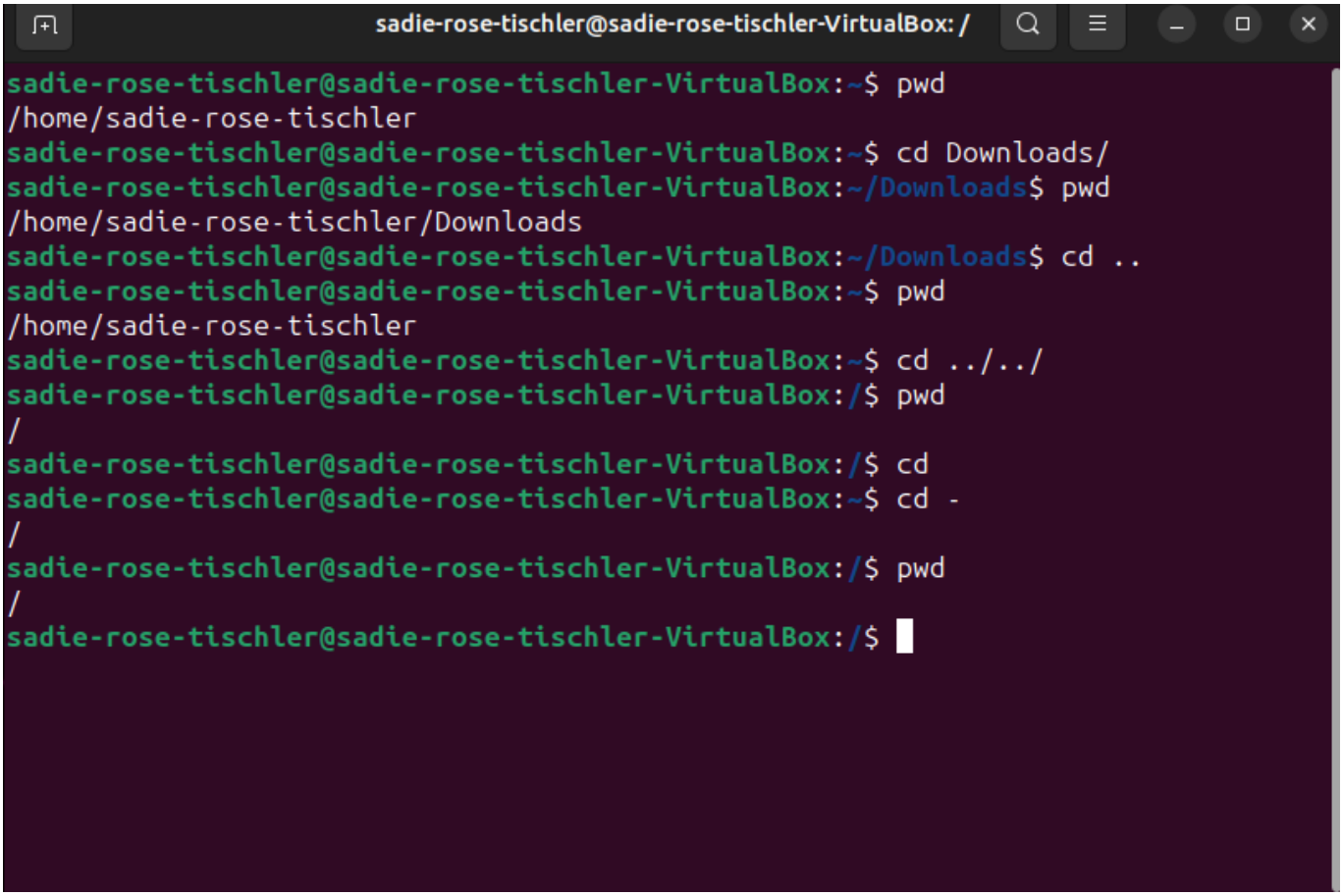
Week Report 4

Practice from the presentation The Linux File System:

