Code:

1. ReverseClient.java

```java
import ReverseModule.*;
import org.omg.CosNaming.*;
import org.omg.CosNaming.NamingContextPackage.*;
import org.omg.CORBA.*;
import java.io.*;

class ReverseClient
{
    public static void main(String args[]){
        Reverse ReverseImpl=null;
        try {
            // Initialize the ORB
            org.omg.CORBA.ORB orb=org.omg.CORBA.ORB.init(args,null);
            org.omg.CORBA.Object objRef = orb.resolve_initial_references("NameService");
            NamingContextExt ncRef=NamingContextExtHelper.narrow(objRef);
            String name = "Reverse";
            ReverseImpl=ReverseHelper.narrow(ncRef.resolve_str(name));
            System.out.println("Enter String=");
            BufferedReader br= new BufferedReader(new InputStreamReader(System.in));
            String str= br.readLine();
            String tempStr= ReverseImpl.reverse_string(str);
            System.out.println(tempStr);
        } catch(Exception e) {
            e.printStackTrace();
        }
    }
}
```

2. ReverseModule.idl

```
module ReverseModule
{
    interface Reverse

    {
        string reverse_string(in string str);

    };
};
```

3. ReverseServer.java

```java
J ReverseServer.java > ...
1    import org.omg.CosNaming.NamingContextPackage.*;
2    import org.omg.CORBA.*;
3    import org.omg.PortableServer.*;
4    import ReverseModule.Reverse;
5    import org.omg.CosNaming.NamingContextExt;
6    import org.omg.CosNaming.NamingContextExtHelper;
7    import org.omg.CosNaming.NameComponent;
8
9    class ReverseServer
10   {
         Run | Debug
11       public static void main(String[] args){
12           try{
13               // Initialize the ORB
14               org.omg.CORBA.ORB orb=org.omg.CORBA.ORB.init(args,null);
15               // initialize the BOA/POA
16               POA rootPOA=POAHelper.narrow(orb.resolve_initial_references("RootPOA"));
17               rootPOA.the_POAManager().activate();
18               // creating the calculator object
19               ReverseImpl rvr=new ReverseImpl();
20               // get the object reference from the servant class
21               org.omg.CORBA.Object ref=rootPOA.servant_to_reference(rvr);
22               System.out.println("Step1");
23               Reverse h_ref=ReverseModule.ReverseHelper.narrow(ref);
24               System.out.println("Step2");
25               org.omg.CORBA.Object objRef=orb.resolve_initial_references("NameService");
26               System.out.println("Step3");
27               NamingContextExt ncRef=NamingContextExtHelper.narrow(objRef);
28               System.out.println("Step4");
29               String name = "Reverse";
30               NameComponent path[]=ncRef.to_name(name);
31               ncRef.rebind(path,h_ref);
32               System.out.println("Reverse Server reading and watting....");
33               orb.run();
34           } catch (Exception e){
35           e.printStackTrace();
36           }
37       }
38   }
```

4. ReverseImpl.java

```java
import ReverseModule.ReversePOA;
import java.lang.String;
class ReverseImpl extends ReversePOA
{
    ReverseImpl() {
        super();
        System.out.println("Reverse object Created");
    }
    public String reverse_string(String name)
    {
        StringBuffer str = new StringBuffer(name);
        str.reverse();
        return (("server Send"+str));
    }
}
```

Output:

1. IDL compilation using idlj

```
varadmash@varadmash-G3-3590: ~/LP5_lab/Assignment2

:~/LP5_lab/Assignment2$ ls
corba-api-5.0.1      ReverseImpl.java   ReverseModule.idl
ReverseClient.java   ReverseModule      ReverseServer.java
:~/LP5_lab/Assignment2$ idlj -fall ReverseModule.idl
:~/LP5_lab/Assignment2$ javac *.java ReverseModule/*.java
Note: ReverseModule/ReversePOA.java uses unchecked or unsafe operations.
Note: Recompile with -Xlint:unchecked for details.
```

2. ORB Server start on port 8000


```
varadmash@varadmash-G3-3590: ~/LP5_lab/Assignment2
:~/LP5_lab/Assignment2$ orbd -ORBInitialPort 8000
```

3. Start Server


```
varadmash@varadmash-G3-3590: ~/LP5_lab/Assignment2
:~/LP5_lab/Assignment2$ java ReverseServer -ORBInitialPort 8000 -ORBInitialHostlocalhost
Reverse object Created
Step1
Step2
Step3
Step4
Reverse Server reading and watting....
```

4. Start Client (Run query)


```
varadmash@varadmash-G3-3590: ~/LP5_lab/Assignment2
:~/LP5_lab/Assignment2$ java ReverseClient -ORBInitialPort 8000 -ORBInitialHostlocalhost
Enter String=
Pune Institute of Computer Technology
server SendygolonhceT retupmoC fo etutitsnI enuP
```