Submission for Lab2

Q1)

Login.class:

```
import DataAcccess.DataAccess;
import javax.swing.JOptionPane;

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
/**
 *
 * @author student
 */
public class Login extends javax.swing.JFrame {

    /**
     * Creates new form Login
     */
    public Login() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
```

```
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jLabel1 = new javax.swing.JLabel();
    jLabel2 = new javax.swing.JLabel();
    un = new javax.swing.JTextField();
    pa = new javax.swing.JPasswordField();
    btnLogin = new javax.swing.JButton();
    jButton1 = new javax.swing.JButton();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

    jLabel1.setText("Username");

    jLabel2.setText("Password");

    btnLogin.setText("Login");
    btnLogin.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnLoginActionPerformed(evt);
        }
    });

    jButton1.setText("SignUP");
    jButton1.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton1ActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
```

```
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(54, 54, 54)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(jLabel2)
                        .addGap(18, 18, 18)
                        .addComponent(pa, javax.swing.GroupLayout.PREFERRED_SIZE, 93, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(jLabel1)
                        .addGap(18, 18, 18)
                        .addComponent(un)))
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(46, 46, 46)
                        .addComponent(btnLogin)
                        .addContainerGap(20, Short.MAX_VALUE))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(jButton1)
                        .addContainerGap()))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(45, 45, 45)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
```

```
                    .addComponent(jLabel1)
                    .addComponent(un, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)))
                .addGroup(layout.createSequentialGroup()
                    .addGap(59, 59, 59)
                    .addComponent(btnLogin)))
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(jLabel2)
                        .addComponent(pa, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addContainerGap(24, Short.MAX_VALUE))
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jButton1)
                    .addContainerGap())))
        );

        pack();
    }// </editor-fold>

    private void btnLoginActionPerformed(java.awt.event.ActionEvent evt) {
        DataAccess da = new DataAccess();
        String uname = un.getText();
        String pass = pa.getText();

        int uid = da.login(uname, pass);
        if (uid == 0) {
            JOptionPane.showMessageDialog(null, "Invalid Credentials!");
        } else {
```

```
        JOptionPane.showMessageDialog(null, "Login Successful!");
        this.setVisible(false);
        Peers p = new Peers(uid);
        p.setVisible(true);
    }



}

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    this.setVisible(false);
    SignUp su = new SignUp();
    su.setVisible(true);
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {
```

```
            java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Login().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton btnLogin;
    private javax.swing.JButton jButton1;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JPasswordField pa;
    private javax.swing.JTextField un;
    // End of variables declaration
}
```

SignUP Class:

```
import DataAcccess.DataAccess;
import javax.swing.JOptionPane;
```

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
/**
 *
 * @author student
 */
public class SignUp extends javax.swing.JFrame {

    /**
     * Creates new form SignUp
     */
    public SignUp() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        uname = new javax.swing.JTextField();
```

```
urole = new javax.swing.JTextField();
upass = new javax.swing.JPasswordField();
btn_signup = new javax.swing.JButton();
jButton1 = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

jLabel1.setText("User Name:");

jLabel2.setText("Password:");

jLabel3.setText("Role:");

btn_signup.setText("SignUp");
btn_signup.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btn_signupActionPerformed(evt);
    }
});

jButton1.setText("Login");
jButton1.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton1ActionPerformed(evt);
    }
});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(layout.createSequentialGroup()
```

```
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(32, 32, 32)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()
                                .addComponent(jLabel1)
                                .addGap(42, 42, 42))
                            .addGroup(layout.createSequentialGroup()
                                .addComponent(jLabel2)
                                .addGap(48, 48, 48)))
                        .addGroup(layout.createSequentialGroup()
                            .addComponent(jLabel3)
                            .addGap(73, 73, 73)))
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(urole, javax.swing.GroupLayout.PREFERRED_SIZE, 103,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                            .addComponent(uname)
                            .addComponent(upass, javax.swing.GroupLayout.DEFAULT_SIZE, 203,
Short.MAX_VALUE))))
                .addGroup(layout.createSequentialGroup()
                    .addGap(142, 142, 142)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(jButton1)
                        .addComponent(btn_signup))))
            .addContainerGap(52, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
```

```
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel1)
                .addComponent(uname, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jLabel2)
                .addComponent(upass, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jLabel3)
                .addComponent(urole, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(37, 37, 37)
            .addComponent(btn_signup)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
            .addComponent(jButton1)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        );

        pack();
    }// </editor-fold>

    private void btn_signupActionPerformed(java.awt.event.ActionEvent evt) {

        String name = uname.getText();
        String pass = upass.getText();
        String role = urole.getText();

        if (name.isEmpty() || pass.isEmpty() || role.isEmpty()) {
            JOptionPane.showMessageDialog(null, "Please fill all the fields");
        } else {
```

```
        DataAccess da = new DataAccess();
        int stat = da.signUp(name, pass, role);
        if (stat == -1) {
            JOptionPane.showMessageDialog(null, "UserName already exists...Please choose a new one!");
        } else if (stat > 0) {
            JOptionPane.showMessageDialog(null, "Successfull SignUP!");
            this.setVisible(false);
            Login log = new Login();
            log.setVisible(true);

        } else {
            JOptionPane.showMessageDialog(null, "Something went wrong...Please Try Again");
        }
    }
}

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    this.setVisible(false);
    Login su = new Login();
    su.setVisible(true);
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
```

