# Week Report 4

## PRACTICE FROM THE PRESENTATION THE LINUX FILE SYSTEM:

Practice 1

```
keven@cis106:~$ pwd
/home/keven
keven@cis106:~$ cd /home/keven/Downloads
keven@cis106:~/Downloads$ pwd
/home/keven/Downloads
keven@cis106:~/Downloads$ cd ..
keven@cis106:~$ cd ../../
keven@cis106:/$ pwd
/
keven@cis106:/$ cd -
/home/keven
keven@cis106:~$ _
```

Practice 2

```
keven@cis106:~$ cd ~/practicels
keven@cis106:~/practicels$ ls ~/practicels
book.txt  countries.xml  history-debian.pdf  homework.docx  movie.mp4  people.csv  song.mp3  tux-nobg.png  tux-penguin.gif
keven@cis106:~/practicels$ ls -a ~/practicels
.    book.txt         history-debian.pdf  movie.mp4    song.mp3         tux-penguin.gif
..   countries.xml  homework.docx          people.csv  tux-nobg.png
keven@cis106:~/practicels$ ls -la ~/practicels
total 2940
drwxrwxr-x  2 keven keven    4096 Feb 27  2022 .
drwxr-x--- 24 keven keven    4096 Oct 25 21:14 ..
-rw-rw-r--  1 keven keven    1043 Feb 27  2022 book.txt
-rw-rw-r--  1 keven keven   23972 Feb 27  2022 countries.xml
-rw-rw-r--  1 keven keven  163057 Feb 27  2022 history-debian.pdf
-rw-rw-r--  1 keven keven  111303 Feb 22  2022 homework.docx
-rw-rw-r--  1 keven keven 1570024 Feb 27  2022 movie.mp4
-rw-rw-r--  1 keven keven  284042 Feb 27  2022 people.csv
-rw-rw-r--  1 keven keven  764176 Feb 27  2022 song.mp3
-rw-rw-r--  1 keven keven   21314 Feb 27  2022 tux-nobg.png
-rw-rw-r--  1 keven keven   44299 Jan 31  2020 tux-penguin.gif
keven@cis106:~/practicels$ ls -lh ~/practicels
total 2.9M
-rw-rw-r-- 1 keven keven 1.1K Feb 27  2022 book.txt
-rw-rw-r-- 1 keven keven  24K Feb 27  2022 countries.xml
-rw-rw-r-- 1 keven keven 160K Feb 27  2022 history-debian.pdf
-rw-rw-r-- 1 keven keven 109K Feb 22  2022 homework.docx
-rw-rw-r-- 1 keven keven 1.5M Feb 27  2022 movie.mp4
-rw-rw-r-- 1 keven keven 278K Feb 27  2022 people.csv
-rw-rw-r-- 1 keven keven 747K Feb 27  2022 song.mp3
-rw-rw-r-- 1 keven keven  21K Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 keven keven  44K Jan 31  2020 tux-penguin.gif
keven@cis106:~/practicels$ ls -lht ~/practicels
total 2.9M
-rw-rw-r-- 1 keven keven  24K Feb 27  2022 countries.xml
-rw-rw-r-- 1 keven keven 278K Feb 27  2022 people.csv
-rw-rw-r-- 1 keven keven 747K Feb 27  2022 song.mp3
-rw-rw-r-- 1 keven keven 1.5M Feb 27  2022 movie.mp4
-rw-rw-r-- 1 keven keven 160K Feb 27  2022 history-debian.pdf
-rw-rw-r-- 1 keven keven  21K Feb 27  2022 tux-nobg.png
-rw-rw-r-- 1 keven keven 1.1K Feb 27  2022 book.txt
-rw-rw-r-- 1 keven keven 109K Feb 22  2022 homework.docx
-rw-rw-r-- 1 keven keven  44K Jan 31  2020 tux-penguin.gif
```

