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CLASS : TE (B) COMP
ROLL NO : 39055

Problem Statement:

Write a program to simulate Go back N and Selective Repeat Modes of Sliding Window Protocol in peer to peer mode and demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode.

1)CLIENT SIDE:-

CODE:

```
package com.company;

import java.lang.System;
import java.net.*;
import java.io.*;

public class Client {
    static Socket connection;

    public static void main(String a[]) throws SocketException {
        try {
            int v[] = new int[9];
            //int g[] = new int[8];
            int n = 0;
            InetAddress addr = InetAddress.getByName("localhost");
            System.out.println(addr);
            connection = new Socket(addr, 1401);
            DataOutputStream out = new DataOutputStream(
                connection.getOutputStream());
            DataInputStream in = new DataInputStream(
                connection.getInputStream());
            int p = in.read();
            System.out.println("No of frame is: " + p);

            for (int i = 0; i < p; i++) {
                v[i] = in.read();
                System.out.println(v[i]);
                //g[i] = v[i];
            }
            v[5] = -1;
            for (int i = 0; i < p; i++)
            {
                System.out.println("Received frame is: " + v[i]);

            }
            for (int i = 0; i < p; i++)
            if (v[i] == -1) {
                System.out.println("Request to retransmit packet no "
                    + (i+1) + " again!!");
                n = i;
                out.write(n);
                out.flush();
            }
        }
    }
}
```

```

        System.out.println();

        v[n] = in.read();
        System.out.println("Received frame is: " + v[n]);

        System.out.println("Quiting");
    } catch (Exception e) {
        System.out.println(e);
    }
}
}
}

```

OUTPUT:

Localhost/127.0.0.1

No of frame is:9

30

40

50

60

70

80

90

100

110

Received frame is: 30

Received frame is: 40

Received frame is: 50

Received frame is: 60

Received frame is: 70

Received frame is: -1

Received frame is: 90

Received frame is: 100

Received frame is: 110

Request to retransmit packet no 6 again!!

Received frame is: 80

Quiting

Process finished with exit code 0

2)SERVER SIDE:-

CODE:

```

package com.company;

```

```

import java.io.DataInputStream;
import java.io.DataOutputStream;
import java.io.IOException;
import java.net.ServerSocket;
import java.net.Socket;
import java.net.SocketException;

public class Server {
    static ServerSocket Serversocket;
    static DataInputStream dis;
    static DataOutputStream dos;

    public static void main(String[] args) throws SocketException {

        try {
            int a[] = { 30, 40, 50, 60, 70, 80, 90, 100, 110 };
            Serversocket = new ServerSocket(1401);
            System.out.println("Waiting for connection");
            Socket client = Serversocket.accept();
            dis = new DataInputStream(client.getInputStream());
            dos = new DataOutputStream(client.getOutputStream());
            System.out.println("The number of packets sent is:" + a.length);
            int y = a.length;
            dos.write(y);
            dos.flush();

            for (int i = 0; i < a.length; i++) {
                dos.write(a[i]);
                dos.flush();
            }

            int k = dis.read();

            dos.write(a[k]);
            dos.flush();

        } catch (IOException e) {
            System.out.println(e);
        } finally {
            try {
                dis.close();
                dos.close();
            } catch (IOException e) {
                // TODO Auto-generated catch block
                e.printStackTrace();
            }
        }
    }
}

```

OUTPUT:

Waiting for connection

The number of packets sent is:9

Process finished with exit code 0