init - Receives PID of 1. program that runs when Linux starts. init will launch several processes and call init scrips.

**Process Related Commands**

`ps` - list processes for the current user on the current terminal

`pstree` - lists the processes in a tree structure identifying parent processes

`top` - dynamically lists the top processes running

`jobs` - lists the jobs run from this terminal

`bg` - put a program in the background

`fg` - put a program in the foreground

`kill` - kills a process based on the PID

`killall` - kills a process based on the name

`shutdown`  
`poweroff`  
`reboot`  
`halt`

**key commands**

`ctrl-c` kills a process

`ctrl-z` puts a process in the background without killing it

**ps options**

`a` - list all processes

`x` - lift the BSD style

`u` - list processes for all users example: `ps aux`

`o` - customize the process list

`ps xao pid,ppid,comm` #will list all processes sorted in columns listed for pid, ppid (the parent), and the command

**kill**

`kill -9 pid` # will kill a process ID
killall xclock # will kill the xclock process

## shutdown options

System Shutdown and Restart commands

```
shutdown -r time message

Example: sudo shutdown -r +5 "Server will restart in 5 minutes. Please save your work."
```

```
halt - leaves the machine powered on

Example: sudo shutdown -h now
Example: sudo halt
```

```
Poweroff

Example: sudo poweroff
Example: shutdown -p now
```

```
Reboot

Example: sudo reboot
Example: sudo shutdown -r now

Example: sudo shutdown -r09:35  # reboots the machine at 09:35am
```