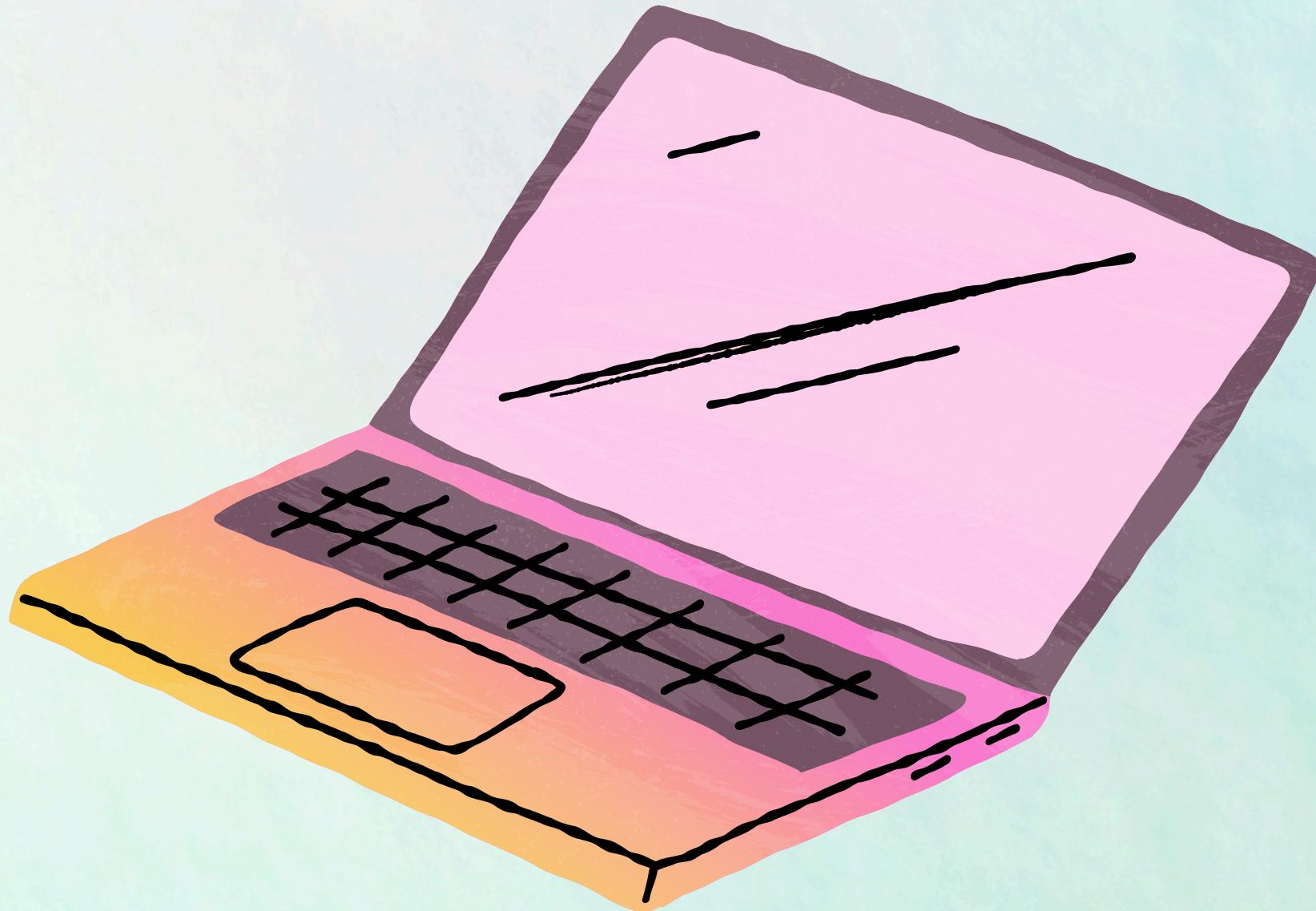


ADDRESS RESOLUTION PROTOCOL

It is a fundamental networking protocol whose primary purpose is to MAP AN IP ADDRESS TO THE CORRESPONDING PHYSICAL MAC ADDRESS ON A LOCAL NETWORK.



