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

**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

<table>
<thead>
<tr>
<th>Command</th>
<th>Example</th>
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</thead>
<tbody>
<tr>
<td><code>shutdown -r time message</code></td>
<td><code>sudo shutdown -r +5 &quot;Server will restart in 5 minutes. Please save your work.&quot;</code></td>
</tr>
<tr>
<td><code>halt</code></td>
<td><code>sudo shutdown -h now</code></td>
</tr>
<tr>
<td></td>
<td><code>sudo halt</code></td>
</tr>
<tr>
<td><code>poweroff</code></td>
<td><code>sudo poweroff</code></td>
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<td></td>
<td><code>shutdown -p now</code></td>
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<td><code>reboot</code></td>
<td><code>sudo reboot</code></td>
</tr>
<tr>
<td></td>
<td><code>sudo shutdown -r now</code></td>
</tr>
<tr>
<td></td>
<td><code>sudo shutdown -r09:35</code> # reboots the machine at 09:35am</td>
</tr>
</tbody>
</table>

halt - leaves the machine powered on

Example: `sudo shutdown -h now`

Example: `sudo halt`