Computer Networks Lab Assignment-7

(Implementation of stop and wait protocol using C or C++)

1. Test cases for stop and wait protocol

Assumptions:

1. If the receiver does not acknowledge within 3 seconds, resend the data.
2. Waiting time of retransmitted data is zero.

Test Case 1: (Successful transmission)

Input:

- Enter the number of frames to be transmitted: 5
- Enter data to send: [89, 45, 81, 22, 66]
- Enter the waiting time for an acknowledgement to data: [2, 1, 0, 0, 1]

Output:

Frame_No	Data	Sent	Waiting Time (Sec)	Acknowledged	Resent
1	89	Yes	1, 2	Yes	No
2	45	Yes	1	Yes	No
3	81	Yes	0	Yes	No
4	22	Yes	0	Yes	No
5	66	Yes	1	Yes	No

The total number of frames that need to be transmitted is 5

Test Case 2: (Timeout and retransmission)

Input:

- Enter the number of frames to be transmitted: 8
- Enter data to send: [62, 35, 58, 41, 22, 92, 14, 81]
- Enter the waiting time for an acknowledgement to data: [2, 3, 0, 0, 2, 1, 0, 1]

Output:

Frame_No	Data	Sent	Waiting_Time (Sec)	Acknowledged	Resent
1	62	Yes	1, 2	Yes	No
2	35	Yes	1, 2, 3	No	Yes
2	35	Yes	0	Yes	No
3	58	Yes	0	Yes	No
4	41	Yes	0	Yes	No
5	22	Yes	1,2	Yes	No
6	92	Yes	1	Yes	No
7	14	Yes	0	Yes	No
8	81	Yes	1	Yes	No

The total number of frames that need to be transmitted is 9