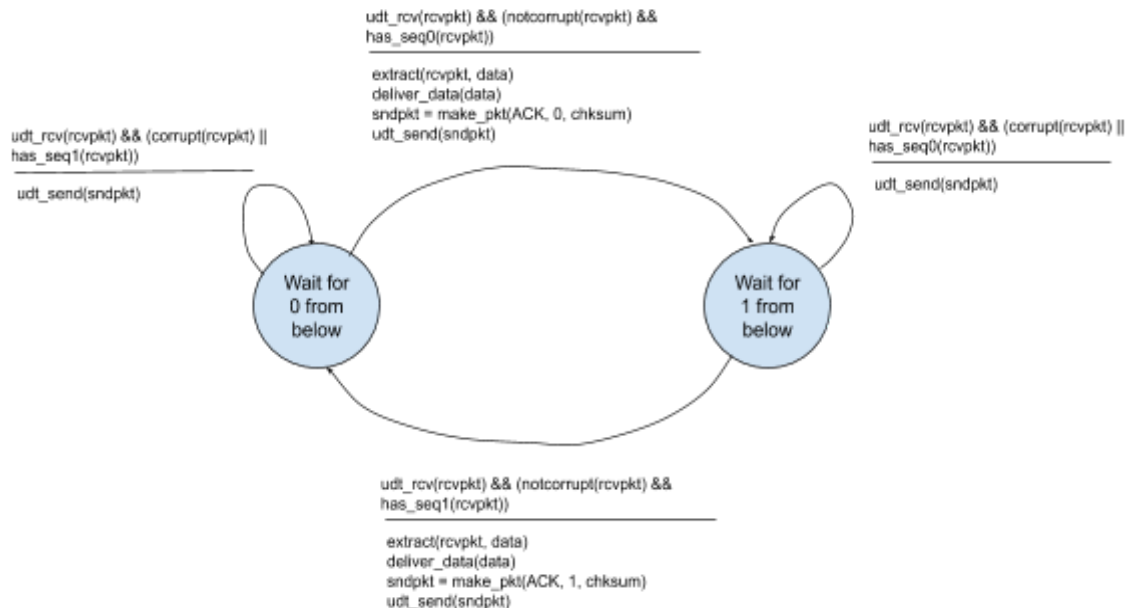


RDT3.0 Receiver FSM:



What's done:

Reliable data transfer between sender and receiver using Stop-And-Wait (SAW) has been achieved.

What's not done:

Nothing to our knowledge.

Explanation:

This protocol is successful at transferring data reliably, and an example of why is shown in the first message which is simulated in the report below. It is correct because the protocol stop-and-waits for ACKs, correctly detects packet corruption and resends the packets that were corrupted using sequence numbers and ACK numbers, and it also detects lost packets using timers, which are also re-sent. As shown in the report below, the first packet is created and is sent off to the receiver B. The receiver recognizes the packet as a corrupt packet and asks the sender to resend the packet by not sending the correct ACK number. This request gets lost in transit, meaning the sender does not receive an ACK, so it times out. The timeout causes the sender to resend the packet. The packet gets lost in transit to the receiver once again, causing another timeout, causing another packet resend. This time, the re-sent packet is accepted by the receiver as a correct packet, so the data gets extracted and sent to the application layer, but the ACK gets lost in transit back to the sender. The sender resends the same packet since it received no ACK and it timed out, and the receiver recognizes the packet as a duplicate, so it just sends back an ACK, but doesn't send the packet data through to the application layer again. Therefore, it handles packet loss, packet corruption, and duplicate packets.

