

# Lecture 13 (3/3) Self-Test

**Due** Mar 10 at 5pm

**Points** 1

**Questions** 10

**Available** Mar 3 at 5pm - Jun 1 at 5pm 3 months

**Time Limit** None

Score for this survey: **1** out of 1

Submitted Mar 7 at 5:13pm

This attempt took 11 minutes.

## Question 1

Which of these two statements is true?

- ☒ Some applications need reliable service
- ☐ The network must provide reliable service

some applications need reliable service.

## Question 2

Why might someone consider full information ACKs better than individual ACKs? Please mark all that apply.

- ☒ They are more resilient to ACK losses
- ☐ They lead to smaller ACK packets
- ☐ They are easier to implement

They are more resilient to ACK losses

### Question 3

Why might someone consider cumulative ACKs better than full information ACKs? Please mark all that apply.

You Answered

☒ They are more resilient to ACK reorderings

You Answered

☒ They lead to smaller ACK packets

☐ They give less ambiguous information in the presence of loss.

The lead to smaller ACK packets

### Question 4

For Q5-Q10

In the following questions, we have a single source sending a string of data packets, and a single destination responding with ACKs. We use the following notation:

\* Data packets: D3 refers to the 3rd data packet sent

\* ACK packets: If we are using individual ACKs, then IA5 denotes the individual ACK for the 5th data packet. If we are using cumulative ACKs, then CA5 denotes the ACK indicating data packets 1 through 5 have arrived (and perhaps others have arrived, but not 6). If we are using full-

information ACKs, then FA[1-5, 7,9] indicates that packet 1-5 have arrived, in addition to packets 7 and 9.

In the following scenarios, we consider several problems that might have occurred:

1. A data packet was dropped
2. A data packet arrived out-of-order
3. A data packet was duplicated
4. An ACK packet was dropped
5. An ACK packet arrived out-of-order
6. An ACK packet was duplicated

We assume the source sends data packets 1, 2, 3, 4, 5 in order (and no additional packet are sent), and then stops. We then observe a string of ACKs returning (and no future ACKs arrive). In the following questions, you should answer which of the above problems, by itself, could have led to this string of ACKs. That is, if you answer 1 and 5, you are saying: (i) that a dropped data packet, by itself, could have led to this string of ACKs, and separately (ii) that an out of order ACK, by itself, could have led to this string of ACKs.

You Answered

☒ See below questions

## Question 5

Q5: Individual ACKs: IA1 IA2 IA3 IA5

☐ 1. A data packet was dropped

☒ 2. A data packet arrived out-of-order

☒ 3. A data packet was duplicated

☐ 4. An ACK packet was dropped

☐ 5. An ACK packet arrived out-of-order

You Answered

You Answered

☐ 6. An ACK packet was duplicated

- 1. A data packet was dropped
- 4. An ACK packet was dropped

## Question 6

Q6: Individual ACKs: IA1 IA2 IA2 IA3 IA4 IA5

☐ 1. A data packet was dropped

☒ 2. A data packet arrived out-of-order

☐ 3. A data packet was duplicated

☒ 4. An ACK packet was dropped

☐ 5. An ACK packet arrived out-of-order

☐ 6. An ACK packet was duplicated

- 6. An ACK packet was duplicated
- 3. A data packet was duplicated

## Question 7

Q7: Cumulative ACKs: CA1 CA2 CA3 CA5

you Answered

☒ 1. A data packet was dropped

you Answered

☒ 2. A data packet arrived out-of-order

you Answered

☒ 3. A data packet was duplicated

you Answered

☒ 4. An ACK packet was dropped

you Answered

☒ 5. An ACK packet arrived out-of-order

you Answered

☒ 6. An ACK packet was duplicated

4. An ACK packet was dropped

## Question 8

Q8: Cumulative ACKs: CA1 CA2 CA2 CA4 CA5

you Answered

☒ 1. A data packet was dropped

you Answered

☒ 2. A data packet arrived out-of-order

you Answered

☒ 3. A data packet was duplicated

you Answered

☒ 4. An ACK packet was dropped

you Answered

☒ 5. An ACK packet arrived out-of-order

you Answered

☒ 6. An ACK packet was duplicated

2. A data packet arrived out-of-order

### Question 9

Q9: Full Information ACKs: FA[1], FA[1-3], FA[1-4], FA[1-5]

you Answered

☒ 1. A data packet was dropped

☐ 2. A data packet arrived out-of-order

you Answered

☒ 3. A data packet was duplicated

you Answered

☒ 4. An ACK packet was dropped

you Answered

☒ 5. An ACK packet arrived out-of-order

☐ 6. An ACK packet was duplicated

4. An ACK packet was dropped

### Question 10

Q10: Full Information ACKs: FA[1], FA[1-4], FA[1-2], FA[1-3], F[1-5]

you Answered

☒ 1. A data packet was dropped

☐ 2. A data packet arrived out-of-order

you Answered

☒ 3. A data packet was duplicated

☐ 4. An ACK packet was dropped

☐ 5. An ACK packet arrived out-of-order

you Answered

☒ 6. An ACK packet was duplicated

5. An ACK packet arrived out-of-order

Survey Score: **1** out of 1