

Alm: Write a program to implement flow Contral at data line layer using subing window project.

Simulate the flow of frames from one node to another.

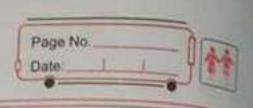
break a Sender program with following features:

- #7 Input Window size from the user
- I I Triput a text message from the user
- 27 Consider I character per frame
- 47 Create a forame with following fields
- 51 Send the frames
- I Wait for the acknowledgement from the receiver.
- D Reader a file called Receiver Bugger
- 8] check note field for the Adenoulodgement number,
- 9) If acknowledgment number is expected, send new Set of frames accordingly, esse if numer is succeeded, steeledged, steeledged,

Broate a vieceiner file with following features

- I Reader a file called Sender buffer
- of check the Frame no.
- 3) If the fame no- are as expected with the appropriate Ack no in the Receiver-Buffer file.

 Fire write NACK no. in the Receiver-Buffer file.



Sonder By:
import time
import 0s

def Sender Cwindow size message):
Sender buffer = "Sonder Buffer test"

treceiver buffer = "Receiver buffer test"

frame no = 0

frames = CC i, message (i) for) in starge Clen Comercage (ii)

while frame no clen Cframes 2:

for i in mange Cruindaw Siza):

if frame no + i = Len Cframes :

print Cf "Serving frame: Eframes Cframe notis"

with spen Csender buffer, 'a') as f:

furite Cf "Eframes Cframe no + 17 Colly

Eframe Cframe no + 17 Colly

time sleeps 1)

tubile thue:

if os ipath - baiste (receiver - buffer):

with open Creceiver buffer 'r') as f:

ack no = in + Cf. read () strup ()

as remove (receiver buffer)

break

frame_no : frame_no :

print Cf " Ack received for frame: & ack ney"

frame_no = ack no + +

else:

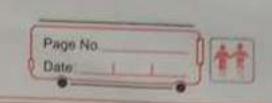
print (f" mack tracetred for frame: I frame now)

If name = "main."

window size = int cinput ("Enter window size")

message = input c" Enter message:")

Sender Oswindow size, message;



Impart time

def receives co:

Sonder buffer = "Sonder buffer txt"

Traceiver buffer = "traceiver buffer txt"

corported frame no = 0

cubile True:

if as park exists C Sondan buffer s:

with apan C Sendan buffer, 'r's as f:

lines = f. stead lines cs

os stema us C Sendan buffer)

for line in lines:

frame = line stripe = split ()

frame no = lnt (frame COI)

data = frame CII

If frame no == expected - frame no:

print Cf "received frame: I frame - not, data : Edak
with open (succiuen buffen, 'W') as f:

f. writes Str Cframe - no)

expected - frame no t = 1

Print of "unexpected frame aframe no".

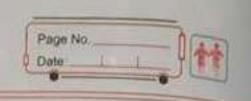
expected expected frame no".

with open creceiver buffer, "w" as f:

frame of content expected frame no - ±0.

553

oreceiver ()



output:

Enter the window size: 3

Sender Sending frames from position & to 3

Frame I: 'c' Sent

Frame 2: 'a' Sent

Frame 3: 't' sent

Receiver: Acknowledgement recogned from frame & Sonder: Sending frames from position o to &

Frame 2: 'a' sent

Receiver! Acknowledgement succeived from frame 2 Senden! Sending frames from position 8 to 3

Frame 5: 't' Sont

Receives! Acknowledgement steering for frame 3

All frames Dent Successfully

Result Thus the stiding window protocol is encouted and Varified.