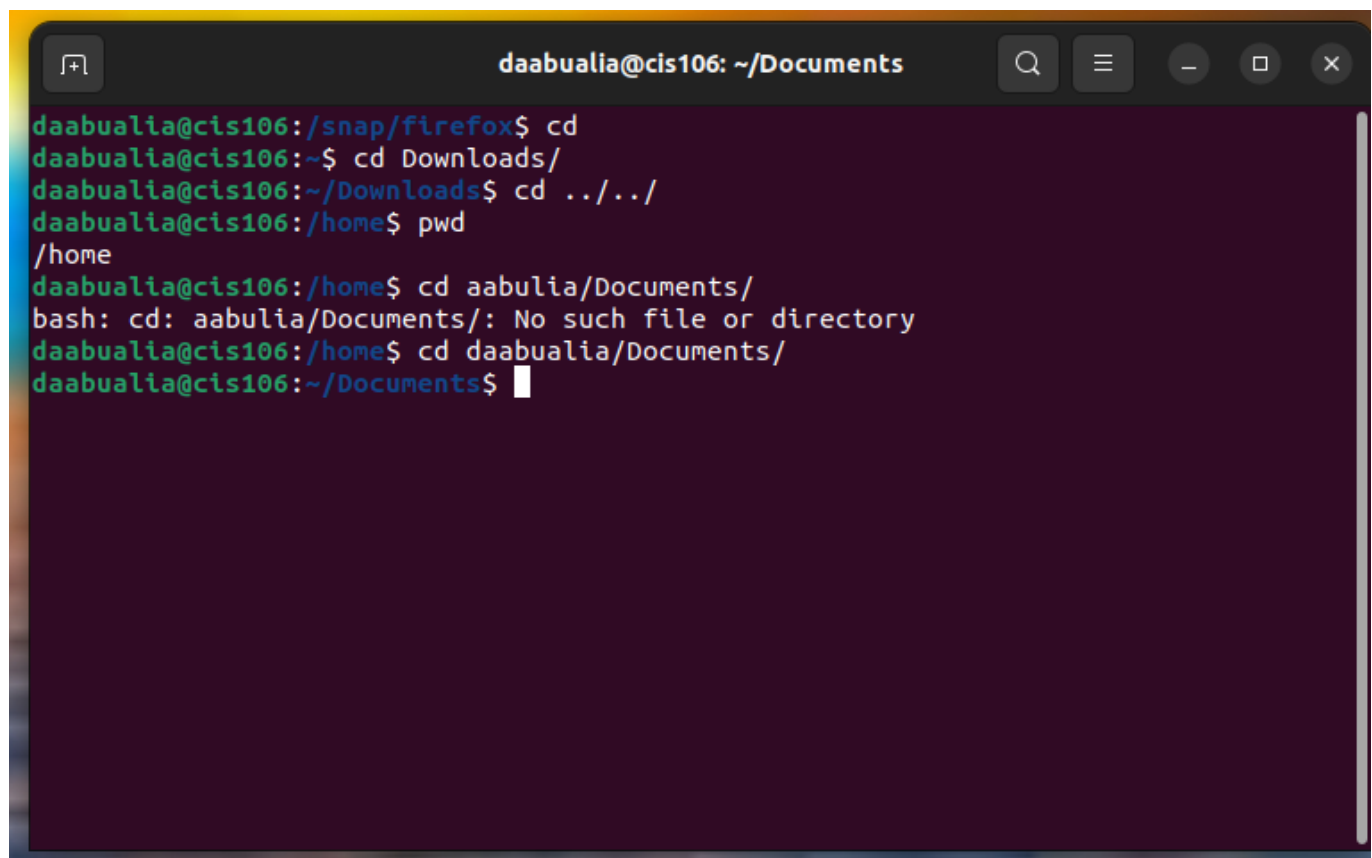


# lab 4 The Linux FS

## Question 1



```
daabualia@cis106: /snap/firefox
daabualia@cis106:~$ pwd
/home/daabualia
daabualia@cis106:~$ cd /usr/share/themes/
daabualia@cis106:/usr/share/themes$ pwd
/usr/share/themes
daabualia@cis106:/usr/share/themes$ cd /
daabualia@cis106:/$ cd /snap/firefox/
daabualia@cis106:/snap/firefox$
```



```
daabualia@cis106: ~/Documents
daabualia@cis106:/snap/firefox$ cd
daabualia@cis106:~$ cd Downloads/
daabualia@cis106:~/Downloads$ cd ../../
daabualia@cis106:/home$ pwd
/home
daabualia@cis106:/home$ cd aabulia/Documents/
bash: cd: aabulia/Documents/: No such file or directory
daabualia@cis106:/home$ cd daabualia/Documents/
daabualia@cis106:~/Documents$
```

## Question 2

```

daabualia@cis106: ~/lab4files
daabualia@cis106:/usr/share$ ls /Home/daabualia/lab4files/
ls: cannot access '/Home/daabualia/lab4files/': No such file or directory
daabualia@cis106:/usr/share$ ls /home/daabualia/lab4files/
countries.json  document.docx  helloWorld.c  sample.xls  Ubuntu.pdf
csvfile.csv     globe.avi      Linux.pdf     Tux.png     website.html
daabualia@cis106:/usr/share$ cd ~/lab4files/
daabualia@cis106:~/lab4files$ ls -l
total 6580
-rw-rw-r-- 1 daabualia daabualia 20471 Feb 22 2022 countries.json
-rw-rw-r-- 1 daabualia daabualia 284042 Feb 22 2022 csvfile.csv
-rw-rw-r-- 1 daabualia daabualia 764176 Feb 22 2022 document.docx
-rw-rw-r-- 1 daabualia daabualia 742478 Feb 22 2022 globe.avi
-rw-rw-r-- 1 daabualia daabualia 76 Feb 22 2022 helloWorld.c
-rw-rw-r-- 1 daabualia daabualia 2600138 Feb 22 2022 Linux.pdf
-rw-rw-r-- 1 daabualia daabualia 8704 Feb 22 2022 sample.xls
-rw-rw-r-- 1 daabualia daabualia 42777 Feb 22 2022 Tux.png
-rw-rw-r-- 1 daabualia daabualia 2114053 Feb 22 2022 Ubuntu.pdf
-rw-rw-r-- 1 daabualia daabualia 137453 Feb 22 2022 website.html