Practice 1



Practice 2

```
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~$ wget https://cis106.com/assets/practicels.tar.xz
--2023-10-27 20:39:33--  https://cis106.com/assets/practicels.tar.xz
Resolving cis106.com (cis106.com)... 185.199.108.153
Connecting to cis106.com (cis106.com)|185.199.108.153|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2229212 (2.1M) [application/x-xz]
Saving to: ‘practicels.tar.xz’

practicels.tar.xz                   100%[=============================================================================================>]   2.12M  --.-KB/s    in 0.05s

2023-10-27 20:39:33 (40.8 MB/s) - ‘practicels.tar.xz’ saved [2229212/2229212]

sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~$ tar Jxf practicels.tar.xz
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~$ cd practicels/
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~/practicels$ ls
book.txt  countries.xml  history-debian.pdf  homework.docx  movie.mp4  people.csv  song.mp3  tux-nobg.png  tux-penguin.gif
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~/practicels$ ls -a
.  ..  book.txt  countries.xml  history-debian.pdf  homework.docx  movie.mp4  people.csv  song.mp3  tux-nobg.png  tux-penguin.gif
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~/practicels$ ls -l
total 2932
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler    1043 Feb 27  2022 book.txt
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler   23972 Feb 27  2022 countries.xml
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler  163057 Feb 27  2022 history-debian.pdf
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler  111303 Feb 22  2022 homework.docx
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 1570024 Feb 27  2022 movie.mp4
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler  284042 Feb 27  2022 people.csv
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler  764176 Feb 27  2022 song.mp3
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler   21314 Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler   44299 Jan 31  2020 tux-penguin.gif
```

```
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~/practicels$ ls -lh
total 2.9M
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 1.1K Feb 27  2022 book.txt
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler  24K Feb 27  2022 countries.xml
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 160K Feb 27  2022 history-debian.pdf
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 109K Feb 22  2022 homework.docx
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 1.5M Feb 27  2022 movie.mp4
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 278K Feb 27  2022 people.csv
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 747K Feb 27  2022 song.mp3
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler  21K Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler  44K Jan 31  2020 tux-penguin.gif
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~/practicels$ ls -lht
total 2.9M
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler  24K Feb 27  2022 countries.xml
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 278K Feb 27  2022 people.csv
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 747K Feb 27  2022 song.mp3
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 1.5M Feb 27  2022 movie.mp4
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 160K Feb 27  2022 history-debian.pdf
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler  21K Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 1.1K Feb 27  2022 book.txt
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 109K Feb 22  2022 homework.docx
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler  44K Jan 31  2020 tux-penguin.gif
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~/practicels$ ls -lhgGS
total 2.9M
-rw-rw-r-- 1 1.5M Feb 27  2022 movie.mp4
-rw-rw-r-- 1 747K Feb 27  2022 song.mp3
-rw-rw-r-- 1 278K Feb 27  2022 people.csv
-rw-rw-r-- 1 160K Feb 27  2022 history-debian.pdf
-rw-rw-r-- 1 109K Feb 22  2022 homework.docx
-rw-rw-r-- 1  44K Jan 31  2020 tux-penguin.gif
-rw-rw-r-- 1  24K Feb 27  2022 countries.xml
-rw-rw-r-- 1  21K Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 1.1K Feb 27  2022 book.txt
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~/practicels$ ls -mr
tux-penguin.gif, tux-nobg.png, song.mp3, people.csv, movie.mp4, homework.docx, history-debian.pdf, countries.xml, book.txt
```

```
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~/practicels$ ls -1X
people.csv
homework.docx
tux-penguin.gif
song.mp3
movie.mp4
history-debian.pdf
tux-nobg.png
book.txt
countries.xml
```

