6.1 QUIZ QUESTION 1 (4/4 points)

Consider the following sequences of segments sent (S#) and acknowledgements (A#) received by a sender in a transport layer connection using the stop and wait protocol, where # corresponds to the sequence number of the segment.

1. [S1 A1 S2 S2 A2 S3 A2 A3]
2. [S1 A1 S2 S2 A2 S3 A3]
3. [S1 A1 S2 S2 A2 A2 S3 A3]
4. [S1 A1 S2 A2 S3 A3]

Match each of these with the corresponding situations. A packet being delayed in the newtork means that it takes a long time to be delivered to its destination.

Sequence 1 occurs

If one packet is delayed in the network ✔

Answer: If one packet is delayed in the network

Sequence 2 occurs

If one packet is lost in the network ✔

Answer: If one packet is lost in the network

Sequence 3 occurs

Never in a correctly implemented stop and wait protocol ✔

Answer: Never in a correctly implemented stop and wait protocol

Sequence 4 occurs

If no packets are lost or delayed in the network ✔

Answer: If no packets are lost or delayed in the network

EXPLANATION

In Sequence 1, the second packet and/or its acknowledgement is delayed, so the acknowledgement is not received before the timeout, so the sender resends packet two. Eventually the acknowledgements for both packets are received.

In Sequence 2, the second packet or its acknowledgement is lost, so the sender resends packet two after the timeout.

Sequence 3 never occurs, because the sender would send packet 3 immediately after receiving the first acknowledgement for packet 2.

In Sequence 4, each sent packet is followed by its corresponding acknowledgement, so no packets are lost.

You have used 2 of 2 submissions