daabualia@cis106:~/lab4files$ ls -h
countries.json  document.docx  helloWorld.c  sample.xls  Ubuntu.pdf
csvfile.csv     globe.avi      Linux.pdf     Tux.png     website.html
daabualia@cis106:~/lab4files$ ls -lh
total 6.5M
-rw-rw-r-- 1 daabualia daabualia 20K Feb 22 2022 countries.json
-rw-rw-r-- 1 daabualia daabualia 278K Feb 22 2022 csvfile.csv
-rw-rw-r-- 1 daabualia daabualia 747K Feb 22 2022 document.docx
-rw-rw-r-- 1 daabualia daabualia 726K Feb 22 2022 globe.avi
-rw-rw-r-- 1 daabualia daabualia 76 Feb 22 2022 helloWorld.c
-rw-rw-r-- 1 daabualia daabualia 2.5M Feb 22 2022 Linux.pdf
-rw-rw-r-- 1 daabualia daabualia 8.5K Feb 22 2022 sample.xls
-rw-rw-r-- 1 daabualia daabualia 42K Feb 22 2022 Tux.png
-rw-rw-r-- 1 daabualia daabualia 2.1M Feb 22 2022 Ubuntu.pdf
-rw-rw-r-- 1 daabualia daabualia 135K Feb 22 2022 website.html
daabualia@cis106:~/lab4files$ ls -lhs
total 6.5M
-rw-rw-r-- 1 daabualia daabualia 2.5M Feb 22 2022 Linux.pdf
-rw-rw-r-- 1 daabualia daabualia 2.1M Feb 22 2022 Ubuntu.pdf
-rw-rw-r-- 1 daabualia daabualia 747K Feb 22 2022 document.docx
-rw-rw-r-- 1 daabualia daabualia 726K Feb 22 2022 globe.avi
-rw-rw-r-- 1 daabualia daabualia 278K Feb 22 2022 csvfile.csv
-rw-rw-r-- 1 daabualia daabualia 135K Feb 22 2022 website.html
-rw-rw-r-- 1 daabualia daabualia 42K Feb 22 2022 Tux.png
-rw-rw-r-- 1 daabualia daabualia 20K Feb 22 2022 countries.json
-rw-rw-r-- 1 daabualia daabualia 8.5K Feb 22 2022 sample.xls
-rw-rw-r-- 1 daabualia daabualia 76 Feb 22 2022 helloWorld.c
daabualia@cis106:~/lab4files$ ls -lhSgG

```

```
daabualia@cis106: ~/lab4files
daabualia@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
daabualia@cis106:~/lab4files$
daabualia@cis106:~/lab4files$ ls -lhSgGi
total 6.5M
1994901 -rw-rw-r-- 1 2.5M Feb 22 2022 Linux.pdf
1994903 -rw-rw-r-- 1 2.1M Feb 22 2022 Ubuntu.pdf
1994906 -rw-rw-r-- 1 747K Feb 22 2022 document.docx