Report

***Extra details only added to the first packet that is sent**

----- RDT Network Simulator -----

the number of messages to simulate: 10

packet loss probability: 0.200000

packet corruption probability: 0.300000

average time between messages from sender's app layer: 1000.000000

TRACE: 3

GENERATE NEXT ARRIVAL: creating new arrival

INSERTEVENT: time is 0.000000

INSERTEVENT: future time will be 1870.573975

EVENT time: 1870.573975, type: 1, from app layer entity: 0

GENERATE NEXT ARRIVAL: creating new arrival

INSERTEVENT: time is 1870.573975

INSERTEVENT: future time will be 3512.483887

MAINLOOP: data given to student: aaaaaaaaaaaaaaaaaaaaaa

TO_NETWORK_LAYER: packet not lost

TO_NETWORK_LAYER: packet being corrupted

TO_NETWORK_LAYER: scheduling arrival on other side

INSERTEVENT: time is 1870.573975

INSERTEVENT: future time will be 1876.039062

START TIMER: starting timer at 1870.573975

INSERTEVENT: time is 1870.573975

INSERTEVENT: future time will be 1880.573975

Client A sends corrupt packet

EVENT time: 1876.039062, type: 2, from network layer entity: 1

TO_NETWORK_LAYER: packet not lost

TO_NETWORK_LAYER: scheduling arrival on other side

INSERTEVENT: time is 1876.039062

INSERTEVENT: future time will be 1878.220703

Client B receives corrupt packet - asks for resend

EVENT time: 1878.220703, type: 2, from network layer entity: 0

STOP TIMER: stopping timer at 1878.220703

TO_NETWORK_LAYER: packet being lost

START TIMER: starting timer at 1878.220703

INSERTEVENT: time is 1878.220703

INSERTEVENT: future time will be 1888.220703

Times out - resending

EVENT time: 1888.220703, type: 0, timerinterrupt entity: 0

TO_NETWORK_LAYER: packet being lost

START TIMER: starting timer at 1888.220703
INSETEVENT: time is 1888.220703
INSETEVENT: future time will be 1898.220703

Times out - resending

EVENT time: 1898.220703, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 1898.220703
INSETEVENT: future time will be 1907.465210
START TIMER: starting timer at 1898.220703
INSETEVENT: time is 1898.220703
INSETEVENT: future time will be 1908.220703

EVENT time: 1907.465210, type: 2, from network layer entity: 1
TO_APP_LAYER: data received: aaaaaaaaaaaaaaaaaa
TO_NETWORK_LAYER: packet being lost

Client B receives good packet, and extracts the data

Client A does not receive an ACK due to the packet being lost - resending

EVENT time: 1908.220703, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 1908.220703
INSETEVENT: future time will be 1909.699097
START TIMER: starting timer at 1908.220703
INSETEVENT: time is 1908.220703
INSETEVENT: future time will be 1918.220703

Client A resends packet

EVENT time: 1909.699097, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 1909.699097
INSETEVENT: future time will be 1914.971313

Client B recognizes this as a duplicate, and sends back an ACK

EVENT time: 1914.971313, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 1914.971313

Client A receives an ACK

EVENT time: 3512.483887, type: 1, from app layer entity: 0
GENERATE NEXT ARRIVAL: creating new arrival
INSETEVENT: time is 3512.483887
INSETEVENT: future time will be 4948.687500
MAINLOOP: data given to student: bbbbbbbbbbbbbbbbbbb

TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3512.483887
INSERTEVENT: future time will be 3518.513428
START TIMER: starting timer at 3512.483887
INSERTEVENT: time is 3512.483887
INSERTEVENT: future time will be 3522.483887

EVENT time: 3518.513428, type: 2, from network layer entity: 1

TO_APP_LAYER: data received: bbbbbbbbbbbbbbbbbbb
TO_NETWORK_LAYER: packet being lost

EVENT time: 3522.483887, type: 0, timerinterrupt entity: 0

TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3522.483887
INSERTEVENT: future time will be 3526.547607
START TIMER: starting timer at 3522.483887
INSERTEVENT: time is 3522.483887
INSERTEVENT: future time will be 3532.483887

EVENT time: 3526.547607, type: 2, from network layer entity: 1

TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3526.547607
INSERTEVENT: future time will be 3528.331543

EVENT time: 3528.331543, type: 2, from network layer entity: 0

STOP TIMER: stopping timer at 3528.331543
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3528.331543
INSERTEVENT: future time will be 3532.490234
START TIMER: starting timer at 3528.331543
INSERTEVENT: time is 3528.331543
INSERTEVENT: future time will be 3538.331543

EVENT time: 3532.490234, type: 2, from network layer entity: 1

TO_NETWORK_LAYER: packet being lost

EVENT time: 3538.331543, type: 0, timerinterrupt entity: 0

TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side

INSERTEVENT: time is 3538.331543
INSERTEVENT: future time will be 3544.169434
START TIMER: starting timer at 3538.331543
INSERTEVENT: time is 3538.331543
INSERTEVENT: future time will be 3548.331543

