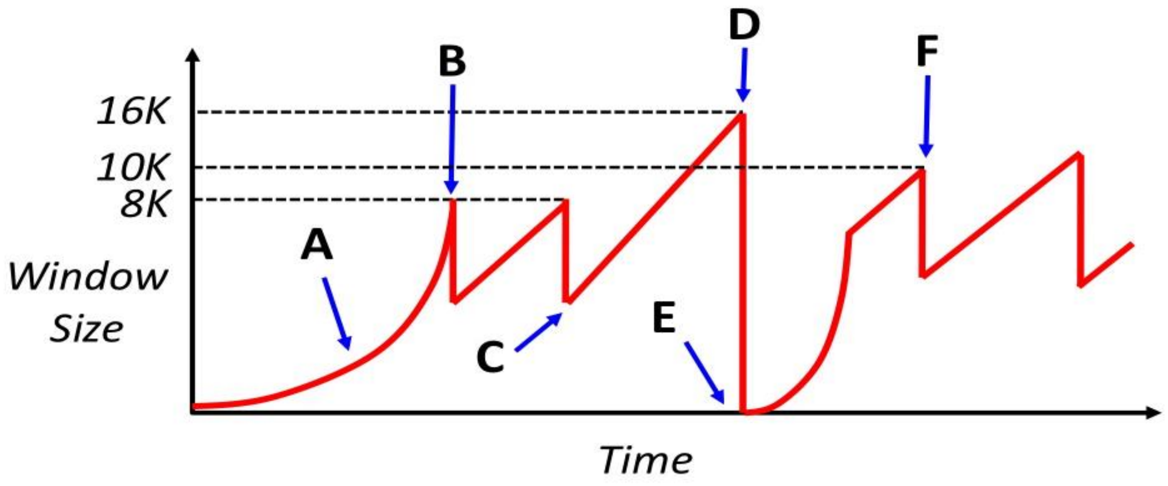
Practice Questions:
Congestion Control and Queuing

COS 461: Computer Networks

http://www.cs.princeton.edu/courses/archive/spr14/cos461/



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

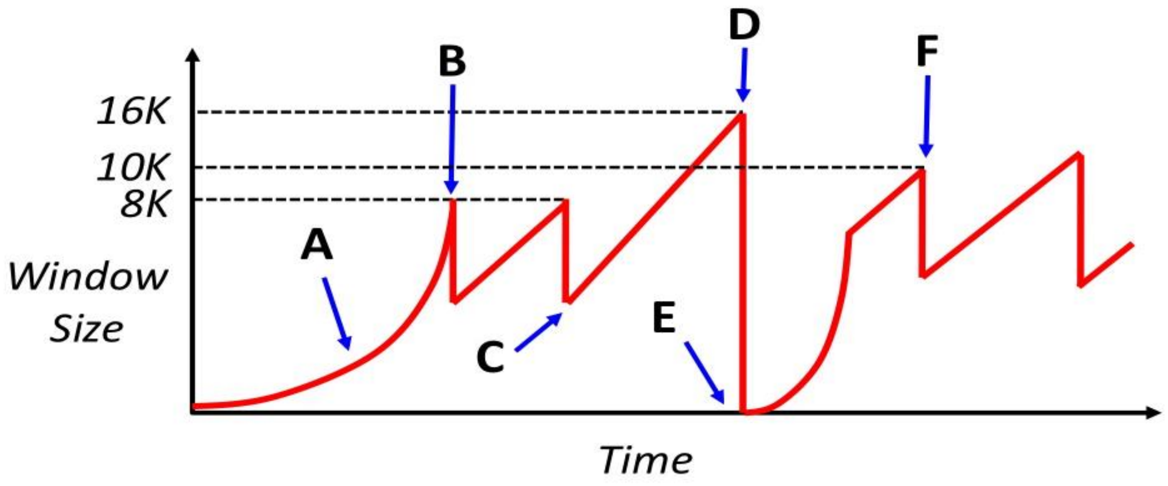
(a) Triple Duplicate Ack

(b) Slow Start

(c) Packet loss

(d) Time out

TCP CONGESTION CONTROL



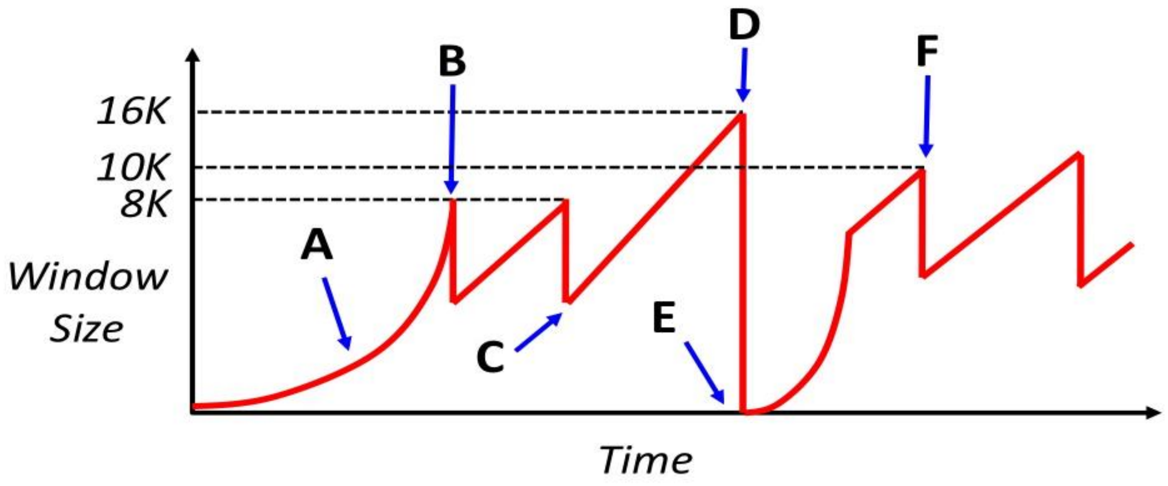
2. Does the event at B necessitate that the network discarded a packet ?

(a) Yes

(b) No

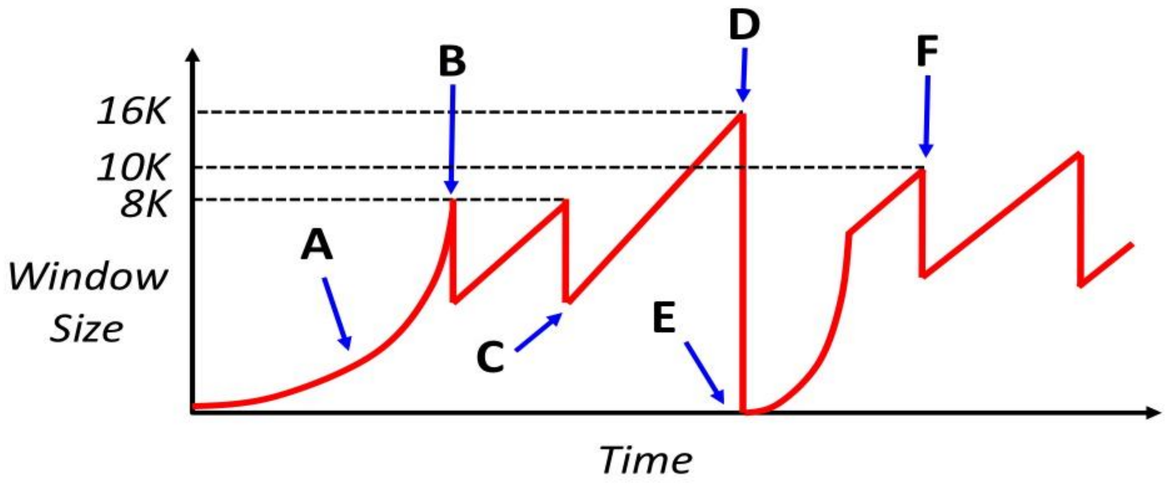
(c) Don't know

No. It could be due to either reordering or queuing or asymmetric paths.



