# AIM: IMPLEMENTING CLIENT/SERVER APPLICATIONS

## Server.java

import java.io.\*;

import java.net.\*;

public class Server {

public static void main(String[] args) {

    int serverPort = 6969;

    ServerSocket serverSocket = null;

    ObjectOutputStream toClient = null;

    ObjectInputStream fromClient = null;

    try {

      serverSocket = new ServerSocket(serverPort);

      while(true) {

        Socket socket = serverSocket.accept();

        System.out.println("Just connected to " +

          socket.getRemoteSocketAddress());

        toClient = new ObjectOutputStream(

          new BufferedOutputStream(socket.getOutputStream()));

        fromClient = new ObjectInputStream(

          new BufferedInputStream(socket.getInputStream()));

        Message msgRequest = (Message) fromClient.readObject();

        int number = msgRequest.getNumber();

        toClient.writeObject(new Message(number\*number));

        toClient.flush();

      }

    }

    catch(IOException e) {

      e.printStackTrace();

      System.exit(1);

    }

    catch(ClassNotFoundException e) {

      e.printStackTrace();

      System.exit(1);

    }

}

}

## Client.java

import java.io.\*;

import java.net.\*;

public class Client {

public static void main(String[] args) {

    int serverPort = 6969;

    Socket socket = null;

    ObjectOutputStream toServer = null;

    ObjectInputStream fromServer = null;

    try {

      if(args.length != 1) {

        System.out.println("Need minimum 1 argument");

        System.exit(1);

      }

      int number = Integer.parseInt(args[0]);

      InetAddress serverHost = InetAddress.getByName("localhost");

      System.out.println("Connecting to server on port " + serverPort);

      socket = new Socket(serverHost,serverPort);

      System.out.println("Just connected to " + socket.getRemoteSocketAddress());

      toServer = new ObjectOutputStream(new BufferedOutputStream(socket.getOutputStream()));

      Message msgToSend = new Message(number);

      toServer.writeObject(msgToSend);

      toServer.flush();

      fromServer = new ObjectInputStream(new BufferedInputStream(socket.getInputStream()));

      Message msgFromReply = (Message) fromServer.readObject();

      System.out.println(number + " \* " + number + " = " + msgFromReply.getNumber());

    }

    catch(IOException e) {

      e.printStackTrace();

      System.exit(1);

    }

    catch(ClassNotFoundException e) {

      e.printStackTrace();

      System.exit(1);

    }

    finally {

      if(socket != null) {

        try {

          socket.close();

        }

        catch(IOException e) {

          e.printStackTrace();

        }

      }

    }

  }

}

## Message.java

import java.io.\*;

public final class Message implements Serializable {

  private int number;

  Message(int number) {

    this.number = number;

  }

  public int getNumber() { return this.number; }

}

## Execution

