Assignment for 24/4/2024 attendance

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- Differentiate b/w ARP and RARP

ARP and RARP are both communication protocols involved in network device addressing, but they handle the mapping in opposite directions:

ARP (Address Resolution Protocol):

- **Function:** Finds the **physical address (MAC address)** associated with a known **logical address (IP address)** on a network.
- **Direction:** Maps **IP address -> MAC address**
- **Usage:** Commonly used by devices (routers and hosts) to communicate with each other on a Local Area Network (LAN).
- **Broadcast reliance:** Relies on broadcast messages to locate the device with the target IP address.
- **Table Management:** Maintained by individual devices to store learned IP-to-MAC address mappings.

RARP (Reverse Address Resolution Protocol):

- **Function:** Assigns a **logical address (IP address)** to a device based on its known **physical address (MAC address)**.
- **Direction:** Maps **MAC address -> IP address**
- **Usage:** Primarily used by **diskless boot clients** with limited configuration options to obtain an IP address from a server. (Less common nowadays)
- **Broadcast reliance:** Utilizes broadcast messages to reach a server containing the IP address mappings.

- **Table Management:** Maintained by a dedicated **RARP server** that holds the MAC address to IP address mapping.

Here's an analogy:

- Imagine ARP as a phone book that helps you find someone's home phone number (MAC address) given their address (IP address).
- RARP is like a service where you provide your house number (MAC address) and they assign you a new address (IP address) to live on the same street (network).