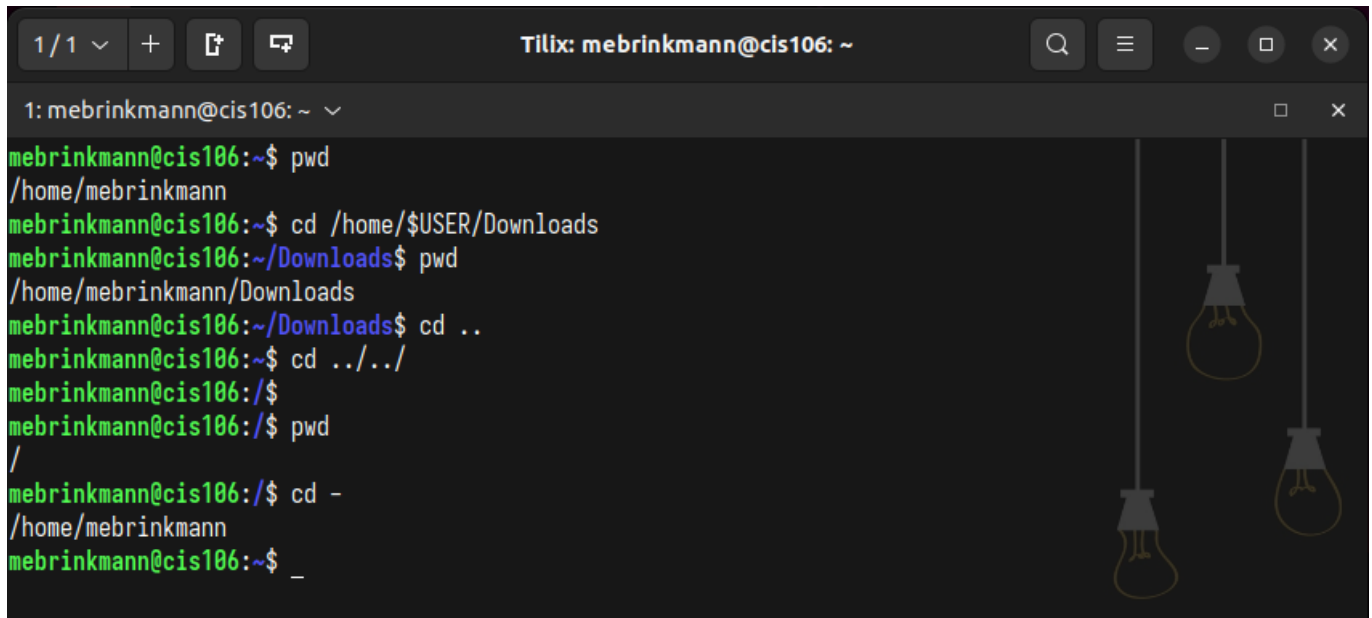


# Week Report 4

---

## Practice from the Presentation The Linux File System

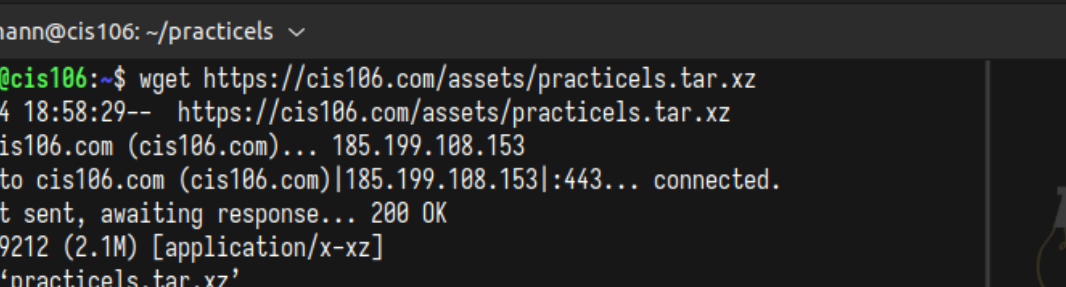
### Practice 1

A screenshot of a Tilix terminal window. The title bar reads "Tilix: mebrinkmann@cis106: ~". The terminal shows a series of commands and their outputs. The user starts in their home directory, moves to the Downloads directory, and then navigates back to the root directory. The terminal text is as follows:

```
1: mebrinkmann@cis106: ~  
mebrinkmann@cis106:~$ pwd  
/home/mebrinkmann  
mebrinkmann@cis106:~$ cd /home/$USER/Downloads  
mebrinkmann@cis106:~/Downloads$ pwd  
/home/mebrinkmann/Downloads  
mebrinkmann@cis106:~/Downloads$ cd ..  
mebrinkmann@cis106:~$ cd ../../  
mebrinkmann@cis106:/$  
mebrinkmann@cis106:/$ pwd  
/  
mebrinkmann@cis106:/$ cd -  
/home/mebrinkmann  
mebrinkmann@cis106:~$ _
```

The terminal window has a dark theme and includes standard window controls (minimize, maximize, close) and a search icon in the top right corner.

