Week Report 4

Practice from the presentation The Linux File system:

Practice 1

Practice 2

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

```
vgarcia@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
```

```
vgarcia@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
```

```
vgarcia@cis106:~/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

```
vgarcia@cis106:~/practicels$ pwd
/home/vgarcia/practicels
```

```
vgarcia@cis106:~/practicels$ cd
vgarcia@cis106:~$ pwd
/home/vgarcia
```

```
vgarcia@cis106:~$ cd /
```

```
vgarcia@cis106:/$ cd /usr/share/themes
```
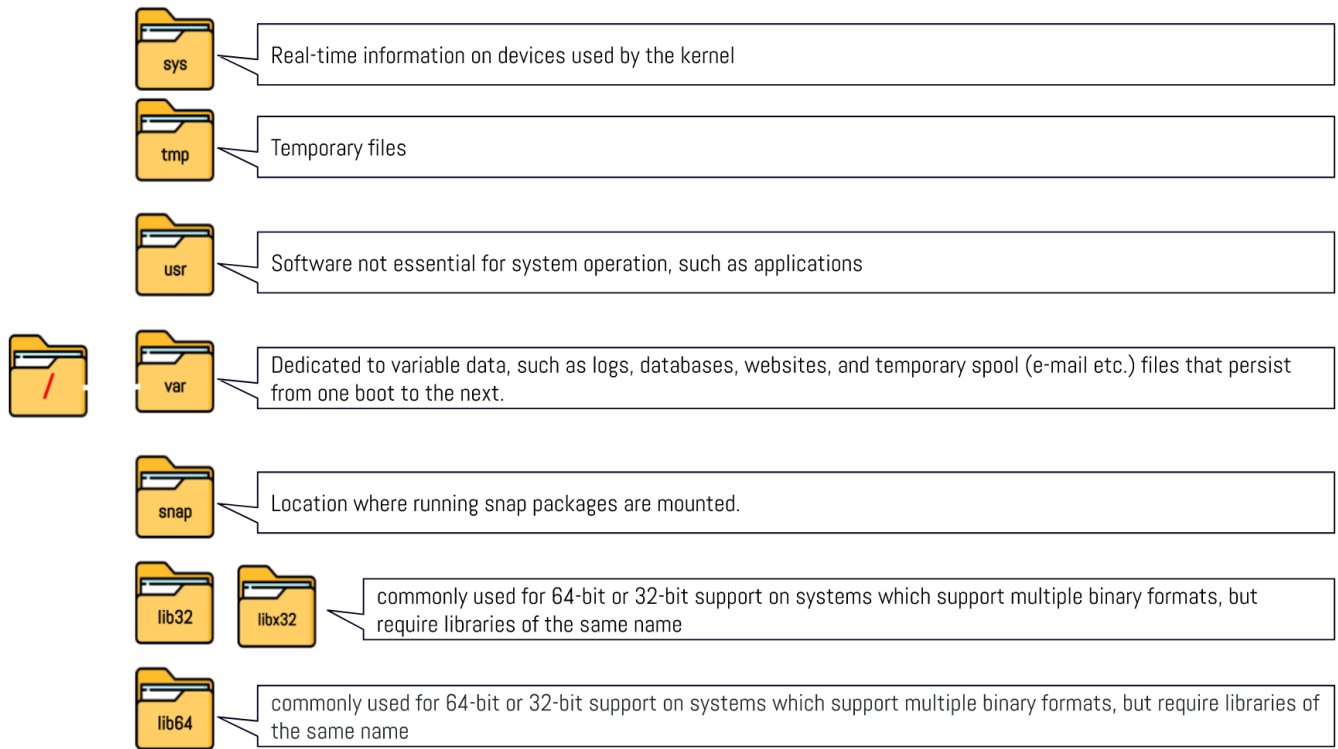
```
vgarcia@cis106:/usr/share/themes$ cd ../../
vgarcia@cis106:/usr$ ls -A ~
```

```
vgarcia@cis106:/usr$ ls -A ~
.bash_history        practicels.tar.xz
.bash_logout         .profile
.bashrc              Public
.cache               .python_history
cis106               snap
.config              .ssh
Desktop              .sudo_as_admin_successful
Documents            Templates
.dotnet              .vboxclient-clipboard-tty2-control.pid
Downloads            .vboxclient-clipboard-tty2-service.pid
gitcommands.txt      .vboxclient-draganddrop-tty2-control.pid
.gitconfig           .vboxclient-draganddrop-tty2-service.pid
.gnupg               .vboxclient-hostversion-tty2-control.pid
lab4files            .vboxclient-seamless-tty2-control.pid
.lesshst             .vboxclient-seamless-tty2-service.pid
.local               .vboxclient-vmsvga-session-tty2-control.pid
Music                .vboxclient-vmsvga-session-tty2-service.pid
oreo.png             Videos
Pictures             .vscode
pizza.txt            website
.pki                 .xdp-cis106,png-NUGteX
pp_pizza.txt         .xdp-cis106.png-SFuq4D
practicels
```

```
vgarcia@cis106:/usr$ cd; ls -tx https://github.com/lgarcvan/cis106/
ls: cannot access 'https://github.com/lgarcvan/cis106/': No such file or directory
vgarcia@cis106:~$ cd; ls -tx https://github.com/lgarcvan/cis106/
ls: cannot access 'https://github.com/lgarcvan/cis106/': No such file or directory
vgarcia@cis106:~$ cd; ls -tx https://github.com/lgarcvan/cis106.git
ls: cannot access 'https://github.com/lgarcvan/cis106.git': No such file or directory
vgarcia@cis106:~$ cd; ls -tx wget https://github.com/lgarcvan/cis106.git
ls: cannot access 'wget': No such file or directory
ls: cannot access 'https://github.com/lgarcvan/cis106.git': No such file or directory
vgarcia@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 we use for navigating the file system

Command	What is does	Syntax	Example
pwd	print current directory	pwd	'pwd'
CD	changes the present working directory	cd [source] [destination]	cd
ls	list all files & directories in a given directory	ls [options] [files]	ls

Basic Terminology

- File system the way files are stored & organized
- Current directory directory where you are at the moment or present working directory
- parent directory move forward to a subdirectory or backwards to previous directory
- The difference between your home directory and the home directory? Home directory is the default working directory when a user logs in. Present working directory is user current directory. Working directory can be changed by cd command.
- pathname in a filesystem every file has pathname which indicates location of file in filesystem (address)
- Relative path location or a directory that is located inside current working directory EX: Downloads/songs.mp3
- Absolute path location of a file starting at root of FS EX: /home/john/Downloads/songs.mp3