CSE310 Programming assignment 3 Instriction/README
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Instructions on how to run the code (part B):

1. Make sure the PCAP file is in the same directory as the python file.
2. Run analysis_pcap_arp.py
3. You will be prompted to enter the PCAP file as a string:
    Enter the pcap file:
4. If the input is invalid or in error, enter the file correctly and check if the file is in the path.
5. An output will be printed.

The logic/approach of code (part B):

The way I approached decoding the different ARP header elements is by creating a function that reads the bytes using Wireshark, I was able to tell which element belonged to which group of bytes, and the library binascii is a tool that I used to interpret it to readable bytes.

However, there are meanings of what the bytes mean in hex, so I made a different function to interpret what those hex bytes mean, and convert them to readable Strings and integers such as MAC and IP addresses, and the protocol, hardware, and more by using decode function and int(byte, 16) to understand the hexadecimal numbers. Finally, I formatted the way the output was intended to look from the assignment document.

After accomplishing this, I need to differentiate whether the packet is a request or a reply packet, or a probe packet, and I place them into the corresponding list so that I can display the exchange in the right order, and ignore the probe packets. At the same time, I also added counters for the number of arp packets, requests, replies, and probe packets to keep track of the numbers in the pcap file.

More details will be provided in the comments of the code, please refer to them.