1994907 -rw-rw-r-- 1 726K Feb 22 2022 globe.avi
1994905 -rw-rw-r-- 1 278K Feb 22 2022 csvfile.csv
1994910 -rw-rw-r-- 1 135K Feb 22 2022 website.html
1994902 -rw-rw-r-- 1 42K Feb 22 2022 Tux.png
1994904 -rw-rw-r-- 1 20K Feb 22 2022 countries.json
1994909 -rw-rw-r-- 1 8.5K Feb 22 2022 sample.xls
daabualia@cis106:~/lab4files$ ls -Xr
sample.xls  Ubuntu.pdf  countries.json  document.docx  helloWorld.c
Tux.png    Linux.pdf   website.html   csvfile.csv    globe.avi
daabualia@cis106:~/lab4files$
```

## Question 4

```

1 / 1 + ... cis106: /usr/share/themes
1: daabualia@cis106: /usr/share/themes
daabualia@cis106:~$ pwd
/home/daabualia
daabualia@cis106:~$ cd /usr/share/icons/default/
daabualia@cis106:/usr/share/icons/default$ cd
daabualia@cis106:~$ cd /proc/sys/ipv4/
bash: cd: /proc/sys/ipv4/: No such file or directory
daabualia@cis106:~$ cd /proc/sys/net/ipv4/
daabualia@cis106:/proc/sys/net/ipv4$ cd
daabualia@cis106:~$ cd /usr/share/backgrounds/
daabualia@cis106:/usr/share/backgrounds$ ls
Blue_flower_by_Elena_Stravoravdi.jpg
canvas_by_roytanck.jpg
Cherry_Tree_in_Lakones_by_elenastravoravdi.jpg
contest
DSC2943_by_kcpru.jpg
Jammy-Jellyfish_WP_4096x2304_Grey.png
jj_dark_by_Hiking93.jpg
jj_light_by_Hiking93.jpg
Mirror_by_Uday_Nakade.jpg
Optical_Fibers_in_Dark_by_Elena_Stravoravdi.jpg
ubuntu2_by_arman1992.jpg
ubuntu_by_arman1992.jpg
ubuntu-default-greyscale-wallpaper.png
warty-final-ubuntu.png
daabualia@cis106:/usr/share/backgrounds$ cd /home
daabualia@cis106:/home$ ls daabualia/cis106/
'cheat Sheets' labs weekReports
daabualia@cis106:/home$ ls ~/Downloads/
game.exe Games1 Games2 lab4files.zip practicels.tar.xz

```

```

daabualia@cis106:~$ cd /dev/disk/by-id/
daabualia@cis106:/dev/disk/by-id$ ls -al ~
total 2408
drwxr-x--- 32 daabualia daabualia 4096 Oct 26 18:47 .
drwxr-xr-x 3 root root 4096 Sep 21 13:12 ..
