Lab Experiment 05 (Even Group)

CSE 2213- Data and Telecommunications Lab

Implementation of Go-Back-N ARQ Mechanism

**Problem Description**

Part 01: This experiment implements a flow control and error control mechanisms at the data link layer, Go-Back-N ARQ mechanism. Consider,

* Sender window size: 8 (sequence numbers 0, 1, 2, 3, … , 15).
* In the sender program, data will read from a small text file (1 KB) and produce 8-byte frames.
* Sender program will start a timer for each sent-frame so that it can handle *timeout-based retransmissions*.
* Receiver window size: 1
* Receiver program will probabilistically (e.g. Perror<0.5) drop some frames.
* Receiver program should send *Cumulative Acknowledgement* to the sender. Receiver will maintain a timer from start time. On time-expiration will send one acknowledgement for all the packets received on that time interval.

PART 2: In this part, the receiver program probabilistically (e.g. Perror<0.5) accepts a frame with or without error. If the receiver program accepts a frame with error, it will send back a negative acknowledgement with the sequence number of the expected frame to the sender and discards the frame; otherwise, it will send back an acknowledgment with the expected sequence number and reproduce the content of the sent file.

Resources:

* Please refer to your textbook (pages 361 onwards) for details.
* <https://www.youtube.com/watch?v=ZLtkhsgQp8U>