### Practice 2



The screenshot shows a terminal window with the title "Tilix: mebrinkmann@cis106: ~/practicels". The user is in the directory ~/practicels. The terminal output shows the following commands and results:

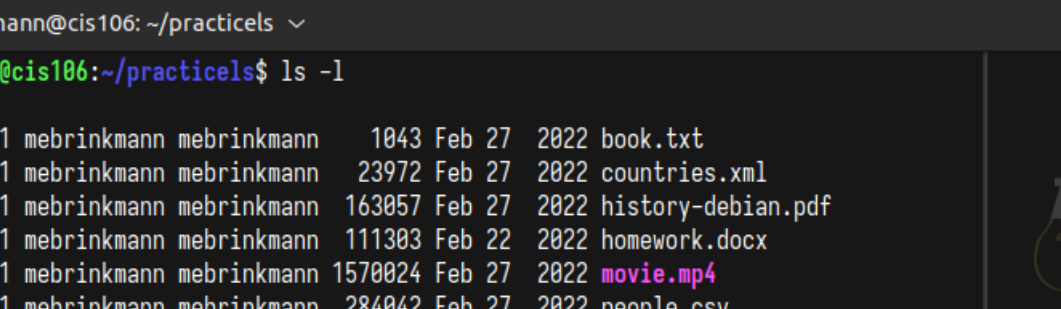
```
mebrinkmann@cis106:~$ wget https://cis106.com/assets/practicels.tar.xz
--2023-03-14 18:58:29-- https://cis106.com/assets/practicels.tar.xz
Resolving cis106.com (cis106.com)... 185.199.108.153
Connecting to cis106.com (cis106.com)|185.199.108.153|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2229212 (2.1M) [application/x-xz]
Saving to: 'practicels.tar.xz'

practicels.tar.xz      100%[=====] 2.12M  10.0MB/s  in 0.2s

2023-03-14 18:58:29 (10.0 MB/s) - 'practicels.tar.xz' saved [2229212/2229212]

mebrinkmann@cis106:~$ tar Jxf practicels.tar.xz
mebrinkmann@cis106:~$ cd practicels/
mebrinkmann@cis106:~/practicels$ ls
book.txt      history-debian.pdf  movie.mp4  song.mp3  tux-penguin.gif
countries.xml  homework.docx      people.csv  tux-nobg.png
mebrinkmann@cis106:~/practicels$ ls -la
.   book.txt      history-debian.pdf  movie.mp4  song.mp3  tux-penguin.gif
..  countries.xml  homework.docx      people.csv  tux-nobg.png
```

