**LAB 9**

Question 1. To study Client – Server based programming using RPC.

Answer.

**Server.java**

import java.io.\*;

import java.net.\*;

public class Server {

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

        ServerSocket sersock = new ServerSocket(3000);

        System.out.println("Server ready");

        Socket sock = sersock.accept();

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

        OutputStream ostream = sock.getOutputStream();

        PrintWriter pwrite = new PrintWriter(ostream, true);

        InputStream istream = sock.getInputStream();

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

        String receiveMessage, sendMessage, fun;

        int a, b, c;

        while (true) {

            fun = receiveRead.readLine();

            if (fun != null)

                System.out.println("Operation: " + fun);

            a = Integer.parseInt(receiveRead.readLine());

            System.out.println("Parameter 1: " + a);

            b = Integer.parseInt(receiveRead.readLine());

            if (fun.compareTo("add") == 0) {

                c = a + b;

                System.out.println("Addition = " + c);

                pwrite.println("Addition = " + c);

            }

            if (fun.compareTo("sub") == 0) {

                c = a - b;

                System.out.println("Subtraction = " + c);

                pwrite.println("Subtraction = " + c);

            }

            if (fun.compareTo("mul") == 0) {

                c = a \* b;

                System.out.println("Multiplication = " + c);

                pwrite.println("Multiplication = " + c);

            }

            if (fun.compareTo("div") == 0) {

                c = a / b;

                System.out.println("Division = " + c);

                pwrite.println("Division = " + c);

            }

            System.out.flush();

        }

    }

}

**Client.java**

import java.io.\*;

import java.net.\*;

public class Client {

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

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

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

        OutputStream ostream = sock.getOutputStream();

        PrintWriter pwrite = new PrintWriter(ostream, true);

        InputStream istream = sock.getInputStream();

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

        System.out.println("Client ready, type and press Enter key");

        String receiveMessage, sendMessage, temp;

        while (true) {

            System.out.println("\nEnter operation to perform(add, sub, mul, div)... ");

            temp = keyRead.readLine();

            sendMessage = temp.toLowerCase();

            pwrite.println(sendMessage);

            System.out.println("Enter first parameter: ");

            sendMessage = keyRead.readLine();

            pwrite.println(sendMessage);

            System.out.println("Enter second parameter: ");

            sendMessage = keyRead.readLine();

            pwrite.println(sendMessage);

            System.out.flush();

            if ((receiveMessage = receiveRead.readLine()) != null) {

                System.out.println(receiveMessage);

            }

        }

    }

}

OUTPUT:-

