

```

// Calc.idl
module CalcApp
{
interface Calc
{
exception DivisionByZero {};

float sum(in float a, in float b);

float div(in float a, in float b) raises (DivisionByZero);

float mul(in float a, in float b);

float sub(in float a, in float b);

};

};

//CalcServer.java
import CalcApp.*;

import CalcApp.CalcPackage.DivisionByZero;

import org.omg.CosNaming.*;

import org.omg.CosNaming.NamingContextPackage.*;

import org.omg.CORBA.*;

import org.omg.PortableServer.*;

import java.util.Properties;

class CalcImpl extends CalcPOA {

@Override

public float sum(float a, float b) {

return a + b;

}

@Override

public float div(float a, float b) throws DivisionByZero {

if (b == 0) {

throw new CalcApp.CalcPackage.DivisionByZero();

} else {

return a / b;

}

}

}

```

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}
}

@Override
public float mul(float a, float b) {
    return a * b;
}

@Override
public float sub(float a, float b) {
    return a - b;
}

private ORB orb;

public void setORB(ORB orb_val) {
    orb = orb_val;
}

}

public class CalcServer {
    public static void main(String args[]) {
        try {
            ORB orb = ORB.init(args, null);

            POA rootpoa = POAHelper.narrow(orb.resolve_initial_references("RootPOA"));
            rootpoa.the_POAManager().activate();

            CalcImpl helloImpl = new CalcImpl();
            helloImpl.setORB(orb);

            org.omg.CORBA.Object ref = rootpoa.servant_to_reference(helloImpl);
            Calc href = CalcHelper.narrow(ref);

            org.omg.CORBA.Object objRef = orb.resolve_initial_references("NameService");
            NamingContextExt ncRef = NamingContextExtHelper.narrow(objRef);

            String name = "Calc";

            NameComponent path[] = ncRef.to_name(name);
            ncRef.rebind(path, href);

            System.out.println("Ready..");
        }
    }
}

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orb.run();
} catch (Exception e) {
System.err.println("ERROR: " + e);
e.printStackTrace(System.out);
}
System.out.println("Exiting ...");
}
}

//CalcClient.java

import java.io.BufferedReader;

import java.io.IOException;

import java.io.InputStreamReader;

import CalcApp.*;

import CalcApp.CalcPackage.DivisionByZero;

import org.omg.CosNaming.*;

import org.omg.CosNaming.NamingContextPackage.*;

import org.omg.CORBA.*;

import static java.lang.System.out;

public class CalcClient {

static Calc calcImpl;

static BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

public static void main(String args[]) {

try {

ORB orb = ORB.init(args, null);

org.omg.CORBA.Object objRef = orb.resolve_initial_references("NameService");

NamingContextExt ncRef = NamingContextExtHelper.narrow(objRef);

String name = "Calc";

calcImpl = CalcHelper.narrow(ncRef.resolve_str(name));

System.out.println(calcImpl);

while (true) {

out.println("1. Sum");

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out.println("2. Sub");
out.println("3. Mul");
out.println("4. Div");
out.println("5. exit");
out.println("--");
out.println("choice: ");
try {
    String opt = br.readLine();
    if (opt.equals("5")) {
        break;
    } else if (opt.equals("1")) {
        out.println("a+b= " + calcImpl.sum(getFloat("a"), getFloat("b")));
    } else if (opt.equals("2")) {
        out.println("a-b= " + calcImpl.sub(getFloat("a"), getFloat("b")));
    } else if (opt.equals("3")) {
        out.println("a*b= " + calcImpl.mul(getFloat("a"), getFloat("b")));
    } else if (opt.equals("4")) {
        try {
            out.println("a/b= " + calcImpl.div(getFloat("a"), getFloat("b")));
        } catch (DivisionByZero de) {
            out.println("Division by zero!!!");
        }
    }
} catch (Exception e) {
    out.println("===");
    out.println("Error with numbers");
    out.println("===");
}
out.println("");
}
} catch (Exception e) {
```

```
System.out.println("ERROR : " + e);
e.printStackTrace(System.out);
}
}

static float getFloat(String number) throws Exception {
    out.print(number + ": ");
    return Float.parseFloat(br.readLine());
}
}
```

COMMANDS:

Practical 2

Terminal 1

```
idlj -fall Calc.idl
```

```
javac *.java CalcApp/*.java
```

```
orbd -ORBInitialPort 1050&
```

Terminal 2

```
javac CalcServer.java
```

```
java CalcServer -ORBInitialPort 1050&
```

Ready....

Terminal 3

```
javac CalcClient.java
```

```
java CalcClient -ORBInitialPort 1050
```