**ChatGPT said:**

📓 **Journal Entry – Wednesday**  
**Date:** August 27, 2025  
**Day:** Week 1, Wednesday  
**Mood:** Focused, learning-heavy

**TIME: 11:37 PM**

**What I Did Today:**

* ✅ Learned about the **history of the internet**:  
  • Started as **ARPANET** in the late 1960s, funded by the U.S. Department of Defense.  
  • Officially became the **Internet** in 1989 with Tim Berners-Lee’s invention of the **World Wide Web (WWW)**.  
  • The invention made the internet a huge **repository for storing and sharing files**.
* ✅ Understood how the **internet works**:  
  • It’s a combination of many smaller networks.  
  • **Private networks** = small, local connections.  
  • **Public networks** = the backbone that links private ones together, aka the Internet itself.
* ✅ Learned **identifiers in networking**:  
  • **IP Address (Internet Protocol):** used to identify a device online at a specific time.  
  • **MAC Address (Media Access Control):** the permanent hardware ID for a device’s network card.
* ✅ Learned **IP Versions**:  
  • **IPv4:** 32-bit system, ~4.3 billion addresses. Used up too quickly.  
  • **IPv6:** 128-bit system, ~340 undecillion addresses. Better routing, faster speeds, built-in security, and no need for messy NAT hacks. Basically invented because humans decided even fridges need Wi-Fi.
* ✅ Learned **extra networking terms**:  
  • **NAT (Network Address Translation):** trick for saving IPs by letting many devices share one public IP.  
  • **ISP (Internet Service Provider):** the company giving you internet access.
* ✅ Learned about **MAC addresses & spoofing**:  
  • MAC looks like a4:c3:f0:85:ac:2d. First half = manufacturer, second = device ID.  
  • **Spoofing** = faking your MAC to trick a network into thinking you’re someone else.  
  • Example: Bob (broke guy) vs Alice (paid for hotel Wi-Fi). If Bob copies Alice’s MAC, the router thinks he’s Alice and gives him internet.
* ✅ Practiced with **Ping**:  
  • Used to test if a device is reachable and how fast it responds.  
  • Works by sending **ICMP Echo Requests** and waiting for **ICMP Echo Replies**.  
  • Example: ping -c 4 10.10.10.10
  + ping = tool
  + -c 4 = send only 4 packets
  + 10.10.10.10 = target IP  
    • My test: pinged 192.168.1.254, got all packets back with an average latency of 4.16 ms = solid connection.

**Reflection:**

Today was pure **networking brain workout**. I moved from the history of the internet to the nitty-gritty of IP addresses, MAC spoofing, and even basic tools like ping. It feels like I’m peeling back layers of how the internet really works instead of just being a user.