

```
/*
```

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Batch : B4

```
*/
```

```
// Aim : Design a Distributed Application using Message passing Interface for remote computation
```

Server.java

```
import java.sql.*;
```

```
import java.sql.Connection;
```

```
import java.rmi.*;
```

```
import java.rmi.Naming.*;
```

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

```
import java.rmi.registry.*;
```

```
import java.util.Vector;
```

```
interface DBInterface extends Remote {
```

```
    public String input(String name1) throws RemoteException;
```

```
}
```

```
public class Server extends UnicastRemoteObject implements DBInterface {
```

```
    int flag = 0, n, i, j;
```

```
    String name3;
```

```
    ResultSet r;
```

```
    public String reverse_str(String s1) {
```

```
        char ch[] = s1.toCharArray();
```

```
        String rev = "";
```

```
        for (int i = ch.length - 1; i >= 0; i--) {
```

```
            rev += ch[i];
```

```
        }
```

```
        return rev;
```

```
    }
```

```
    public Server() throws RemoteException {
```

```
        try {
```

```
            System.out.println("InitializingServer\nServerReady");
```

```
        } catch (Exception e) {
```

```

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

public static void main(String[] args) {
    try {
        Server rs = new Server();
        java.rmi.registry.LocateRegistry.createRegistry(1030).rebind("DBServ",
            rs);
    } catch (Exception e) {
        System.out.println("ERROR:" + e.getMessage());
    }
}

```

```

public String input(String name1) {
    try {
        name3 = reverse_str(name1);
        // name3=name1.concat(name2);
    } catch (Exception e) {
        System.out.println("ERROR:" + e.getMessage());
    }
    return name3;
}
}

```

Client.java

```

import java.sql.*;
import java.rmi.*;
import java.io.*;
import java.util.*;
import java.util.Vector.*;
import java.lang.*;
import java.rmi.registry.*;

public class Client {
    static String name1, name2, name3;

```

```

public static void main(String args[]) {
    Client c = new Client();
    BufferedReader b = new BufferedReader(new InputStreamReader(System.in));
    int ch;
    try {
        Registry r1 = LocateRegistry.getRegistry("localhost", 1030);
        DBInterface DI = (DBInterface) r1.lookup("DBServ");
        do {
            // System.out.println("\n:Menu:" + "\n1.Send Input Strings\n2.Display
            // ConcatenatedString\n" + "\nEnter your choice:");
            System.out.println("\n\t\t*** Menu ***");
            System.out.println("\n 1.Send Input Strings");
            System.out.println("\n 2.Display Reversed String ");
            System.out.println("\n Enter your choice:");
            ch = Integer.parseInt(b.readLine());
            switch (ch) {
                case 1: {
                    System.out.println("Enter String :");
                    name1 = b.readLine();
                    name3 = DI.input(name1);
                    break;
                }
                case 2: {
                    System.out.println("\nReversed String = " + name3);
                    // int i=0;
                    // System.out.println(""+name3+"");
                    break;
                }
            }
        } while (ch > 0);
    } catch (Exception e) {
        System.out.println("ERROR:" + e.getMessage());
    }
}
}

```

Output :

Server.java

```
C:\Windows\System32\cmd.e X + v
Microsoft Windows [Version 10.0.22621.1555]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Rohit\Desktop\sem_8\DSL\Distributed Application using MPI>javac Server.java

C:\Users\Rohit\Desktop\sem_8\DSL\Distributed Application using MPI>java Server
InitializingServer
ServerReady
-
Distributed Application using MPI>
```

Client.java

```
C:\Windows\System32\cmd.e X + v
Microsoft Windows [Version 10.0.22621.1555]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Rohit\Desktop\sem_8\DSL\Distributed Application using MPI>javac Client.java

C:\Users\Rohit\Desktop\sem_8\DSL\Distributed Application using MPI>java Client

*** Menu ***
1.Send Input Strings
2.Display Reversed String
Enter your choice:
1
Enter String :
Rohit

*** Menu ***
1.Send Input Strings
2.Display Reversed String
Enter your choice:
2
Reversed String = tihoR

*** Menu ***
1.Send Input Strings
2.Display Reversed String
Enter your choice:
0

C:\Users\Rohit\Desktop\sem_8\DSL\Distributed Application using MPI>
```