1. Capture a TCP connection and identify SYN, SYN-ACK, and ACK.

Questions:

* Which packets are SYN, SYN-ACK, and ACK?
* What are the source and destination ports?
* What is the initial sequence number?

1. Find the size of TCP segments carrying application data.

Questions:

* What is the payload length of the first 5 data packets?
* Identify any large payload segments.

1. Detects retransmitted segments in a capture.

Questions:

* Which packet(s) were retransmitted?
* What is the RTT for the retransmission?

1. Identify duplicate ACKs in TCP.

Questions:

* How many duplicate ACKs were observed?
* What sequence number do they acknowledge?

1. Understand flow control in TCP.

Questions:

* What is the advertised window size?
* How does window scaling affect throughput?

1. Measure RTT of TCP segments and estimate using TCP formula.

Questions:

* What is the RTT of the first 5 segments?
* Compute Estimated RTT after each ACK.

1. Detects packets received out-of-order.

Questions:

* Which packets arrived out-of-order?
* How did TCP handle them?