1. Capture a UDP packet, verify the checksum using **16-bit One's Complement Sum** algorithm.
2. What's TCP 3-Way Handshake? Draw a diagram to illustrate the process using real packets captured in a TCP session. Fill in the values of some key fields of the packets.
3. What's TCP 4-Way teardown? Draw a diagram to illustrate the process using real packets captured in a TCP session. Fill in the values of some key fields of the packets.

Bonus:

Find two interview questions about TCP, and provide the answer. please provide the reference.

Question 1: What is TCP Congestion Control?

Answer: TCP Congestion Control is a mechanism to control the amount of data sent over the network to avoid congestion. Algorithms like Slow Start, Congestion Avoidance, and Fast Recovery are used.

Reference: [TCP Congestion Control](https://en.wikipedia.org/wiki/TCP_congestion_control)

Question 2: How does TCP achieve reliable data transfer?

Answer: TCP uses mechanisms like sequencing, acknowledgments, and retransmission of lost packets to ensure reliable data transfer.

Reference: [TCP Reliable Data Transfer](https://www.ibm.com/docs/en/aix/7.2?topic=protocols-transmission-control-protocol)