-rw-rw-r-- 1 daabualia daabualia 0 Oct 26 18:17 2
-rw----- 1 daabualia daabualia 10128 Oct 27 10:09 .bash_history
-rw-r--r-- 1 daabualia daabualia 220 Sep 21 13:12 .bash_logout
-rw-r--r-- 1 daabualia daabualia 3771 Sep 21 13:12 .bashrc
drwx----- 27 daabualia daabualia 4096 Oct 5 13:52 .cache
drwxrwxr-x 6 daabualia daabualia 4096 Oct 10 20:18 cis106
-rw-rw-r-- 1 daabualia daabualia 3520 Oct 5 12:03 .cis106.png
drwx----- 28 daabualia daabualia 4096 Oct 22 15:58 .config
drwxr-xr-x 2 daabualia daabualia 4096 Oct 5 11:59 Desktop
drwxr-xr-x 2 daabualia daabualia 4096 Oct 26 18:08 Documents
drwxrwxr-x 3 daabualia daabualia 4096 Sep 23 17:41 .dotnet
drwxr-xr-x 4 daabualia daabualia 4096 Oct 26 18:03 Downloads
-rw-rw-r-- 1 daabualia daabualia 0 Oct 26 18:17 file
-rw-rw-r-- 1 daabualia daabualia 0 Oct 26 18:45 file1
-rw-rw-r-- 1 daabualia daabualia 0 Oct 26 18:45 file2
-rw-rw-r-- 1 daabualia daabualia 0 Oct 26 18:45 file3
drwxrwxr-x 2 daabualia daabualia 4096 Oct 26 18:19 filefolder
drwxrwxr-x 2 daabualia daabualia 20480 Oct 3 18:09 .fonts
drwxrwxr-x 3 daabualia daabualia 4096 Oct 19 18:22 Games

```



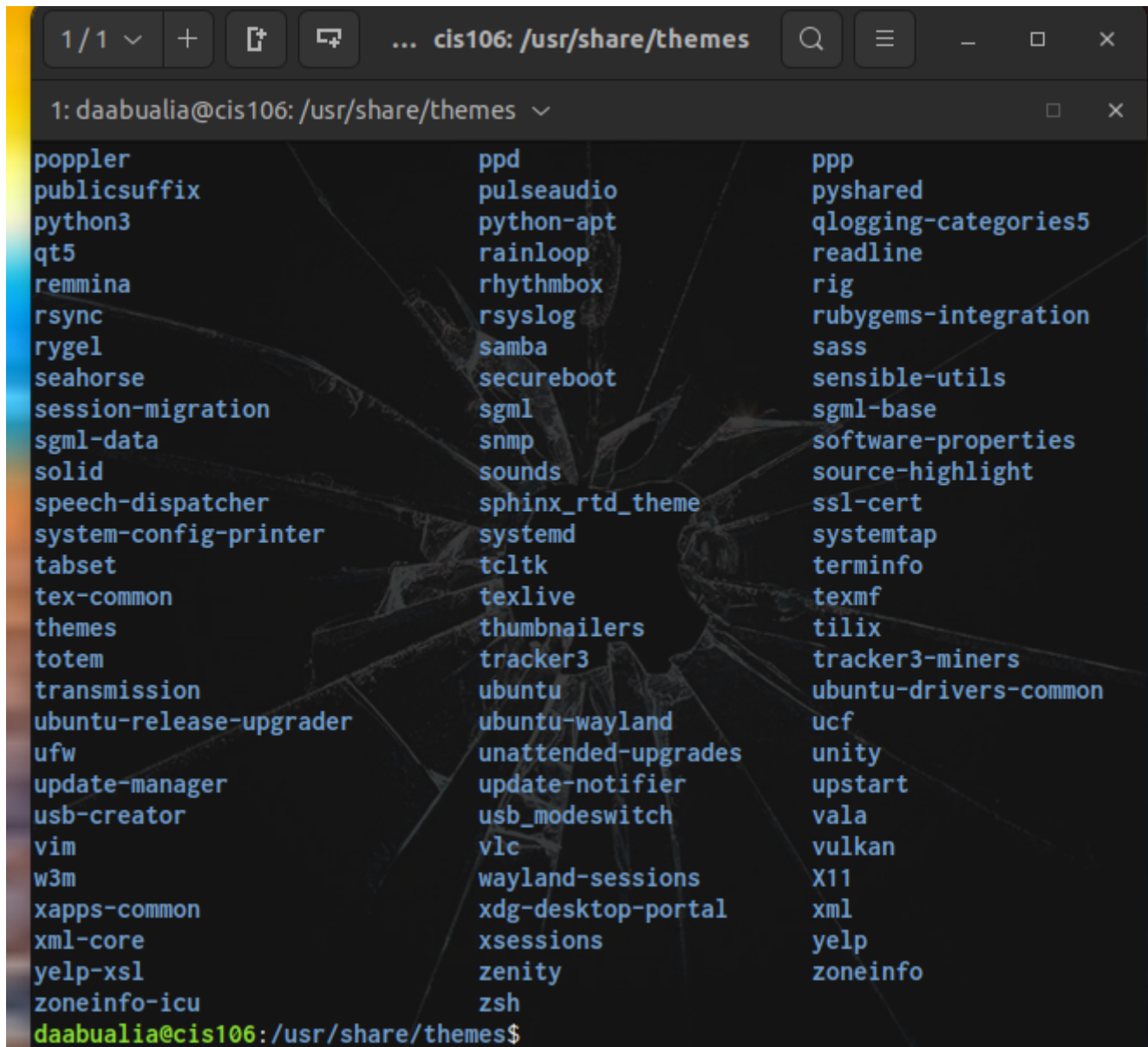
```

-rw-rw-r-- 1 daabualia daabualia      88 Sep 25 10:06 gitcommands.txt
-rw-rw-r-- 1 daabualia daabualia      62 Sep 25 09:16 .gitconfig
drwx----- 2 daabualia daabualia    4096 Sep 28 18:01 .gnupg
drwxrwxr-x 2 daabualia daabualia    4096 Sep 28 17:57 hidden
-rw-rw-r-- 1 daabualia daabualia       0 Sep 28 17:59 hidden_file

-rw-r----- 1 daabualia daabualia      6 Oct 26 18:44 .vboxclient-hostversion-
tty2-control.pid
-rw-r----- 1 daabualia daabualia      6 Oct 26 18:44 .vboxclient-seamless-tty
2-control.pid
-rw-r----- 1 daabualia daabualia      6 Oct 26 18:44 .vboxclient-seamless-tty
2-service.pid
-rw-r----- 1 daabualia daabualia      6 Oct 26 18:44 .vboxclient-vmvga-sessi
