

----- Network Simulator Version 2.3 -----

Enter the number of messages to simulate: Packet loss probability [enter number between 0.0 and 1.0]: Packet corruption probability [0.0 for no corruption]: Packet out-of-order probability [0.0 for no out-of-order]: Average time between messages from sender's layer5 [ > 0.0]: Enter Level of tracing desired: Do you want actions randomized: (1 = yes, 0 = no)? Do you want Bidirectional: (1 = yes, 0 = no)? Input parameters:  
Number of Messages = 100 Lost Packet Prob. = 0.200  
Corrupt Packet Prob. = 0.200 Out Of Order Prob. = 0.200  
Ave. time between messages = 10.00 Trace level = 0  
Randomize = 1 Bi-directional = 0

A: 11.9015, Layer 5 to 4 Message = !fEVhy->Pbs'2J3m~2DU

A\_output: Sending next message in queue.

A: 20.2108, Layer 5 to 4 Message = ##i.Qt9]!Eh-Ps8[~Dg,

A\_output: Waiting for ACK. Add message to queue.

B\_input: Sending ACK.

B\_input: Received message: !fEVhy->Pbs'2J3m~2DUUUUUd

B: 20.9968, Layer 4 to 5 Message = !fEVhy->Pbs'2J3m~2DU

A: 25.6232, Layer 5 to 4 Message = \$X\$d:oFzQ()3h>sJ~U,a

A\_output: Waiting for ACK. Add message to queue.

A: 30.4503, Layer 5 to 4 Message = %kS%\$jR:#iQ9!hP8~gO7

A\_output: Waiting for ACK. Add message to queue.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A: 39.7192, Layer 5 to 4 Message = &}wq&e\_XRLF?93- '~xrl

A\_output: Waiting for ACK. Add message to queue.

A: 55.4140, Layer 5 to 4 Message = '2=IT'kv\$x:FQ]hs~,7C

A\_output: Waiting for ACK. Add message to queue.

A: 58.4754, Layer 5 to 4 Message = (Eb~=Z(6SpxLi(Eb~=Zw

A\_output: Waiting for ACK. Add message to queue.

A: 72.1080, Layer 5 to 4 Message = dW(V'U&)%S\$R2Q!P~O}N

A\_output: Waiting for ACK. Add message to queue.

A: 75.1576, Layer 5 to 4 Message = \*jL.nP2r\*6vX:z]>~aC%

A\_output: Waiting for ACK. Add message to queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A: 89.9710, Layer 5 to 4 Message = +fpdWK>2&+k\_RF3~ ~rfY

A\_output: Waiting for ACK. Add message to queue.  
A: 94.1251, Layer 5 to 4 Message = ,16;AFKPUZ,ejoty~&+0

A\_output: Waiting for ACK. Add message to queue.

B\_input: Sending ACK.

B\_input: Received message: ##i.Qt9]!Eh-Ps8[~Dg,VUUUd  
B: 103.2962, Layer 4 to 5 Message = ##i.Qt9]!Eh-Ps8[~Dg,  
A: 111.5040, Layer 5 to 4 Message = -DZq\*AWn'=T-\$.Qh~7Ne

A\_output: Waiting for ACK. Add message to queue.  
A: 116.4600, Layer 5 to 4 Message = .V~Iq;d.V~Iq.d.V~Iq;

A\_output: Waiting for ACK. Add message to queue.

A\_input: Expected ACK.

A\_output: Sending next message in queue.  
A: 132.0192, Layer 5 to 4 Message = xiE~Z6pL(b=wSxiE~Z6p

A\_output: Waiting for ACK. Add message to queue.  
A: 141.0325, Layer 5 to 4 Message = d{iVD1|jWE2}2X03~lYG

A\_output: Waiting for ACK. Add message to queue.  
A: 147.8066, Layer 5 to 4 Message = 10x.-,+\*)('& \$#1~}|{

A\_output: Waiting for ACK. Add message to queue.  
A: 158.9426, Layer 5 to 4 Message = 2CSdt'7HXiy,<M^n21BR

A\_output: Waiting for ACK. Add message to queue.  
A: 162.8417, Layer 5 to 4 Message = 3Uw;^!Df\*Ln2Tv:]~3e)

A\_output: Waiting for ACK. Add message to queue.  
A: 174.8058, Layer 5 to 4 Message = 4f=qGzP&Yxc8lB3K~T4^

A\_output: Waiting for ACK. Add message to queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.  
A: 194.5451, Layer 5 to 4 Message = 5zbI0u]D+pW>&kR9~fM5

A\_output: Waiting for ACK. Add message to queue.

B\_input: Sending ACK.

B\_input: Received message: \$X\$d:oFzQ([]3h>sJ~U,aVUUUd  
B: 201.7916, Layer 4 to 5 Message = \$X\$d:oFzQ([]3h>sJ~U,a

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A: 211.1235, Layer 5 to 4 Message = 6x(~wpibZSLE=6x(~wpi

A\_output: Waiting for ACK. Add message to queue.

A: 212.9526, Layer 5 to 4 Message = d7LVaku!,6AK2`jt~+5?

A\_output: Waiting for ACK. Add message to queue.

A: 215.3967, Layer 5 to 4 Message = 8T8.Jf\$?[w5Qm+Gc~<Xt

A\_output: Waiting for ACK. Add message to queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A: 233.7215, Layer 5 to 4 Message = 9g693a0^~Z\*W'T\$Q~N{K

A\_output: Waiting for ACK. Add message to queue.

A: 245.3666, Layer 5 to 4 Message = :yZ;:[<{]=|^>}\_?~`A!

A\_output: Waiting for ACK. Add message to queue.

A: 245.6761, Layer 5 to 4 Message = ;.~qd;I;.~qdVI;.~qdV

A\_output: Waiting for ACK. Add message to queue.

A: 245.9384, Layer 5 to 4 Message = <AEIMQ<Y^bfjnrVz~%)-

A\_output: Waiting for ACK. Add message to queue.

A: 255.4213, Layer 5 to 4 Message = =fi~6Lb=xEZp(=3i~6Lb

A\_output: Waiting for ACK. Add message to queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A: 274.1751, Layer 5 to 4 Message = dfxV}Gn7>(Ov2g0W~Ho8

A\_output: Waiting for ACK. Add message to queue.

A: 291.3035, Layer 5 to 4 Message = ?xS.gBzU0?D|W2kF~Y4m

A\_output: Waiting for ACK. Add message to queue.

A: 308.5554, Layer 5 to 4 Message = A-wdP<)s`LA%o[H4~kWd

A\_output: Waiting for ACK. Add message to queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: %kS%\$jR:#iQ9!hP8~gO7VUUUd

B: 314.2977, Layer 4 to 5 Message = %kS%\$jR:#iQ9!hP8~gO7

A: 320.8177, Layer 5 to 4 Message = B?=#97531x-B)'%#~|zx

A\_output: Waiting for ACK. Add message to queue.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A: 335.8837, Layer 5 to 4 Message = CRbq#2BQap!1CP`o~0?O

A\_output: Waiting for ACK. Add message to queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A: 351.1248, Layer 5 to 4 Message = De(Ij-No2St7XD<^~Bc&

A\_output: Waiting for ACK. Add message to queue.

A: 363.6650, Layer 5 to 4 Message = EwL~S(Zxb6i=pEEL~S(Z

A\_output: Waiting for ACK. Add message to queue.

A: 368.1541, Layer 5 to 4 Message = d,pV<#gM3w^D2nTF~eK1

A\_output: Waiting for ACK. Add message to queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A: 375.1412, Layer 5 to 4 Message = Gf6.&{skcZRJB93)Gvnf

A\_output: Waiting for ACK. Add message to queue.

B\_input: Sending ACK.

B\_input: Received message: &}wq&e\_XRLF?93- '~xrlVUUUd

B: 377.3543, Layer 4 to 5 Message = &}wq&e\_XRLF?93- '~xrl

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A: 383.0173, Layer 5 to 4 Message = HQZdmv!+4=GPYclu~H3<

A\_output: Waiting for ACK. Add message to queue.

A: 384.1563, Layer 5 to 4 Message = Id~;Vq.Id~;Vq.Id~;Iq

A\_output: Waiting for ACK. Add message to queue.

A: 386.3407, Layer 5 to 4 Message = JvEq?l:g5b0]+W&R~MyJ

A\_output: Waiting for ACK. Add message to queue.

B\_input: Not the expected sequence num. Send NAK.

A: 399.8963, Layer 5 to 4 Message = K+iI)gG'eE%cC#aA~\_>|

A\_output: Waiting for ACK. Add message to queue.

A: 418.5945, Layer 5 to 4 Message = LLx~pbSE6(wiZL=x~pbS

A\_output: Waiting for ACK. Add message to queue.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A: 438.2781, Layer 5 to 4 Message = dPMVY]`cfilo2ux{~\$'\*

A\_output: Waiting for ACK. Add message to queue.

A: 441.7090, Layer 5 to 4 Message = NcwNCWl#7Lau,AUj~5J\_

A\_output: Waiting for ACK. Add message to queue.

A: 445.7244, Layer 5 to 4 Message = Ou=dORxAgxU{Dj2X~Gm5

A\_output: Waiting for ACK. Add message to queue.

A: 451.2519, Layer 5 to 4 Message = Pfb;sP'\_8pJ\$[53G~X2j

A\_output: Waiting for ACK. Add message to queue.

A: 452.9030, Layer 5 to 4 Message = Q<(q]HQ|hS>\*s\_J5~jUA

A\_output: Waiting for ACK. Add message to queue.

A: 462.6576, Layer 5 to 4 Message = ROLIFC?R9630-\*'\$~{xu

A\_output: Waiting for ACK. Add message to queue.

A: 468.6174, Layer 5 to 4 Message = Sbp~x=LZSw(6ESbp~x=L

A\_output: Waiting for ACK. Add message to queue.

A: 474.2344, Layer 5 to 4 Message = dt6Vv8Xx:Tz<2|>\_~Aa#

A\_output: Waiting for ACK. Add message to queue.

A: 478.7839, Layer 5 to 4 Message = U)Z.`3e8j=UCtHyM~R&W

A\_output: Waiting for ACK. Add message to queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A: 483.1494, Layer 5 to 4 Message = V;~dI.qV;~dV.qV;~dI.

A\_output: Waiting for ACK. Add message to queue.

A: 497.0470, Layer 5 to 4 Message = WNE;2)}tkbXOW<3\*~ulc

A\_output: Waiting for ACK. Add message to queue.