Practice 3

```
1. keven@cis106: ~
keven@cis106:~$ pwd
/home/keven
keven@cis106:~$ cd
keven@cis106:~$ cd /
keven@cis106:/$ cd usr/share/themes
keven@cis106:/usr/share/themes$ cd ../../
keven@cis106:/usr$ ls -A ~
.bash_history  .config    .gitconfig  Pictures    .ssh                     .vboxclient-draganddrop-tty2-service.pid   Videos
.bash_logout   Desktop    .gnupg      .pki        .sudo_as_admin_successful .vboxclient-hostversion-tty2-control.pid   .vscode
.bashrc        Documents  lab4files   practicels  Templates                .vboxclient-seamless-tty2-control.pid      website
.cache         .dotnet    .lesshst    .profile    .vboxclient-clipboard-tty2-control.pid  .vboxclient-seamless-tty2-service.pid
cis106         Downloads  .local      Public      .vboxclient-clipboard-tty2-service.pid  .vboxclient-vmsvga-session-tty2-control.pid
.cis106.png    .fonts     Music       snap        .vboxclient-draganddrop-tty2-control.pid .vboxclient-vmsvga-session-tty2-service.pid
keven@cis106:/usr$ cd; ls -tX cis106/
cis106-2
```

```
keven@cis106:~$ ls -rR ~/cis106
/home/keven/cis106:
cis106-2

/home/keven/cis106/cis106-2:
weekReports  labs  cheatsheets

/home/keven/cis106/cis106-2/weekReports:
wr4-p1.png  wr4-p1.2.png  wr4.md  wr3.pdf  wr3.md  fs1.3.png  fs1.2.png  fs1.1.png

/home/keven/cis106/cis106-2/labs:
'Lab 4'  'Lab 3'  'Lab 2'  'lab 1'

'/home/keven/cis106/cis106-2/labs/Lab 4':
Lab4.pdf  Lab4.5.2.png  Lab4.4.4.png  Lab4.4.2.png  Lab4.2.3.png  Lab4.2.1.png  Lab4.1.2.png
Lab4.md   Lab4.5.1.png  Lab4.4.3.png  Lab4.4.1.png  Lab4.2.2.png  Lab4.1.png

'/home/keven/cis106/cis106-2/labs/Lab 3':
 TERMINAL.png   Q3.4.png   Q3.2.png   Q2.1.png   'Lab 3.pdf'
 Q3.5.png       Q3.3.png   Q3.1.png   Q1.1.png   'Lab 3.md'

'/home/keven/cis106/cis106-2/labs/Lab 2':
 Q4.png   Q3.png   Q2.png   Q1.png   Q1.2.png   'Lab 2.pdf'   'Lab 2.md'

'/home/keven/cis106/cis106-2/labs/lab 1':
whatisubuntu.txt                 what-is-ubuntu.pdf    Resume4john.pdf
what_is_ubuntu_submission.pdf    ubuntu-logo.png       Resume4john.md
what_is_ubuntu_submission.md     ubuntu-desktop.png    johndoe.jpeg
what_is_ubuntu_submission.html   resume.png            johndoeinfo.txt

/home/keven/cis106/cis106-2/cheatsheets:
'Linux Workshop Ubuntu Software installation cheat sheet.png'
```
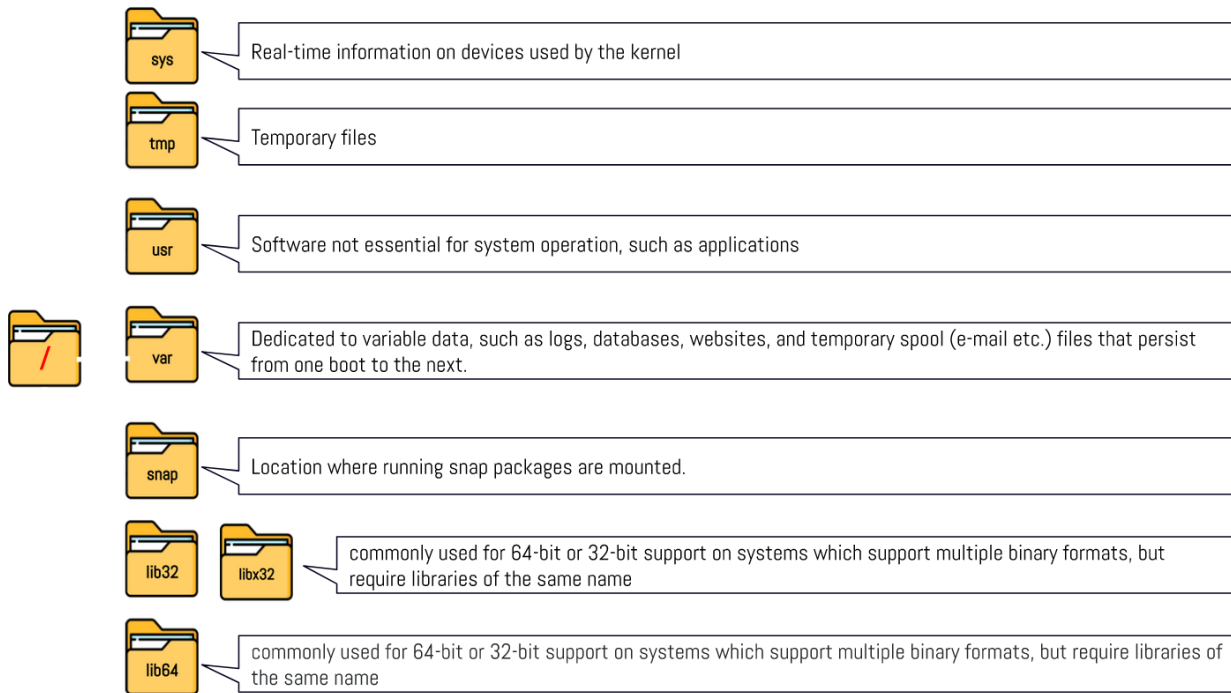
```
keven@cis106:~$ ls -lh ~
total 52K
drwxrwxr-x 4 keven keven 4.0K Oct  9 15:12 cis106
drwxr-xr-x 2 keven keven 4.0K Oct  9 12:45 Desktop
