Lab 2

1. Why did you have to specify partition sizes in Linux but not Windows?

   Linux operates by having different parts of the file space exist in different partitions such as the operating system in one, the user directories in one, and the boot sector in another. Windows usually exists all in a single partition so there is no need to partition windows during installation but we generally do want to partition Linux.

2. What happens if you select poorly with respect to your Linux partitions and need to add or resize partitions later?

   Either we are limited to our partition sizes which may restrict how we use our OS (e.g., we run out of space so that we cannot install new software or we are limited on how many users can use the system) or we need to resize our partitions. Resizing can damage already existing content. Imagine for instance that we have reserved 20% of the space for the OS, 20% for application software, 10% for virtual memory, 10% for the boot sector and 40% for the users. We need to increase the size for the application software. In doing so, we may wipe out space used by the users for instance.

3. Why do you suppose the Windows install is so much easier (in terms of user effort) than the Linux install?

   Most users use Windows and most Windows users are naïve about their computers so the installation tries to do as much for you as it can without user input. With Linux being an OS used generally by people with more knowledge about operating systems, Linux allows us (if we choose) to tailor the environment more. Another way to look at it is that Windows doesn't trust us, Linux does. There are fewer options in Windows while there are a great many options in Linux.

4. Provide 3 reasons why we are using VMs in this class rather than having you experiment on actual computers.

   Answers vary but can include:
   - Allows students to have their own OS to "mess up" without messing up a real computer
   - Allows students to be system administrators (related to the first one)
   - Allows students to experiment with multiple platforms without having to purchase any new hardware
   - Allows students to access their VMs remotely
   - Allows the instructor to log into the VM and see what might be wrong when the student is having problems

5. What are 3 reasons why a company may choose to use VMs.

   Answers vary but can include:

- Ability to have multiple platforms for experimentation and development without purchasing extra hardware
- Allows computers to be more secure because it is only the VM that might be "hacked"
- Allows users to access multiple computer platforms without having to log off their computer (e.g., if they have a dual boot computer) or without having to buy them multiple computers
- Allows resource sharing
- Allows easier software sharing

6. In both installations, you had to create an initial account. Why?

   In both cases, you are creating an initial superuser account. Without the superuser account, you cannot create other accounts. In Linux, the first account is the root account. In Windows, the first user account is given superuser access.