B\_input: Sending ACK.

B\_input: Received message: '2=IT'kv\$x:FQ]hs~,7CVUUUd

B: 499.5981, Layer 4 to 5 Message = '2=IT'kv\$x:FQ]hs~,7C

A: 512.8289, Layer 5 to 4 Message = Xaiqy\$,4<EMU^Xnv~)19

A\_output: Waiting for ACK. Add message to queue.

A: 518.5084, Layer 5 to 4 Message = YfxIc|8Rl(B[u1Ye~:Tn

A\_output: Waiting for ACK. Add message to queue.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A: 533.4390, Layer 5 to 4 Message = Z(S~LwEp=i6bxZ(Z~LwE

A\_output: Waiting for ACK. Add message to queue.

A: 538.5069, Layer 5 to 4 Message = d:wV5rQ0mL+h2&cB[^<y

A\_output: Waiting for ACK. Add message to queue.

B\_input: Not the expected sequence num. Send NAK.

A: 554.8098, Layer 5 to 4 Message = ]M=.|m^N>x}n\_O?0~]`P

A\_output: Waiting for ACK. Add message to queue.

A: 565.8403, Layer 5 to 4 Message = ^`bdfhjlnprtvxz|~#^'

A\_output: Waiting for ACK. Add message to queue.

A: 574.5336, Layer 5 to 4 Message = \_r(;Ocv,?Sgz0DWk~4H\_

A\_output: Waiting for ACK. Add message to queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A: 583.9627, Layer 5 to 4 Message = `Lq8^%Jo6[#Hm4Y~Fk2

A\_output: Waiting for ACK. Add message to queue.

A: 597.1023, Layer 5 to 4 Message = aapI!XlhAwP)`8oH~W0g

A\_output: Waiting for ACK. Add message to queue.

B\_input: Sending ACK.

B\_input: Received message: (Eb~=Z(6SpxLi(Eb~=ZwVUUUd

B: 599.6733, Layer 4 to 5 Message = (Eb~=Z(6SpxLi(Eb~=Zw

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A: 613.9558, Layer 5 to 4 Message = bLb~iS=(pZExwbL6~iS=

A\_output: Waiting for ACK. Add message to queue.

A: 616.0818, Layer 5 to 4 Message = dfZcRNJFB=952-3%~zvzr

A\_output: Waiting for ACK. Add message to queue.

A: 627.7541, Layer 5 to 4 Message = dq~.dIVdq~.;IVdq~.;I

A\_output: Waiting for ACK. Add message to queue.

B\_input: Not the expected sequence num. Send NAK.

A: 644.8734, Layer 5 to 4 Message = e&Ed%ec\$Cb#Ba!A`~?\_}

A\_output: Waiting for ACK. Add message to queue.  
A: 656.0263, Layer 5 to 4 Message = f8i;l>fBrEuHxK{N~Q\$T

A\_output: Waiting for ACK. Add message to queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.  
A: 664.0262, Layer 5 to 4 Message = gKxqU9{gD(jN2tX<~cG+

A\_output: Waiting for ACK. Add message to queue.

B\_input: Sending ACK.

B\_input: Received message: dW(V'U&)%S\$R2Q!P~O}NVUUUd  
B: 667.9273, Layer 4 to 5 Message = dW(V'U&)%S\$R2Q!P~O}N

A\_input: Expected ACK.

A\_output: Sending next message in queue.  
A: 680.3960, Layer 5 to 4 Message = h^SI>4\*}hi\_TJ?5+~tj`

A\_output: Waiting for ACK. Add message to queue.  
A: 681.2843, Layer 5 to 4 Message = ipw~(x6=EiSZbipw~(x6

A\_output: Waiting for ACK. Add message to queue.  
A: 691.9450, Layer 5 to 4 Message = d%=Vo\*C[txja24Mf~9Rk

A\_output: Waiting for ACK. Add message to queue.  
A: 705.1448, Layer 5 to 4 Message = k7b.X%OyFp<k3^\*T~KuB

A\_output: Waiting for ACK. Add message to queue.

B\_input: Not the expected sequence num. Send NAK.  
A: 715.2896, Layer 5 to 4 Message = lf(dB)[9uS1ml)3C~]:v

A\_output: Waiting for ACK. Add message to queue.  
A: 723.3577, Layer 5 to 4 Message = m]L;+xhWG6&scmB1~n^M

A\_output: Waiting for ACK. Add message to queue.  
A: 724.1522, Layer 5 to 4 Message = nopqrstuvwxyz{n}~!#\$

A\_output: Waiting for ACK. Add message to queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.  
A: 737.7320, Layer 5 to 4 Message = o\$6I[n#5HZm!4GYo~3FX

A\_output: Waiting for ACK. Add message to queue.

B\_input: Sending ACK.

