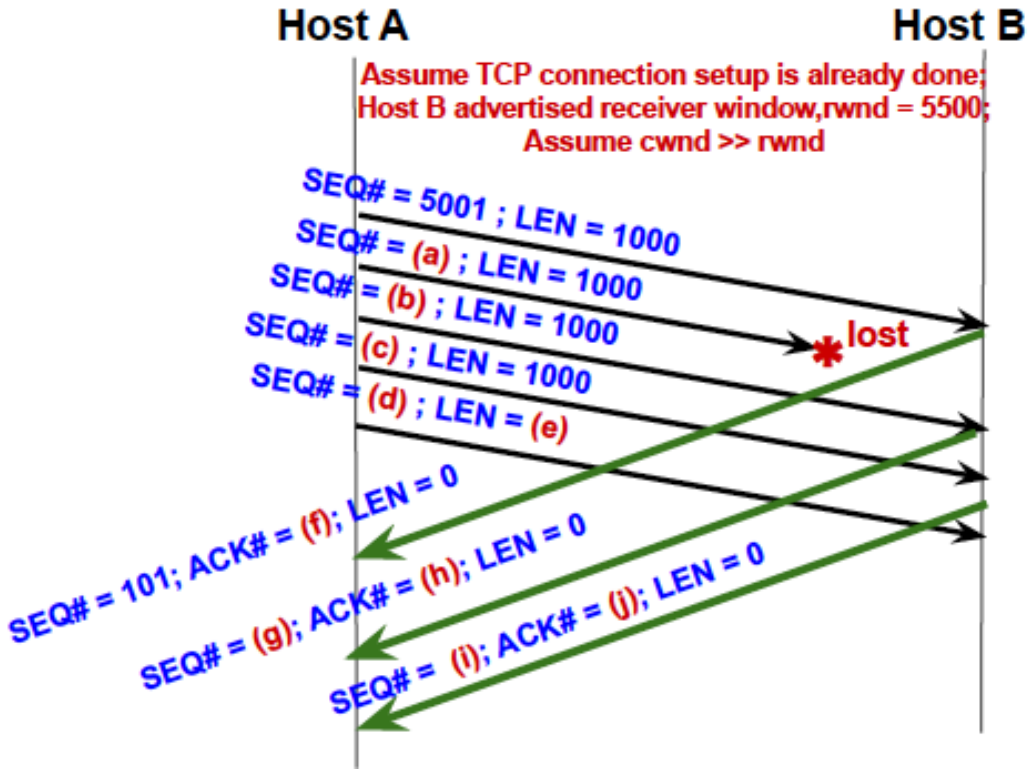
Roll. No.: _____ Name: _____ Section: ____

Solution Quiz 2
CSE232 Computer Networks
Duration-30min, Full marks- 10

October 30, 2023

Q.1. Figure shows TCP communication between Host A and Host B. Assume connection setup is done and the receiver just advertised its window; ***RWND=5500***. Also, the current congestion window value (CWND) is much larger than RWND.
Given these assumptions, fill in the blanks from 'a' to 'j' with appropriate values for sequence numbers (SEQ#), acknowledgment numbers (ACK#), and data length (LEN). ***Consider the maximum possible value while answering the question (e).*** **[5]**



Ans

(a) 6001 (b) 7001 (c) 8001 (d) 9001 (e) 1500

(f) 6001 (g) 101 (h) 6001 (i) 101 (j) 6001

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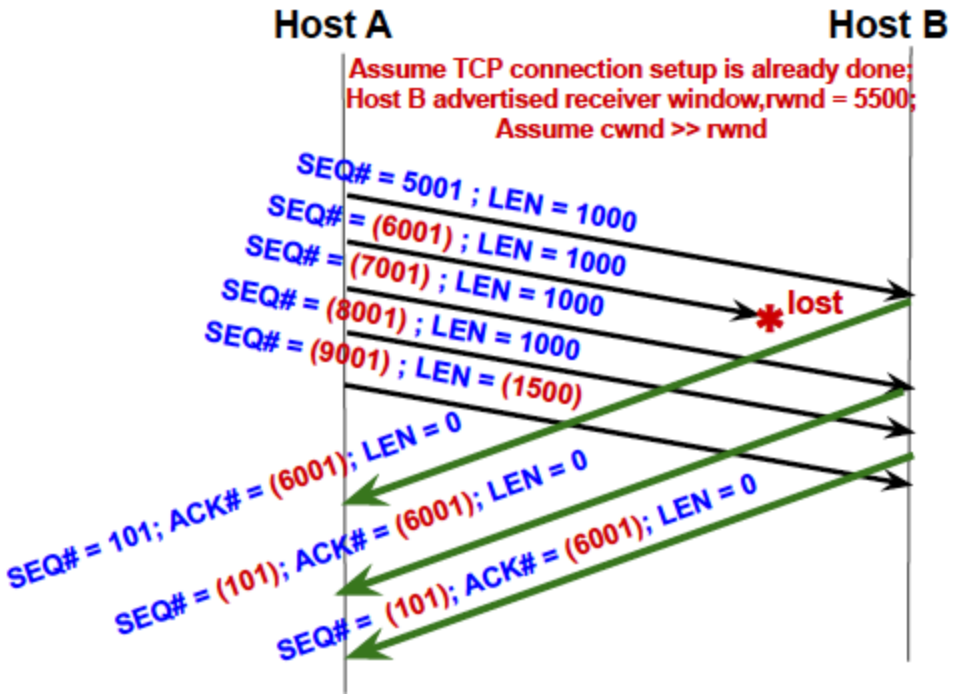

Q.2. Mark the one(s) that is (are) TRUE **[1]**

(a) For **TCP Reno**: The "timeout" event causes the TCP sender to transit to the "Slow start" phase, and "3 DUP ACKs" detection results in the transition to the "Fast recovery" phase.

(b) TCP congestion control algorithm helps in setting the congestion window(cwnd) value equal to the bottleneck bandwidth.

(c) In a client-server communication, a client can receive (and accept) more data after it has sent the FIN packet to the server.

(d) Sequence numbers in the TCP segment are unique across TCP flows

Ans: _____

Ans: (a) and (c)

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Q.3. Consider the following plot of the congestion window with RTT. **[2+2]**

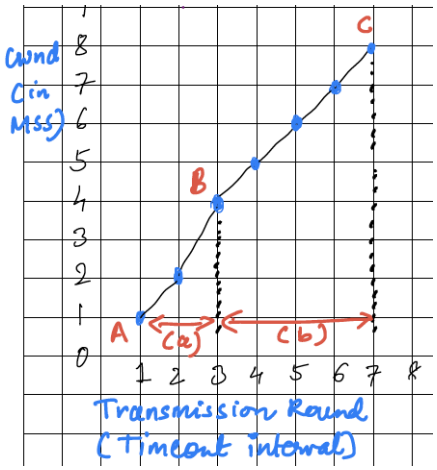
(a) Identify the phase of the congestion for each region

(i) A-B _____

(ii) B-C _____

(b) Slow start threshold value at the start of the transmission (i.e., transmission round 1), ssthresh = _____

(c) Suppose sender's timer expires at point "C". After this event, ssthresh = _____



Ans.

(a) (i) **slow start** (a) (ii) **congestion avoidance**

(b) **4MSS**

(c) **4MSS**

_____ THE END _____