The terminal window has a dark background with light-colored text. The title bar is light gray. The terminal output is color-coded: green for the prompt, red for errors, and various colors for file names and status. The file names are color-coded: book.txt (blue), history-debian.pdf (blue), movie.mp4 (red), song.mp3 (red), tux-penguin.gif (red), countries.xml (blue), homework.docx (blue), people.csv (blue), and tux-nobg.png (red). The status bar at the bottom shows the current directory and the files in it.



```
Tilix: mebrinkmann@cis106: ~/practicels
1: mebrinkmann@cis106: ~/practicels
mebrinkmann@cis106:~/practicels$ ls -l
total 2932
-rw-rw-r-- 1 mebrinkmann mebrinkmann 1043 Feb 27 2022 book.txt
-rw-rw-r-- 1 mebrinkmann mebrinkmann 23972 Feb 27 2022 countries.xml
-rw-rw-r-- 1 mebrinkmann mebrinkmann 163057 Feb 27 2022 history-debian.pdf
-rw-rw-r-- 1 mebrinkmann mebrinkmann 111303 Feb 22 2022 homework.docx
-rw-rw-r-- 1 mebrinkmann mebrinkmann 1570024 Feb 27 2022 movie.mp4
-rw-rw-r-- 1 mebrinkmann mebrinkmann 284042 Feb 27 2022 people.csv
-rw-rw-r-- 1 mebrinkmann mebrinkmann 764176 Feb 27 2022 song.mp3
-rw-rw-r-- 1 mebrinkmann mebrinkmann 21314 Feb 27 2022 tux-nobg.png
-rw-rw-r-- 1 mebrinkmann mebrinkmann 44299 Jan 31 2020 tux-penguin.gif
mebrinkmann@cis106:~/practicels$ ls -lh
total 2.9M
-rw-rw-r-- 1 mebrinkmann mebrinkmann 1.1K Feb 27 2022 book.txt
-rw-rw-r-- 1 mebrinkmann mebrinkmann 24K Feb 27 2022 countries.xml
-rw-rw-r-- 1 mebrinkmann mebrinkmann 160K Feb 27 2022 history-debian.pdf
-rw-rw-r-- 1 mebrinkmann mebrinkmann 109K Feb 22 2022 homework.docx
-rw-rw-r-- 1 mebrinkmann mebrinkmann 1.5M Feb 27 2022 movie.mp4
-rw-rw-r-- 1 mebrinkmann mebrinkmann 278K Feb 27 2022 people.csv
-rw-rw-r-- 1 mebrinkmann mebrinkmann 747K Feb 27 2022 song.mp3
-rw-rw-r-- 1 mebrinkmann mebrinkmann 21K Feb 27 2022 tux-nobg.png
-rw-rw-r-- 1 mebrinkmann mebrinkmann 44K Jan 31 2020 tux-penguin.gif
```

```
1 / 1  +  TiliX: mebrinkmann@cis106: ~/practicels  🔍  ☰  -  □  ×

1: mebrinkmann@cis106: ~/practicels  □  ×

-rw-rw-r-- 1 mebrinkmann mebrinkmann 44K Jan 31 2020 tux-penguin.gif
mebrinkmann@cis106:~/practicels$ ls -lht
total 2.9M
-rw-rw-r-- 1 mebrinkmann mebrinkmann 24K Feb 27 2022 countries.xml
-rw-rw-r-- 1 mebrinkmann mebrinkmann 278K Feb 27 2022 people.csv
-rw-rw-r-- 1 mebrinkmann mebrinkmann 747K Feb 27 2022 song.mp3
-rw-rw-r-- 1 mebrinkmann mebrinkmann 1.5M Feb 27 2022 movie.mp4
-rw-rw-r-- 1 mebrinkmann mebrinkmann 160K Feb 27 2022 history-debian.pdf
-rw-rw-r-- 1 mebrinkmann mebrinkmann 21K Feb 27 2022 tux-nobg.png
-rw-rw-r-- 1 mebrinkmann mebrinkmann 1.1K Feb 27 2022 book.txt
-rw-rw-r-- 1 mebrinkmann mebrinkmann 109K Feb 22 2022 homework.docx
-rw-rw-r-- 1 mebrinkmann mebrinkmann 44K Jan 31 2020 tux-penguin.gif
mebrinkmann@cis106:~/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
mebrinkmann@cis106:~/practicels$ ls -mr
tux-penguin.gif, tux-nobg.png, song.mp3, people.csv, movie.mp4, homework.docx, history-debian.pdf,
countries.xml, book.txt
mebrinkmann@cis106:~/practicels$ ls -lx
book.txt      countries.xml  history-debian.pdf  homework.docx  movie.mp4  people.csv  song.mp3
tux-nobg.png  tux-penguin.gif
mebrinkmann@cis106:~/practicels$ _
```