B\_input: Received message: \*jL.nP2r\*6vX:z]>~aC%VUUUd  
B: 738.9017, Layer 4 to 5 Message = \*jL.nP2r\*6vX:z]>~aC%  
A\_input: Expected ACK.  
A\_output: Sending next message in queue.  
A: 755.0532, Layer 5 to 4 Message = p6Z~EixSw=b(Lp6ZpEix  
A\_output: Waiting for ACK. Add message to queue.  
A: 756.0336, Layer 5 to 4 Message = dI~V.d;qI~V.2;qI~q.d  
A\_output: Waiting for ACK. Add message to queue.  
A: 773.7586, Layer 5 to 4 Message = r[E.u\_HlxbK4{eN7~hr:  
A\_output: Waiting for ACK. Add message to queue.  
A: 778.2462, Layer 5 to 4 Message = snid\_YTOJE?:50+&~yts  
A\_output: Waiting for ACK. Add message to queue.  
A: 781.0389, Layer 5 to 4 Message = t#x;HTamy(4AMYfr~-9F  
A\_output: Waiting for ACK. Add message to queue.  
A timer has been interrupted, A will now resend the packet.  
A\_output: Sending next message in queue.  
A: 798.1530, Layer 5 to 4 Message = uuSqlOm~Ki)Ge%3a~>]z  
A\_output: Waiting for ACK. Add message to queue.  
A: 798.3634, Layer 5 to 4 Message = vHvIxJyKzL{M|N}O~P!Q  
A\_output: Waiting for ACK. Add message to queue.  
A: 813.9561, Layer 5 to 4 Message = wZ=wbE(iLxpS6wZ=~bE(  
A\_output: Waiting for ACK. Add message to queue.  
A: 820.1164, Layer 5 to 4 Message = dmbVx?4){peY2C7,~sh]  
A\_output: Waiting for ACK. Add message to queue.  
B\_input: Sending ACK.  
B\_input: Received message: +fpdWK>2&+k\_RF3-~rfYVUUUd  
B: 821.0310, Layer 4 to 5 Message = +fpdWK>2&+k\_RF3-~rfY  
A\_input: Expected ACK.  
A\_output: Sending next message in queue.  
B\_input: Not the expected sequence num. Send NAK.  
A: 836.1666, Layer 5 to 4 Message = y!(.4yAGMSY`flrx~'-3  
A\_output: Waiting for ACK. Add message to queue.  
A: 855.4184, Layer 5 to 4 Message = z4Ld{5ze|6Nf}7Og~8Ph  
A\_output: Waiting for ACK. Add message to queue.



A: 860.4890, Layer 5 to 4 Message = {Gp;e0Y{NwCl7a,U~Js>  
A\_output: Waiting for ACK. Add message to queue.  
A: 861.5515, Layer 5 to 4 Message = |Y6qN+fC|Z7rO,gD~[8s  
A\_output: Waiting for ACK. Add message to queue.  
A timer has been interrupted, A will now resend the packet.  
A\_output: Sending next message in queue.  
A: 879.1274, Layer 5 to 4 Message = }lZI7&raO},xgUD2~m[J  
A\_output: Waiting for ACK. Add message to queue.  
A: 882.7674, Layer 5 to 4 Message = ~fDUgx,=Oa~&7I3l}1CT  
A\_output: Waiting for ACK. Add message to queue.  
B\_input: Packet corrupted. Send NAK.  
A: 899.3543, Layer 5 to 4 Message = !3EVhy->Pbs'2J[m~2DU  
A\_output: Waiting for ACK. Add message to queue.  
A: 902.8892, Layer 5 to 4 Message = ##i.Qt9]!Eh-Ps8[~Dg,  
A\_output: Waiting for ACK. Add message to queue.  
B\_input: Not the expected sequence num. Send NAK.  
A: 914.5490, Layer 5 to 4 Message = \$X\$d:oFzQ([]3h>sJ~U,a  
A\_output: Waiting for ACK. Add message to queue.  
A: 921.7676, Layer 5 to 4 Message = %kS%\$jR:#iQ9!hP8~gO7  
A\_output: Waiting for ACK. Add message to queue.  
A: 923.5239, Layer 5 to 4 Message = &}wq&e\_XRLF?93-'~xrl  
A\_output: Waiting for ACK. Add message to queue.  
A timer has been interrupted, A will now resend the packet.  
A\_output: Sending next message in queue.  
B\_input: Sending ACK.  
B\_input: Received message: ,16;AFKPUZ,ejoty~&+0VUUUd  
B: 933.8136, Layer 4 to 5 Message = ,16;AFKPUZ,ejoty~&+0  
A\_input: Expected ACK.  
A\_output: Sending next message in queue.  
B\_input: Not the expected sequence num. Send NAK.  
A: 941.7293, Layer 5 to 4 Message = '2=IT'kv\$x:FQ]hs~,7C  
A\_output: Waiting for ACK. Add message to queue.  
A: 947.5084, Layer 5 to 4 Message = (Eb~=Z(6SpxLi(Eb~=Zw

A\_output: Waiting for ACK. Add message to queue.  
A: 957.4137, Layer 5 to 4 Message = dW(V'U&)%S\$R2Q!P~O}N

A\_output: Waiting for ACK. Add message to queue.

B\_input: Not the expected sequence num. Send NAK.  
A: 975.8538, Layer 5 to 4 Message = \*fL.nP2r\*6vX:z3>~aC%

A\_output: Waiting for ACK. Add message to queue.  
A: 978.8331, Layer 5 to 4 Message = +|pdWK>2&+k\_RF9--~rfY

A\_output: Waiting for ACK. Add message to queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.  
A: 990.5787, Layer 5 to 4 Message = ,16;AFKPUZ,ejoty~&+0

A\_output: Waiting for ACK. Add message to queue.  
A: 998.2237, Layer 5 to 4 Message = -DZq\*AWn'=T-\$:Qh~7Ne

A\_output: Waiting for ACK. Add message to queue.  
A: 1008.1829, Layer 5 to 4 Message = .V~Iq;d.V~Iq.d.V~Iq;

A\_output: Waiting for ACK. Add message to queue.

