**Name: Janhavy Bhalerao**

**Roll No: 14**

**DS Assignment No: 8**

**Title: To develop any distributed application through implementing client-server communication programs based on Java Sockets.**

**Codes**

**Filename: MyServer.java**

import java.net.\*;

import java.io.\*;

public class MyServer {

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

//Creating a port for communication

ServerSocket ss = new ServerSocket(5555);

System.out.println("Server Initiated, Waiting for Client to Connect...");

//Binding Client and Server on port 5555

Socket s = ss.accept();

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

//Reading input from KeyBoard

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

//OutputStream object to write to clients

OutputStream ostream = s.getOutputStream();

//PrintWriter object to send the data to the outputstream

PrintWriter pw = new PrintWriter(ostream,true);

//InputStream objects to recieve from Client

InputStream istream = s.getInputStream();

//Reading receieved message from client

BufferedReader recieve = new BufferedReader(new InputStreamReader(istream));

//Client Message and Server Message objects

String servermessage = "";

String clientmessage = "";

while(true)

{

//Read the inputstream of the client from the socket

clientmessage = recieve.readLine();

System.out.println("Client: "+clientmessage);

//if the message is bye end the communication here

if(clientmessage.equals("bye"))

{

break;

}

//Server writing its message

System.out.print("Server: ");

servermessage = br.readLine();

//print writer object sending the message to the socket through outputstream

pw.println(servermessage);

if(servermessage.equals("bye"))

{

break;

}

}

//closing all the streams and sockets

s.close();

ss.close();

istream.close();

ostream.close();

System.out.println("Connection Terminated");

}

}

**Filename: MyClient.java**

import java.net.\*;

import java.io.\*;

public class MyClient {

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

//The socket object takes ip and port number of the server which client wants to connect

Socket s = new Socket("127.0.0.1",5555);

System.out.println("Connected to Server, Please type your message and hit Enter to send");

//Reading input from KeyBoard

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

//OutputStream object to write to Server

OutputStream ostream = s.getOutputStream();

//PrintWriter object to send the data to the outputstream

PrintWriter pw = new PrintWriter(ostream, true);

//InputStream objects to recieve from Server

InputStream istream = s.getInputStream();

//Reading receieved message from Server

BufferedReader recieve = new BufferedReader(new InputStreamReader(istream));

//Client Message and Server Message objects

String clientmessage = "";

String servermessage = "";

while(true)

{

//Input Message to be sent to Server

System.out.print("Client: ");

clientmessage = br.readLine();

//print writer object sending the message to the socket through outputstream

pw.println(clientmessage);

//if the message is bye end the communication here

if(clientmessage.equals("bye"))

{

break;

}

//Read the inputstream of the server from the socket

servermessage = recieve.readLine();

System.out.println("Server: "+servermessage);

//if the message is bye end the communication here

if(servermessage.equals("bye"))

{

break;

}

}

//closing all the streams and sockets

s.close();

istream.close();

ostream.close();

System.out.println("Connection Terminated");

}

}

**Output**

**CommandPrompt1: MyServer.java**

C:\Users\student>cd C:\Users\student\LP-V\_Program\1.Socket  
  
C:\Users\student\LP-V\_Program\1.Socket>javac MyServer.java  
  
C:\Users\student\LP-V\_Program\1.Socket>java MyServer  
Server Initiated, Waiting for Client to Connect...  
Client Connected  
Client: hi  
Server: hello  
Client: how are you?  
Server: i am fine  
Client: bye  
Connection Terminated  
  
C:\Users\student\LP-V\_Program\1.Socket>

**CommandPrompt2: MyClient.java**

Microsoft Windows [Version 6.3.9600]  
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C:\Users\student>cd C:\Users\student\LP-V\_Program\1.Socket  
  
C:\Users\student\LP-V\_Program\1.Socket>javac MyClient.java  
  
C:\Users\student\LP-V\_Program\1.Socket>java MyClient  
Connected to Server, Please type your message and hit Enter to send  
Client: hi  
Server: hello  
Client: how are you?  
Server: i am fine  
Client: bye  
Connection Terminated  
  
C:\Users\student\LP-V\_Program\1.Socket>