EVENT time: 3544.169434, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3544.169434
INSERTEVENT: future time will be 3546.044678
EVENT time: 3546.044678, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 3546.044678
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 3546.044678
INSERTEVENT: time is 3546.044678
INSERTEVENT: future time will be 3556.044678

EVENT time: 3556.044678, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3556.044678
INSERTEVENT: future time will be 3557.351074
START TIMER: starting timer at 3556.044678
INSERTEVENT: time is 3556.044678
INSERTEVENT: future time will be 3566.044678

EVENT time: 3557.351074, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3557.351074
INSERTEVENT: future time will be 3562.929688

EVENT time: 3562.929688, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 3562.929688
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3562.929688
INSERTEVENT: future time will be 3569.179688
START TIMER: starting timer at 3562.929688
INSERTEVENT: time is 3562.929688
INSERTEVENT: future time will be 3572.929688

EVENT time: 3569.179688, type: 2, from network layer entity: 1

TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3569.179688
INSERTEVENT: future time will be 3573.999023

EVENT time: 3572.929688, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3572.929688
INSERTEVENT: future time will be 3576.591553
START TIMER: starting timer at 3572.929688
INSERTEVENT: time is 3572.929688
INSERTEVENT: future time will be 3582.929688

EVENT time: 3573.999023, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 3573.999023
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3573.999023
INSERTEVENT: future time will be 3585.502441
START TIMER: starting timer at 3573.999023
INSERTEVENT: time is 3573.999023
INSERTEVENT: future time will be 3583.999023

EVENT time: 3576.591553, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 3576.591553
INSERTEVENT: future time will be 3582.209229

EVENT time: 3582.209229, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 3582.209229
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 3582.209229
INSERTEVENT: time is 3582.209229
INSERTEVENT: future time will be 3592.209229

EVENT time: 3585.502441, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet being lost

EVENT time: 3592.209229, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted

TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 3592.209229
INSETEVENT: future time will be 3594.015625
START TIMER: starting timer at 3592.209229
INSETEVENT: time is 3592.209229
INSETEVENT: future time will be 3602.209229

EVENT time: 3594.015625, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet being lost

EVENT time: 3602.209229, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 3602.209229
INSETEVENT: future time will be 3605.226318
START TIMER: starting timer at 3602.209229
INSETEVENT: time is 3602.209229
INSETEVENT: future time will be 3612.209229

EVENT time: 3605.226318, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 3605.226318
INSETEVENT: future time will be 3609.980469

EVENT time: 3609.980469, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 3609.980469

EVENT time: 4948.687500, type: 1, from app layer entity: 0
GENERATE NEXT ARRIVAL: creating new arrival
INSETEVENT: time is 4948.687500
INSETEVENT: future time will be 5278.104492
MAINLOOP: data given to student: ccccccccccccccccccc
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 4948.687500
INSETEVENT: future time will be 4954.671387
START TIMER: starting timer at 4948.687500
INSETEVENT: time is 4948.687500
INSETEVENT: future time will be 4958.687500

EVENT time: 4954.671387, type: 2, from network layer entity: 1
TO_APP_LAYER: data received: ccccccccccccccccccc
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side

INSERTEVENT: time is 4954.671387
INSERTEVENT: future time will be 4962.533203

EVENT time: 4958.687500, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 4958.687500
INSERTEVENT: time is 4958.687500
INSERTEVENT: future time will be 4968.687500

EVENT time: 4962.533203, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 4962.533203
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 4962.533203
INSERTEVENT: future time will be 4970.491211
START TIMER: starting timer at 4962.533203
INSERTEVENT: time is 4962.533203
INSERTEVENT: future time will be 4972.533203

EVENT time: 4970.491211, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 4970.491211
INSERTEVENT: future time will be 4974.883789

EVENT time: 4972.533203, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 4972.533203
INSERTEVENT: future time will be 4978.198242
START TIMER: starting timer at 4972.533203
INSERTEVENT: time is 4972.533203
INSERTEVENT: future time will be 4982.533203

EVENT time: 4974.883789, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 4974.883789

EVENT time: 4978.198242, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 4978.198242
INSERTEVENT: future time will be 4984.895020

EVENT time: 4984.895020, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 4984.895020

Warning: unable to cancel your timer. It wasn't running.

TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 4984.895020
INSERTEVENT: future time will be 4994.383301

START TIMER: starting timer at 4984.895020
INSERTEVENT: time is 4984.895020
INSERTEVENT: future time will be 4994.895020
EVENT time: 4994.383301, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 4994.383301
INSERTEVENT: future time will be 4996.888672
EVENT time: 4994.895020, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 4994.895020
INSERTEVENT: future time will be 5002.674805
START TIMER: starting timer at 4994.895020
INSERTEVENT: time is 4994.895020
INSERTEVENT: future time will be 5004.895020
EVENT time: 4996.888672, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 4996.888672
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 4996.888672
INSERTEVENT: future time will be 5008.575684
START TIMER: starting timer at 4996.888672
INSERTEVENT: time is 4996.888672
INSERTEVENT: future time will be 5006.888672
EVENT time: 5002.674805, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5002.674805
INSERTEVENT: future time will be 5011.498047
EVENT time: 5006.888672, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5006.888672
INSERTEVENT: future time will be 5010.159668
START TIMER: starting timer at 5006.888672
INSERTEVENT: time is 5006.888672
INSERTEVENT: future time will be 5016.888672
EVENT time: 5008.575684, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side

INSERTEVENT: time is 5008.575684
INSERTEVENT: future time will be 5016.745117
EVENT time: 5010.159668, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5010.159668
INSERTEVENT: future time will be 5025.688965
EVENT time: 5011.498047, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5011.498047
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5011.498047
INSERTEVENT: future time will be 5020.820312
START TIMER: starting timer at 5011.498047
INSERTEVENT: time is 5011.498047
INSERTEVENT: future time will be 5021.498047
EVENT time: 5016.745117, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5016.745117
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5016.745117
INSERTEVENT: future time will be 5023.816895
START TIMER: starting timer at 5016.745117
INSERTEVENT: time is 5016.745117
INSERTEVENT: future time will be 5026.745117
EVENT time: 5020.820312, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5020.820312
INSERTEVENT: future time will be 5026.837891
EVENT time: 5023.816895, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5023.816895
INSERTEVENT: future time will be 5034.406250
EVENT time: 5025.688965, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5025.688965
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5025.688965
INSERTEVENT: future time will be 5029.862793
START TIMER: starting timer at 5025.688965

INSERTEVENT: time is 5025.688965
INSERTEVENT: future time will be 5035.688965
EVENT time: 5026.837891, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5026.837891
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5026.837891
INSERTEVENT: future time will be 5037.464844
START TIMER: starting timer at 5026.837891
INSERTEVENT: time is 5026.837891
INSERTEVENT: future time will be 5036.837891
EVENT time: 5029.862793, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5029.862793
INSERTEVENT: future time will be 5043.537109
EVENT time: 5034.406250, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5034.406250
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5034.406250
INSERTEVENT: future time will be 5041.842773
START TIMER: starting timer at 5034.406250
INSERTEVENT: time is 5034.406250
INSERTEVENT: future time will be 5044.406250
EVENT time: 5037.464844, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5037.464844
INSERTEVENT: future time will be 5046.858887
EVENT time: 5041.842773, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5041.842773
INSERTEVENT: future time will be 5048.455566
EVENT time: 5043.537109, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5043.537109
EVENT time: 5046.858887, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5046.858887
Warning: unable to cancel your timer. It wasn't running.
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5046.858887
INSERTEVENT: future time will be 5050.577148
START TIMER: starting timer at 5046.858887

INSERTEVENT: time is 5046.858887
INSERTEVENT: future time will be 5056.858887
EVENT time: 5048.455566, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5048.455566
EVENT time: 5050.577148, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5050.577148
INSERTEVENT: future time will be 5055.448730
EVENT time: 5055.448730, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5055.448730
Warning: unable to cancel your timer. It wasn't running.
EVENT time: 5278.104492, type: 1, from app layer entity: 0
GENERATE NEXT ARRIVAL: creating new arrival
INSERTEVENT: time is 5278.104492
INSERTEVENT: future time will be 7133.497559
MAINLOOP: data given to student: dddddddddddddddddd
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5278.104492
INSERTEVENT: future time will be 5283.814453
START TIMER: starting timer at 5278.104492
INSERTEVENT: time is 5278.104492
INSERTEVENT: future time will be 5288.104492
EVENT time: 5283.814453, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5283.814453
INSERTEVENT: future time will be 5290.614746
EVENT time: 5288.104492, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 5288.104492
INSERTEVENT: time is 5288.104492
INSERTEVENT: future time will be 5298.104492
EVENT time: 5290.614746, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5290.614746
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 5290.614746
INSERTEVENT: time is 5290.614746
INSERTEVENT: future time will be 5300.614746
EVENT time: 5300.614746, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5300.614746
INSERTEVENT: future time will be 5307.120117