B\_input: Sending ACK.

B\_input: Received message: -DZq\*AWn'=T-\$:Qh~7NeVUUUd  
B: 1012.0299, Layer 4 to 5 Message = -DZq\*AWn'=T-\$:Qh~7Ne  
A: 1012.6998, Layer 5 to 4 Message = xiE~Z6pL(b=wSxiE~Z6p

A\_output: Waiting for ACK. Add message to queue.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: .V~Iq;d.V~Iq.d.V~Iq;VUUUd

B: 1175.0775, Layer 4 to 5 Message = .V~Iq;d.V~Iq.d.V~Iq;

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: xiE~Z6pL(b=wSxiE~Z6pVUUUd

B: 1231.2169, Layer 4 to 5 Message = xiE~Z6pL(b=wSxiE~Z6p

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: d{iVD1|jWE2}2X03~1YGVUUUd

B: 1396.5383, Layer 4 to 5 Message = d{iVD1|jWE2}2X03~1YG

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: 10x.-,+) ('& \$#1~} | {VUUUd  
B: 1475.9038, Layer 4 to 5 Message = 10x.-,+) ('& \$#1~} | {

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: 2CSdt'7HXiy,<M^n21BRVUUUd  
B: 1635.6295, Layer 4 to 5 Message = 2CSdt'7HXiy,<M^n21BR

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: 3Uw;^!Df\*Ln2Tv:]~3e)VUUUd  
B: 1765.8590, Layer 4 to 5 Message = 3Uw;^!Df\*Ln2Tv:]~3e)

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: 4f=qGzP&Yxc8lB3K~T4^VUUUd

B: 1908.5651, Layer 4 to 5 Message = 4f=qGzP&Yxc8lB3K~T4^

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: 5zbI0u]D+pW>&kR9~fM5VUUUd

B: 1976.9162, Layer 4 to 5 Message = 5zbI0u]D+pW>&kR9~fM5

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: 6x(~wpibZSLE=6x(~wpiVUUUd

B: 2057.4844, Layer 4 to 5 Message = 6x(~wpibZSLE=6x(~wpi

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: d7LVaku!,6AK2`jt~+5?VUUUd

B: 2302.3173, Layer 4 to 5 Message = d7LVaku!,6AK2`jt~+5?

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: 8T8.Jf\$?[w5Qm+Gc~<XtVUUUd

B: 2389.7333, Layer 4 to 5 Message = 8T8.Jf\$?[w5Qm+Gc~<Xt

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: 9g693a0^-Z\*W'T\$Q~N{KVUUUd

B: 2452.7898, Layer 4 to 5 Message = 9g693a0^-Z\*W'T\$Q~N{K

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: :yZ;:[<{]=|^>}\_?~`A!VUUUd

B: 2509.2414, Layer 4 to 5 Message = :yZ;:[<{]=|^>}\_?~`A!

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: ;.~qd;I;.~qdVI;.~qdVVUUUd

B: 2578.6810, Layer 4 to 5 Message = ;.~qd;I;.~qdVI;.~qdV

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: <AEIMQ<Y^bfjnr vz~%)-VUUUd  
B: 2757.3678, Layer 4 to 5 Message = <AEIMQ<Y^bfjnr vz~%)-  
A\_input: Expected ACK.  
A\_output: Sending next message in queue.  
B\_input: Not the expected sequence num. Send NAK.  
B\_input: Not the expected sequence num. Send NAK.  
A timer has been interrupted, A will now resend the packet.  
A\_output: Sending next message in queue.  
B\_input: Packet corrupted. Send NAK.  
B\_input: Not the expected sequence num. Send NAK.  
A timer has been interrupted, A will now resend the packet.  
A\_output: Sending next message in queue.  
B\_input: Packet corrupted. Send NAK.  
A\_input: Packet corrupted. Drop Packet.  
A timer has been interrupted, A will now resend the packet.  
A\_output: Sending next message in queue.  
B\_input: Sending ACK.  
B\_input: Received message: =fi~6Lb=xEZp(=3i~6LbVUUUd  
B: 2925.4956, Layer 4 to 5 Message = =fi~6Lb=xEZp(=3i~6Lb  
A\_input: Expected ACK.  
A\_output: Sending next message in queue.  
A timer has been interrupted, A will now resend the packet.  
A\_output: Sending next message in queue.  
B\_input: Sending ACK.  
B\_input: Received message: dfxV}Gn7>(Ov2g0W~Ho8VUUUd  
B: 2982.2118, Layer 4 to 5 Message = dfxV}Gn7>(Ov2g0W~Ho8  
A\_input: Expected ACK.  
A\_output: Sending next message in queue.