## Challenge Practice

```

1/1  +  [Icons]  Tilix: mebrinkmann@cis106: ~
1: mebrinkmann@cis106: ~
mebrinkmann@cis106:~$ pwd
/home/mebrinkmann
mebrinkmann@cis106:~$ cd ~
mebrinkmann@cis106:~$ cd /
mebrinkmann@cis106:/$ cd usr/share/themes
mebrinkmann@cis106:/usr/share/themes$ cd ../../
mebrinkmann@cis106:/usr$ ls -A ~
.bash_history      Pictures
.bash_logout       .pki
.bashrc            practicels
.cache             practicels.tar.xz
cis106             .profile
.config            Public
Desktop            snap
Documents          .ssh
.dotnet            .sudo_as_admin_successful
Downloads          Templates
.fonts             .thunderbird
.formatter.sh.swp  .vboxclient-clipboard.pid
gitcommands.txt    .vboxclient-draganddrop.pid
.gitconfig         .vboxclient-seamless.pid
.gnupg             .vboxclient-vmvga-session-tty2.pid
.lessshst          Videos
.local             .viminfo
.mozilla           .vscode
Music
mebrinkmann@cis106:/usr$ cd; ls -tX cis106/
CheatSheets FinalReport Labs WeekReports

```

```

1/1  +  [Icons]  Tilix: mebrinkmann@cis106: ~
1: mebrinkmann@cis106: ~
mebrinkmann@cis106:~$ ls -rR ~/cis106/