START TIMER: starting timer at 5300.614746
INSERTEVENT: time is 5300.614746
INSERTEVENT: future time will be 5310.614746
EVENT time: 5307.120117, type: 2, from network layer entity: 1
TO_APP_LAYER: data received: ddddddddddddddddddd
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5307.120117
INSERTEVENT: future time will be 5308.525879
EVENT time: 5308.525879, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5308.525879
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 5308.525879
INSERTEVENT: time is 5308.525879
INSERTEVENT: future time will be 5318.525879
EVENT time: 5318.525879, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5318.525879
INSERTEVENT: future time will be 5328.240234
START TIMER: starting timer at 5318.525879
INSERTEVENT: time is 5318.525879
INSERTEVENT: future time will be 5328.525879
EVENT time: 5328.240234, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5328.240234
INSERTEVENT: future time will be 5331.254883
EVENT time: 5328.525879, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5328.525879
INSERTEVENT: future time will be 5334.258789
START TIMER: starting timer at 5328.525879
INSERTEVENT: time is 5328.525879
INSERTEVENT: future time will be 5338.525879
EVENT time: 5331.254883, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5331.254883
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 5331.254883
INSERTEVENT: time is 5331.254883
INSERTEVENT: future time will be 5341.254883
EVENT time: 5334.258789, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost

TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5334.258789
INSERTEVENT: future time will be 5338.130371
EVENT time: 5338.130371, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5338.130371
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5338.130371
INSERTEVENT: future time will be 5342.255371
START TIMER: starting timer at 5338.130371
INSERTEVENT: time is 5338.130371
INSERTEVENT: future time will be 5348.130371
EVENT time: 5342.255371, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5342.255371
INSERTEVENT: future time will be 5352.180664
EVENT time: 5348.130371, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5348.130371
INSERTEVENT: future time will be 5350.543945
START TIMER: starting timer at 5348.130371
INSERTEVENT: time is 5348.130371
INSERTEVENT: future time will be 5358.130371
EVENT time: 5350.543945, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5350.543945
INSERTEVENT: future time will be 5356.611816
EVENT time: 5352.180664, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5352.180664
EVENT time: 5356.611816, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5356.611816
Warning: unable to cancel your timer. It wasn't running.
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 5356.611816
INSERTEVENT: time is 5356.611816
INSERTEVENT: future time will be 5366.611816
EVENT time: 5366.611816, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 5366.611816
INSERTEVENT: time is 5366.611816

INSERTEVENT: future time will be 5376.611816
EVENT time: 5376.611816, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5376.611816
INSERTEVENT: future time will be 5378.149414
START TIMER: starting timer at 5376.611816
INSERTEVENT: time is 5376.611816
INSERTEVENT: future time will be 5386.611816
EVENT time: 5378.149414, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5378.149414
INSERTEVENT: future time will be 5383.830566
EVENT time: 5383.830566, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5383.830566
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 5383.830566
INSERTEVENT: time is 5383.830566
INSERTEVENT: future time will be 5393.830566
EVENT time: 5393.830566, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5393.830566
INSERTEVENT: future time will be 5395.677734
START TIMER: starting timer at 5393.830566
INSERTEVENT: time is 5393.830566
INSERTEVENT: future time will be 5403.830566
EVENT time: 5395.677734, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet being lost
EVENT time: 5403.830566, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5403.830566
INSERTEVENT: future time will be 5412.543945
START TIMER: starting timer at 5403.830566
INSERTEVENT: time is 5403.830566
INSERTEVENT: future time will be 5413.830566
EVENT time: 5412.543945, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 5412.543945
INSERTEVENT: future time will be 5414.671875

