Week Report 4

Practice from the presentation The Linux File system

Practice 1

Practice 2

```
1: avazquez@cis106: ~/practicels  ∨
avazquez@cis106:~/practicels$ ls -lh
total 2.9M
-rw-rw-r-- 1 avazquez avazquez 1.1K Feb 27  2022 book.txt
-rw-rw-r-- 1 avazquez avazquez  24K Feb 27  2022 countries.xml
-rw-rw-r-- 1 avazquez avazquez 160K Feb 27  2022 history-debian.pdf
-rw-rw-r-- 1 avazquez avazquez 109K Feb 22  2022 homework.docx
-rw-rw-r-- 1 avazquez avazquez 1.5M Feb 27  2022 movie.mp4
-rw-rw-r-- 1 avazquez avazquez 278K Feb 27  2022 people.csv
-rw-rw-r-- 1 avazquez avazquez 747K Feb 27  2022 song.mp3
-rw-rw-r-- 1 avazquez avazquez  21K Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 avazquez avazquez  44K Jan 31  2020 tux-penguin.gif
avazquez@cis106:~/practicels$ ls -lht
total 2.9M
-rw-rw-r-- 1 avazquez avazquez  24K Feb 27  2022 countries.xml
-rw-rw-r-- 1 avazquez avazquez 278K Feb 27  2022 people.csv
-rw-rw-r-- 1 avazquez avazquez 747K Feb 27  2022 song.mp3
-rw-rw-r-- 1 avazquez avazquez 1.5M Feb 27  2022 movie.mp4
-rw-rw-r-- 1 avazquez avazquez 160K Feb 27  2022 history-debian.pdf
-rw-rw-r-- 1 avazquez avazquez  21K Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 avazquez avazquez 1.1K Feb 27  2022 book.txt
-rw-rw-r-- 1 avazquez avazquez 109K Feb 22  2022 homework.docx
-rw-rw-r-- 1 avazquez avazquez  44K Jan 31  2020 tux-penguin.gif
avazquez@cis106:~/practicels$ ls-lhgGS
ls-lhgGS: command not found
avazquez@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
avazquez@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
avazquez@cis106:~/practicels$ ls -1x
book.txt        countries.xml  history-debian.pdf  homework.docx  movie.mp4  people.csv  song.mp3  tux-nobg.png
tux-penguin.gif
avazquez@cis106:~/practicels$ _
```