B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: ?xS.gBzU0?D|W2kF~Y4mVUUUd

B: 3121.0636, Layer 4 to 5 Message = ?xS.gBzU0?D|W2kF~Y4m

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: A-wdP<)s`LA%o[H4~kWDVUUUd

B: 3194.2411, Layer 4 to 5 Message = A-wdP<)s`LA%o[H4~kWD

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: B?=>97531x-B)'%#~|zxVUUUd

B: 3286.6729, Layer 4 to 5 Message = B?=>97531x-B)'%#~|zx

Printing the contents of the Simulation Event Q

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q  
Event Time = 3360.686 A: Timer

B\_input: Not the expected sequence num. Send NAK.

Printing the contents of the Simulation Event Q  
Event Time = 3360.686 A: Timer

A\_input: Expected ACK.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q  
Event Time = 3393.659 A: Timer

B\_input: Not the expected sequence num. Send NAK.

Printing the contents of the Simulation Event Q  
Event Time = 3393.659 A: Timer

B\_input: Not the expected sequence num. Send NAK.

Printing the contents of the Simulation Event Q

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q  
Event Time = 3493.659 A: Timer

B\_input: Sending ACK.

B\_input: Received message: CRbq#2BQap!1CP`o~0?OVUUUd  
B: 3450.3373, Layer 4 to 5 Message = CRbq#2BQap!1CP`o~0?O

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: De(Ij-No2St7XD<^~Bc&VUUUd  
B: 3560.1122, Layer 4 to 5 Message = De(Ij-No2St7XD<^~Bc&

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: EwL~S(Zxb6i=pEEL~S(ZVUUUd

B: 3841.0452, Layer 4 to 5 Message = EwL~S(Zxb6i=pEEL~S(Z

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: d,pV<#gM3w^D2nTF~eK1VUUUd

B: 3990.6418, Layer 4 to 5 Message = d,pV<#gM3w^D2nTF~eK1

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: Gf6.&{skcZRJB93)GvnfVUUUd  
B: 4199.9854, Layer 4 to 5 Message = Gf6.&{skcZRJB93)Gvnf

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: HQZdmv!+4=GPYclu~H3<VUUUd  
B: 4263.7244, Layer 4 to 5 Message = HQZdmv!+4=GPYclu~H3<

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: Id~;Vq.Id~;Vq.Id~;IqVUUUd  
B: 4514.4930, Layer 4 to 5 Message = Id~;Vq.Id~;Vq.Id~;Iq

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: JvEq?l:g5b0]+W&R~MyJVUUUd  
B: 4597.5892, Layer 4 to 5 Message = JvEq?l:g5b0]+W&R~MyJ

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: K+iI)gG'eE%cC#aA~\_>|VUUUd  
B: 4732.9256, Layer 4 to 5 Message = K+iI)gG'eE%cC#aA~\_>|

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: LLx~pbSE6(wiZL=x~pbSVUUUd  
B: 4794.8854, Layer 4 to 5 Message = LLx~pbSE6(wiZL=x~pbS

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: dPMVY]`cfilo2ux{~\$'\*VUUUd  
B: 4880.9421, Layer 4 to 5 Message = dPMVY]`cfilo2ux{~\$'\*

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: NcwNCWl#7Lau,AUj~5J\_VUUUd

B: 4985.1816, Layer 4 to 5 Message = NcwNCWl#7Lau,AUj~5J\_

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: Ou=dORxAgxU{Dj2X~Gm5VUUUd

B: 5270.4751, Layer 4 to 5 Message = Ou=dORxAgxU{Dj2X~Gm5

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.



B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: Pfb;sP'\_8pJ\$[53G~X2jVUUUd  
B: 5405.6706, Layer 4 to 5 Message = Pfb;sP'\_8pJ\$[53G~X2j

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: Q<(q]HQ|hS>\*s\_J5~jUAVUUUd  
B: 5482.6592, Layer 4 to 5 Message = Q<(q]HQ|hS>\*s\_J5~jUA

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: ROLIFC?R9630-\*\$~{xuVUUUd  
B: 5736.6451, Layer 4 to 5 Message = ROLIFC?R9630-\*\$~{xu

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: Sbp~x=LZSw(6ESbp~x=LVUUUd  
B: 5810.7706, Layer 4 to 5 Message = Sbp~x=LZSw(6ESbp~x=L

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: dt6Vv8Xx:Tz<2|>\_~Aa#VUUUd  
B: 5895.1451, Layer 4 to 5 Message = dt6Vv8Xx:Tz<2|>\_~Aa#

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: U)Z.`3e8j=UCtHyM~R&WVUUUd  
B: 5972.3156, Layer 4 to 5 Message = U)Z.`3e8j=UCtHyM~R&W

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: V;~dI.qV;~dV.qV;~dI.VUUUd  
B: 6113.7632, Layer 4 to 5 Message = V;~dI.qV;~dV.qV;~dI.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: WNE;2)}tkbXOW<3\*~ulcVUUUd

B: 6350.5687, Layer 4 to 5 Message = WNE;2)}tkbXOW<3\*~ulc

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: Xaiqy\$,4<EMU^Xnv~)19VUUUd

B: 6431.7644, Layer 4 to 5 Message = Xaiqy\$,4<EMU^Xnv~)19

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: YfxIc|8Rl(B[u1Ye~:TnVUUUd  
B: 6810.7218, Layer 4 to 5 Message = YfxIc|8Rl(B[u1Ye~:Tn

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: Z(S~LwEp=i6bxZ(Z~LwEVUUUd  
B: 6878.9922, Layer 4 to 5 Message = Z(S~LwEp=i6bxZ(Z~LwE