EVENT time: 5413.830566, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 5413.830566
INSERTEVENT: time is 5413.830566
INSERTEVENT: future time will be 5423.830566
EVENT time: 5414.671875, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 5414.671875
EVENT time: 7133.497559, type: 1, from app layer entity: 0
GENERATE NEXT ARRIVAL: creating new arrival
INSERTEVENT: time is 7133.497559
INSERTEVENT: future time will be 8315.824219
MAINLOOP: data given to student: eeeeeeeeeeeeeeeeeee
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 7133.497559
INSERTEVENT: future time will be 7135.862305
START TIMER: starting timer at 7133.497559
INSERTEVENT: time is 7133.497559
INSERTEVENT: future time will be 7143.497559
EVENT time: 7135.862305, type: 2, from network layer entity: 1
TO_APP_LAYER: data received: eeeeeeeeeeeeeeeeeee
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 7135.862305
INSERTEVENT: future time will be 7141.657715
EVENT time: 7141.657715, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 7141.657715
EVENT time: 8315.824219, type: 1, from app layer entity: 0
GENERATE NEXT ARRIVAL: creating new arrival
INSERTEVENT: time is 8315.824219
INSERTEVENT: future time will be 9863.176758
MAINLOOP: data given to student: ffffffffffffffff
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 8315.824219
INSERTEVENT: future time will be 8325.194336
START TIMER: starting timer at 8315.824219
INSERTEVENT: time is 8315.824219
INSERTEVENT: future time will be 8325.824219
EVENT time: 8325.194336, type: 2, from network layer entity: 1
TO_APP_LAYER: data received: ffffffffffffffff
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 8325.194336
INSERTEVENT: future time will be 8328.231445
EVENT time: 8325.824219, type: 0, timerinterrupt entity: 0

TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 8325.824219
INSERTEVENT: future time will be 8333.542969
START TIMER: starting timer at 8325.824219
INSERTEVENT: time is 8325.824219
INSERTEVENT: future time will be 8335.824219
EVENT time: 8328.231445, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 8328.231445
EVENT time: 8333.542969, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 8333.542969
INSERTEVENT: future time will be 8341.675781
EVENT time: 8341.675781, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 8341.675781
Warning: unable to cancel your timer. It wasn't running.
EVENT time: 9863.176758, type: 1, from app layer entity: 0
GENERATE NEXT ARRIVAL: creating new arrival
INSERTEVENT: time is 9863.176758
INSERTEVENT: future time will be 10609.228516
MAINLOOP: data given to student: gggggggggggggggggggg
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 9863.176758
INSERTEVENT: future time will be 9868.921875
START TIMER: starting timer at 9863.176758
INSERTEVENT: time is 9863.176758
INSERTEVENT: future time will be 9873.176758
EVENT time: 9868.921875, type: 2, from network layer entity: 1
TO_APP_LAYER: data received: gggggggggggggggggggg
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 9868.921875
INSERTEVENT: future time will be 9873.380859
EVENT time: 9873.176758, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 9873.176758
INSERTEVENT: future time will be 9879.839844
START TIMER: starting timer at 9873.176758
INSERTEVENT: time is 9873.176758
INSERTEVENT: future time will be 9883.176758
EVENT time: 9873.380859, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 9873.380859

TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 9873.380859
INSERTEVENT: time is 9873.380859
INSERTEVENT: future time will be 9883.380859
EVENT time: 9879.839844, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 9879.839844
INSERTEVENT: future time will be 9881.881836
EVENT time: 9881.881836, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 9881.881836
EVENT time: 10609.228516, type: 1, from app layer entity: 0
GENERATE NEXT ARRIVAL: creating new arrival
INSERTEVENT: time is 10609.228516
INSERTEVENT: future time will be 12428.155273
MAINLOOP: data given to student: hhhhhhhhhhhhhhhhhhh
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 10609.228516
INSERTEVENT: future time will be 10615.276367
START TIMER: starting timer at 10609.228516
INSERTEVENT: time is 10609.228516
INSERTEVENT: future time will be 10619.228516
EVENT time: 10615.276367, type: 2, from network layer entity: 1
TO_APP_LAYER: data received: hhhhhhhhhhhhhhhhhhh
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 10615.276367
INSERTEVENT: future time will be 10620.694336
EVENT time: 10619.228516, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 10619.228516
INSERTEVENT: future time will be 10626.683594
START TIMER: starting timer at 10619.228516
INSERTEVENT: time is 10619.228516
INSERTEVENT: future time will be 10629.228516
EVENT time: 10620.694336, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 10620.694336
EVENT time: 10626.683594, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 10626.683594
INSERTEVENT: future time will be 10636.420898
EVENT time: 10636.420898, type: 2, from network layer entity: 0