on-tty2-control.pid
-rw-r----- 1 daabualia daabualia      6 Oct 26 18:44 .vboxclient-vmvga-sessi
on-tty2-service.pid
drwxr-xr-x 2 daabualia daabualia    4096 Oct 19 18:43 Videos
-rw----- 1 daabualia daabualia      532 Oct  5 13:20 .viminfo
drwxrwxr-x 4 daabualia daabualia    4096 Sep 23 17:40 .vscode
drwxrwxr-x 2 daabualia daabualia    4096 Oct 19 18:26 websit
drwxrwxr-x 4 daabualia daabualia    4096 Oct 19 18:39 website
daabualia@cis106:/dev/disk/by-id$ cd
daabualia@cis106:~$ cd /usr/share/themes/
daabualia@cis106:/usr/share/themes$ ls -lt
total 120
drwxr-xr-x 7 root root 4096 Aug  7 18:54 Yaru
drwxr-xr-x 5 root root 4096 Aug  7 18:54 Yaru-bark
drwxr-xr-x 5 root root 4096 Aug  7 18:54 Yaru-bark-dark
drwxr-xr-x 5 root root 4096 Aug  7 18:54 Yaru-blue
drwxr-xr-x 5 root root 4096 Aug  7 18:54 Yaru-blue-dark
drwxr-xr-x 7 root root 4096 Aug  7 18:54 Yaru-dark
drwxr-xr-x 3 root root 4096 Aug  7 18:54 Yaru-dark-hdpi
drwxr-xr-x 3 root root 4096 Aug  7 18:54 Yaru-dark-xhdpi
drwxr-xr-x 3 root root 4096 Aug  7 18:54 Yaru-hdpi
drwxr-xr-x 5 root root 4096 Aug  7 18:54 Yaru-magenta

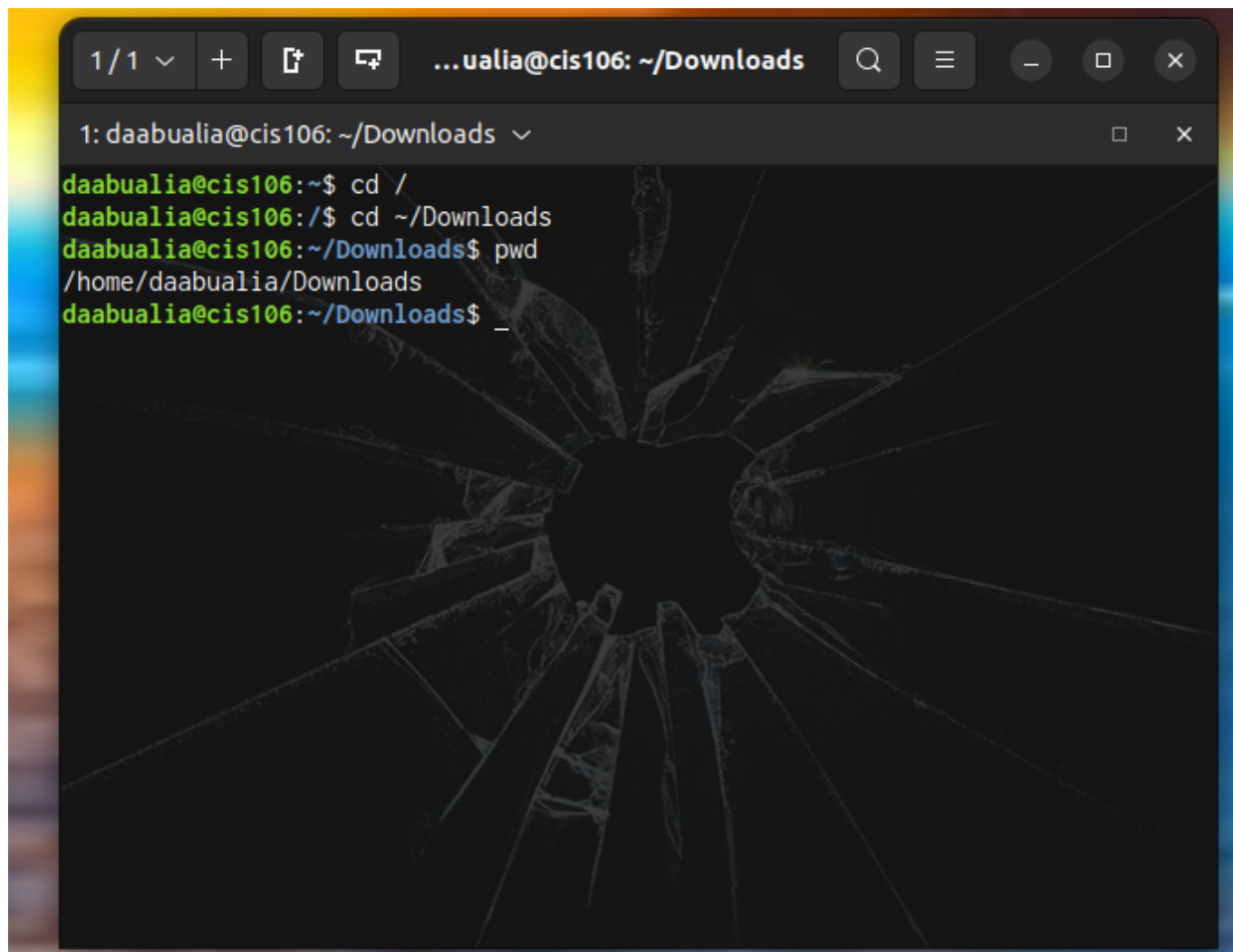
```

```
drwxr-xr-x 5 root root 4096 Aug 7 18:54 Yaru-viridian
drwxr-xr-x 5 root root 4096 Aug 7 18:54 Yaru-viridian-dark
drwxr-xr-x 3 root root 4096 Aug 7 18:54 Yaru-xhdp
drwxr-xr-x 4 root root 4096 Aug 7 18:54 Default
drwxr-xr-x 4 root root 4096 Aug 7 18:54 Emacs
drwxr-xr-x 3 root root 4096 Aug 7 18:54 Raleigh
drwxr-xr-x 4 root root 4096 Aug 7 18:54 Adwaita
drwxr-xr-x 4 root root 4096 Aug 7 18:54 Adwaita-dark
drwxr-xr-x 4 root root 4096 Aug 7 18:54 HighContrast
daabualia@cis106:/usr/share/themes$ ls -x /usr/share/
accountsservice      aclocal              acpi-support
adduser              aisleriot            alacarte
alsa                 alsabase             alsa-card-profile
antigrav             appdata              app-info