/home/mebrinkmann/cis106/:
WeekReports Labs FinalReport CheatSheets

/home/mebrinkmann/cis106/WeekReports:
WeekReport4 WeekReport3

/home/mebrinkmann/cis106/WeekReports/WeekReport4:
wr4-prac2.3.png wr4-prac2.1.png wr4-chalprac1.png fs1.3.png fs1.1.png
wr4-prac2.2.png wr4-prac1.png WeekReport4.md fs1.2.png

/home/mebrinkmann/cis106/WeekReports/WeekReport3:
WeekReport3.pdf WeekReport3.md

/home/mebrinkmann/cis106/Labs:
Lab3 Lab2 Lab1

/home/mebrinkmann/cis106/Labs/Lab3:
q4 q3.4.png q3.2.png q3 q1pp.pdf q1.2.png lab3.pdf
q3.5.png q3.3.png q3.1.png q2.1.png q1doc.pdf q1.1.png lab3.md

/home/mebrinkmann/cis106/Labs/Lab2:
question4.png question3.png question2.png question1.2.png question1.1.png lab2.pdf lab2.md

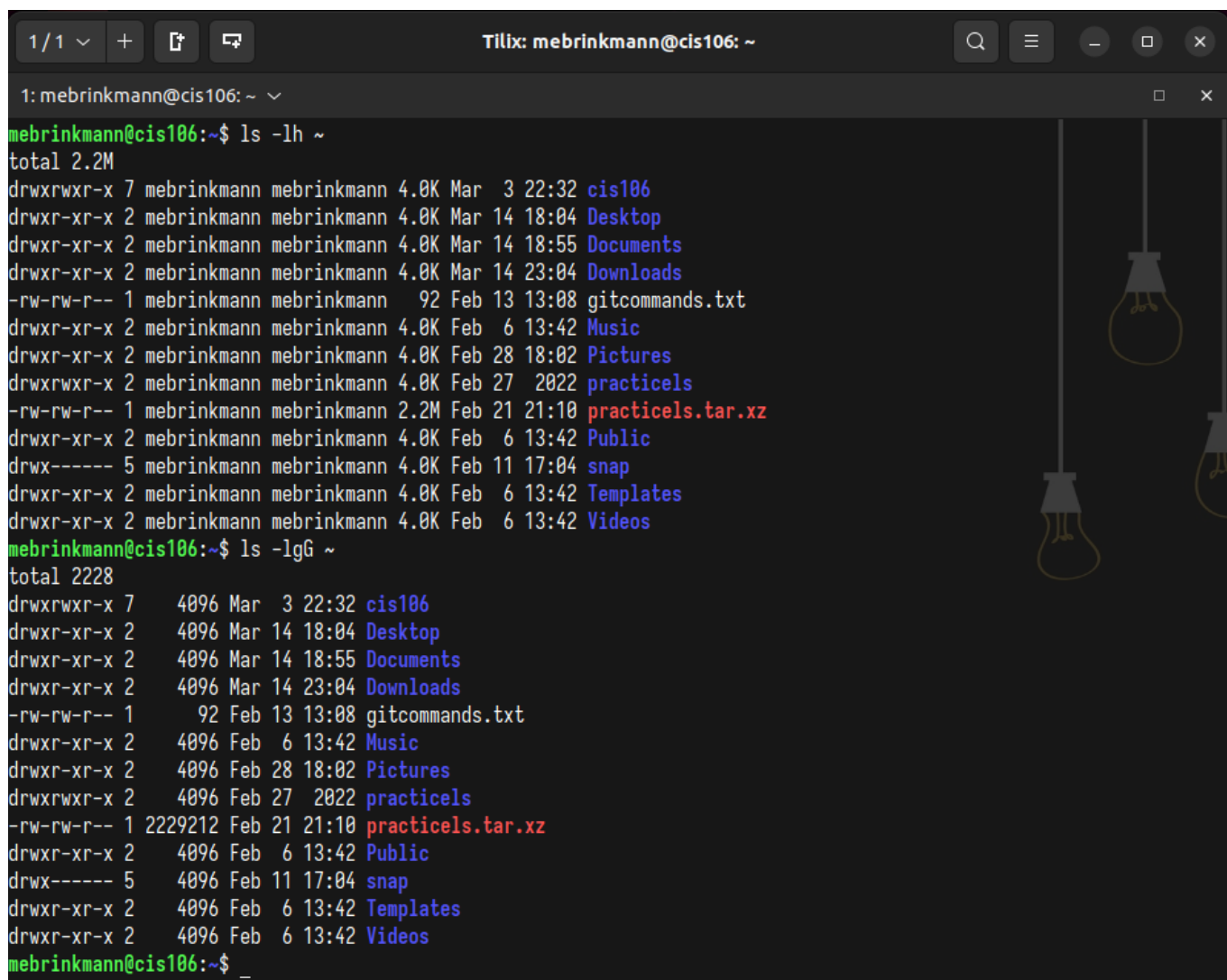
/home/mebrinkmann/cis106/Labs/Lab1:
whatisubuntu.txt what-is-ubuntu.pdf john-doe-resume-submission.pdf johndoeinfo.txt
what_is_ubuntu_submission.pdf ubuntu-logo.png john-doe-resume-submission.md
what_is_ubuntu_submission.md ubuntu-desktop.png john-doe-resume-submission.html
what_is_ubuntu_submission.html resume.png johndoe.jpeg

/home/mebrinkmann/cis106/FinalReport:

```

/home/mebrinkmann/cis106/CheatSheets:

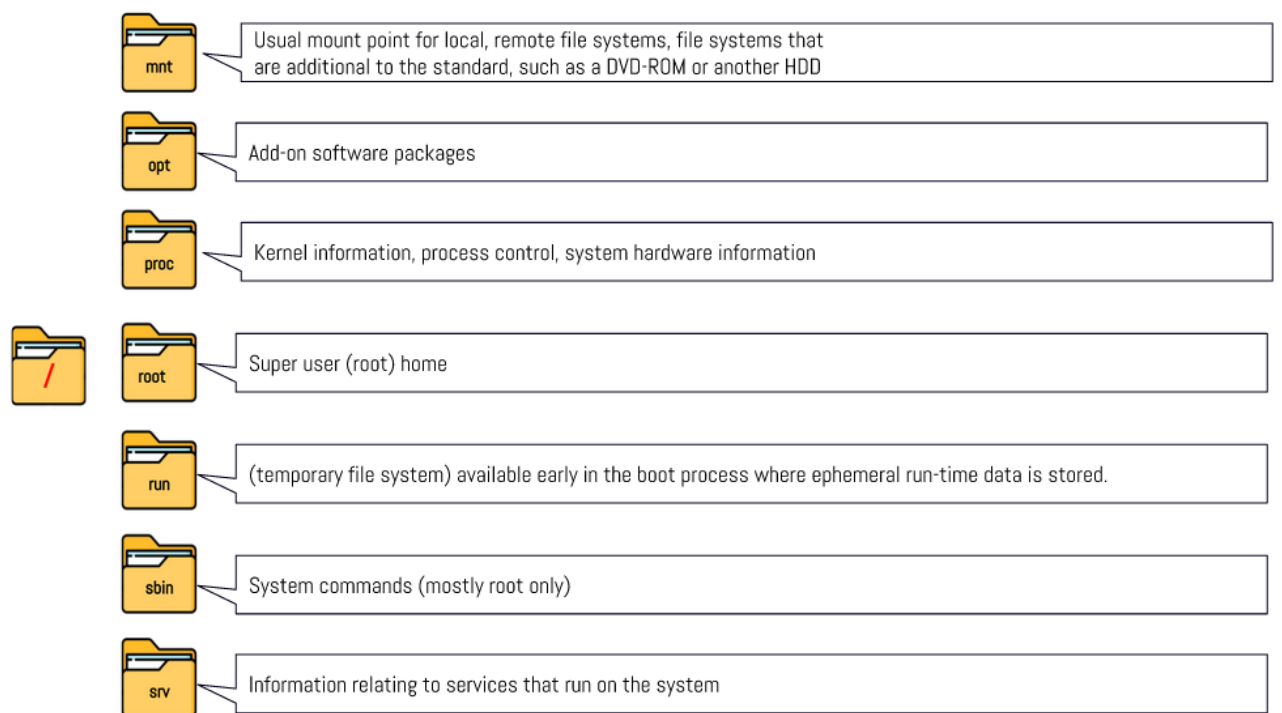
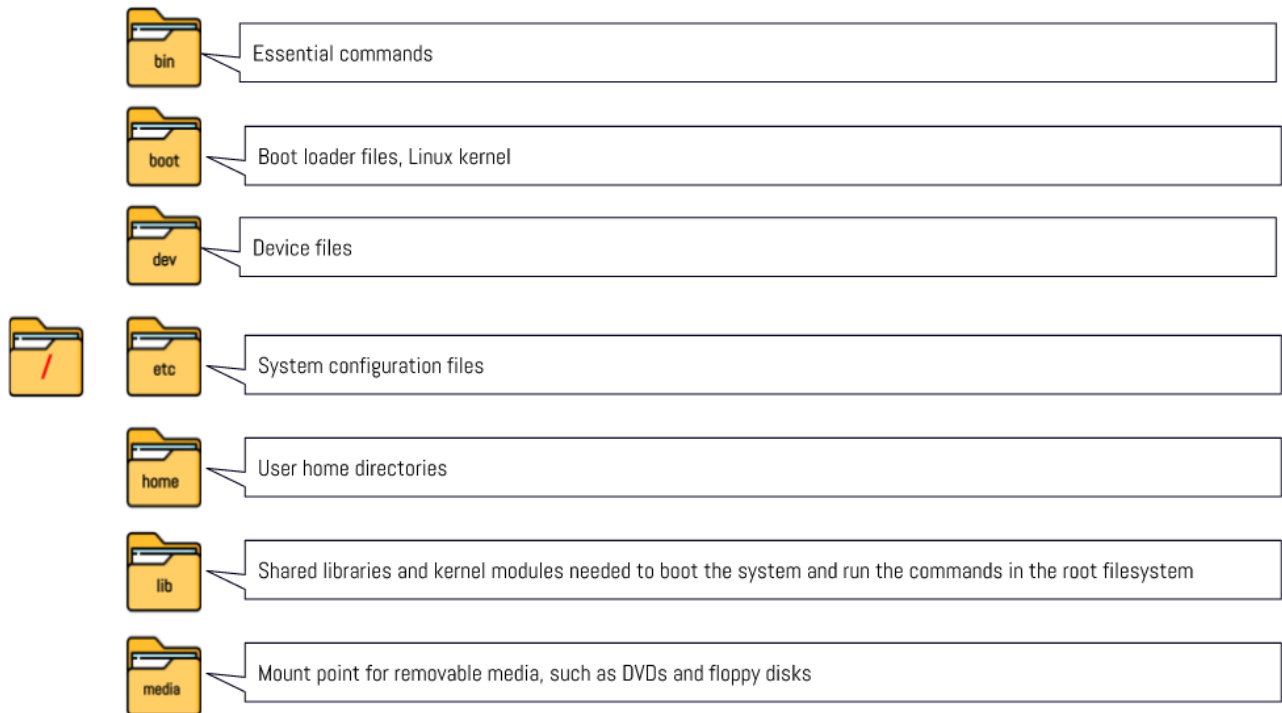
'Linux Workshop Ubuntu Software installation cheat sheet.png'

