

NETWORK PROGRAMMING LAB
LAB 1 – RMI FOR ARITHMETIC OPERATIONS

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Server.java

```
import java.rmi.*;
import java.rmi.registry.*;
public class Server
{
    public static void main(String[] args)
    {
        try
        {
            Calculator stub = new CalculatorImpl();
            Naming.rebind("rmi://localhost:5000/calculate", stub);
        } catch (Exception e)
        {
            System.out.println(e.toString());
        }
    }
}
```

Client.java

```
import java.rmi.*;
public class Client
{
    public static void main(String[] args)
    {
        int x = 200, y = 25;
```

```

try
{
    Calculator stub = (Calculator) Naming.lookup("rmi://localhost:5000/calculate");

    System.out.println("x = " + x + " | y = " + y);
    System.out.println("x + y: " + stub.add(x, y));
    System.out.println("x - y: " + stub.subtract(x, y));
    System.out.println("x * y: " + stub.multiply(x, y));
    System.out.println("x / y: " + stub.divide(x, y));
}
catch (Exception e)
{
    System.out.println(e.toString());
}
}
}

```

Calculator.java

```

import java.rmi.*;

public interface Calculator extends Remote
{
    int add(int x,int y) throws RemoteException;
    int subtract(int x,int y) throws RemoteException;
    int multiply(int x,int y) throws RemoteException;
    int divide(int x, int y) throws RemoteException;
}

```

CalculatorImpl.java

```

import java.rmi.*;
import java.rmi.server.*;

public class CalculatorImpl extends UnicastRemoteObject implements Calculator

```

```
{  
    public CalculatorImpl() throws RemoteException  
    {  
        super();  
    }  
    public int add(int x, int y)  
    {  
        return x + y;  
    }  
    public int subtract(int x, int y)  
    {  
        return x - y;  
    }  
    public int multiply(int x, int y)  
    {  
        return x * y;  
    }  
    public int divide(int x, int y)  
    {  
        if(y != 0)  
        {  
            return x / y;  
        }  
        else  
        {  
            return -1;  
        }  
    }  
}
```

OUTPUT-

❯ Select Command Prompt - rmiregistry 5000

```
Microsoft Windows [Version 10.0.19042.1237]
(c) Microsoft Corporation. All rights reserved.
```

```
C:\Users\Sreenidhi>cd Desktop
```

```
C:\Users\Sreenidhi\Desktop>javac Server.java
```

```
C:\Users\Sreenidhi\Desktop>rmiregistry 5000
```

❯ Command Prompt - java Server

```
Microsoft Windows [Version 10.0.19042.1237]
(c) Microsoft Corporation. All rights reserved.
```

```
C:\Users\Sreenidhi>cd Desktop
```

```
C:\Users\Sreenidhi\Desktop>java Server
```

❯ Command Prompt

```
Microsoft Windows [Version 10.0.19042.1237]
(c) Microsoft Corporation. All rights reserved.
```

```
C:\Users\Sreenidhi>cd Desktop
```

```
C:\Users\Sreenidhi\Desktop>javac Client.java
```

```
C:\Users\Sreenidhi\Desktop>java Client
```

```
x = 200 | y = 25
```

```
x + y: 225
```

```
x - y: 175
```

```
x * y: 5000
```

```
x / y: 8
```

```
C:\Users\Sreenidhi\Desktop>
```