CSCI 379- Homework 3

Due Oct 18th 11:59 PM

Based on Week 6 and 7 material

Question 1 (3 points):

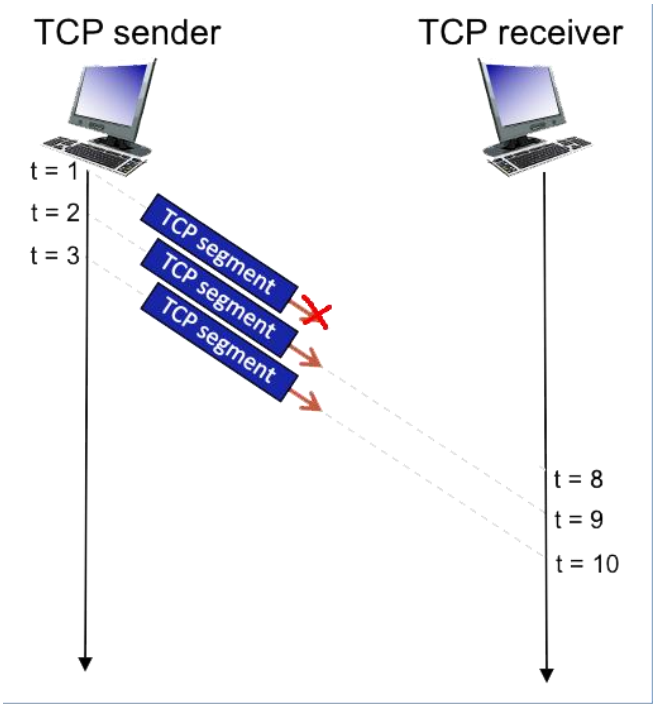
Consider the two 16-bit words (shown in binary) below. Compute the Internet checksum value for these two 16-bit words:

11011011	10010011	this binary number is 56211 decimal (base 10)
01111110	01000110	this binary number is 32326 decimal (base 10)

Question 2 (5 points):

Consider the figure below (simplex communication scenario). The TCP sender sends an initial window of 3 segments. Suppose the initial value of the sender->receiver sequence number is 397 and the first 3 segments each contain 730 bytes. As shown in the figure below, 1 of the 3 segment(s) are lost between the segment and receiver.

What is the SEQ number from the Sender and ACK Number from the receiver for each segment?



Question 3 (2 points):

Suppose that TCP's current estimated values for the round-trip time (estimatedRTT) and deviation in the RTT (DevRTT) are 300 msec and 35 msec, respectively. Suppose that the next three measured values of the RTT are 250 msec, 200 msec, and 330 msec respectively.

Compute TCP's new value of DevRTT, estimatedRTT, and the TCP timeout value after each of these three measured RTT values is obtained. Use the values of $\alpha = 0.125$, and $\beta = 0.25$.