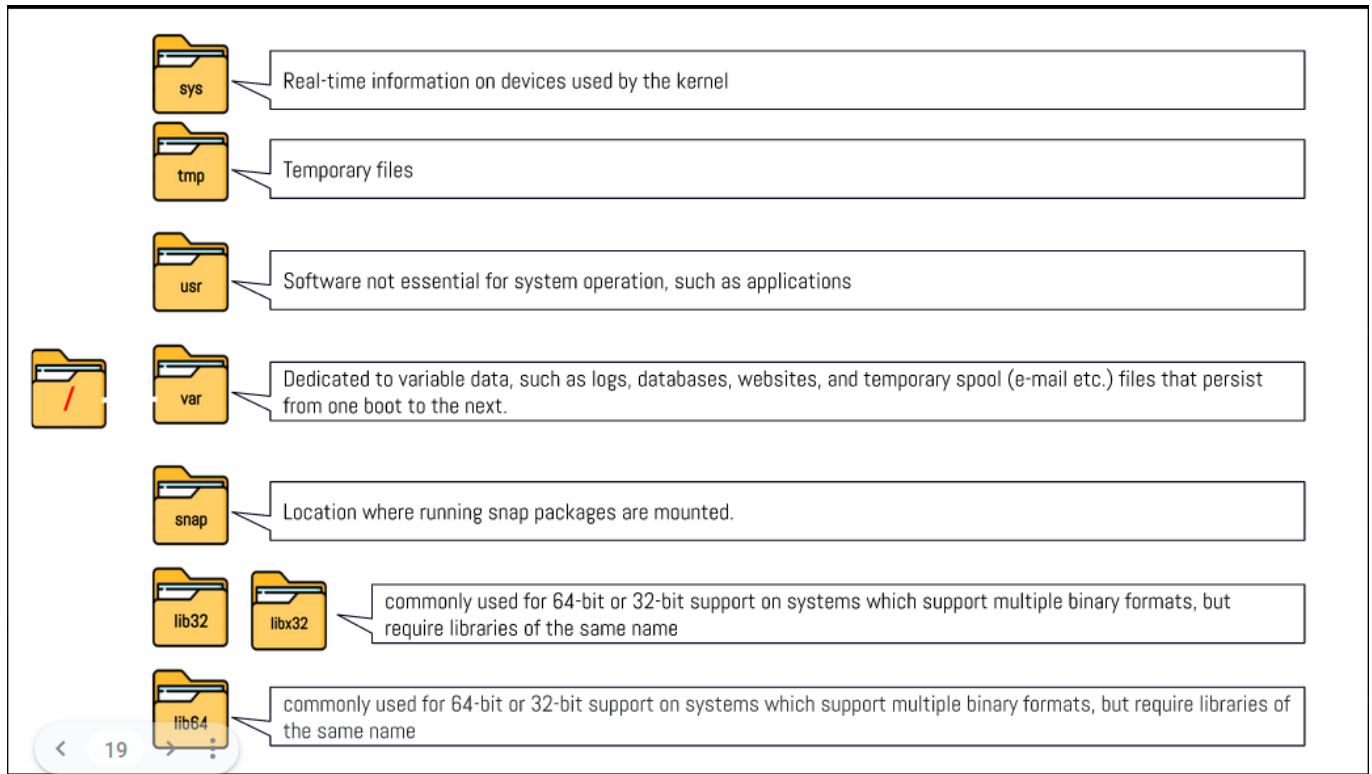


The screenshot shows a terminal window titled 'Tilix: mebrinkmann@cis106: ~'. The user is at the prompt 'mebrinkmann@cis106:~\$'. They have run the command 'ls -lh ~', which displays a list of files and directories in their home directory. The output shows standard Linux directories like Desktop, Documents, Downloads, Music, Pictures, Public, Templates, and Videos, along with a file named gitcommands.txt and a tar archive named practicels.tar.xz. They then run 'ls -lg ~', which shows the same list but with permissions in octal format. The terminal window has a dark theme and a lightbulb icon in the background.

```
1: mebrinkmann@cis106: ~  
mebrinkmann@cis106:~$ ls -lh ~  
total 2.2M  
drwxrwxr-x 7 mebrinkmann mebrinkmann 4.0K Mar  3 22:32 cis106  
drwxr-xr-x 2 mebrinkmann mebrinkmann 4.0K Mar 14 18:04 Desktop  
drwxr-xr-x 2 mebrinkmann mebrinkmann 4.0K Mar 14 18:55 Documents  
drwxr-xr-x 2 mebrinkmann mebrinkmann 4.0K Mar 14 23:04 Downloads  
-rw-rw-r-- 1 mebrinkmann mebrinkmann  92 Feb 13 13:08 gitcommands.txt  
drwxr-xr-x 2 mebrinkmann mebrinkmann 4.0K Feb  6 13:42 Music  
drwxr-xr-x 2 mebrinkmann mebrinkmann 4.0K Feb 28 18:02 Pictures  
drwxrwxr-x 2 mebrinkmann mebrinkmann 4.0K Feb 27 2022 practicels  
-rw-rw-r-- 1 mebrinkmann mebrinkmann 2.2M Feb 21 21:10 practicels.tar.xz  
drwxr-xr-x 2 mebrinkmann mebrinkmann 4.0K Feb  6 13:42 Public  
drwx----- 5 mebrinkmann mebrinkmann 4.0K Feb 11 17:04 snap  
drwxr-xr-x 2 mebrinkmann mebrinkmann 4.0K Feb  6 13:42 Templates  
drwxr-xr-x 2 mebrinkmann mebrinkmann 4.0K Feb  6 13:42 Videos  
mebrinkmann@cis106:~$ ls -lg ~  
total 2228  
drwxrwxr-x 7 4096 Mar  3 22:32 cis106  
