61. Go back N ARQ

The outcomes of this lecture are –

1. Understanding the work of Go Back N ARQ.
2. Implementing the flow control Go Back N ARQ.

Go Back N ARQ-

* Here the N stands for the length of the Window size.
* The Sender can send N number of bits to the receiver without expecting an acknowledgement.
* There are a finite number of frames and the frames are arranged in a sequential manner.
* The number of frames that can be sent depends upon the window size of the sender.
* If the acknowledgement is not received by the Sender upon the discussed time period, all the frames in the current window are transmitted.
* The sequence number of the frame is also decided by the Sender of the frames.
* For example, if the sending window size is 4 (2^2), then the sequence numbers will be, 0,1,2,3,0,1,2,3,0,1 and so on.
* The number of bits in the sequence number is 2 to generate the binary sequence 00,01,10,11.

The working of Go Back N ARQ-

* The data frames are aligned in a sequential manner sent by the sender.
* 10 9 8 7 6 5 4 3 2 1
* The Window is from 1 to 4.
* The process starts just as same as the Sliding window protocol.
* The N number of frames is sent first and waits till the acknowledgement of each frame.
* In the process, if the sender receives the first frame back, the next frame is sent to the receiver, that is, 5.
* Thus, the window is slid to the current unacknowledged frames sent.
* Thus the current window is from 2 to 5.
* When the acknowledgement of 2 is received, a new frame is pushed i.e. 6.
* Similarly, according to the process, when the acknowledgement of 3 is received, a new frame is pushed i.e. 7.
* Thus the current window is from 3 to 7.
* During the transmission, if the frame is lost or the acknowledgement is lost, the Go Back N ARQ sends all the frames in the current sliding window i.e. 3 to 7.
* The already send frames are replaced with the same but retransmitted frames.

