Graded Assessment – Peer-to-Peer Protocols

Quiz, 10 questions

15/15 points (100%)

Congratulations! You passed!

Next Item

2 / 2 points

1.
Given 3 bits for sequence numbers, what is the maximum sliding window size at the receiver in Go Back 3 ARQ?

- 3
- 7

Correct
In go-back-N, the maximum number of frames that can be outstanding is 2^m – 1, where m is the number of bits in sequence number.

- 8
- None of the above

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2 / 2 points

2.
Given 3 bits for sequence numbers in Selective Repeat ARQ. If the sender already set the sliding window size to be 4, what is the maximum sliding window size at the receiver?

- 3
- 8
- 7
- None of the above

Correct

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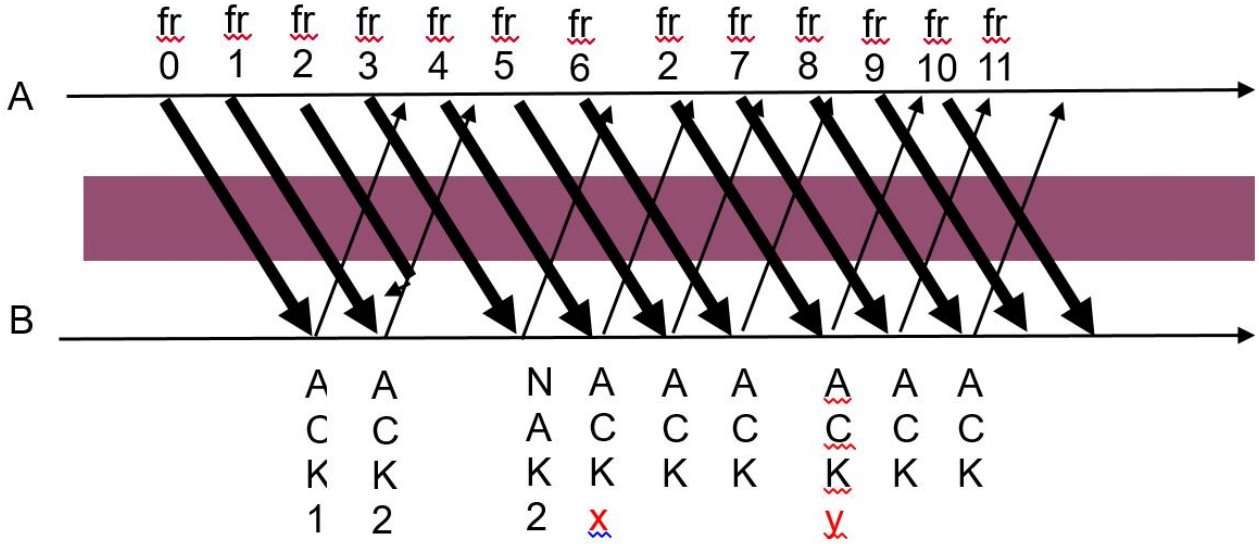
In Selective repeat, the sliding window size at the sender plus the sliding window size at the receiver must be equal to 2^m, where m is the number of bits in sequence number. In this case, the sender has window size 4, which means the receiver has window size 8 – 4 = 4.

2 / 2 points

3.

Consider Selective Repeat ARQ flow control protocol. In the following scenario, what should be the value of frame number *x* at receiver B?



- 3
- 2

Correct

Even frame 3 is received, the frame 2 is still missing in the receiver buffer. Therefore, receiver acknowledges frame 2, meaning it expects the next frame to be frame 2 in the next sliding window.

- 4
- None of the above

2 / 2 points

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4.
In the scenario above, what should be the value of frame number *y* at receiver B?

- 3
- 8
- 7 ✓

Correct
Because Selective Repeat approach buffers those out-of-sequence but correct frames (3, 4, 5, 6), when missing frame 2 is received correctly, the sliding window moves forward and acknowledges the next frame to receive to 7.

- None of the above

✓ 2 / 2 points

5.
If the probability of error is very low in a communication link, which of the following statements is true about performance of ARQ protocol?

- Stop-and-wait and Go-back-N ARQ protocols have similar performance
- Stop-and-wait and Selective Repeat ARQ protocols have similar performance
- Go-back-N ARQ and Selective Repeat ARQ protocols have similar performance ✓

Correct
When the probability of error is very low, the chance of out-of-order but correct frame is very low as well. Selective repeat performs similarly with go-back-N.

- None of the above

✓ 1 / 1 point

6.
In peer-to-peer protocol, the purpose of Automatic Repeat Request is

- [x] to ensure a sequence of information packet is delivered in order

Correct
Correct. Refer to Stop-and-Wait ARQ lecture

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- [ ] to ensure a sequence of information packet is delivered with an ACK request

Un-selected is correct

- [ ] to ensure a sequence of information packet is delivered without errors or duplication despite transmission errors and losses

Correct
Correct. Refer to Stop-and-Wait ARQ lecture

- [ ] to ensure a sequence of information packet is delivered out-of-order

Un-selected is correct

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1 / 1 point

7.
Which of the basic elements of ARQ is associated with negative acknowledgement

- ( ) ACKs
- (•) NAKs

Correct
Correct. Refer to Stop-and-Wait ARQ lecture

- ( ) Timeout mechanism
- ( ) Error detecting code

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1 / 1 point

8.
In Go-Back-N ARQ, a procedure where transmission of a new frame is begun before the completion of time of the previous frame transmission is called

- ( ) Transitioning
- (•) Pipelining

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Correct
Correct. Refer to S&W Performance, and Go-Back-N ARQ lecture

- Channeling
- None of the above

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1 / 1 point

9.
In Stop-and-Wait protocol, sequence number are not required

- True
- False

Correct
Correct. Refer to Stop-and-Wait ARQ lecture

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1 / 1 point

10.
The disadvantage of Stop-and-Wait protocol

- Error free communication channel does not exist
- Acknowledgement may get lost
- Deadlock situation may occur
- All of the above

Correct
Correct. Refer to Stop-and-Wait ARQ lecture

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