

Practical-7

AIM: Write a program to implement flow control at data link layer using **SLIDING WINDOW PROTOCOL**. Simulate the flow of frames from one node to another.

Program should achieve at least below given requirements. You can make it a bidirectional program wherein receiver is sending its data frames with acknowledgement (Piggybacking).

Create a sender program with following features:-

1. Input Window size from the user.
2. Input a Text message from the user.
3. Consider 1 character per frame.
4. Create a frame with following fields [Frame no., DATA].
5. Send the frames. [Print the output on screen and save it in a file called Sender_Buffer.]
6. Wait for the acknowledgement from the Receiver. [Induce delay in the program]
7. Read a file called Receiver_Buffer.
8. Check ACK field for the Acknowledgement number.
9. If the Acknowledgement number is as expected, send new set of frames accordingly, [overwrite the Sender_Buffer file with new frames] Else if NACK is received, resend the frames accordingly. [Overwrite the Sender_Buffer with old frame].

Create a receiver file with following features

1. Read a file called Sender_Buffer.
2. Check the Frame no.
3. If the Frame no. are as expected, write the appropriate ACK no. in the Receiver_Buffer file. Else write NACK no. in the Receiver_Buffer file.

NOTE: Induce error and verify the behaviour of the program. Manually Change the Frame no and Ack no in the files].

Student observation:

Write the code here:

Input:

Output: