Practical No.: 2.1

Aim: Implement a Server calculator containing ADD(),MUL(),SUB() & DIV() using RPC

File → New Project → Java Application →Project Name: Server → Finish

Source Code:

Server.java

```
package server;

import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.io.OutputStream;
import java.io.PrintWriter;
import java.net.ServerSocket;
import java.net.Socket;

/**
 *
 * @author TechnoBoy
 */
public class Server {

    public static void main(String[] args) throws IOException {
        ServerSocket ss=new ServerSocket(4000);
        System.out.println("Server Ready!!!");

        Socket sock=ss.accept();
        System.out.println("Client Connected");

        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, sendMessge, op;
int a,b,c;
while(true)
{
   op=receiveRead.readLine();
   System.out.println("Operation : "+op);
   a=Integer.parseInt(receiveRead.readLine());
   System.out.println("Parameter 1 : "+a);
   b=Integer.parseInt(receiveRead.readLine());
   System.out.println("Parameter 1 : "+b);

   if(op.compareTo("add")==0)
   {
      c=a+b;
      System.out.println("Addition = "+c);
      pwrite.println("Addition = "+c);
   }
   else if(op.compareTo("sub")==0)
   {
      c=a-b;
      System.out.println("Substraction = "+c);
      pwrite.println("Substraction = "+c);
   }
   else if(op.compareTo("mul")==0)
   {
      c=a*b;
      System.out.println("Multiplication = "+c);
      pwrite.println("Multiplication = "+c);
```

```
        }
        else if(op.compareTo("div")==0)
        {
           c=a/b;
           System.out.println("Division = "+c);
           pwrite.println("Division = "+c);
        }
        System.out.flush();
     }
  }

}
```

Client

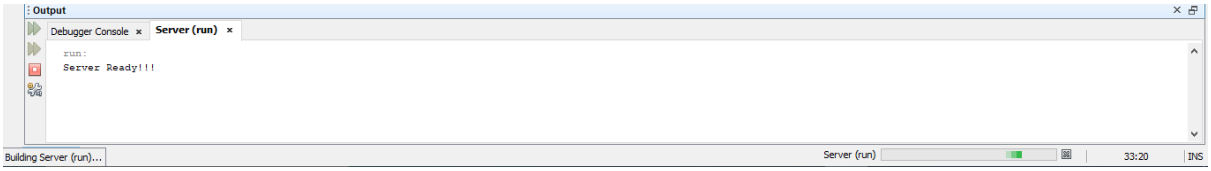
Right Click on Project → New → Java Class-> Class Name: *Client*→ package : *Server*→ Finish

```
package server;

import java.io.BufferedReader;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.io.OutputStream;
import java.io.PrintWriter;
import java.net.Socket;

/**
 *
 * @author TechnoBoy
 */
public class Client
{
 public static void main(String[] args) throws Exception
 {
  Socket sock = new Socket("127.0.0.1", 4000);
```

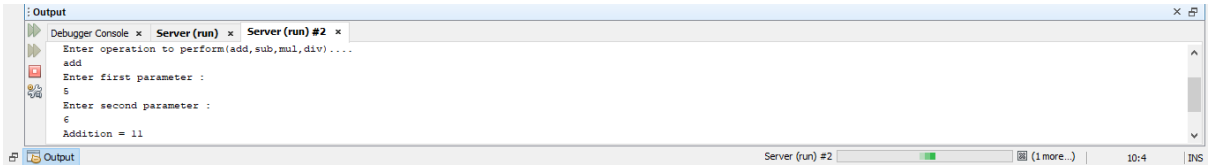
```
 BufferedReader keyRead = new BufferedReader(new InputStreamReader(System.in));
 OutputStream ostream = sock.getOutputStream();
 PrintWriter pwrite = new PrintWriter(ostream, true);
 InputStream istream = sock.getInputStream();
 BufferedReader receiveRead = new BufferedReader(new InputStreamReader(istream));
 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

Run → Server



Run → Client



After Execution → Server