Remote Method Invocation (RMI)

Interface – Calculator:-

```java
import java.rmi.Remote;
import java.rmi.RemoteException;
public interface Calculator extends Remote
{
    public int add(int x, int y) throws RemoteException;
    public int sub(int x, int y) throws RemoteException;
    public int mul(int x, int y) throws RemoteException;
    public int div(int x, int y) throws RemoteException;
    public int mod(int x, int y) throws RemoteException;
}
```

Server Class:-

```java
import java.rmi.RemoteException;
import java.rmi.registry.LocateRegistry;
import java.rmi.registry.Registry;
import java.rmi.server.UnicastRemoteObject;

public class Server extends UnicastRemoteObject implements Calculator
{
    public Server() throws RemoteException
    {
        super();
    }
    public int add( int x, int y) throws RemoteException
    {
        return x+y;
    }
    public int sub( int x, int y) throws RemoteException
    {
        return x-y;
    }
    public int mul( int x, int y) throws RemoteException
    {
        return x*y;
    }
    public int div( int x, int y) throws RemoteException
    {
        return x/y;
    }
    public int mod( int x, int y) throws RemoteException
    {
        return x%y;
    }
```
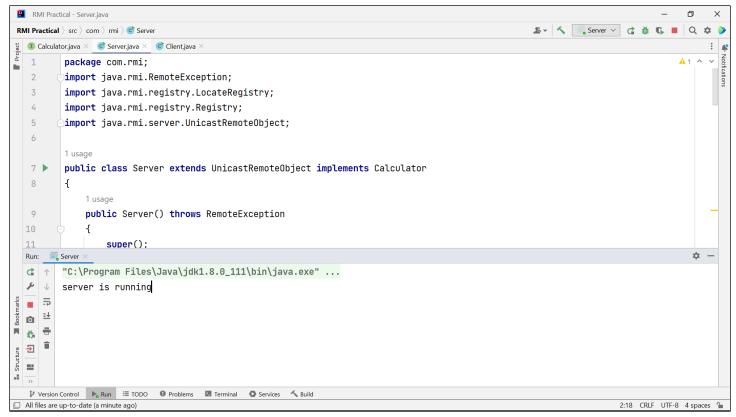
```
    public static void main(String args[])throws RemoteException
    {
        Registry reg = LocateRegistry.createRegistry(1011);
        reg.rebind("server",new Server());
        System.out.println("server is running");
    }
}
```
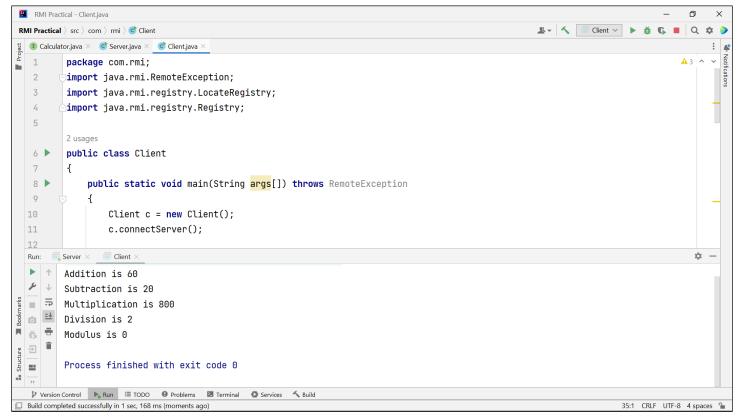
Client Class:-

```
import java.rmi.RemoteException;
import java.rmi.registry.LocateRegistry;
import java.rmi.registry.Registry;

public class Client
{
    public static void main(String args[]) throws RemoteException
    {
        Client c = new Client();
        c.connectServer();
    }
    private void connectServer()
    {
        try
        {
            Registry reg = LocateRegistry.getRegistry("localhost",1011);
            Calculator c = (Calculator) reg.lookup("server");
            int a=40,b=20;
            System.out.println("Addition is "+c.add(a,b));
            System.out.println("Subtraction is "+c.sub(a,b));
            System.out.println("Multiplication is "+c.mul(a,b));
            System.out.println("Division is "+c.div(a,b));
            System.out.println("Modulus is "+c.mod(a,b));
        }
        catch (Exception e)
        {
            System.out.println(e);
        }
    }
}
```

Output:-

```
Addition is 60

Subtraction is 20

Multiplication is 800

Division is 2

Modulus is 0
```

Execution of Server Class(Skeleton)

Execution of Client Class(Stub)