drwxr-xr-x 2 4096 Mar 14 18:04 Desktop  
drwxr-xr-x 2 4096 Mar 14 18:55 Documents  
drwxr-xr-x 2 4096 Mar 14 23:04 Downloads  
-rw-rw-r-- 1  92 Feb 13 13:08 gitcommands.txt  
drwxr-xr-x 2 4096 Feb  6 13:42 Music  
drwxr-xr-x 2 4096 Feb 28 18:02 Pictures  
drwxrwxr-x 2 4096 Feb 27 2022 practicels  
-rw-rw-r-- 1 2229212 Feb 21 21:10 practicels.tar.xz  
drwxr-xr-x 2 4096 Feb  6 13:42 Public  
drwx----- 5 4096 Feb 11 17:04 snap  
drwxr-xr-x 2 4096 Feb  6 13:42 Templates  
drwxr-xr-x 2 4096 Feb  6 13:42 Videos  
mebrinkmann@cis106:~$ _
```

## The Linux File System Directories and Their Purpose





## All The Commands for Navigating the Filesystem

Command	What it does	Syntax	Example
<code>pwd</code>	prints current directory	<code>pwd</code>	<code>pwd</code>
<code>cd</code>	changes the current working directory	<code>cd</code>	<code>cd + /home/\$USER/Documents</code>
<code>ls</code>	lists files inside a given directory	<code>ls</code>	<code>ls + -a + ~/Music</code>

## Basic Terminology

- **File system:** the way files are stored and organized
- **Current directory:** the directory where you are at the moment
- **parent directory:** the directory that precedes your current directory
- **the difference between your home directory and the home directory:** YOUR home directory is only accessible from your user profile. THE home directory is accessible by the admin of the system.
- **pathname:** indicates the location of the file in the file system
- **relative path:** the location of a file starting at the root of the file system
- **absolute path:** the location of a file starting from the current directory or a directory that is located inside the current directory.
-