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: d:wV5rQ0mL+h2&cB[^<yVUUUd  
B: 7076.1296, Layer 4 to 5 Message = d:wV5rQ0mL+h2&cB[^<y

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: ]M=.|m^N>x}n\_O?0~]`PVUUUd  
B: 7204.0294, Layer 4 to 5 Message = ]M=.|m^N>x}n\_O?0~]`P

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: ^`bdfhjlnprtvxz|~#^'VUUUd  
B: 7284.8811, Layer 4 to 5 Message = ^`bdfhjlnprtvxz|~#^'

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: \_r(;Ocv,?Sgz0DWk~4H\_VUUUd

B: 7430.4960, Layer 4 to 5 Message = \_r(;Ocv,?Sgz0DWk~4H\_

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: `Lq8^%Jo6[#Hm4Y~Fk2VUUUd

B: 7610.3578, Layer 4 to 5 Message = `Lq8^%Jo6[#Hm4Y~Fk2

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: aapI!XlhAwP)`8oH~W0gVUUUd

B: 7700.5705, Layer 4 to 5 Message = aapI!XlhAwP)`8oH~W0g

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: bLb~iS=(pZExwbL6~iS=VUUUd

B: 7789.1558, Layer 4 to 5 Message = bLb~iS=(pZExwbL6~iS=

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: dfZcRNJFB=952-3%~zvrVUUUd

B: 7941.3887, Layer 4 to 5 Message = dfZcRNJFB=952-3%~zvr

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.



B\_input: Received message: dq~.dIVdq~.;IVdq~.;IVUUUd  
B: 8026.5933, Layer 4 to 5 Message = dq~.dIVdq~.;IVdq~.;I

Printing the contents of the Simulation Event Q  
Event Time = 8054.978 A: Timer

A\_input: Expected ACK.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q  
Event Time = 8085.001 A: Timer

B\_input: Not the expected sequence num. Send NAK.

Printing the contents of the Simulation Event Q  
Event Time = 8085.001 A: Timer

B\_input: Not the expected sequence num. Send NAK.

Printing the contents of the Simulation Event Q

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q  
Event Time = 8135.001 A: Timer

B\_input: Packet corrupted. Send NAK.

Printing the contents of the Simulation Event Q  
Event Time = 8135.001 A: Timer

A\_input: Packet corrupted. Drop Packet.

Printing the contents of the Simulation Event Q

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q  
Event Time = 8235.001 A: Timer

B\_input: Sending ACK.

B\_input: Received message: e&Ed%ec\$Cb#Ba!A`~?\_}VUUUd  
B: 8187.0659, Layer 4 to 5 Message = e&Ed%ec\$Cb#Ba!A`~?\_}

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: f8i;l>fBrEuHxK{N~Q\$TVUUUd  
B: 8248.2748, Layer 4 to 5 Message = f8i;l>fBrEuHxK{N~Q\$T

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: gKxqU9{gD(jN2tX<~cG+VUUUd  
B: 8387.4757, Layer 4 to 5 Message = gKxqU9{gD(jN2tX<~cG+

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: h^SI>4\*}hi\_TJ?5+~tj`VUUUd

B: 8456.7894, Layer 4 to 5 Message = h^SI>4\*}hi\_TJ?5+~tj`

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: ipw~(x6=EiSZbipw~(x6VUUUd

B: 8564.3981, Layer 4 to 5 Message = ipw~(x6=EiSZbipw~(x6

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: d%=Vo\*C[txja24Mf~9RkVUUUd  
B: 8691.5925, Layer 4 to 5 Message = d%=Vo\*C[txja24Mf~9Rk

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: k7b.X%OyFp<k3^\*T~KuBVUUUd  
B: 8942.7893, Layer 4 to 5 Message = k7b.X%OyFp<k3^\*T~KuB

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: lf(dB){9uS1ml)3C~}:vVUUUd  
B: 9037.9087, Layer 4 to 5 Message = lf(dB){9uS1ml)3C~}:v

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: m]L;+xhWG6&scmB1~n^MVUUUd  
B: 9170.0838, Layer 4 to 5 Message = m]L;+xhWG6&scmB1~n^M

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: nopqrstuvwxyz{n}~!#\$VUUUd  
B: 9233.2888, Layer 4 to 5 Message = nopqrstuvwxyz{n}~!#\$

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: o\$6I[n#5HZm!4GYo~3FXVUUUd

B: 9370.0560, Layer 4 to 5 Message = o\$6I[n#5HZm!4GYo~3FX

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: p6Z~EixSw=b(Lp6ZpEixVUUUd

B: 9500.7950, Layer 4 to 5 Message = p6Z~EixSw=b(Lp6ZpEix

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: dI~V.d;qI~V.2;qI~q.dVUUUd

B: 9612.8586, Layer 4 to 5 Message = dI~V.d;qI~V.2;qI~q.d

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: r[E.u\_H1xbK4{eN7~hr:VUUUd  
B: 9688.3216, Layer 4 to 5 Message = r[E.u\_H1xbK4{eN7~hr:

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: snid\_YTOJE?:50+&~ytsVUUUd  
B: 9864.2425, Layer 4 to 5 Message = snid\_YTOJE?:50+&~yts

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: t#x;HTamy(4AMYfr~-9FVUUUd

B: 9942.9304, Layer 4 to 5 Message = t#x;HTamy(4AMYfr~-9F

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: uuSqlOm-Ki)Ge%3a~>]zVUUUd

B: 10166.7823, Layer 4 to 5 Message = uuSqlOm-Ki)Ge%3a~>]z

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.