application-registry applications          appport
apps                 apturl               aspell
avahi                backgrounds          base-files
base-passwd          bash-completion     binfmts
branding             brltty               bug
build-essential      ca-certificates     caffeine-indicator
catdoc               cmake                cmus
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
```

A terminal window with a dark background and a light-colored font. The window title bar shows the path "... cis106: /usr/share/themes". The terminal content shows a directory listing of the /usr/share/themes directory. The listing is organized into three columns. The first column contains packages like poppler, publicsuffix, python3, qt5, remmina, rsync, rygel, seahorse, session-migration, sgml-data, solid, speech-dispatcher, system-config-printer, tabset, tex-common, themes, totem, transmission, ubuntu-release-upgrader, ufw, update-manager, usb-creator, vim, w3m, xapps-common, xml-core, yelp-xsl, zoneinfo-icu, and daabualia@cis106:/usr/share/themes\$. The second column contains packages like ppd, pulseaudio, python-apt, rainloop, rhythmbox, rsyslog, samba, secureboot, sgml, snmp, sounds, sphinx\_rtd\_theme, systemd, tcltk, texlive, thumbnailers, tracker3, ubuntu, ubuntu-wayland, unattended-upgrades, update-notifier, usb\_modeswitch, vlc, wayland-sessions, xdg-desktop-portal, xsessions, zenity, and zsh. The third column contains packages like ppp, pyshared, qlogging-categories5, readline, rig, rubygems-integration, sass, sensible-utils, sgml-base, software-properties, source-highlight, ssl-cert, systemtap, terminfo, texmf, tilix, tracker3-miners, ubuntu-drivers-common, ucf, unity, upstart, vala, vulkan, X11, xml, yelp, and zoneinfo.

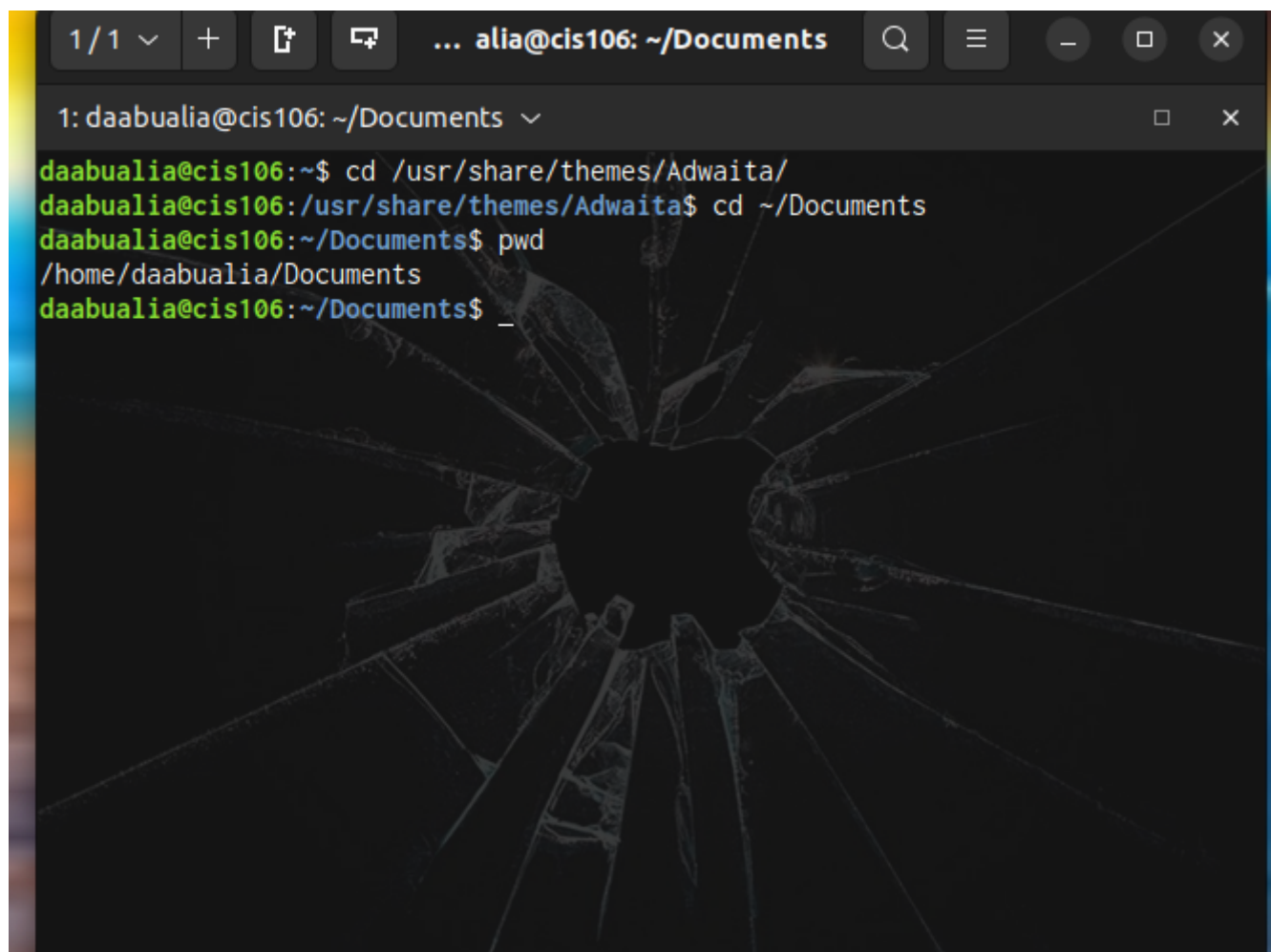
```
