

Practical No.: 5C

Aim: Write a Program of RMI for Retrieving MTNL Billing information

File → New Project → Java Application → Project Name: MTNL RMI → Finish

MTNLRMI.java

```
package mtnl.rmi;

/**
 *
 * @author TechnoBoy
 */
public class MTNLRMI {
    private int BillNo,BillAmmount,DueAmmount;
    private String CustomerName,CustomerAddress;

    public int getBillNo() {
        return BillNo;
    }

    public void setBillNo(int BillNo) {
        this.BillNo = BillNo;
    }

    public int getBillAmmount() {
        return BillAmmount;
    }

    public void setBillAmmount(int BillAmmount) {
        this.BillAmmount = BillAmmount;
    }

    public int getDueAmmount() {
        return DueAmmount;
    }

    public void setDueAmmount(int DueAmmount) {
        this.DueAmmount = DueAmmount;
    }

    public String getCustomerName() {
        return CustomerName;
    }

    public void setCustomerName(String CustomerName) {
        this.CustomerName = CustomerName;
    }

    public String getCustomerAddress() {
        return CustomerAddress;
    }
}
```

```

        public void setCustomerAddress(String CustomerAddress) {
            this.CustomerAddress = CustomerAddress;
        }
    }
}

```

Right Click on Package Name (mtnl.rmi) → New → Java Interface → Class Name: showData

showData.java

```

package mtnl.rmi;

import java.rmi.Remote;
import java.rmi.RemoteException;
import java.util.List;

/**
 *
 * @author TechnoBoy
 */
public interface showData extends Remote{
    public List<MTNLRMI> show() throws RemoteException;
}

```

Right Click on Package Name (mtnl.rmi) → New → Java Interface → Class Name: showDataImpl

showDataImpl.java

```

package mtnl.rmi;

import com.mysql.jdbc.Connection;
import java.rmi.*;
import java.rmi.server.UnicastRemoteObject;
import java.sql.*;
import java.util.*;
import java.util.logging.Level;
import java.util.logging.Logger;

/**
 *
 * @author TechnoBoy
 */
public class showDataImpl extends UnicastRemoteObject implements showData{

    public showDataImpl() throws RemoteException {

    }

    List<MTNLRMI> list;
    Connection con;
    Statement st;
    @Override
    public List<Students> getStudents() throws RemoteException {

```

```

try {
    list = new ArrayList<>();
    Class.forName("com.mysql.jdbc.Driver");
    java.sql.Connection
con=DriverManager.getConnection("jdbc:mysql://localhost:3306/mtnl", "root","");
    Statement st=con.createStatement();
    String query="select * from records";
    try (ResultSet rs = st.executeQuery(query)) {
        while(rs.next())
        {
            int id=rs.getInt("Bill_NO");
            String name=rs.getString("Customer_Name");
            String address=rs.getString("Customer_Address");
            int bill=rs.getInt("Bill_Ammount");
            int due=rs.getInt("Due_Ammount");
            System.out.println("done");

            Students students = new Students();
            students.setId(id);
            students.setName(name);
            students.setAddress(address);
            students.setBillamt(bill);
            students.setDueamt(due);
            list.add(students);
        }
    }
} catch (ClassNotFoundException | SQLException ex) {
    Logger.getLogger(showDataImpl.class.getName()).log(Level.SEVERE, null, ex);
}
return list;
}
}

```

*Right Click on Package Name (mtnl.rmi) → New → Java Interface → Class Name: Server
Server.java*

```
package mtnl.rmi;
```

```

import java.rmi.RemoteException;
import java.rmi.registry.LocateRegistry;
import java.rmi.registry.Registry;
import java.util.logging.Level;
import java.util.logging.Logger;

```

```
/**
```

```
*
```

```
* @author TechnoBoy
```

```
*/
```

```

public class Server {
    public static void main(String[] args) {
        try {

```

```

        Registry reg = LocateRegistry.createRegistry(5000);
        reg.rebind("records", new showDataImpl());
        System.out.println("Server Ready");
    } catch (RemoteException ex) {
        Logger.getLogger(Server.class.getName()).log(Level.SEVERE, null, ex);
    }
}
}
}

```

Right Click on Package Name (mtnl.rmi) → New → Java Interface → Class Name: **Client**

