

Q1 TCP Sequence numbers

C - 435 one below the Ack number.

Q2 TCP Sequence numbers.

Yes.

Q3 TCP Timeout

3. Whether it increases SmoothedRTT depends on the deviation.

Q4. TCP Timeout

$$\text{SmoothedRTT} = (1 - \alpha) * \text{SmoothedRTT}_{i-1} + \alpha * \text{SampleRTT}$$

$$\text{SmoothedRTT} = (1 - 0.125) * 100 + 0.125 * 108 = 101$$

$$7 = (1 - 0.125) * 8 + 0.125 * (108 - 101) = 7.75$$

$$\text{Timeout} = 101 * (4 * 7.75) = 132$$

Q5 TCP header fields

Flow Control

Q6 TCP Connection mgmt.

B - 1.5 RTT

Explanation for myself : Requires a three-way handshake C → S, S → C, C → S again

Q7. TCP Reliability

A - Per-byte Sequence and Ack numbers

Q8.

True.

Q9.

SMTP, FTP, HTTP.

Q10.

C - 0.8 seconds

$$Q11 \quad 150 * 1000 = 150,000$$

$$150,000 - 125,000$$

$$= 25,000$$

chops off after 100,000

So 25,000s into 100,000s

4 seconds.

Q12.

B. 40 pkts