write a program to implement flow control at data link layer using SLIDING WINDOW PROTOCOL, simulate the How of travers trom one node to another.

Program Should dehieur at least below given requirements. You can make it a biolisectionar program where in measure is sending its data transes with defoowledgement.

Create a sender program with tollowing feactures:

- 1. Input Window Size from User
 - 2. Input a text massage from the user
- 3- Consider 1 character per traina
 - 4. Create a frame with tollowing fields I frame no outs
- S. Send the transes.
 - Wait for acknowledgement from believer
 - reader a file called because butter
 - 8. Check Ack field to, Acknowledgement number.
 - 9. It debroatedgement number is cus expected, send may set of towners accordingly.

Create a measures tile with following 1. Reader a tile carred sender butter 2 check the France no 3- 8st the frame no are as expected. Receiver - Botter file. Else covite NACK no. in the section butter tile. Student Observation: import rondom as which is the det send-traines (Window Stale, messege); france = Ly Sent Homes no Jay Sent for char in message: frame_no + = 1 Sent frames = 0 While Sent-trames Llen (frames); Sender = butter = Open ('sender-Butter.

tor i in range (winebox_size). it sent-tours +1= len (tours) Sender - butter . write (+ "trans {transer(sent_ trames + i JLOJJ: Eframes Lsent. Frames + iJ L(J)\n'3

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Point ( to sending trans Etranses Lisent transes,
                  i J LOJ): [fromas [seat-fromas + 2] LOJ "
      Sender botter. Clasel)
      thra. Sleep (2)
     charle ack ( sent toarns, traines, Window Sie)
     Sent-trans t- Wirdow - Size
    det check-ack (sent - trances, trans, wirdow sizes.
     seaires -bother - Open l'Reainer - Butter - tot! 100 ack lines = meainer - butter. seadlines ()
         bearies - buffer. close () 400 100 100
      Ocles=Lint Cline. Strip (). Spl+() LiJ) to line io
        for i in range (window - size). ack-lines
        if sent-focuses + ; 2 len (focusas).
         expected-ack: trans Lsent trans +iJLoJ
          if expected rack inactes:
   Print (fr Ack Expected -ack) record. ~)
            Print (4" Nack Expected-only received.

Reserving - ...
       resent-teamer tent-teamer ti, trainers)
exapt Filenot tound Error.
        Print ( or Reasurer - Butter - tot not bound, waiting to, acknowledgement ...")
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det resend-trans(index, frances); Sender-butter-Open ('Sender-Butter. Let: 1w1) Serder - buffer . Write (+ " France [frames Linder][a]]; Strano Linder LIJI In') Sender_ butter. close () det reade trames (). Ery: balance alour Sender butter = Open (Sender - Butter- tot! 4) frames: Seader-butter. recollines () Sender-butter. close() receiver-butter. Close() meainer - butter = open (Receiver - Butter tot) for frame in trainer: w') frame no = int (frame. Split CIFIJ. Stripling if ocuration. Choice ([True, false]): Print (" In frame Etrama not received successfully of receiver - butter. Write (f" ACK E + ours - no 3 In") Print (+" firsor detected in Frame [frame-no].
reainer_buffer. Write (Sending NACK,")
reainer_buffer. Write (+"NACK (frame noly) time sleep (1) reciver-butter. Close () except File Not Found Error: Print ("Seroler-Butter tat for Seroler or 17 mode == 151.1 x1 tox fectives: 9. locusty Window - Size = int (input (" Enter Window massage = input ("Enter Message:")

Send-trames (Window - size, message) est made == (x1:) and - which whole While True : 1) show while who decine + xarras () () Elma, sleep (5) else. clet breeze strapasily. Print ("Envaled mode Sciented. Please choose (S'tor sendes or (r' too Receiver.") Osmos xaplad - xapas = somet contes, butter, closed Those can program to implement How control of data link kager com SLIDING WINDOW Protocal how Leen Sercessfully executed. Chapara greate 200 may 2" and 3" + ") 7 422 section. Edter Linke (1º Part Home 1903 1/2) Prote (+a force) State of the Come rolly occasions ally occasions ally occasions ally recises, butter Cherco exapt the Not Found from Bint (Esember 6 when the todor sample or

17 male = 2 (21 1 / 100 Recive)