CS447-003 Network and Data Communication
Possible Quiz Questions for
Quiz #6 on February 15th, 2024

The following is a list of possible questions for our Quiz #6 on February 15th. Some of the questions will not be asked in the quiz. All the questions that will appear in the quiz will appear exactly as shown below (however, parameters may be changed). The quiz is closed textbook, closed notes and closed neighbors. Note that the questions, which did not appear in this quiz, still may appear in the exams.

#1: How do CRC detect transmission errors (explain)?

#2: Is "undetectable errors" possible using CRC? If yes, show it by an example. If not, explain why not.

#3: Can a CRC code correct transmission errors? If yes, show it by an example. If not, explain why not.

#4: How does "sliding-window flow control" work?

#5: What is the primary advantage of "sliding-window flow-control" over "stop-and-wait flow-control"?

#6: If the sliding-window flow-control is used in the Internet, what are the two primary weaknesses in the sliding-window flow-control?

#7: Why isn't a good idea to use "a hard-coded fixed window size" in TCP?

#8: Why is it difficult to determine "the optimum window size" for network connections through the Internet? Mention two major reasons.

#9: What is the method TCP uses for determining "window size"?

#10: How "TCP slow-start and linear growth" work?

#11: Is TCP slow-start slow in increasing the window size?

#12: How "TCP slow-start and linear growth" solve the two problems you identified for question #21 above?

#13: What are the two "sliding-window based ARQ methods (just name the two)?

#14: What is the primary advantage of "GBN-ARQ" over "selective-reject ARQ"?

#15: What are the primary disadvantages of "GBN-ARQ" over "selective-reject ARQ"?

#16: What is the expected link utilization of selective-reject-ARQ (formula)?

#17: What is the expected link utilization of GBN-ARQ (formula)?