Lab 9

# Summary

In this lab we learned the implementation of the Go-Back-N ARQ protocol. Instead of using the traditional ‘timeout’ function to see when to re-transmit packets, we used ACKs and NAKs to figure out when to re-transmit. Another thing I notcies was that the string length must be at least 6, that is 3 packets with 2 letters in each. The reason is that we set our N to be 3.

# Exercise

After running the program 6 times with BER values:

0.001, 0.002, 0.005, 0.01, 0.02 and 0.05

Graphing Average **number of transmissions** per data packet vs **BER values**





Above shows screenshot of sender and receiver. For BER of 0.05, the number of corrupted packages were too many to count manually, so I used regex.

We see that total number of corrupted packages are 381. Therefore, the average will be: 381/13 = 29.31

A table with numbers and letters

Description automatically generated

A graph with a line going up

Description automatically generated

From this graph we observe that the graph is exponential. As the BER increases the average re-transmission also increases. We see that when BER was 0.001, there were 0 re-transmissions totally. When BER was 0.05, there were 381 re-transmissions totally.