drwxr-xr-x 2 keven keven 4.0K Sep 27 12:01 Documents
drwxr-xr-x 2 keven keven 4.0K Oct 25 21:12 Downloads
drwxrwxr-x 2 keven keven 4.0K Feb 22  2022 lab4files
drwxr-xr-x 2 keven keven 4.0K Sep 27 12:01 Music
drwxr-xr-x 2 keven keven 4.0K Oct 25 21:03 Pictures
drwxrwxr-x 2 keven keven 4.0K Feb 27  2022 practicels
drwxr-xr-x 2 keven keven 4.0K Sep 27 12:01 Public
drwx------ 5 keven keven 4.0K Sep 27 12:24 snap
drwxr-xr-x 2 keven keven 4.0K Sep 27 12:01 Templates
drwxr-xr-x 2 keven keven 4.0K Sep 27 12:01 Videos
drwxrwxr-x 4 keven keven 4.0K Oct 18 18:41 website
keven@cis106:~$ ls -lgG --full-time ~
total 52
drwxrwxr-x 4 4096 2023-10-09 15:12:35.631293922 -0400 cis106
drwxr-xr-x 2 4096 2023-10-09 12:45:39.283450959 -0400 Desktop
drwxr-xr-x 2 4096 2023-09-27 12:01:20.628000815 -0400 Documents
drwxr-xr-x 2 4096 2023-10-25 21:12:16.496801655 -0400 Downloads
drwxrwxr-x 2 4096 2022-02-22 14:18:06.000000000 -0500 lab4files
drwxr-xr-x 2 4096 2023-09-27 12:01:20.628000815 -0400 Music
drwxr-xr-x 2 4096 2023-10-25 21:03:05.889641914 -0400 Pictures
drwxrwxr-x 2 4096 2022-02-27 13:46:18.000000000 -0500 practicels
drwxr-xr-x 2 4096 2023-09-27 12:01:20.628000815 -0400 Public
drwx------ 5 4096 2023-09-27 12:24:54.637802251 -0400 snap
drwxr-xr-x 2 4096 2023-09-27 12:01:20.628000815 -0400 Templates
drwxr-xr-x 2 4096 2023-09-27 12:01:20.628000815 -0400 Videos
drwxrwxr-x 4 4096 2023-10-18 18:41:30.033433550 -0400 website
keven@cis106:~$ _
```

# 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 |

| | | |
|---|---|---|
| **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 | allows you to move between directories | cd | 'cd Documents/' |
| ls | list files | ls | ls Downloads/ |

## Basic terminology

- **File system** a set of processes that controls how, where and when data is stored and retrieved from a storage device
- **Current directory** the directory where all the commands are being executed
- **parent directory** The directory containing the current directory
- **the difference between YOUR HOME directory and THE HOME directory** the parent directory is the directory above the current directory, the home directory is the default directory for a user
- **pathname** the specifying the location of a file or directory from the root directory
- **relative path** path related to the present working directory
- **absolute path** the specifying the location of a file or directory from the root directory