## SLIDING WINDOW PROTOCO)

was all was a last ale . Leur of real said of more

Alm:

white a program to implement flow contract data link layer using school wilndow.

PROTOCOL. Shundate the flow of frames
from one node to another.

(1+11) spent by 1 m)

Commental for

PROGRAM CODE: Sender by Limport Os

dy weak frames (mersage):

frames = [] \*
for 1, chax in enumerate (message):
frames append (i Frame\_No;

det sender (window-size, message): sender\_buffer = "sender\_Buffer-toct" receiver-buffer = "Receiver-Buffer. toct" frame-no = 0

frames = [[7, mersage [i]] for i in rainge lient nues age)]

while frame no < len (frames);

for i in sange (window size):

of frame no +i < len (frames):

print (f' sending frame: { & frames

Efrance no + i } 3 " 3

with open (sender-buffer, 'a') as f:
f. write (f'& frames [frame\_no+i][0]3

```
{ frames [frame -no+i] [i] \n")
     time step () house, stong to p
while True:
  if os. nath. excists (receiver buffer).
    with open (rewron buffer, 'r') as f.
      ack_no=int (f. seade). strip ())
    os remove (seviver-buffer)
   break is smarted & in the comment
if ack-no > = frame-nois sures = 1926
  paint (f "ACK received for frame: gark-nog")
frame -no = ack -no+1"
paint (f'NACK received for frame of frame no?)
  resending " )
4 _ name = = main_ 1 da) selver of
  windowsize = int (input ("Enter windowsize"))
  message = Eupoud ("Enter message")
  sender (window_size, message)
Receiver : py and revision I mayor At in
import os - smort bates quest obs 1 a fire of
det receiver ():
   sender-buffer = "sender-Buffer.txt"
   receiver-buffer = "Receiver-Buffer, txt"
    expected-frame_no=0
```

3 08. path. excist (sender-buffer): while bue: with open (sender-buffer . 'r') as f lines = f. acadlines () 08. semore (sender-buffer) for time in lines: frame a time. strip (). split () frame-no = int (frame [0]) data = frame [1]. of frame-no == expected-frame-no. print (f' Received frame: 2 frame- no 3, data: Edata j') with open ( receiver buffer, 'w') as of: f. write (str (frame\_no)) expected feame no + =1 else: menage of lapud ("Enter m parit (f Vnexpected frame: Eframe-noz, data: {data } 1) with open (sereiver-buffer, 'w') as f: f. write [str [expected-frame\_no\_1]) receivere). receives buffer e Receiver Buffer. txt.

conjusted frame no =

Enter window size: 5 Enter mersage: hello sending frame: [b, "h"] sonding frame: [1, 'e'] sending frame: [2,1] sending frame: [5, 11] sending frame: [4, '0'] NACK received for frame: 0, according sending frame: [b, 'h] rending frame: [01,10] sending frame: [2,119] sending france: [6, 1']
sending france: [4, '0'] NACK received for france: 0, resembling. sending frame: [0, h!] sonding frame: [1, 'e'] sending frame: [2,11] sending fearne: [3, 1] ACK saceived for frame: 4 Unexperted frame : 2, experted:0 Unexpected frame: 2, expected:0 Vrenjected frame: 3, expected:0 RESULT Thus, the sliding Window protocol program is studied and observed.