Practice 3

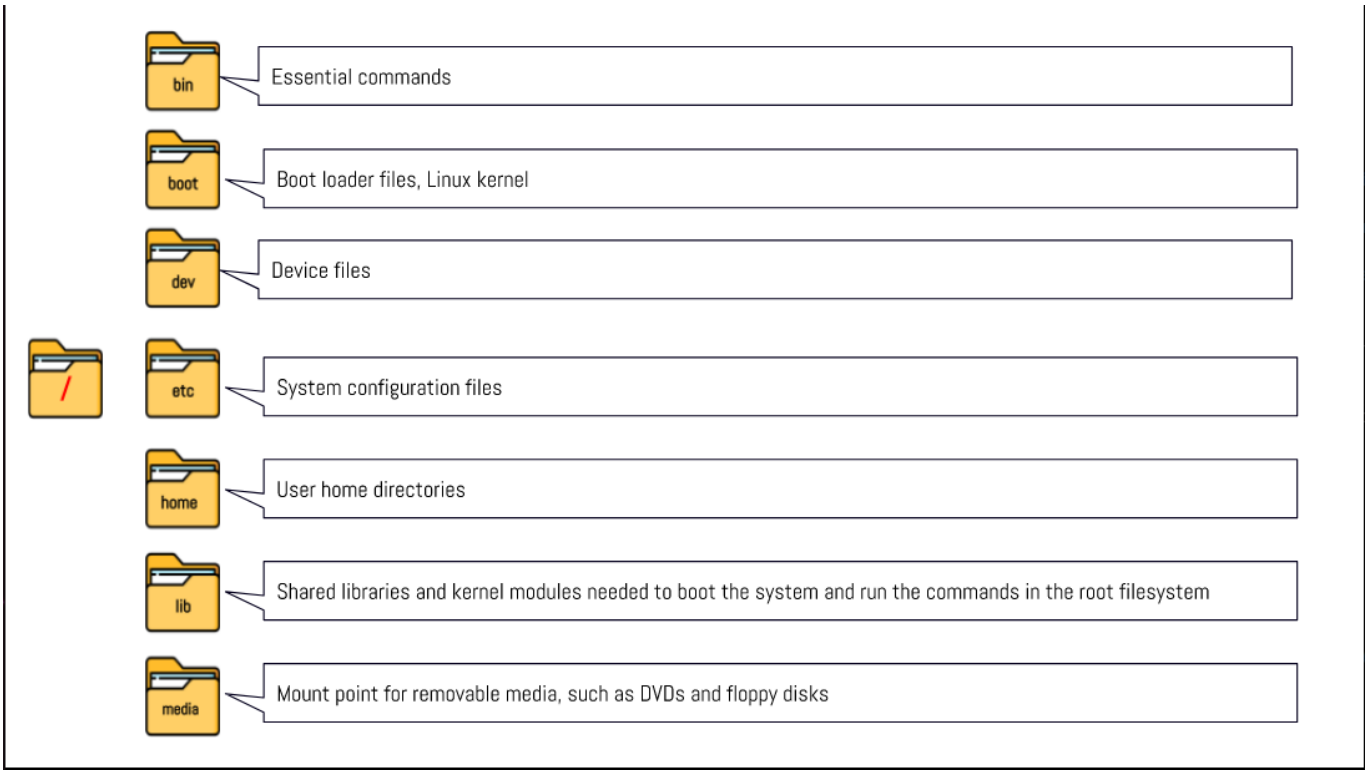
```
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~$ pwd
/home/sadie-rose-tischler
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~$ cd
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~$ cd /
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:/$ cd usr/share/themes/
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:/usr/share/themes$ cd ../../
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:/usr$ ls -A ~
assets            practicels
.bash_history     practicels.tar.xz
.bash_logout      .profile
.bashrc           Public
.cache            snap
cis106            .ssh
.config           .sudo_as_admin_successful
Desktop           Templates
Documents         .vboxclient-clipboard-tty2-control.pid
dogphotos         .vboxclient-clipboard-tty2-service.pid
dogphotos.jpg     .vboxclient-draganddrop-tty2-control.pid
.dotnet           .vboxclient-draganddrop-tty2-service.pid
Downloads         .vboxclient-hostversion-tty2-control.pid
gitcommands.txt   .vboxclient-seamless-tty2-control.pid
.gitconfig        .vboxclient-seamless-tty2-service.pid
.gnupg            .vboxclient-vmsvga-session-tty2-control.pid
.lesshst          .vboxclient-vmsvga-session-tty2-service.pid
.local            Videos
Music             .vscode
Pictures          website
.pki
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:/usr$ cd; ls -tX cis106/
cheatSheets  labs  weekReports
```

