

COMPSFI 101: Introduction to Networking Essentials

Homework Assignment 1: Understanding Basic Networking Concepts

Due Date: 09/03/2024 @ 11:59pm

Objective:

- Introduce students to fundamental networking concepts.
- Assess students' understanding of key terms and their importance in the field of cybersecurity.

Instructions:

- Answer all questions in complete sentences.
- Submit your assignment through Brightspace by the due date.
- Ensure that your name, course name, and assignment title are included in your submission.

Part 1: Short Answer Questions

1. What is a network and why do you think it's important?
 - Explain what a network is and give an example of a common type of network you might encounter in daily life.
2. What are the key components of a network? Have you ever experienced a network issue before?
 - Identify and describe at least three key components of a network (e.g., routers, switches, network cables).
3. Explain the difference between a LAN and a WAN.
 - Describe the main differences between a Local Area Network (LAN) and a Wide Area Network (WAN), and provide an example of each.
4. What is an IP address, and why is it important in networking?
 - Define what an IP address is and discuss its role in identifying devices within a network.
5. What is the significance of the OSI model in networking?
 - Briefly describe the OSI (Open Systems Interconnection) model and explain why it is important for understanding how networks operate.
6. What are some common ways you connect to the internet in your daily life?
 - State different ways you personally use the internet in your daily life. How does it effect you and why is it important to you?

Part 2: Practical Exercise

7. Research and List Networking Devices:

- Research and list five different networking devices (e.g., router, modem, firewall). For each device, provide a brief description of its function and how it is used in a network.

8. Draw a Simple Network Diagram:

- Draw a simple network diagram showing a small office network. Your diagram should include at least one router, one switch, and three devices (e.g., computers, printers). Label each component in your diagram.

(Optional: You can use software like Microsoft Word, PowerPoint, or a free online tool like draw.io to create your diagram, or you can draw it by hand and submit a scanned copy or photo.)

Part 3: Reflection

9. Why is networking knowledge critically important for cybersecurity?

- Write a short paragraph (4-5 sentences) reflecting on the importance of understanding networking concepts for a career in cybersecurity. Include at least one example of how networking knowledge can be applied in a cybersecurity role.

10. What concerns do you have about network security, either at home or in public places? -

- Write a short paragraph (4-5 sentences) reflecting on the importance of understanding the concerns of network security has for a career in cybersecurity. Include at least one example of how networking knowledge can be applied in a cybersecurity role.

Submission Guidelines:

- Save your work as a single document with the filename "LastName_COMPSFI101_Homework1".
- Submit the document in PDF or Word format.
- Double-check that your answers are complete and that your diagram is clear and well-labeled.

Grading Criteria:

- Accuracy: Correct and clear explanations of networking concepts.
- Completeness: All parts of the assignment are completed as instructed.
- Presentation: Work is neatly organized and easy to read, with proper labeling and formatting.