Unit 3 Critical Thinking Questions

1. **Think about how you view your emails—either the email service you use yourself or an email service you would choose to use. Describe that email service and then explain whether you use POP3 or IMAP to access your email. How do you know it's POP3 as opposed to IMAP?**

I use Yahoo Mail, with an MX DNS record set up so I can use a custom email address. To be honest, there really isn't anything special about it as it is like any other email service (like Gmail, Outlook, AOL, etc.) It send emails, receives emails, nothing too special. I use IMAP when connecting my email to other programs because that is the default. I know I am using because when I set my email up because I enter the IMAP server information, not the POP3 server information.

2. **Why do you think certain port numbers are reserved for certain protocols, like FTP, HTTP, and HTTPS?**

Certain port numbers are reserved for certain protocols to identify specific services so that an arriving packet can be easily forwarded to a running application.

3. **User Datagram Protocol (UDP) is often used for audio or video streaming services. UDP includes very few protocol mechanisms—for example there's no "handshake" dialogue, making the signal less reliable than TCP—and performs little in the way of error checking and few corrections in data transfer. Why would these characteristics contribute to it being preferred over TCP for streaming?**

This would make UDP preferable over TCP for streaming because UDP offers reduced latency over the TCP reliability. In case of time sensitive applications, UDP is faster protocol as it doesn't wait for acknowledgement from the client side and retransmission of lost packet.

4. **Consider the popular online retailer Amazon. What aspects of its business are run through public networks, and what aspects might be run through a private intranet?**

They can use the intranet (private network) to share access to private information and resources but restrict that access only to its employees. Everything that a regular user can see and do would be run through a public network.

5. **One common command-line network utility tool is "netstat," which displays which protocol is being used. It can review particular ports or display all active connections and ports on which a computer is listening and, depending on the OS, can also include the total number of bytes of traffic, domain names, and IP addresses (local and foreign). Name at least two potential uses of this command, making sure at least one use is related to secure administration principles.**

Netstat can show you TCP data, network interfaces, routing tables, and other network protocols (like UDP). It's a useful tool to use when you're having trouble with TCP/IP applications, such as File Transfer Protocol (FTP), HyperText Transport Protocol (HTTP), etc. For security purposes, since it can connect all connections to the computer you may be able to identify if your computer is being hacked.