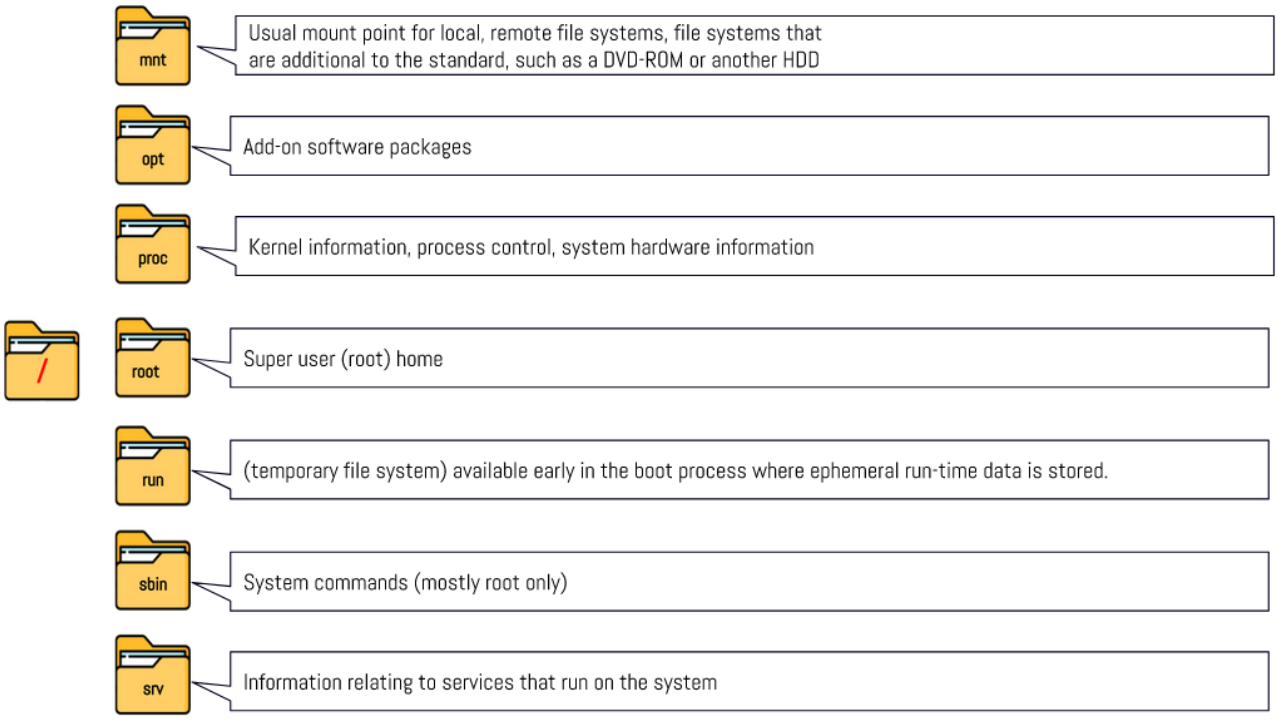
```
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~$ ls -rR ~/cis106/
/home/sadie-rose-tischler/cis106/:
weekReports  labs  cheatSheets

/home/sadie-rose-tischler/cis106/weekReports:
wr4-p2-3.png  wr4-p2-1.png  wr4.md   wr3.md     fs1.2.png
wr4-p2-2.png  wr4-p1.png    wr3.pdf  fs1.3.png  fs1.1.png

/home/sadie-rose-tischler/cis106/labs:
lab3  lab2  lab1

/home/sadie-rose-tischler/cis106/labs/lab3:
q2.png  q1p2.pdf  q1p1.png  presentation.odp  lab3.pdf  lab3.md

/home/sadie-rose-tischler/cis106/labs/lab2:
question4.png  question2.png    question1.1.png  lab2.md
question3.png  question1.2.png  lab2.pdf

/home/sadie-rose-tischler/cis106/labs/lab1:
whatisubuntu.txt                ubuntu-logo.png     resume.html
what_is_ubuntu_submission.pdf   ubuntu-desktop.png  johndoe.jpeg
what_is_ubuntu_submission.md    resume.png          johndoeinfo.txt
what_is_ubuntu_submission.html  resume.pdf
what-is-ubuntu.pdf              resume.md

/home/sadie-rose-tischler/cis106/cheatSheets:
'Linux Workshop Ubuntu Software installation cheat sheet.png'
```

