The shell

- Free Udacity shell lessons : https://classroom.udacity.com/courses/ud206/
- Documentation and Info for bash shell, the default shell for RPi and many linux distributions https://tldp.org/LDP/Bash-Beginners-Guide/html/

The program that runs the terminal session is called a **shell**. There are many shell programs available, and one of the post popular is called a **bash**. This is the default shell for most linux distributions, including Raspbian. If you are on a recent Mac and open a terminal, it will show you a shell called **zhell**. There are other shell programs like **csh** (C shell), **tcsh**, **ksh** etc. The shells are all similar, with minor differences in their commands and configuration settings.

By default, you are using a *bash shell* in Raspbian on the RPi. If you do ">cat *etc/shells*" you will get a list of available shells on your system.

Explore shell commands. Notice that **shell commands are case-sensitive**.

Command	Purpose	Useful flags
ls	List directory contents	-al
pwd	Print current (working) directory	
cd	Used to change directory; with no argument, takes you to home directory	../ ; ~ ; -
mv	Move file(s)/directories	
rm	Delete a file	-i
mkdir	Make a directory (name should be given as argument)	
rmdir	Remove a directory (must be empty to remove)	
ifconfig	Network interfaces, assigned IPs, MAC addresses	
df	report file system disk space usage	-h ; -k
du	Summarize disk usage of the set of files, or recursively for directories.	-sk
ps	ps - report a snapshot of the current processes	x ; xa
man	Manual pages (info pages) for command given as argument	
date	Show current date and time	
who	Show who is logged on	
whoami	Print userid	
which	shows the full path of (shell) commands	
lsmod	Show the status of modules in the Linux Kernel	
mount	Mount a file system; show status of mounted file systems	
env	Print environment variables in the current shell environment	

Exercises

1. Use shell commands to do the following:
(a) Find how many megabytes of disk space is used by files in the directory /*user/*bin
(b) What is the current PATH in your shell?
(c) In your home directory, create a new directory called Movies
(d) In the Movies directory created above, create a directory called Home_Movies
(e) Rename the Home_Movies directory to MyMovies
(f) In MyMovies directory, create a text file called README, which contains the sentence "This directory contains movies I made".

2. Use nano or another text editor to create a java program that reads in two integers from the user (use appropriate prompt to show the user) and prints their sum to the terminal. Test your program.

3. Two very powerful unix commands are ***find*** and ***grep***. Use man pages to see what each does. Use find command to find the *keyboard-setup.sh* file.