B\_input: Sending ACK.

B\_input: Received message: vHvIxJyKzL{M|N}O~P!QVUUUd

B: 10230.8686, Layer 4 to 5 Message = vHvIxJyKzL{M|N}O~P!Q

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: wZ=wbE(iLxpS6wZ=~bE(VUUUd

B: 10321.5557, Layer 4 to 5 Message = wZ=wbE(iLxpS6wZ=~bE(

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: dmbVx?4){peY2C7,~sh]VUUUd

B: 10483.6479, Layer 4 to 5 Message = dmbVx?4){peY2C7,~sh]

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: y!(.4yAGMSY`flrx~'-3VUUUd

B: 10713.1378, Layer 4 to 5 Message = y!(.4yAGMSY`flrx~'-3

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: z4Ld{5ze|6Nf}7Og~8PhVUUUd

B: 10898.5838, Layer 4 to 5 Message = z4Ld{5ze|6Nf}7Og~8Ph

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: {Gp;e0Y{NwCl7a,U~Js>VUUUd  
B: 11090.1223, Layer 4 to 5 Message = {Gp;e0Y{NwCl7a,U~Js>

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: |Y6qN+fC|Z7rO,gD~[8sVUUUd  
B: 11181.4350, Layer 4 to 5 Message = |Y6qN+fC|Z7rO,gD~[8s

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: }lZI7&raO},xgUD2~m[JVUUUd  
B: 11541.9551, Layer 4 to 5 Message = }lZI7&raO},xgUD2~m[J

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: ~fDUgx,=Oa~&7I3l}1CTVUUUd

B: 11618.6523, Layer 4 to 5 Message = ~fDUgx,=Oa~&7I3l}1CT

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: !3EVhy->Pbs'2J[m~2DUVUUUd

B: 11775.8854, Layer 4 to 5 Message = !3EVhy->Pbs'2J[m~2DU

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: ##i.Qt9]!Eh-Ps8[~Dg,VUUUd

B: 11859.3025, Layer 4 to 5 Message = ##i.Qt9]!Eh-Ps8[~Dg,

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: \$X\$d:oFzQ()3h>sJ~U,aVUUUd

B: 12094.4523, Layer 4 to 5 Message = \$X\$d:oFzQ()3h>sJ~U,a

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: %kS%\$jR:#iQ9!hP8~gO7VUUUd  
B: 12153.9029, Layer 4 to 5 Message = %kS%\$jR:#iQ9!hP8~gO7

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: &}wq&e\_XRLF?93- '~xrlVUUUd  
B: 12337.6747, Layer 4 to 5 Message = &}wq&e\_XRLF?93- '~xrl

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Packet corrupted. Send NAK.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: '2=IT'kv\$x:FQ]hs~,7CVUUUd  
B: 12409.5333, Layer 4 to 5 Message = '2=IT'kv\$x:FQ]hs~,7C

A\_input: Expected ACK.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: (Eb~=Z(6SpXLi(Eb~=ZwVUUUd

B: 12543.0767, Layer 4 to 5 Message = (Eb~=Z(6SpXLi(Eb~=Zw

Printing the contents of the Simulation Event Q

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q

Event Time = 12632.118 A: Timer

B\_input: Not the expected sequence num. Send NAK.

Printing the contents of the Simulation Event Q

Event Time = 12632.118 A: Timer

A\_input: Expected ACK.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q

Event Time = 12645.606 A: Timer

B\_input: Not the expected sequence num. Send NAK.

Printing the contents of the Simulation Event Q

Event Time = 12645.606 A: Timer

B\_input: Not the expected sequence num. Send NAK.

Printing the contents of the Simulation Event Q

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q



A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

Printing the contents of the Simulation Event Q  
Event Time = 12795.606 A: Timer

B\_input: Sending ACK.

B\_input: Received message: dW(V'U&)%S\$R2Q!P~O}NVUUUd  
B: 12756.0532, Layer 4 to 5 Message = dW(V'U&)%S\$R2Q!P~O}N

A\_input: Packet corrupted. Drop Packet.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A\_input: Expected ACK.

A\_output: Sending next message in queue.

B\_input: Not the expected sequence num. Send NAK.

A timer has been interrupted, A will now resend the packet.

A\_output: Sending next message in queue.

B\_input: Sending ACK.

B\_input: Received message: \*fL.nP2r\*6vX:z3>~aC%VUUUd  
B: 12894.5948, Layer 4 to 5 Message = \*fL.nP2r\*6vX:z3>~aC%

Simulator terminated at time 12896.228266  
after receiving 100 msgs at layer5

Simulator Analysis:

Number of messages sent from 5 to 4: 104  
Number of messages received at Layer 5, side A: 0  
Number of messages received at Layer 5, side B: 100  
Number of messages incorrectly received at layer 5: 0  
Number of packets entering the network: 551  
Average number of packets already in network: 0.004  
Number of packets that the network lost: 110  
Number of packets that the network corrupted: 83  
Number of packets that the network put out of order: 70