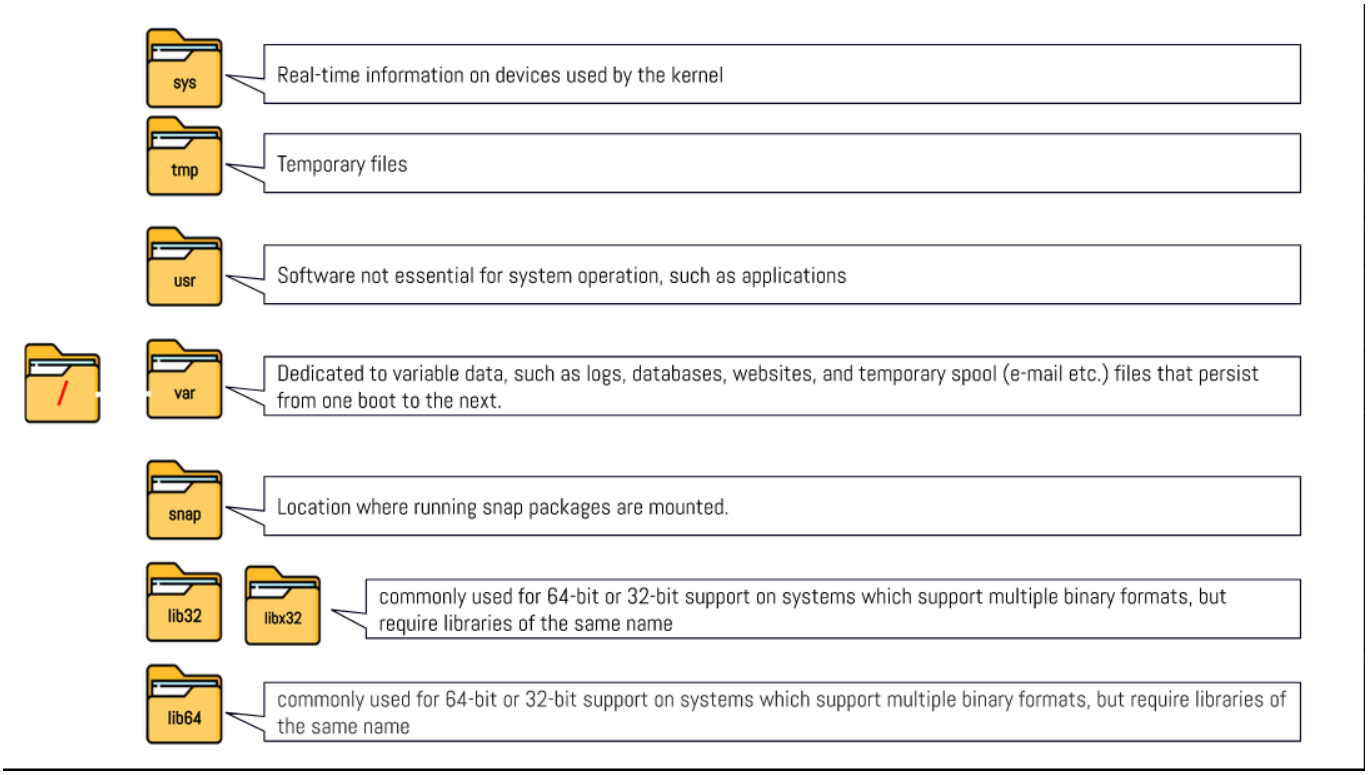
```
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~$ ls -lh ~
total 2.2M
drwxrwxr-x 2 sadie-rose-tischler sadie-rose-tischler 4.0K Oct 19 18:26 assets
drwxrwxr-x 6 sadie-rose-tischler sadie-rose-tischler 4.0K Oct 12 19:42 cis106
drwxr-xr-x 2 sadie-rose-tischler sadie-rose-tischler 4.0K Oct 12 13:56 Desktop
drwxr-xr-x 2 sadie-rose-tischler sadie-rose-tischler 4.0K Oct 26 22:03 Documents
drwxrwxr-x 2 sadie-rose-tischler sadie-rose-tischler 4.0K Oct 19 18:09 dogphotos
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler    0 Oct 26 22:07 dogphotos.jpg
drwxr-xr-x 3 sadie-rose-tischler sadie-rose-tischler 4.0K Oct 26 22:19 Downloads
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler  102 Sep 28 20:29 gitcommands.txt
drwxr-xr-x 2 sadie-rose-tischler sadie-rose-tischler 4.0K Sep 28 19:34 Music
drwxr-xr-x 4 sadie-rose-tischler sadie-rose-tischler 4.0K Oct 26 22:08 Pictures
drwxrwxr-x 2 sadie-rose-tischler sadie-rose-tischler 4.0K Feb 27  2022 practicels
-rw-rw-r-- 1 sadie-rose-tischler sadie-rose-tischler 2.2M Oct 14 11:22 practicels.tar.xz
drwxr-xr-x 2 sadie-rose-tischler sadie-rose-tischler 4.0K Sep 28 19:34 Public
drwx------ 5 sadie-rose-tischler sadie-rose-tischler 4.0K Sep 28 19:59 snap
drwxr-xr-x 2 sadie-rose-tischler sadie-rose-tischler 4.0K Sep 28 19:34 Templates
drwxr-xr-x 2 sadie-rose-tischler sadie-rose-tischler 4.0K Sep 28 19:34 Videos
drwxrwxr-x 4 sadie-rose-tischler sadie-rose-tischler 4.0K Oct 19 18:27 website
```

```
sadie-rose-tischler@sadie-rose-tischler-VirtualBox:~$ ls -lgG ~
total 2240
drwxrwxr-x 2    4096 Oct 19 18:26 assets
drwxrwxr-x 6    4096 Oct 12 19:42 cis106
drwxr-xr-x 2    4096 Oct 12 13:56 Desktop
drwxr-xr-x 2    4096 Oct 26 22:03 Documents
drwxrwxr-x 2    4096 Oct 19 18:09 dogphotos
-rw-rw-r-- 1       0 Oct 26 22:07 dogphotos.jpg
drwxr-xr-x 3    4096 Oct 26 22:19 Downloads
-rw-rw-r-- 1     102 Sep 28 20:29 gitcommands.txt
drwxr-xr-x 2    4096 Sep 28 19:34 Music
drwxr-xr-x 4    4096 Oct 26 22:08 Pictures
drwxrwxr-x 2    4096 Feb 27  2022 practicels
-rw-rw-r-- 1 2229212 Oct 14 11:22 practicels.tar.xz
drwxr-xr-x 2    4096 Sep 28 19:34 Public
drwx------ 5    4096 Sep 28 19:59 snap
drwxr-xr-x 2    4096 Sep 28 19:34 Templates
drwxr-xr-x 2    4096 Sep 28 19:34 Videos
drwxrwxr-x 4    4096 Oct 19 18:27 website
```