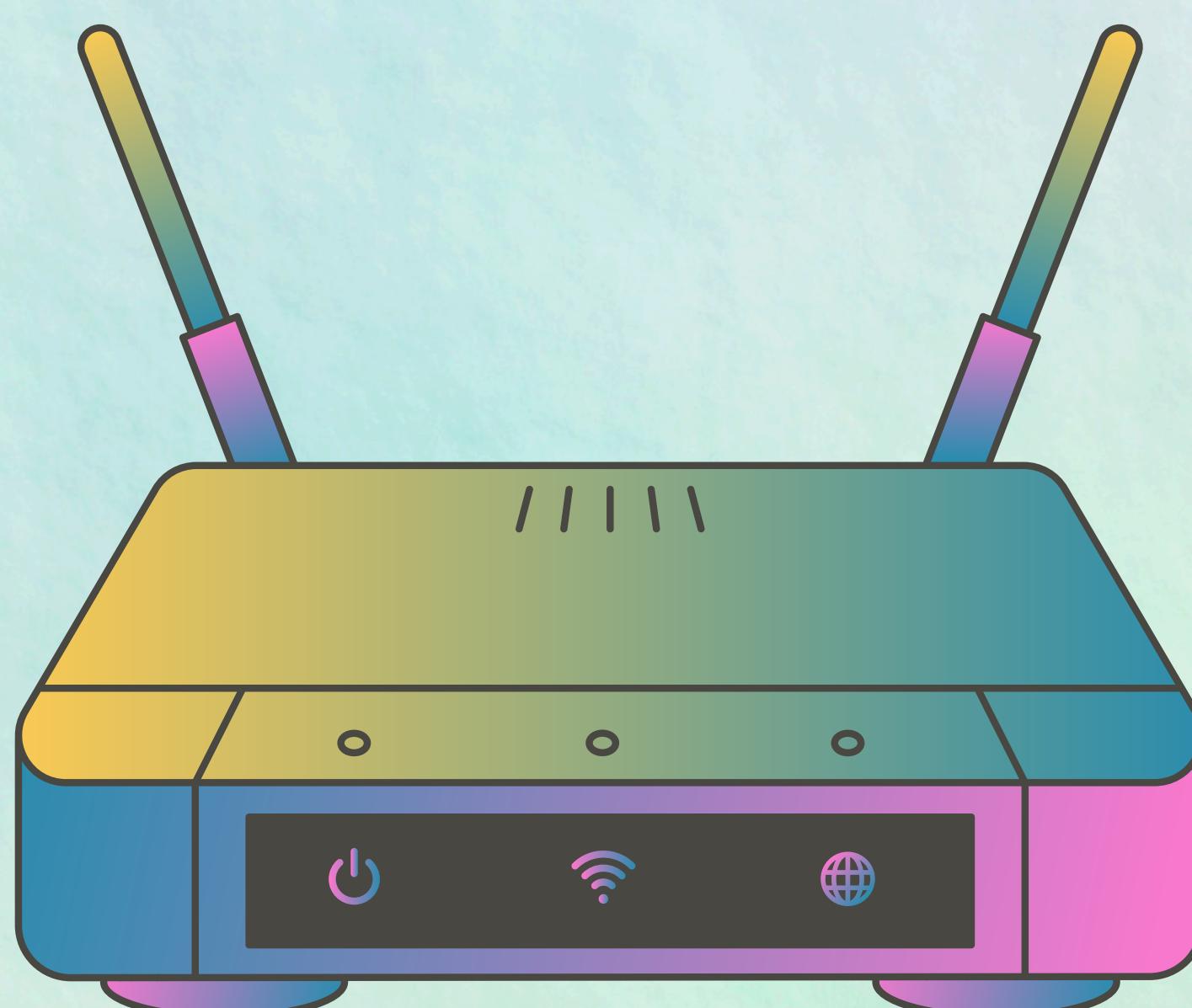
If the MAC address is not found in the ARP cache, the sending device sends an ARP request broadcast packet to the local network.

This packet contains the IP address of the target device and asks, "Who has this IP address?"



The requesting device updates its ARP cache with the newly acquired MAC address, allowing it to communicate directly with the target device.

When a device on a local network wants to communicate with another device on the same network, it first checks its ARP cache to see if it already knows the MAC address of the target device.



All devices on the local network receive the ARP request, but only the one with the matching IP address will respond.

The responding device sends an ARP reply packet containing its MAC address to the requesting device.

