Task 5 : Capture and Analyze Network Traffic Using Wireshark.

- **Objective: Capture live network packets and identify basic protocols and traffic types.**
- **Tools: Wireshark (free).**
- **Deliverables: A packet capture (.pcap) file and a short report of protocols identified.**

Hints/Mini Guide:

1. Install Wireshark.
2. Start capturing on your active network interface.
3. Browse a website or ping a server to generate traffic.
4. Stop capture after a minute.
5. Filter captured packets by protocol (e.g., HTTP, DNS, TCP).
6. Identify at least 3 different protocols in the capture.
7. Export the capture as a .pcap file.
8. Summarize your findings and packet details.

Outcome: Hands-on packet analysis skills and protocol awareness.

Interview Questions:

1. What is Wireshark used for?
2. What is a packet?
3. How to filter packets in Wireshark?
4. What is the difference between TCP and UDP?
5. What is a DNS query packet?
6. How can packet capture help in troubleshooting?
7. What is a protocol?
8. Can Wireshark decrypt encrypted traffic?

Key Concepts: **Packet capture, protocol analysis, TCP/IP, network troubleshooting, filtering.**

📤 **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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