

CMPE 150/L - Winter '19

Note: midterm exam will not cover TCP

### Sample questions #3

1. Rdt protocols use timers to be able to react to losses in the network.

(a) What kind(s) of losses do timers help detect? Explain how they do that.

(b) What are the trade-offs in setting up the retransmission timer in rdt protocols?

2. TCP assumes that packet loss is an indication of congestion.

(a) Is that a reasonable assumption when applied to the Internet? Why or why not?

(b) Is that a reasonable assumption for networks that use wireless links? Why or why not?

3. In the computation of TCP's RTT, how can we make TCP more responsive to the current conditions of the network?

4. TCP and acknowledgments

(a) Why does TCP use cumulative acknowledgments?

(b) In order to use cumulative acknowledgments, does the TCP receiver have to employ a timer? Explain.

(c) What are duplicate acknowledgments?

5. Use a time diagram to show an example scenario of a premature timeout in TCP.

6.

(a) Use a time diagram to show an example scenario of a packet loss event and how the TCP sender and receiver detect and react to it.

(b) Same for a lost acknowledgment.

(c) Do the TCP sender and receiver behave the same way in both scenarios? Explain.

