Assignment 3

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Problem statement - To develop any distributed application with CORBA program using JAVA IDL.

.
CODE -

Sum.idl

```
module SumApp
{
        interface Sum
        {
                exception DivisionByZero {};

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

SumServer.java

```java
import SumApp.*;
import SumApp.SumPackage.DivisionByZero;

import org.omg.CosNaming.*;
import org.omg.CosNaming.NamingContextPackage.*;
import org.omg.CORBA.*;
import org.omg.PortableServer.*;

import java.util.Properties;

class SumImpl extends SumPOA {

    @Override
    public float sum(float a, float b) {
        return a + b;
    }

    private ORB orb;
```

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

public class SumServer {

    public static void main(String args[]) {
        try {
            // create and initialize the ORB
            ORB orb = ORB.init(args, null);

            // get reference to rootpoa & activate the POAManager
            POA rootpoa =
POAHelper.narrow(orb.resolve_initial_references("RootPOA"));
            rootpoa.the_POAManager().activate();

            // create servant and register it with the ORB
            SumImpl sumImpl = new SumImpl();
            sumImpl.setORB(orb);

            // get object reference from the servant
            org.omg.CORBA.Object ref =
rootpoa.servant_to_reference(sumImpl);
            Sum href = SumHelper.narrow(ref);

            // get the root naming context
            // NameService invokes the name service
            org.omg.CORBA.Object objRef =
orb.resolve_initial_references("NameService");
            // Use NamingContextExt which is part of the Interoperable
            // Naming Service (INS) specification.
            NamingContextExt ncRef =
NamingContextExtHelper.narrow(objRef);

            // bind the Object Reference in Naming
            String name = "Sum";
            NameComponent path[] = ncRef.to_name(name);
```

```java
            ncRef.rebind(path, href);

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

            // wait for invocations from clients
            orb.run();
        } catch (Exception e) {
            System.err.println("ERROR: " + e);
            e.printStackTrace(System.out);
        }

        System.out.println("Exiting ...");

    }
}
```

SumClient.java -

```java
import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;

import SumApp.*;
import SumApp.SumPackage.DivisionByZero;

import org.omg.CosNaming.*;
import org.omg.CosNaming.NamingContextPackage.*;
import org.omg.CORBA.*;
import static java.lang.System.out;

public class SumClient {

    static Sum SumImpl;
    static BufferedReader br = new BufferedReader(new
```

```java
InputStreamReader(System.in));

    public static void main(String args[]) {

        try {
            // create and initialize the ORB
            ORB orb = ORB.init(args, null);

            // get the root naming context
            org.omg.CORBA.Object objRef =
orb.resolve_initial_references("NameService");
            // Use NamingContextExt instead of NamingContext. This is
            // part of the Interoperable naming Service.
            NamingContextExt ncRef =
NamingContextExtHelper.narrow(objRef);

            // resolve the Object Reference in Naming
            String name = "Sum";
            SumImpl = SumHelper.narrow(ncRef.resolve_str(name));

//          System.out.println(SumImpl);


            try {
                    out.println("a+b= " + SumImpl.sum(getFloat("a"),
getFloat("b")));
            } catch (Exception e) {
                out.println("===");
                out.println("Error with numbers");
                out.println("===");
            }
            out.println("");


            //SumImpl.shutdown();
        } catch (Exception e) {
            System.out.println("ERROR : " + e);
            e.printStackTrace(System.out);
        }
```
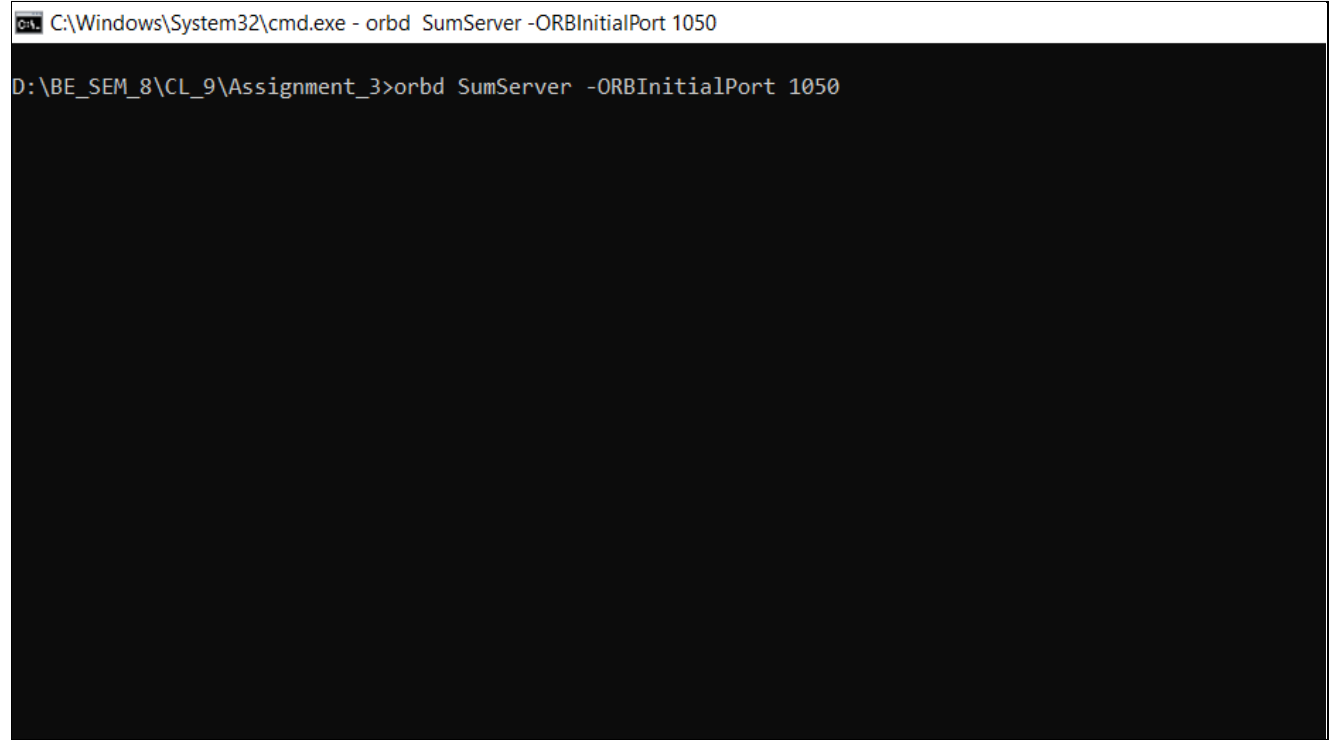
```
    }

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

OUTPUT -

D:\BE_SEM_8\CL_9\Assignment_3>orbd SumServer -ORBInitialPort 1050

```
D:\BE_SEM_8\CL_9\Assignment_3>java SumServer -ORBInitialPort 1050 -ORBInitialHost localhost
Ready..
```

```
Microsoft Windows [Version 10.0.19042.985]
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D:\BE_SEM_8\CL_9\Assignment_3>java SumClient -ORBInitialPort 1050 -ORBInitialHost localhost
a: 25
b: 546
a+b= 571.0


D:\BE_SEM_8\CL_9\Assignment_3>
```