**Write-up**

When you run the files ‘litong.py’ and ‘packet.py’, it will prompt you to enter your file path. For each packet, timestamps are in the second line, the content of packets are in the third line. If the 13th and 14th byte are 08 00 or 08 06, they are 802.2, otherwise, they are 802.3. And when they are 08 00, they are IPV4, when they are 08 06, they are ARP. When they are IPV4, if their 24th byte is 02, they are IGMP, if 01, they are ICMP, if 06, they are TCP, if 11 they are UDP. And when parsing the IGMP, if their 38th byte is 16, they are Report IGMP, if their 34th byte is 11, they are Query IGMP. And I created a class to store the timestamp, the data in layer2, the data in layer3, and the data in layer4. Then it will show you the number of packets, the distribution of 802.2, 802.3, ARP, ICMP, IGMP, IPv4, TCP, UDP, STP, max, min and average size packet in terms of bytes, the timestamp of each packet, the delta time from the last packet, and the meaning of the first 64 bytes of the packet. Every time I was confused, Google was my resource.

The result is looks like:

Text, letter

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated