COMPSFI 101: Lab Activities

Lab 1: IT and Networking Certifications

Objective:
Compare and contrast network topologies, architectures, and types.

Estimated Time:
20 minutes

Resources Required:
• Internet access

Steps:
1. Research Networking Certifications:
   - Use the internet to research the CompTIA Network+ certification and its objectives.
   - Identify other IT certifications that are valuable for careers in networking, cybersecurity, or IT.
2. Compare Network Topologies:
   - List the different types of network topologies (e.g., Star, Mesh, Bus, Ring, Hybrid).
   - Describe the advantages and disadvantages of each topology.
   - Provide examples of scenarios where each topology might be used.
3. Submit Your Work:
   - Compile your research and comparisons into a document.
   - Submit the document through the course's designated submission portal.

Lab 2: Create a Password Manager Account

Objective:
Compare and contrast network access and management methods.

Estimated Time:
20 minutes

Resources Required:
• Internet access
• (Optional) Personal smartphone or tablet

Steps:
1. Create a Bitwarden Account:
   - Go to the Bitwarden website (https://bitwarden.com) and create a free account.
   - Follow the instructions to set up your account, including choosing a strong master password.

2. Explore Bitwarden Features:
   - Add a new entry in Bitwarden for one of your existing accounts (e.g., email, social media).
   - Explore the different features Bitwarden offers, such as password generation, secure notes, and two-factor authentication (2FA).

3. Compare Password Management Methods:
  - Write a short summary comparing using a password manager like Bitwarden with manually storing passwords (e.g., in a notebook, browser, or file on your computer).
  - Discuss the security benefits of using a password manager.
4. Submit Your Work:
  - Compile your summary into a document.
  - Submit the document through the course's designated submission portal.

Lab 3: Apply Troubleshooting Methodology

Objective:
Explain the troubleshooting methodology.

Estimated Time:
20 minutes

Resources Required:
• A drawing app, such as Paint in Windows, or a web app such as jspaint.app, kleki.com, or app.diagrams.net

Steps:
1. Identify a Troubleshooting Scenario:
  - Think of a common IT issue you've encountered (e.g., internet connection problems, computer not booting, printer not responding).
  - Describe the scenario in detail.

2. Apply the Troubleshooting Methodology:
  - Using the steps of troubleshooting (Identify the problem, Establish a theory of probable cause, Test the theory, Establish a plan of action, Verify functionality, Document findings), walk through how you would solve the problem.
  - Document each step and the reasoning behind your actions.

3. Create a Visual Representation:
  - Use the drawing app to create a flowchart or diagram that outlines your troubleshooting process.
  - Ensure your diagram clearly shows the logical steps and decision points.

4. Submit Your Work:
  - Compile your scenario description, troubleshooting steps, and visual representation into a document.
  - Submit the document through the course's designated submission portal.