Client.java

```

package mtnl.rmi;

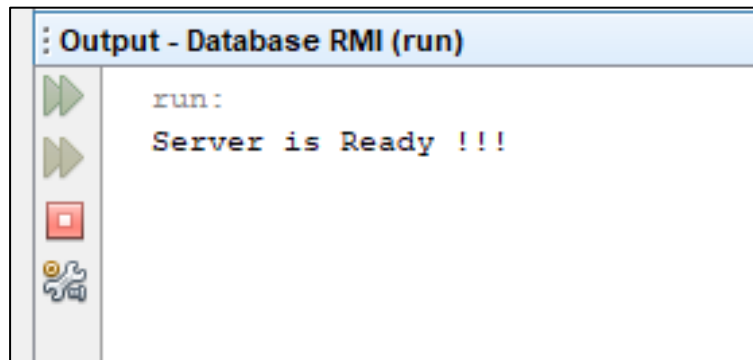
import java.net.MalformedURLException;
import java.rmi.Naming;
import java.rmi.NotBoundException;
import java.rmi.RemoteException;
import java.util.List;
import java.util.logging.Level;
import java.util.logging.Logger;

/**
 *
 * @author TechnoBoy
 */
public class Client {
    public static void main(String[] args) {
        try {
            showData sc=(showData)Naming.lookup("rmi://localhost:5000/records");
            List <billing> list=(List) sc.show();
            System.out.println("Cust_Name --> Cust_Address --> Bill_Amt --> Due_Amt \n");
            list.stream().forEach((s) -> {
                System.out.println(s.getId()+" --> "+s.getName()+" --> "+s.getAddress()+" --> "+s.getBillamt()+" --> "+s.getDueamt());
            });
        } catch (NotBoundException | MalformedURLException | RemoteException ex) {
            Logger.getLogger(Client.class.getName()).log(Level.SEVERE, null, ex);
        }
    }
}
}

```

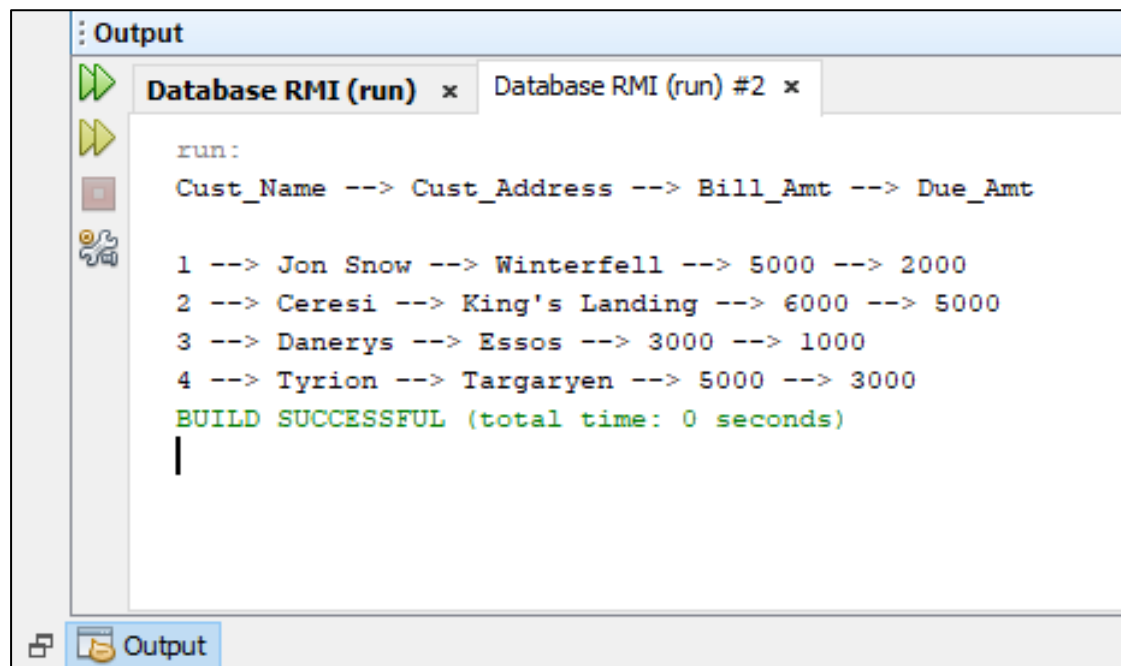
Output:

Run Server:



```
run:
Server is Ready !!!
```

Run Client:



```
run:
Cust_Name --> Cust_Address --> Bill_Amt --> Due_Amt

1 --> Jon Snow --> Winterfell --> 5000 --> 2000
2 --> Ceresi --> King's Landing --> 6000 --> 5000
3 --> Danerys --> Essos --> 3000 --> 1000
4 --> Tyrion --> Targaryen --> 5000 --> 3000
BUILD SUCCESSFUL (total time: 0 seconds)
|
```