Week Report 4

Practice from the presentation: The Linux File System

Practice 1

```
jdpaz@cis106vm ~$ pwd
/home/jdpaz
jdpaz@cis106vm ~$ cd /home/jdpaz/Downloads
jdpaz@cis106vm Downloads$ pwd
/home/jdpaz/Downloads
jdpaz@cis106vm Downloads$ cd ..
jdpaz@cis106vm ~$ cd ../../
jdpaz@cis106vm /$ pwd
/
jdpaz@cis106vm /$ cd -
/home/jdpaz
jdpaz@cis106vm ~$ ▉
```

Practice 2

```
jdpaz@cis106vm Desktop$ wget https://cis106.com/assets/practicels.tar.xz
--2023-03-28 00:35:36--  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  9.73MB/s    in 0.2s

2023-03-28 00:35:37 (9.73 MB/s) - 'practicels.tar.xz' saved [2229212/2229212]

jdpaz@cis106vm Desktop$ tar Jxf practicels.tar.xz
jdpaz@cis106vm Desktop$ cd practicels/
jdpaz@cis106vm practicels$ ls
book.txt        history-debian.pdf  movie.mp4    song.mp3      tux-penguin.gif
countries.xml  homework.docx        people.csv  tux-nobg.png
jdpaz@cis106vm practicels$ ls -a
.           countries.xml       movie.mp4    tux-nobg.png
..          history-debian.pdf  people.csv  tux-penguin.gif
book.txt   homework.docx        song.mp3
jdpaz@cis106vm practicels$ ls -l
total 2932
-rw-rw-r-- 1 jdpaz jdpaz    1043 Feb 27  2022 book.txt
-rw-rw-r-- 1 jdpaz jdpaz   23972 Feb 27  2022 countries.xml
-rw-rw-r-- 1 jdpaz jdpaz  163057 Feb 27  2022 history-debian.pdf
-rw-rw-r-- 1 jdpaz jdpaz  111303 Feb 22  2022 homework.docx
-rw-rw-r-- 1 jdpaz jdpaz 1570024 Feb 27  2022 movie.mp4
-rw-rw-r-- 1 jdpaz jdpaz  284042 Feb 27  2022 people.csv
-rw-rw-r-- 1 jdpaz jdpaz  764176 Feb 27  2022 song.mp3
-rw-rw-r-- 1 jdpaz jdpaz   21314 Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 jdpaz jdpaz   44299 Jan 31  2020 tux-penguin.gif
jdpaz@cis106vm practicels$ ls -lh
total 2.9M
-rw-rw-r-- 1 jdpaz jdpaz 1.1K Feb 27  2022 book.txt
-rw-rw-r-- 1 jdpaz jdpaz  24K Feb 27  2022 countries.xml
-rw-rw-r-- 1 jdpaz jdpaz 160K Feb 27  2022 history-debian.pdf
-rw-rw-r-- 1 jdpaz jdpaz 109K Feb 22  2022 homework.docx
-rw-rw-r-- 1 jdpaz jdpaz 1.5M Feb 27  2022 movie.mp4
-rw-rw-r-- 1 jdpaz jdpaz 278K Feb 27  2022 people.csv
-rw-rw-r-- 1 jdpaz jdpaz 747K Feb 27  2022 song.mp3
-rw-rw-r-- 1 jdpaz jdpaz  21K Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 jdpaz jdpaz  44K Jan 31  2020 tux-penguin.gif
jdpaz@cis106vm practicels$ ls -lht
total 2.9M
-rw-rw-r-- 1 jdpaz jdpaz  24K Feb 27  2022 countries.xml
-rw-rw-r-- 1 jdpaz jdpaz 278K Feb 27  2022 people.csv
-rw-rw-r-- 1 jdpaz jdpaz 747K Feb 27  2022 song.mp3
-rw-rw-r-- 1 jdpaz jdpaz 1.5M Feb 27  2022 movie.mp4
-rw-rw-r-- 1 jdpaz jdpaz 160K Feb 27  2022 history-debian.pdf
-rw-rw-r-- 1 jdpaz jdpaz  21K Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 jdpaz jdpaz 1.1K Feb 27  2022 book.txt
-rw-rw-r-- 1 jdpaz jdpaz 109K Feb 22  2022 homework.docx
-rw-rw-r-- 1 jdpaz jdpaz  44K Jan 31  2020 tux-penguin.gif
jdpaz@cis106vm practicels$ ls - lhGS
ls: cannot access '-': No such file or directory
ls: cannot access 'lhGS': No such file or directory
jdpaz@cis106vm 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
```
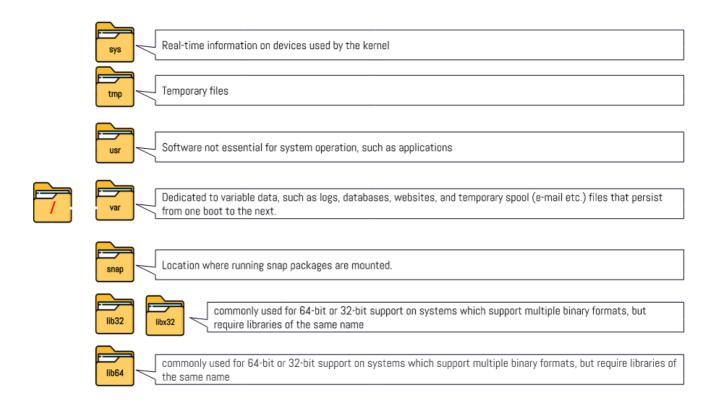
```
-rw-rw-r-- 1 109K Feb 22  2022 homework.docx
-rw-rw-r-- 1  44K Jan 31  2020 tux-penguin.gif
-rw-rw-r-- 1  24K Feb 27  2022 countries.xml
-rw-rw-r-- 1  21K Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 1.1K Feb 27  2022 book.txt
jdpaz@cis106vm practicels$ ls -mr
tux-penguin.gif, tux-nobg.png, song.mp3, people.csv, movie.mp4, homework.docx,
history-debian.pdf, countries.xml, book.txt
jdpaz@cis106vm practicels$ ls -1X
people.csv
homework.docx
tux-penguin.gif
song.mp3
movie.mp4
history-debian.pdf
tux-nobg.png
book.txt
countries.xml
jdpaz@cis106vm practicels$ █
```

Practice 3

The Linux File System Directories and Their Purpose

Folder	Description
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 File System

Command	What it does	Syntax	Example
ls	lists files and directories	ls + absolute or relative path to directory	ls \etc
cd	move between directories	cd + absolute or relative path to a directory	cd /etc
pwd	print current working directory	pwd	pwd

Basic Terminology

- **File system:** The way in which files are named and where they are placed logically for storage and retrieval
- **Current directory:** The directory your terminal window or command prompt is working in.
- **parent directory:** The directory that contains your current directory
- **the difference between your home directory and the home directory:** Your home directory refers to your own personal user directory that is a subdirectory in /home. The home directory is the actual /home directory. It is a subdirectory of the root.
- **pathname:** Indicates the location of the file in the filesystem.
- **relative path:** The location of a file starting from the current working directory or a directory that is located inside the current working directory.
- **absolute path:** The location of a file starting at the root of the file system