Practice 3


```
Applications  Places                                                                     Tilix: avazquez@cis106: ~
1/1 ∨  +                                                           Tilix: avazquez@cis106: ~
1: avazquez@cis106: ~ ∨
avazquez@cis106:~$ pwd
/home/avazquez
avazquez@cis106:~$ cd
avazquez@cis106:~$ cd /
avazquez@cis106:/$ cd usr/share/themes
avazquez@cis106:/usr/share/themes$ cd ../../
avazquez@cis106:/usr$ ls -A ~
.bash_history  .dillo      GNUstep      practicels.tar.xz           .vboxclient-clipboard.pid
.bash_logout   Documents   .lesshst     .profile                    .vboxclient-draganddrop.pid
.bashrc        .dotnet     .local       Public                      .vboxclient-seamless.pid
.cache         Downloads   .mozilla     snap                        .vboxclient-vmsvga-session-tty2.pid
cis106         .fltk       Music        .ssh                        Videos
.cis106.png    .fonts      Pictures     .sudo_as_admin_successful   .vscode
.config        .gitconfig  .pki         Templates
Desktop        .gnupg      practicels   .thunderbird
avazquez@cis106:/usr$ cd; ls -tX /home/avazquez/cis106/
cheatSheets  labs  WeekReports  gitcommands.txt
avazquez@cis106:~$ ls -rR /home/avazquez/cis106/
/home/avazquez/cis106/:
WeekReports  labs  gitcommands.txt  cheatSheets

/home/avazquez/cis106/WeekReports:
wr4.md  wr3.pdf  wr3.md  p2wr4.png  p2.1wr4.png  p1.png  fs1.3.png  fs1.2.png  fs1.1.png

/home/avazquez/cis106/labs:
lab3  lab2  lab1

/home/avazquez/cis106/labs/lab3:
q3.3.png  q3.2.png  q3.1.png  q2.1.png  q1.3.pptx  q1.3.odp  q1.2.pdf  q1.1.png  lab3.pdf  lab3.md

/home/avazquez/cis106/labs/lab2:
questionpt2.png  question4.png  question3.png  question2.png  question1pt1.png  question1.png  lab2.pdf  lab2.md

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

/home/avazquez/cis106/cheatSheets:
'Linux Workshop Ubuntu Software installation cheat sheet.png'
