Q) Write two java programs one as a client and the other as a server and use TCPIP connection to communicate between them.

**Algorithm:**

|  |  |
| --- | --- |
| **Client:**  **Step 1:** A message is taken as input from the User  **Step 2:** Socket is created for connecting with the server using the IP Address and a Port  **Step 3:** The Socket object is used to get the Output Stream and along with the help of the Data Output Stream class.  **Step 4:** The input is converted in the byte format and sent to the Server.  **Step 11:** The inputs from the server is received using BufferedReader. | **Server:**  **Step 5:** The server creates the socket connecting with the Client in the same port.  **Step 6:** The socket is used to accept the data packet in the form of bytes.  **Step 7:** The data from the Client in converted from bytes to readable format  **Step 8:** Prints the received message.  **Step 9:** A text is appended with the received message and is converted to Output Stream with the help of the Data Output Stream Class.  **Step 10:**  The text is converted to byte format and sent back to the Client. |

**Code:**

*Server:*

import java.io.\*;

import java.net.\*;

public class TCPServer

{

public static void main(String args[])

{

try

{

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

ServerSocket ss=new ServerSocket(8082);

while(true)

{

Socket s=ss.accept();

BufferedReader br=new BufferedReader(new InputStreamReader(s.getInputStream()));

String received=br.readLine();

System.out.println("Received this Message=> "+received);

String n="Received this Message '"+received+"'\n";

DataOutputStream dos=new DataOutputStream(s.getOutputStream());

dos.writeBytes(n);

System.out.println("Message sent back");

s.close();

}

}

catch(Exception e)

{

System.out.println(e);

}

}

}

*Client:*

import java.io.\*;

import java.net.\*;

public class TCPClient

{

public static void main(String args[])

{

try

{

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

System.out.println("Enter the Message\n");

String sentence=br.readLine();

Socket s=new Socket("LocalHost",8082);

DataOutputStream dos=new DataOutputStream(s.getOutputStream());

dos.writeBytes(sentence+"\n");

System.out.println("Sending this Message=> "+sentence);

BufferedReader br1=new BufferedReader(new InputStreamReader(s.getInputStream()));

String received=br1.readLine();

System.out.println("Received Message=> "+received);

s.close();

}

catch(Exception e)

{

System.out.println(e);

}

}

}

**Output:**

