EX.NO. 6B: SIMULATING RARP PROTOCOL

PROGRAM:

Server,java:

import java.io.\*;

import java.net.\*;

class Server {

public static void main(String args[]) {

try {

// Create a server socket on port 3000

ServerSocket obj = new ServerSocket(3000);

System.out.println("Server started, waiting for client...");

// Accept the incoming client connection

Socket obj1 = obj.accept();

System.out.println("Client connected.");

// BufferedReader to read from client input stream

BufferedReader din = new BufferedReader(new InputStreamReader(obj1.getInputStream()));

 DataOutputStream dout = new DataOutputStream(obj1.getOutputStream());

// Define IP and MAC address pairs

String[] ip = {"165.165.80.80", "165.165.79.1"};

String[] mac = {"6A:08:AA:C2", "8A:BC:E3:FA"};

while (true) {

                // Read the MAC address from the client

                String str = din.readLine();

                if (str == null) {

                    break;  // Exit the loop if input is null (e.g., client disconnects)

                }

                boolean found = false;

                // Look for the corresponding IP address for the given MAC

                for (int i = 0; i < mac.length; i++) {

                    if (str.equals(mac[i])) {

                        dout.writeBytes(ip[i] + '\n');

                        found = true;

                        break;

                    }

                }

                if (!found) {

                    dout.writeBytes("IP not found\n");

                }

            }

            // Close the connection

            obj1.close();

            obj.close();

        } catch (Exception e) {

            System.out.println(e);

        }

    }

}

Client,java:

import java.io.\*;

import java.net.\*;

class Client {

    public static void main(String args[]) {

        try {

            BufferedReader in = new BufferedReader(new InputStreamReader(System.in));

            // Create a socket to connect to the server

            Socket clsct = new Socket("127.0.0.1", 3000);

            // BufferedReader to read from the server's input stream

            BufferedReader din = new BufferedReader(new

InputStreamReader(clsct.getInputStream()));

            // DataOutputStream to write to the server's output stream

            DataOutputStream dout = new DataOutputStream(clsct.getOutputStream());

            // Prompt user to enter the MAC address

            System.out.println("Enter the Physical Address (MAC):");

            String str1 = in.readLine();  // Read user input

// Send the MAC address to the server

dout.writeBytes(str1 + '\n');

// Read the server's response

String str = din.readLine();

System.out.println("The Logical address is (IP): " + str);

// Close the connection

clsct.close();

} catch (Exception e) {

System.out.println(e);

}

}

}

OUTPUT:



