Chapters 3 & 4: Information Security

Use the textbook, your individual notes, the video lecture slides, and the Internet to answer the following questions. Form a group and work together to identify as many details as possible.

1. Why is it a bad idea to log into your computer as an administrator to perform everyday tasks like browsing websites, writing documents, and playing games?

2. Describe how an operating system and CPU work together to prevent malicious code from gaining control over the system. (Hint: privileged instructions)

3. What is a firewall? What does it do? How does it work? Is it hardware or software? What security threats can it protect against?

4. What are the differences between viruses, worms, and Trojan horses? How can a user defend against them? What should someone do if their computer gets infected?

5. Describe a denial of service attack. What resources are necessary to carry out such an attack? How are these resources acquired?

6. What is a proxy server and what are its benefits? What are potential concerns of using a public proxy server?

7. What are the three security principles described by the CIA Triad? For each one, give an example of how it can be violated.

8. Explain public-key encryption system and distinguish the roles of the public key and the private key.