

CS 3413 Data Communications Practice Problems — Fall 2004

Name _____

These problems refer to Protocol 6, Nonsequential Receive, with 3-bit sequence numbers. Fill in your answers to problems 1-7 in the table below. Each problem after the first starts with the situation described in Problem 1.

- 1) Frames with sequence numbers 0, 1 and 7 are buffered by the sender. The receiver is expecting a frame with sequence number 5 and has frames with sequence numbers 6 and 7 buffered.
- 2) A data frame, s, with s.seq = 0 and s.ack = 4 arrives.
- 3) A data frame, s, with s.seq = 1 and s.ack = 0 arrives.
- 4) A data frame, s, with s.seq = 5 and s.ack = 7 arrives.
- 4) A data frame, s, with s.seq = 6 and s.ack = 2 arrives.
- 5) An ack frame, s, with s.seq = 0 and s.ack = 0 arrives.
- 6) A `network_layer_ready` event occurs.
- 7) A nak frame, s, with s.seq = 0 and s.ack = 0 arrives.
- 8) What does the protocol send in response to the event in Problem 7?
- 9) What does the protocol do in response to an `ack_timeout`?
- 10) What does the protocol do in response to a `cksum_err`?

variable	1	2	3	4	5	6	7
<code>ack_expected</code>							
<code>next_frame_to_send</code>							
<code>frame_expected</code>							
<code>too_far</code>							
<code>no_nak</code>							
<code>nbuffered</code>							
<code>arrived[0]</code>							
<code>arrived[1]</code>							
<code>arrived[2]</code>							
<code>arrived[3]</code>							

Problem 8:

Problem 9:

Problem 10: