An-Najah Nation University Faculty of Engineering and Information Tech.



جامعة النجاح الوطنية كلية الهندسة وتكنولوجيا المعلومات

## Computer Engineering Department **Networks 1** (10636454)

## HW<sub>2</sub>

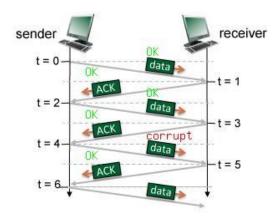
ILOs [iii] deadline 12/4/2020 midnight 20 points

Q1: Compute the Internet checksum for the following:

11010111 11011110

01111000 10010110

**Q2)** Consider the rdt2.2 protocol in the slides. The following figure shows four data packets and three corresponding ACKs. The words corrupt and OK labels indicates if the message corrupted or not.



Complete the table below by indicating the state of two sides, and the sequence number of messages.

t	sender state	receiver state	packet type sent	seq. # or ACK # sent
0	Wait ACK0	Wait0 from below	data	0
1	Wait ACK0	Wait1 from below	ACK	0
2				
3				
4				
5				
6				

Q2: Consider the following values of TCP's for the round trip time <code>estimatedRTT</code> and <code>DevRTT</code> are 242 msec and 51 msec, respectively. The next three measured values of the RTT are 320, 360, and 260 respectively. Compute TCP's new value of <code>estimatedRTT</code>, <code>DevRTT</code>, and <code>timeout</code> value after each of these measured RTT. Use the same values of  $\alpha$  and  $\beta$  in slides.