BE-IT 2nd Year 2nd Semester

Assignments: Error Control & Flow Control

1. Implement the Simplest Protocol in C/C++ for sender-site DLL and receiver-site DLL with the following the following elementary functionalities:

   WaitForEvent(), GetData(), MakeFrame(), SendFrame(), ReceiveFrame(), ExtractData(), DeliverData()

2. Implement Stop-n-wait protocol in C/C++ by considering:

   a. Channel is noiseless
   b. Channel is noisy (hint: introduce probability of damaging/losing the frame in transit)

3. Implement Go-back-n based sliding window protocol in C/C++ by considering the followings:

   a. DLL communications are Non-NACK based
   b. DLL communications are NACK based
   c. DLL communications are Piggybacked based (i.e.. bi-directional communication)

4. Write a program in C/C++ with suitable functions to implement Selective-repeat based sliding window protocol by considering the followings:

   a. DLL communications are Non-NACK based
   b. DLL communications are NACK based
   c. DLL communications are Piggybacked based

5. Suppose there is a provision to let the sender know about the condition of the receiver's buffer (i.e., buffer size is 1 or 2^{m-1}) by using a framing bit along with ACK. Write an optimized sliding window protocol in C/C++ to improve performance of the DLL communication systems