1/1  +  ... cis106: /usr/share/themes  Q  -  □  ×  
1: daabualia@cis106: /usr/share/themes  □  ×  
poppler                                ppd                                    ppp  
publicsuffix                          pulseaudio                          pyshared  
python3                              python-apt                         qlogging-categories5  
qt5                                  rainloop                           readline  
remmina                              rhythmbox                          rig  
rsync                                rsyslog                           rubygems-integration  
rygel                                samba                              sass  
seahorse                             secureboot                        sensible-utils  
session-migration                    sgml                              sgml-base  
sgml-data                           snmp                              software-properties  
solid                               sounds                            source-highlight  
speech-dispatcher                    sphinx_rtd_theme                  ssl-cert  
system-config-printer                systemd                           systemtap  
tabset                               tcltk                             terminfo  
tex-common                           texlive                           texmf  
themes                               thumbnailers                      tilix  
totem                                tracker3                          tracker3-miners  
transmission                         ubuntu                            ubuntu-drivers-common  
ubuntu-release-upgrader              ubuntu-wayland                    ucf  
ufw                                  unattended-upgrades               unity  
update-manager                       update-notifier                   upstart  
usb-creator                          usb_modeswitch                    vala  
vim                                   vlc                               vulkan  
w3m                                  wayland-sessions                  X11  
xapps-common                         xdg-desktop-portal                xml  
xml-core                             xsessions                         yelp  
yelp-xsl                             zenity                             zoneinfo  
zoneinfo-icu                         zsh  
daabualia@cis106:/usr/share/themes$ _
```

## Question 5



A terminal window titled "...ualia@cis106: ~/Downloads" with standard window controls. The terminal shows a sequence of commands: `cd /`, `cd ~/Downloads`, and `pwd`. The output of `pwd` is `/home/daabualia/Downloads`. The background of the terminal is a dark image with a large, cracked Apple logo in the center.

```
1/1 ▾ + [ [ ...ualia@cis106: ~/Downloads 🔍 ≡ - □ ×  
1: daabualia@cis106: ~/Downloads ▾ □ ×  
daabualia@cis106:~$ cd /  
daabualia@cis106:/$ cd ~/Downloads  
daabualia@cis106:~/Downloads$ pwd  
/home/daabualia/Downloads  
daabualia@cis106:~/Downloads$ _
```



A terminal window titled "... alia@cis106: ~/Documents" with standard window controls. The terminal shows a sequence of commands: `cd /usr/share/themes/Adwaita/`, `cd ~/Documents`, and `pwd`. The output of `pwd` is `/home/daabualia/Documents`. The background of the terminal is a dark image with a large, cracked Apple logo in the center.

```
1/1 ▾ + [ [ ... alia@cis106: ~/Documents 🔍 ≡ - □ ×  
1: daabualia@cis106: ~/Documents ▾ □ ×  
daabualia@cis106:~$ cd /usr/share/themes/Adwaita/  
daabualia@cis106:/usr/share/themes/Adwaita$ cd ~/Documents  
daabualia@cis106:~/Documents$ pwd  
/home/daabualia/Documents  
daabualia@cis106:~/Documents$ _
```



