Week 4 Reflection

This week's lecture focused on **malicious software and the continuation of two-factor authentication (2FA)**, exploring threats to computer systems and how to defend against them. Topics included a recap of 2FA, definitions of malicious software, viruses, worms, and countermeasures.

What I Learned

- The **recap of 2FA** reinforced the importance of using multiple authentication factors to enhance security.

- I learned the different types of **malicious software (malware)**, including viruses and worms, and how they can disrupt systems, steal data, or spread across networks.

- **Viruses** were explained as programs that attach to files and require user action to propagate.

- **Worms** were discussed as self-replicating programs that can spread automatically across networks without user intervention.

- **Countermeasures** for malware were highlighted, including antivirus software, regular updates, firewalls, and user awareness.

Challenges Faced

- Understanding the technical differences between **viruses and worms** required careful attention.

- Evaluating the effectiveness of various **countermeasures** in different scenarios was initially complex.

Reflection and Personal Growth

- This week emphasized that even with strong authentication (like 2FA), systems remain vulnerable to **software-based threats**, highlighting the need for a multi-layered security approach.

- I realized the importance of **regular system updates and proactive monitoring** to prevent malware infections.

- The lectures encouraged me to be more **cautious with downloads, email attachments, and unknown sources**, as these are common malware entry points.

Next Steps

- I plan to **research real-world malware incidents** to understand how viruses and worms have affected organizations.

- I will explore **hands-on exercises with malware detection tools** in safe lab environments to gain practical experience.

- I aim to **connect malware knowledge with authentication and network security concepts** from previous weeks to build a comprehensive understanding of defensive strategies.