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

(a) Triple Duplicate Ack
(b) Slow Start
(c) Packet loss
(d) Time out

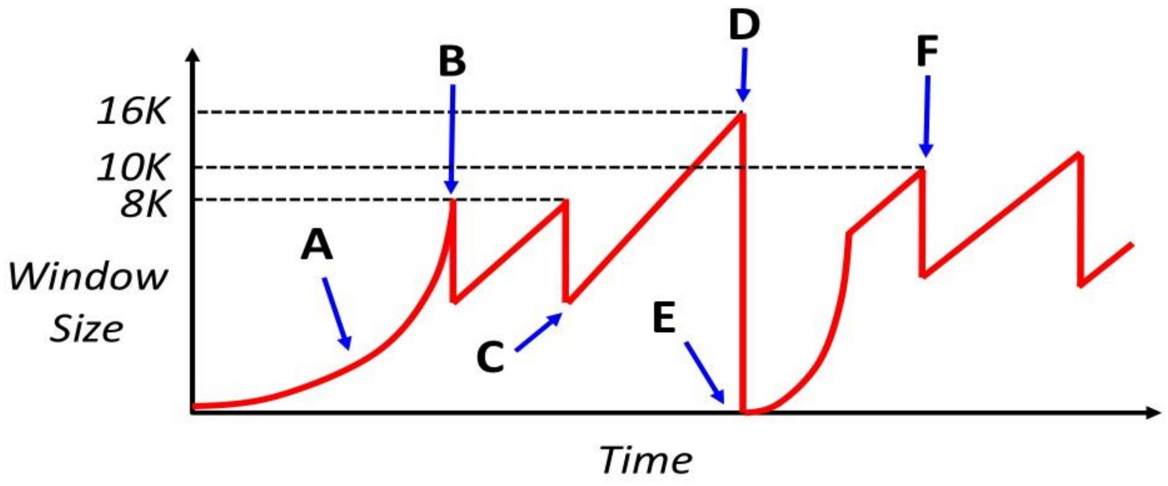


4. Does the event at D necessitate that the network discarded a packet

(a) Yes
(b) No
(c) Don’t know

No. Congestion in either direction could cause RTT > RTO (retrans. timeout).

TCP CONGESTION CONTROL

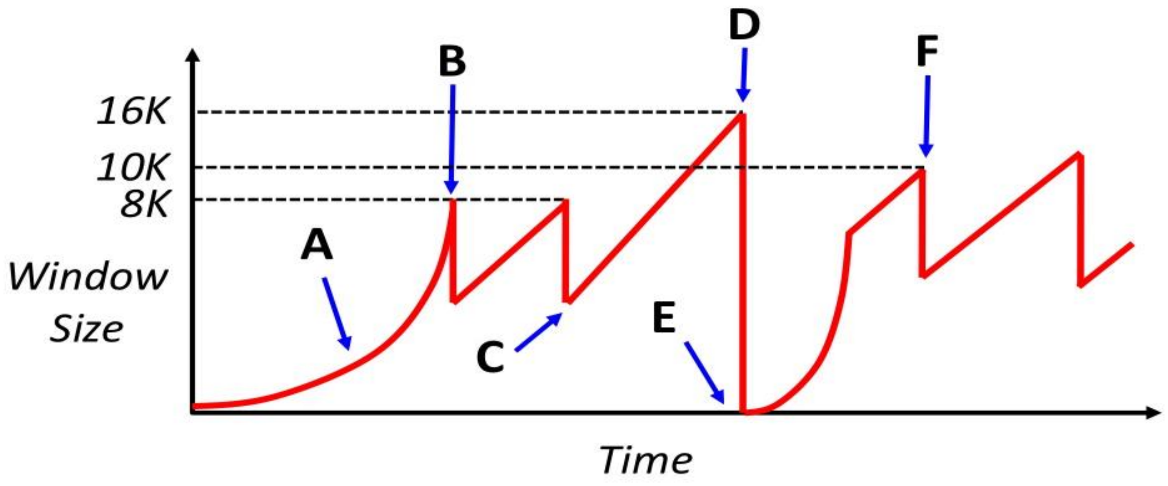


5. For a lightly-loaded network, is the event at D MORE likely or LESS likely to occur when the sender has multiple TCP segments outstanding

(a) MORE

(b) LESS

(c) ALMOST SAME



6. 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?)

This “slow-start” period quickly discovers the maximum acceptable throughput that the path supports – otherwise, AI (additive increase) could take too long (each a full RTT).

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T/F

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

T/**F** – TCP resets its window size to one MSS