STOP TIMER: stopping timer at 10636.420898
Warning: unable to cancel your timer. It wasn't running.
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 10636.420898
INSERTEVENT: future time will be 10641.770508
START TIMER: starting timer at 10636.420898
INSERTEVENT: time is 10636.420898
INSERTEVENT: future time will be 10646.420898
EVENT time: 10641.770508, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet being lost
EVENT time: 10646.420898, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 10646.420898
INSERTEVENT: time is 10646.420898
INSERTEVENT: future time will be 10656.420898
EVENT time: 10656.420898, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 10656.420898
INSERTEVENT: future time will be 10661.193359
START TIMER: starting timer at 10656.420898
INSERTEVENT: time is 10656.420898
INSERTEVENT: future time will be 10666.420898
EVENT time: 10661.193359, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 10661.193359
INSERTEVENT: future time will be 10664.695312
EVENT time: 10664.695312, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 10664.695312
EVENT time: 12428.155273, type: 1, from app layer entity: 0
GENERATE NEXT ARRIVAL: creating new arrival
INSERTEVENT: time is 12428.155273
INSERTEVENT: future time will be 12936.902344
MAINLOOP: data given to student: iiiiiiiiiiiiiiiii
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSERTEVENT: time is 12428.155273
INSERTEVENT: future time will be 12429.202148
START TIMER: starting timer at 12428.155273
INSERTEVENT: time is 12428.155273
INSERTEVENT: future time will be 12438.155273
EVENT time: 12429.202148, type: 2, from network layer entity: 1
TO_APP_LAYER: data received: iiiiiiiiiiiiiiiii
TO_NETWORK_LAYER: packet not lost

TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 12429.202148
INSETEVENT: future time will be 12437.174805
EVENT time: 12437.174805, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 12437.174805
EVENT time: 12936.902344, type: 1, from app layer entity: 0
MAINLOOP: data given to student: jooooooooooooooooo
TO_NETWORK_LAYER: packet being lost
START TIMER: starting timer at 12936.902344
INSETEVENT: time is 12936.902344
INSETEVENT: future time will be 12946.902344
EVENT time: 12946.902344, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 12946.902344
INSETEVENT: future time will be 12949.362305
START TIMER: starting timer at 12946.902344
INSETEVENT: time is 12946.902344
INSETEVENT: future time will be 12956.902344
EVENT time: 12949.362305, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 12949.362305
INSETEVENT: future time will be 12952.490234
EVENT time: 12952.490234, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 12952.490234
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 12952.490234
INSETEVENT: future time will be 12958.408203
START TIMER: starting timer at 12952.490234
INSETEVENT: time is 12952.490234
INSETEVENT: future time will be 12962.490234
EVENT time: 12958.408203, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet being lost
EVENT time: 12962.490234, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: packet being corrupted
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 12962.490234
INSETEVENT: future time will be 12964.529297
START TIMER: starting timer at 12962.490234
INSETEVENT: time is 12962.490234
INSETEVENT: future time will be 12972.490234

EVENT time: 12964.529297, type: 2, from network layer entity: 1
TO_NETWORK_LAYER: packet being lost
EVENT time: 12972.490234, type: 0, timerinterrupt entity: 0
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 12972.490234
INSETEVENT: future time will be 12980.093750
START TIMER: starting timer at 12972.490234
INSETEVENT: time is 12972.490234
INSETEVENT: future time will be 12982.490234
EVENT time: 12980.093750, type: 2, from network layer entity: 1
TO_APP_LAYER: data received: jjjjjjjjjjjjjjjjjj
TO_NETWORK_LAYER: packet not lost
TO_NETWORK_LAYER: scheduling arrival on other side
INSETEVENT: time is 12980.093750
INSETEVENT: future time will be 12981.200195
EVENT time: 12981.200195, type: 2, from network layer entity: 0
STOP TIMER: stopping timer at 12981.200195
Terminated at time 12981.200195
after sending 10 msgs from app layer