Task 1: Scan Your Local Network for Open Ports

- **Objective: Learn to discover open ports on devices in your local network to understand network exposure.**
- **Tools: Nmap (free), Wireshark (optional)**

Hints/Mini Guide:

1. Install Nmap from official website.
2. Find your local IP range (e.g., 192.168.1.0/24).
3. Run: nmap -sS 192.168.1.0/24 to perform TCP SYN scan.
4. Note down IP addresses and open ports found.
5. Optionally analyze packet capture with Wireshark.
6. Research common services running on those ports.
7. Identify potential security risks from open ports.
8. Save scan results as a text or HTML file.

Outcome: Basic network reconnaissance skills; understanding network service exposure.

Interview Questions:

1. What is an open port?
2. How does Nmap perform a TCP SYN scan?
3. What risks are associated with open ports?
4. Explain the difference between TCP and UDP scanning.
5. How can open ports be secured?
6. What is a firewall's role regarding ports?
7. What is a port scan and why do attackers perform it?
8. How does Wireshark complement port scanning?

Key Concepts: Port scanning, TCP SYN scan, IP ranges, network reconnaissance, open ports, network security basics.

📤 **Submit Here:**

After completing the task, paste your GitHub repo link and submit it using the link below:

- 👉 [Submission Link]

📌 Task Submission Guidelines

- ⏰ **Time Window:**

You can complete the task anytime between 10:00 AM to 10:00 PM on the given day. Submission link closes at 10 :00 PM

- 🔍 **Self-Research Allowed:**

You are free to explore, Google, or refer to tutorials to understand concepts and complete the task effectively.

- 🛠️ **Debug Yourself:**

Try to resolve all errors by yourself. This helps you learn problem-solving and ensures you don't face the same issues in future tasks.

- 💸 **No Paid Tools:**

If the task involves any paid software/tools, do not purchase anything. Just learn the process or find free alternatives.

- 📁 **GitHub Submission:**

Create a new GitHub repository for each task.
Add everything you used for the task — code, datasets, screenshots (if any), and a **short README.md** explaining what you did.

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