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**EXPERIMENT: 30**

**AIM:** To implement sliding window protocol using JAVA programming.

**PROGRAM:**

**// SENDER PROGRAM**

import java.net.\*; import java.io.\*; import java.rmi.\*; public class slidsender

{public static void main(String a[])throws Exception

{ServerSocket ser=new ServerSocket(10); Socket s=ser.accept();

DataInputStream in=new DataInputStream(System.in); DataInputStream in1=new DataInputStream(s.getInputStream()); String sbuff[]=new String[8];

PrintStream p;

int sptr=0,sws=8,nf,ano,i; String ch;

do

{p=new PrintStream(s.getOutputStream()); System.out.print("Enter the no. of frames : "); nf=Integer.parseInt(in.readLine()); p.println(nf);

if(nf<=sws-1)

{System.out.println("Enter "+nf+" Messages to be send\n"); for(i=1;i<=nf;i++)

{ sbuff[sptr]=in.readLine(); p.println(sbuff[sptr]); sptr=++sptr%8; }

sws-=nf;

System.out.print("Acknowledgment received"); ano=Integer.parseInt(in1.readLine()); System.out.println(" for "+ano+" frames"); sws+=nf; }

else

{ System.out.println("The no. of frames exceeds window size"); break; }

System.out.print("\nDo you wants to send some more frames : "); ch=in.readLine(); p.println(ch); }

while(ch.equals("yes"));

s.close(); } }

**//RECEIVER PROGRAM**

import java.net.\*; import java.io.\*; class slidreceiver

{ public static void main(String a[])throws Exception

{ Socket s=new Socket(InetAddress.getLocalHost(),10); DataInputStream in=new DataInputStream(s.getInputStream()); PrintStream p=new PrintStream(s.getOutputStream());

int i=0,rptr=-1,nf,rws=8; String rbuf[]=new String[8]; String ch; System.out.println(); do

{ nf=Integer.parseInt(in.readLine()); if(nf<=rws-1)

{ for(i=1;i<=nf;i++)

{ rptr=++rptr%8; rbuf[rptr]=in.readLine();

System.out.println("The received Frame " +rptr+" is : "+rbuf[rptr]); } rws-=nf;

System.out.println("\nAcknowledgment sent\n"); p.println(rptr+1); rws+=nf; }

else break;

ch=in.readLine(); } while(ch.equals("yes")); } }

**OUTPUT:**

**//SENDER OUTPUT**

Enter the no. of frames : 4 Enter 4 Messages to be send hiii

how r u i am fine

how is everyone

Acknowledgment received for 4 frames

Do you wants to send some more frames : no

**//RECEIVER OUTPUT**

The received Frame 0 is : hiii The received Frame 1 is : how r u

The received Frame 2 is : i am fine

The received Frame 3 is : how is everyone Acknowledgment sent

**RESULT:** Therefore sliding window protocol has been successfully executed using JAVA programming.