Q) Write 3 java programs one as a multicasting server and the other two as a client and use UDP connection to communicate between them.

**Algorithm:**

|  |  |
| --- | --- |
| **Server:**  **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 Input Stream and along with the help of the Input Stream Reader class.  **Step 4:** The input is converted in the byte format and sent to the Clients. | **Client:**  **Step 5:** The server creates the socket connecting with the multicasting ip address and 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. |

**Code:**

*Server:*

import java.io.\*;

import java.net.\*;

public class Multicasting\_Server

{

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

{

InetAddress IP=InetAddress.getByName("226.0.0.3");

DatagramSocket ds=new DatagramSocket();

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

System.out.println("Enter");

String sentence=br.readLine();

DatagramPacket dp=new DatagramPacket(sentence.getBytes(),sentence.getBytes().length,IP,8080);

ds.send(dp);

}

}

*Client A:*

import java.io.\*;

import java.net.\*;

public class Multicasting\_ClientA

{

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

{

InetAddress IP=InetAddress.getByName("226.0.0.3");

byte receiveData[]=new byte[1024];

MulticastSocket ms=new MulticastSocket(8080);

ms.joinGroup(IP);

while(true)

{

DatagramPacket dp=new DatagramPacket(receiveData,receiveData.length);

ms.receive(dp);

String msg=new String(dp.getData());

System.out.println("Client 1 receives this message => "+msg);

}

}

}

*Client B:*

import java.io.\*;

import java.net.\*;

public class Multicasting\_ClientA

{

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

{

InetAddress IP=InetAddress.getByName("226.0.0.3");

byte receiveData[]=new byte[1024];

MulticastSocket ms=new MulticastSocket(8080);

ms.joinGroup(IP);

while(true)

{

DatagramPacket dp=new DatagramPacket(receiveData,receiveData.length);

ms.receive(dp);

String msg=new String(dp.getData());

System.out.println("Client 2 receives this message => "+msg);

}

}

}

**Output:**