avazquez@cis106:~$ _
```
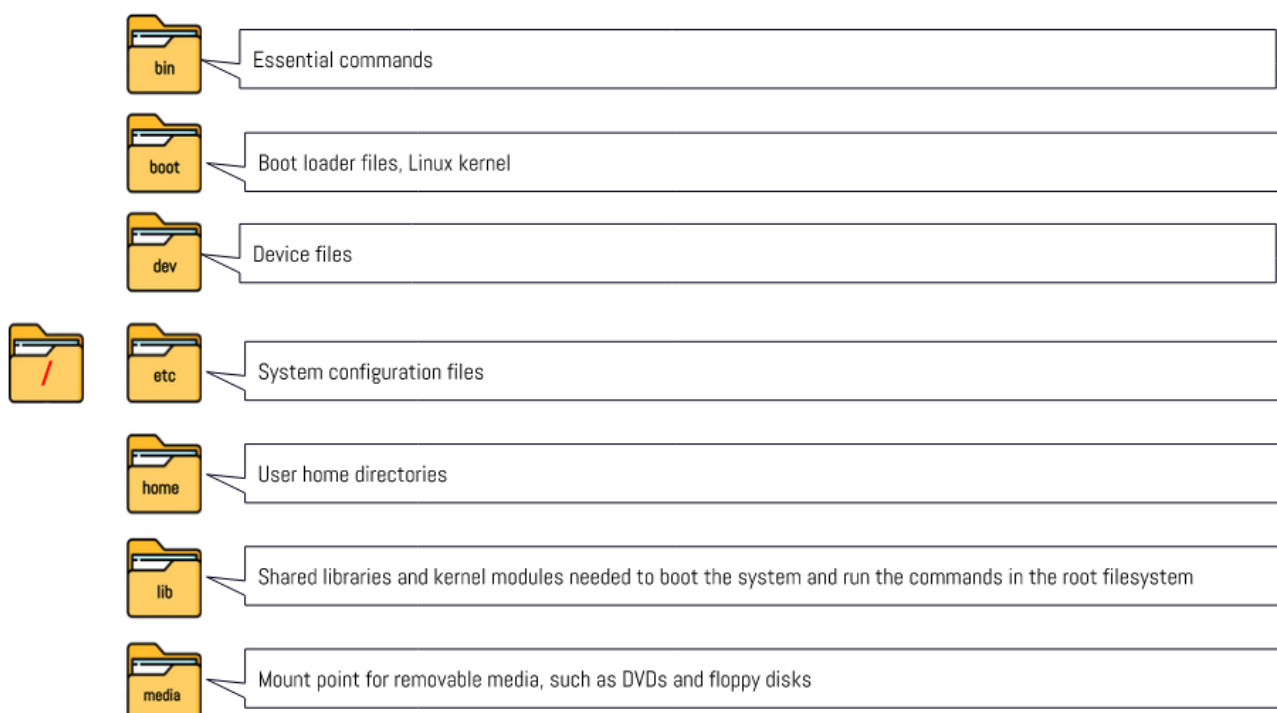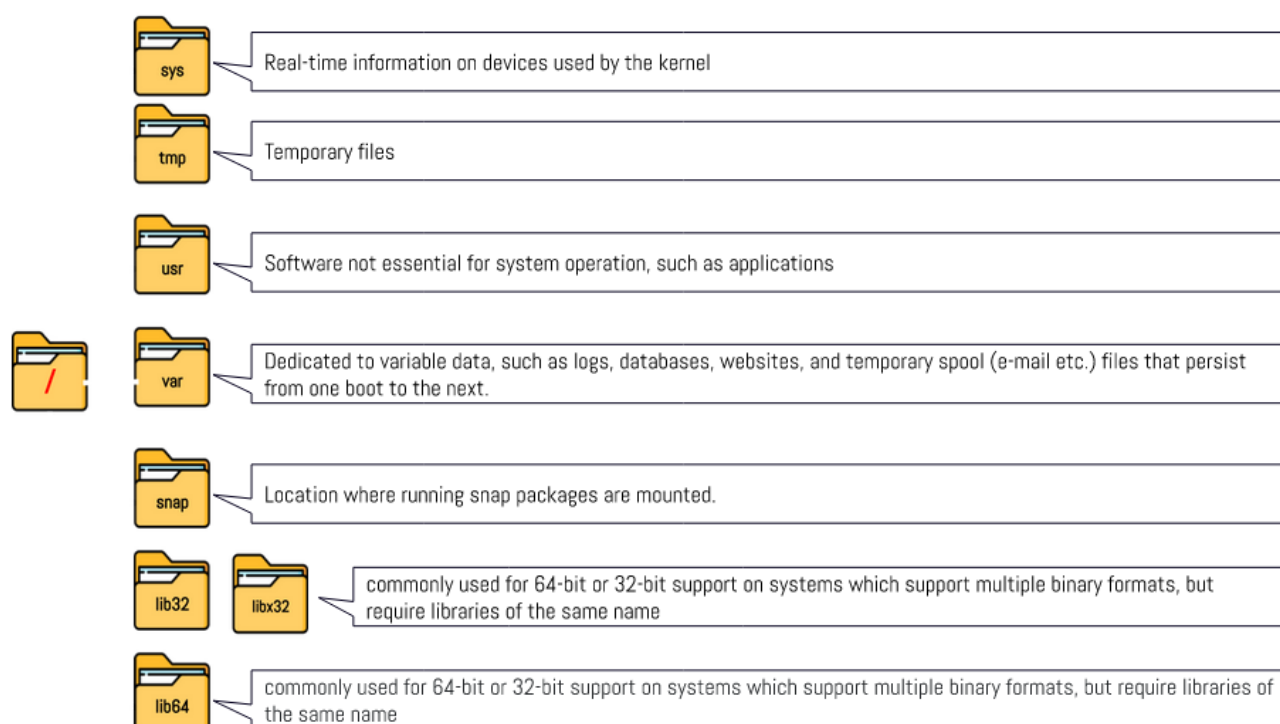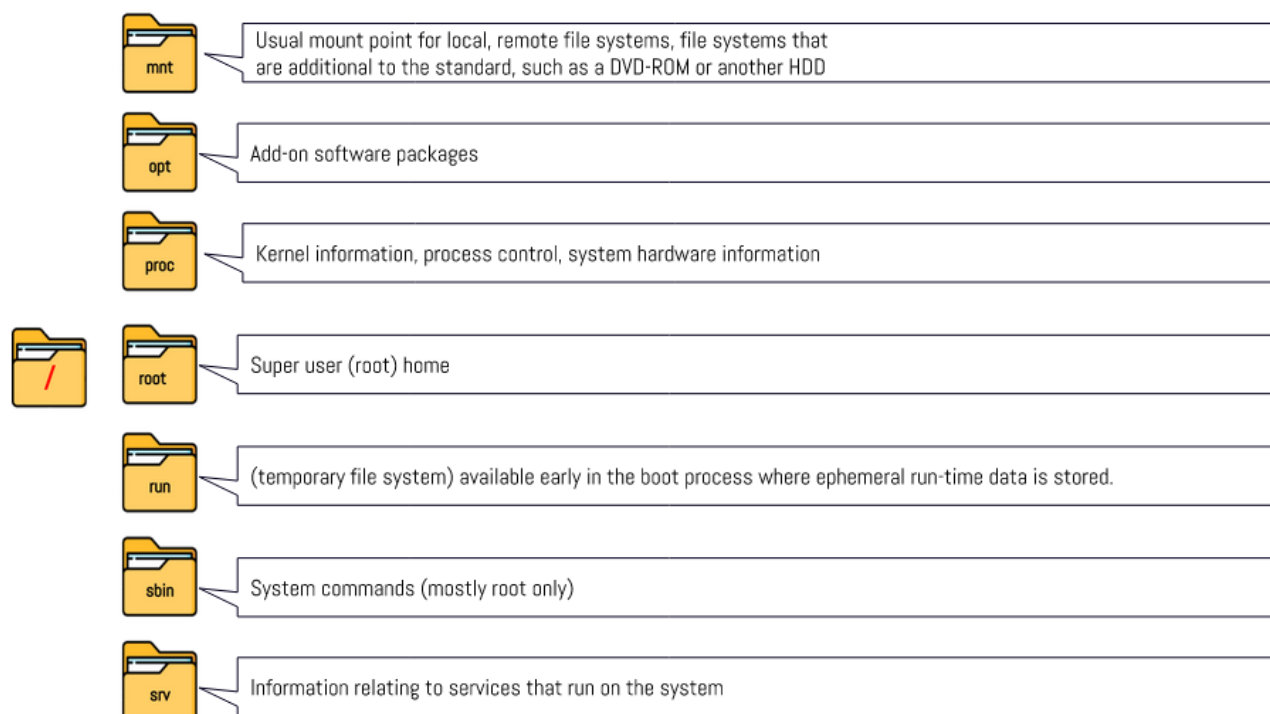
```
1: avazquez@cis106: ~  ∨

avazquez@cis106:~$ ls -lh ~
total 2.2M
drwxrwxr-x 6 avazquez avazquez 4.0K Feb 26 15:34 cis106
drwxr-xr-x 2 avazquez avazquez 4.0K Feb 28 13:54 Desktop
drwxr-xr-x 2 avazquez avazquez 4.0K Feb 28 17:14 Documents
drwxr-xr-x 5 avazquez avazquez 4.0K Mar  7 18:41 Downloads
drwxrwxr-x 4 avazquez avazquez 4.0K Feb 28 17:22 GNUstep
drwxr-xr-x 2 avazquez avazquez 4.0K Feb  5 17:47 Music
drwxr-xr-x 4 avazquez avazquez 4.0K Mar  7 18:17 Pictures
drwxrwxr-x 2 avazquez avazquez 4.0K Feb 27  2022 practicels
-rw-rw-r-- 1 avazquez avazquez 2.2M Feb 21 21:10 practicels.tar.xz
drwxr-xr-x 2 avazquez avazquez 4.0K Feb  5 17:47 Public
drwx------ 5 avazquez avazquez 4.0K Feb  5 21:51 snap
drwxr-xr-x 2 avazquez avazquez 4.0K Feb  5 17:47 Templates
drwxr-xr-x 3 avazquez avazquez 4.0K Mar  7 19:01 Videos
avazquez@cis106:~$ ls -lgG --full-time ~
total 2228
drwxrwxr-x 6    4096 2023-02-26 15:34:52.796282597 -0500 cis106
drwxr-xr-x 2    4096 2023-02-28 13:54:58.263894636 -0500 Desktop
drwxr-xr-x 2    4096 2023-02-28 17:14:04.798103332 -0500 Documents
drwxr-xr-x 5    4096 2023-03-07 18:41:30.140784136 -0500 Downloads
drwxrwxr-x 4    4096 2023-02-28 17:22:29.494126904 -0500 GNUstep
drwxr-xr-x 2    4096 2023-02-05 17:47:00.247998495 -0500 Music
drwxr-xr-x 4    4096 2023-03-07 18:17:31.049671010 -0500 Pictures
drwxrwxr-x 2    4096 2022-02-27 13:46:18.000000000 -0500 practicels
-rw-rw-r-- 1 2229212 2023-02-21 21:10:00.000000000 -0500 practicels.tar.xz
drwxr-xr-x 2    4096 2023-02-05 17:47:00.247998495 -0500 Public
drwx------ 5    4096 2023-02-05 21:51:38.914411704 -0500 snap
drwxr-xr-x 2    4096 2023-02-05 17:47:00.247998495 -0500 Templates
drwxr-xr-x 3    4096 2023-03-07 19:01:35.050877101 -0500 Videos
avazquez@cis106:~$ _
```

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

	sys	Real-time information on devices used by the kernel
	tmp	Temporary files
	usr	Software not essential for system operation, such as applications
/	var	Dedicated to variable data, such as logs, databases, websites, and temporary spool (e-mail etc.) files that persist from one boot to the next.
	snap	Location where running snap packages are mounted.
	lib32 libx32	commonly used for 64-bit or 32-bit support on systems which support multiple binary formats, but require libraries of the same name
	lib64	commonly used for 64-bit or 32-bit support on systems which support multiple binary formats, but require libraries of the same name

All the commands for navigating the filesystem

Command	What it does	Syntax	Example
pwd	Prints current directory	pwd	pwd
cd	Used for changing the current working directory	cd + destination	cd Downloads/
ls	Used for showcasing all files in the current directory	ls + option + directory to list	ls -a ~/Pictures

Basic terminology

- **File system** The file system is how the files are stored and organized
- **Current directory** is the directory one is currently working on
- **Parent directory** backwards from the previous directory
- **The difference between your home directory and the home directory** "Your home directory" is the terminal emulator which is the current working directory. Compared to "the home directory" it is the home directory in the root.
- **Pathname** the location of the file in the file system
- **Relative path** starts with a subdirectory and it is a directory that is found inside the current working directory
- **Absolute path** always starts with / and it is the location of a file starting from the root of the file system