Exercise 3.1 Booting into Non-Graphical Mode Using GRUB

NOTE: This exercise requires that it be run from the console (i.e., not over **SSH**).

1. Reboot your machine and go into the **GRUB** interactive shell by hitting **e** (or whatever other key is required as listed on your screen.)

2. Make your system boot into non-graphical mode. How you do this depends on the system.

   On traditional systems that respect **runlevels** (which we will talk about in the next section) you can append a 3 to the kernel command line in the specific entry you pick from the **GRUB** menu of choices. This will still work on more recent **systemd** machines that emulate **SysVinit** runlevels.

   On some other systems (including **Ubuntu** up through version 14.04) you need to append `text` instead.

3. Hit the proper key to make system continue booting.

4. After the system is fully operational in non-graphical mode, bring it up to graphical mode. Depending on your system, one of the following commands should do it:

   ```
   $ sudo systemctl start gdm
   $ sudo systemctl start lightdm
   $ sudo telinit 5
   $ sudo service gdm restart
   $ sudo service lightdm restart
   ```