CS428/528 Spring 2013

HW1

Due Feb 27, 7:59 pm (Blackboard submission)

Both CS428/528 students:

Problems 1-6: Do the following problems from the book: 1.18, 2.2, 2.5, 2.18, 2.27, 2.46

Problem 7 (from midterm Fall 2011): This problem is about reliable transmission. Consider a sliding window implementation with a window size of 2. What is the smallest value of maximum sequence number that should be used? Show with an example what can go wrong if the maximum number was one less than your answer.

(b) The design above was used on link with bandwidth of 1Mbps, with a packet size of 5Kbits. What is the maximum RTT (round trip time) that the link could have before the sliding window starts limiting performance?

CS528 students only:

Problem 8: Do problem 2.21 from the book.

Problem 9: Show with an example how implementing a functionality in a network in a lower layer can be harmful (its ok to use an example from the paper).

(b) Explain the performance exception to the end to end principle.

CS528 students assignment:

Do the following problems from the book: 1.18, 2.2, 2.5, 2.18, 2.27, 2.46, 2.21