Lab 7

Question One

In slow start, a sender doubles its window size every RTT if all sent packets were acknowledged

Answer

True

Question Two

In steady state, a sender increases its window size by one packet for each acknowledgement

Answer

False

Question Three

A sender that underestimates the round-trip time of a connection may unnecessarily induce a TCP timeout

Answer

True

Question Four

After detecting packet loss through a timeout, TCP halves its window size as a response to the path congestion

Answer

False

Question Five

Name the event at B which occurs that causes the sender to decrease its window

Answer

(a) Triple Duplicate Ack

Question Six

Does the event at B necessitate that the network discarded a packet?

Answer

(b) No

Question Seven

Name the event at D which occurs that causes the sender to decrease its window

Answer

(d) Time out

Question Eight

Does the event at D necessitate that the network discarded a packet?

Answer

(b) No

Question Nine

For a lightly loaded network, is the event at D more likely or less likely to occur when the sender has multiple TCP segments outstanding?

Answer

(b) Less

Question Ten

Consider the curved slope labeled by point A. Why does the TCP window behave in such a manner, rather than have a linear slope? (Put another way, why would it be bad if region A had a linear slope?)

Answer

It quickly discovers the max rate at which the path can allow data to be transferred. A linear slope would take too long to do this.

Question 11

- **Not a question just a diagram for question 12 -**

Question 12

How much time has progressed by point B?

Answer

(c) 400ms

Question 13

How much time has progressed between points C and D?

Answer

(c) 1200ms

Question 14

How much time has progressed between points E and F?

Answer

(b) 600ms

Question 15

If the sender shares its network with other clients whose traffic traverses the same IP routers, give one explanation for why point D is higher than point B?

Answer

This is for congestion control when traffic comes from senders using the same router at the same time.