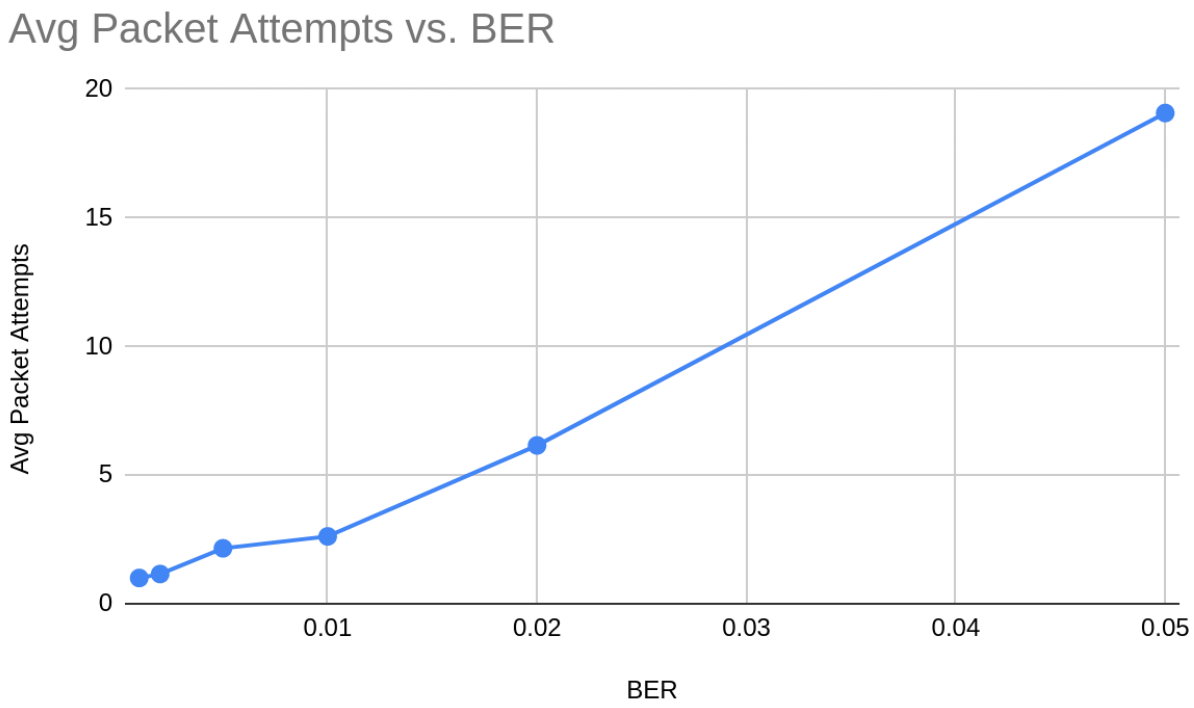
Exercises:

Run your program five times with each of the following BER values: 0.001, 0.002, 0.005, 0.01, 0.02, 0.05, and graph the average number of transmission attempts per data packet for each BER value. Summarize your observations.



For the most part, it looks like the average number of packet attempts increases linearly with the BER. The first test with a BER of .001 had no errors, sending only 13 packets for the alphabet, whereas the last test sent 248 packets. They had average attempts of 1 and 19.076, respectively.

What We Learned:

From this lab, we learned how to implement the sender side of a Go-Back-3 ARQ protocol for transmitting information. To do so, we sent our initial 3 packets and waited to get an ACK or NAK response from the receiver. An ACK moves our packet window forward, and we send what hasn't been sent before. Whereas a NAK moves the window forward, but we send the entire window again. On top of this, we learned how much a small chance of error can have on the number of packets that needs to be sent, as seen above.