The Linux File System directories and their purpose:


/
bin
Essential commands
boot
Boot loader files, Linux kernel
dev
Device files
etc
System configuration files
home
User home directories
lib
Shared libraries and kernel modules needed to boot the system and run the commands in the root filesystem
media
Mount point for removable media, such as DVDs and floppy disks


/
mnt
Usual mount point for local, remote file systems, file systems that are additional to the standard, such as a DVD-ROM or another HDD
opt
Add-on software packages
proc
Kernel information, process control, system hardware information
root
Super user (root) home
run
(temporary file system) available early in the boot process where ephemeral run-time data is stored.
sbin
System commands (mostly root only)
srv
Information relating to services that run on the system



All the commands for navigating the filesystem:

Command	What it does	Syntax	Example
pwd	Prints the current directory	pwd	`pwd`
cd	Changes the current directory	cd	`cd ~/Pictures/`
ls	Lists the files and folders in a directory	ls	`ls ~/Downloads/`

Basic terminology:

- **File system:** The way files are stored and organized.
- **Current directory:** The directory that you are currently working in.
- **Parent directory:** The directory before your current working directory.
- **The difference between your home directory and the home directory:** Your home directory is the current user's home directory. The home directory is the home directory in root.
- **Pathname:** The location of a file in the filesystem.
- **Relative path:** The pathname starting from the directory inside your present one. Ex: If in home, pictures/rat.png
- **Absolute path:** The pathname starting with the root (/). Ex: /home/user/Pictures/rat.png