Unit 2 Critical Thinking Questions

1. **Different OSes have different file naming "conventions" (restrictions); for example, in Linux, file names are case-sensitive, meaning that a file named "FileName1" and a file named "filename1" would be stored as separate files. In Windows, the spelling of file names isn't case sensitive, meaning that both of these file names would be read as the same file, and you wouldn't be able to save them separately. From this example, what are some of the advantages or disadvantages of case-sensitivity?**

   Case-sensitivity is faster to process, since the computer won't need to spend extra time finding things similar to the spelling of the file and it can directly locate the file. However, it's not a good thing because you have to be perfectly specific when locating a file. If you mess up one character, there will be an error in locating the file.

2. **Linux is the OS used on most servers in the United States—why do you think that is? Which OS is on most laptop and desktop computers in the United States, and why do you think that is?**

   Linux is used on most servers because it's meant for server use. Linux is like UNIX, and the many different distributions of Linux contain versions of the core UNIX tools, utilities, and services. For desktop and laptop computers, Windows is the most used. This is because, unlike Apple, Microsoft pre-loads the OS on mostly all laptops out there. Apple's OS is only on their computers. Windows is also most compatible with most software on the market.

3. **A "macro" is a rule or pattern that states how a certain input sequence should be mapped to a replacement output sequence, according to a defined procedure. For example, a short sequence of keystrokes, say "Shift + k + c," could perform the full command of "up, down, up, down, left, right, left, right, B, A, Enter." When might a computer programmer use a macro? What about a player of an online multiplayer game like World of Warcraft?**

   A programmer, I would think, would use a macro whenever possible. Most importantly when a there are complex tasks that are very important to the user. Macros make complex tasks so much easier to complete. For example on an internet browser, it's so much easier to press CTRL + J than to click on the three dots, then locate Downloads on the list and click on it. It saves so much time. If I were programming things, I would implement as many macros whenever possible to make tasks much easier to complete.

4. **Two Windows features are "boot in safe mode" (with limited user abilities) and "boot from another disk." Windows also has a third, easy-to-access startup utility that allows users to control which applications are started automatically when the OS is reset. How might these features enhance cybersecurity for Windows users?**

   These features would be very useful, to enhance Cybersecurity, when you have an actual virus of some sort already on your computer. Some viruses run by attaching themselves to the startup program when Windows loads. So if you were to boot into safe mode, your computer will only load the important essential files, which can stop all viruses from starting. You can

then locate the bad virus files and remove them. The utility does a similar thing because if you know what the virus is attached to, you can disable them at startup and remove them to get rid of the virus. And for the boot from another disk method, this allows you to boot into an OS off of another storage device. This is useful because then your computer hardware won't get attacked in a virus, because that is actually possible. In some cases, an entire computer can be fried/destroyed from a virus. The reason for this is because the OS will be hosted off of something else that isn't the actual computer itself. So if anything gets destroyed, it would be the removable media and not the actual computer itself.

5. **What are the benefits and drawbacks of the proliferation of modern removable media in computing (both for PCs and for mobile devices)? List at least ONE advantage and TWO unique drawbacks.**

An advantage of modern removable media is they are very convenient. It makes moving data between computers much easier, like working on a project at school and bringing it home to work on it on your computer. A disadvantage is that you can still lose the removable media easier than losing an entire computer, since it is much smaller. And since it is on the move, it can still be stolen. It's even worse when you have an entire operating system on there. If that's the case, your personal information could even be stolen if that's how you use an operating system.