/\*\*\*\*\* Assignment sliding window go back N\*\*\*\*\*/

//Client

import java.io.\*;

import java.net.\*;

import java.math.\*;

import java.util.\*;

class testclient

{

public static void main(String args[])throws IOException

{

InetAddress addr=InetAddress.getByName("Localhost");

System.out.println(addr);

Socket connection=new Socket(addr,5000);

BufferedInputStream in=new BufferedInputStream(connection.getInputStream());

DataOutputStream out=new DataOutputStream(connection.getOutputStream());

Scanner scr=new Scanner(System.in);// this will be used to accept i/p from console

System.out.println(" client is Connected to server" + addr);

System.out.println("Enter the number of frames to be requested to the server");

int c=scr.nextInt();

out.write(c); // write no of frames on client socket

out.flush();

System.out.println("Enter the type of trans. Error=1 ; No Error=0");

int choice=scr.nextInt();

out.write(choice); //write choice on socket

int check=0;

int i=0;

int j=0;

if(choice==0)

{

for(j=0;j<c;++j)

{

i=in.read(); //read all frames one by one from server

System.out.println("received frame no: "+i);

System.out.println("Sending acknowledgement for frame no: "+i);

out.write(i); //write ack to socket

out.flush();

}

out.flush();

}

else

{

for(j=0;j<c;++j)

{

i=in.read(); //read 0,1,2,3 frame

if(i==check)

{

System.out.println("received frame no: "+i);

System.out.println("Sending acknowledgement for frame no: "+i);

out.write(i); //sent ack of frame 0,1

++check;

}

else

{

--j;

System.out.println("Discarded frame no: "+i);

System.out.println("Sending NEGATIVE ack");

out.write(-1);

}

out.flush();

}

}//end of else for error

in.close();

out.close();

System.out.println("Quiting");

}// end of main method

}// end of main cla

/\*\*\*\*\* Assignment sliding window go back N \*\*\*\*\*/

//server

import java.io.\*;

import java.net.\*;

import java.util.\*;

class testserver

{

public static void main(String args[])throws IOException

{

System.out.println("server Waiting for connection....");

InetAddress addr=InetAddress.getByName("Localhost");

ServerSocket ss=new ServerSocket(5000);

Socket client=new Socket();

client=ss.accept();

BufferedInputStream in=new BufferedInputStream(client.getInputStream());

DataOutputStream out=new DataOutputStream(client.getOutputStream());

System.out.println("Received request for sending frames");

int p=in.read(); //read no of frames sent by client

boolean f[]=new boolean[p];

int pc=in.read(); //read choice sent by client

System.out.println("Sending....");

if(pc==0)

{

for(int i=0;i<p;++i)

{

System.out.println("sending frame number "+i);

out.write(i); //send frame on server socket

out.flush();

System.out.println("Waiting for acknowledgement");

try

{

Thread.sleep(7000);

}

catch(Exception e){}

int a=in.read(); //read ack on servers socket from client

System.out.println("received acknowledgement for frame "+i+" as "+a);

}

out.flush();

}

else

{

for(int i=0;i<p;++i)

{

if(i==2)

{

System.out.println("sending frame no "+i); //sent frame 2

}

else

{

System.out.println("sending frame no "+i);

out.write(i); //write 0 and 1 and 3 frame

out.flush();

System.out.println("Waiting for acknowledgement ");

try

{

Thread.sleep(7000);

}

catch(Exception e){}

int a=in.read(); //Read NACK

if(a!=255)

{

System.out.println("received ack for frame no: "+i+" as "+a);

f[i]=true;

}

}// end of inner else

}// end of for

// check which frames have not been ack

for(int a=0;a<p;++a)

{

if(f[a]==false)

{

System.out.println("Resending frame "+a);

out.write(a);

out.flush();

System.out.println("Waiting for ack ");

try

{

Thread.sleep(5000);

}

catch(Exception e){}

int b=in.read();

System.out.println("received ack for frame no: "+a+" as "+b);

f[a]=true;

}

}

out.flush();

}// end of else which is for error

in.close();

out.close();

client.close();

ss.close();

System.out.println("Quiting");

}// end main method

}// end main class

