**Experiment No – 2**

**Title: Implement a program of RMI using remote procedure call (RPC) in java.**

**1. Calculator.java**

import java.rmi.Remote;

import java.rmi.RemoteException;

public interface Calculator extends Remote

{

int add(int a, int b) throws RemoteException;

int subtract(int a, int b) throws RemoteException;

int Multiplication(int a, int b) throws RemoteException;

int Division(int a, int b) throws RemoteException;

}

**2. CalculatorImpl.java**

import java.rmi.RemoteException;

import java.rmi.server.UnicastRemoteObject;

public class CalculatorImpl extends UnicastRemoteObject implements Calculator {

protected CalculatorImpl() throws RemoteException {

super();

}

@Override

public int add(int a, int b) throws RemoteException {

return a + b;

}

@Override

public int subtract(int a, int b) throws RemoteException {

return a - b;

}

@Override

public int Multiplication(int a, int b) throws RemoteException{

return a\*b;

}

@Override

public int Division(int a, int b) throws RemoteException{

return a/b;

}

}

**3. CalculatorServer.java**

import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

public class CalculatorServer {

public static void main(String[] args) {

try {

Calculator calculator = new CalculatorImpl();

Registry registry = LocateRegistry.createRegistry(1099);

registry.rebind("CalculatorService", calculator);

System.out.println("Server is running...");

} catch (Exception e) {

System.err.println("Server exception: " + e.toString());

e.printStackTrace();

}

}

}

**4. CalculatorClient.java**

import java.rmi.registry.LocateRegistry;

import java.rmi.registry.Registry;

public class CalculatorClient {

public static void main(String[] args) {

try {

Registry registry = LocateRegistry.getRegistry("localhost");

Calculator calculator = (Calculator) registry.lookup("CalculatorService");

int sum = calculator.add(5, 3);

int difference = calculator.subtract(10, 4);

int Mult = calculator.Multiplication(5, 4);

int div = calculator.Division(8,4);

System.out.println("Sum: " + sum);

System.out.println("Difference: " + difference);

System.out.println("Multiply: " + Mult);

System.out.println("Division: " + div);

} catch (Exception e) {

System.err.println("Client exception: " + e.toString());

e.printStackTrace();

}

} }

**OUTPUT :**

