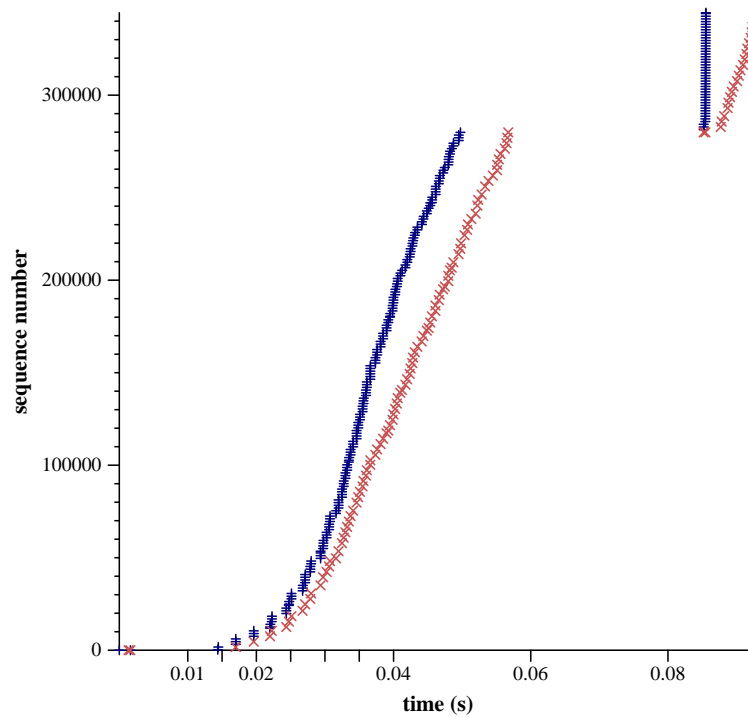


# CMSC 711 - HOMEWORK 3

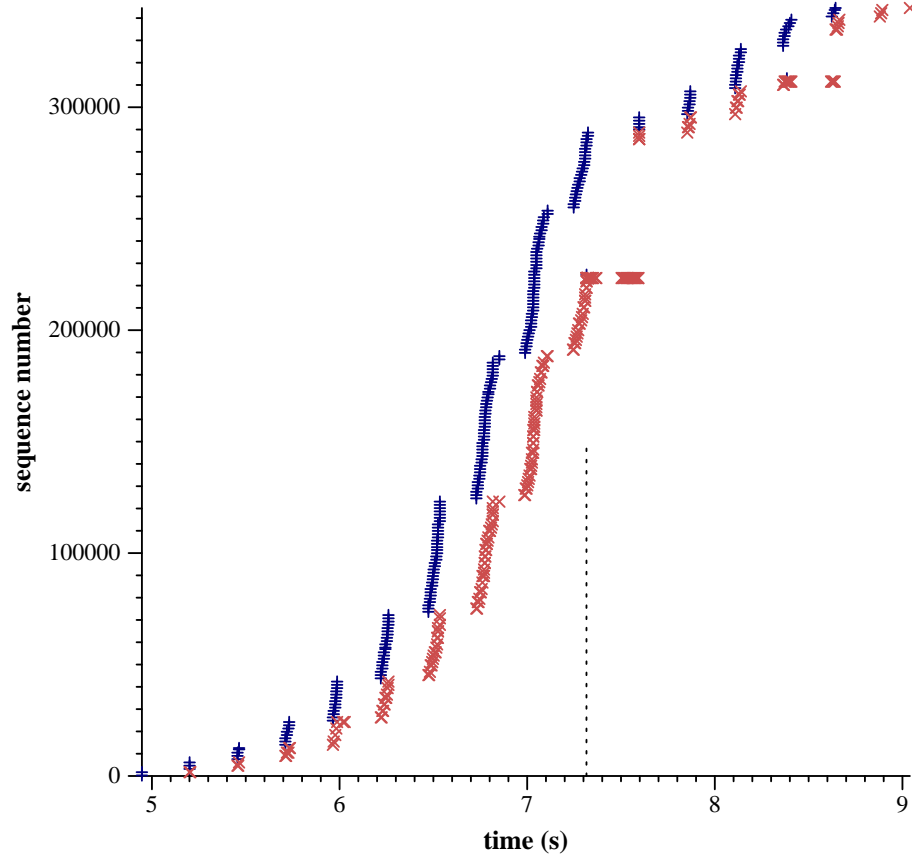
Name: .....

Due: Feb 20

## Understanding Performance



1. (+’s are transmissions, x’s acknowledgements) What is the apparent base (minimum) round trip time of the connection? What is the round trip time of the connection when there is queueing?
2. What is the apparent throughput of the network, ignoring the stall?
3. What is the cause of the 0.03 second interruption in transfer? Hint: your first guess may be incorrect, so look at the pattern of transmissions at the right and decide if your explanation handles that.



4. What is the apparent round trip time?
5. What happens at time 7.31? (The dashed line is meaningless, only to serve a visual guide.)
6. How many retransmissions are there?
7. How many times does the transfer enter slow start?
8. What is the overall throughput of the connection? (assume it really starts at time 5 seconds not 0.)
9. What transfer rate does the network seem capable of, if it were idle except for this connection?