```
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {
        java.util.logging.Logger.getLogger(SignUp.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (InstantiationException ex) {
        java.util.logging.Logger.getLogger(SignUp.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (IllegalAccessException ex) {
        java.util.logging.Logger.getLogger(SignUp.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {
        java.util.logging.Logger.getLogger(SignUp.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    }
    //</editor-fold>

    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new SignUp().setVisible(true);
        }
    });
}

// Variables declaration - do not modify
private javax.swing.JButton btn_signup;
private javax.swing.JButton jButton1;
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel2;
private javax.swing.JLabel jLabel3;
```

```
    private javax.swing.JTextField uname;
    private javax.swing.JPasswordField upass;
    private javax.swing.JTextField urole;
    // End of variables declaration
}
```

Peers.class:

```
import DataAcccess.DataAccess;
import java.sql.ResultSet;
import javax.swing.DefaultListModel;

/**
 *
 * @author Abhishek Karan
 */
public class Peers extends javax.swing.JFrame {

    /**
     * Creates new form Peers
     */
    int uid;

    public Peers(int uid) {
        initComponents();
        this.uid = uid;
    }

    public Peers() {
        initComponents();
    }
```

```
/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jLabel1 = new javax.swing.JLabel();
    jScrollPane1 = new javax.swing.JScrollPane();
    peer_list = new javax.swing.JList();
    jButton1 = new javax.swing.JButton();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
    addWindowListener(new java.awt.event.WindowAdapter() {
        public void windowActivated(java.awt.event.WindowEvent evt) {
            formWindowActivated(evt);
        }
    });

    jLabel1.setText("Support Peers");

    peer_list.setModel(new javax.swing.AbstractListModel() {
        String[] strings = { "Item 1", "Item 2", "Item 3", "Item 4", "Item 5" };
        public int getSize() { return strings.length; }
        public Object getElementAt(int i) { return strings[i]; }
    });
    jScrollPane1.setViewportView(peer_list);

    jButton1.setText("Logout");
    jButton1.addActionListener(new java.awt.event.ActionListener() {
```

```
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton1ActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(50, 50, 50)
                    .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 229, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGroup(layout.createSequentialGroup()
                    .addGap(131, 131, 131)
                    .addComponent(jLabel1))
                .addGroup(layout.createSequentialGroup()
                    .addGap(120, 120, 120)
                    .addComponent(jButton1)))
            .addContainerGap(72, Short.MAX_VALUE))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(42, 42, 42)
            .addComponent(jLabel1)
            .addGap(38, 38, 38)
            .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 30, Short.MAX_VALUE)
```

```
            .addComponent(jButton1)
            .addGap(23, 23, 23))
    );

    pack();
}// </editor-fold>

private void formWindowActivated(java.awt.event.WindowEvent evt) {

    DefaultListModel model = new DefaultListModel();
    DataAccess da = new DataAccess();
    ResultSet rs = null;
    rs = da.getRole(uid);

    try {
        while (rs.next()) {
            model.addElement(rs.getString(1));
        }
    } catch (Exception ex) {
        ex.getMessage();
    }
    peer_list.setModel(model);



}

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

    this.setVisible(false);
    Login log = new Login();
    log.setVisible(true);
```

```
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {
        java.util.logging.Logger.getLogger(Peers.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (InstantiationException ex) {
        java.util.logging.Logger.getLogger(Peers.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (IllegalAccessException ex) {
        java.util.logging.Logger.getLogger(Peers.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {
        java.util.logging.Logger.getLogger(Peers.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    }
    //</editor-fold>

    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
```

```
            new Peers().setVisible(true);
        }
    });
}

// Variables declaration - do not modify
private javax.swing.JButton jButton1;
private javax.swing.JLabel jLabel1;
private javax.swing.JScrollPane jScrollPane1;
private javax.swing.JList peer_list;
// End of variables declaration
}
```

DataAccess.class

```
package DataAcccess;

import com.mysql.jdbc.*;
import java.sql.DriverManager;
import java.sql.ResultSet;

/**
 *
 * @author Abhishek Karan
 */
public class DataAccess {

    static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";
    static final String DB_URL = "jdbc:mysql://localhost/abhi";
    static final String USER = "root";
    static final String PASS = "student";
```

```
Connection con = null;
ResultSet rs = null;
PreparedStatement pstmt = null;

private Connection getConnection() {
    try {
        Class.forName(JDBC_DRIVER);
        con = (Connection) DriverManager.getConnection(DB_URL, USER, PASS);

    } catch (Exception e) {
        System.out.println(e.getMessage());
    }

    return con;
}//getConnection()

private int checkUname(String uname) {
    con = getConnection();

    try {
        String query = "select uid from user_master where uname=? ";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setString(1, uname);
        rs = pstmt.executeQuery();

        if (!rs.next()) {
            return 1;
        }

    } catch (Exception e) {
        System.out.println(e.getMessage());
```

```
    }
    return 0;
}//checkUname()

public int signUp(String name, String pass, String role) {
    con = getConnection();
    int x = 0;
    try {

        if (checkUname(name) == 0) {
            return -1;
        }

        String query = "insert into user_master(uname,upass,urole) values(?,?,?)";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setString(1, name);
        pstmt.setString(2, pass);
        pstmt.setString(3, role);
        x = pstmt.executeUpdate();

    } catch (Exception e) {
        System.out.println(e.getMessage());

    }
    return x;
}//signUp()

public int login(String name, String pass) {
    con = getConnection();
    int uid = 0;
    try {
        String query = "select uid from user_master where uname=? and upass=? ";
```

```
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setString(1, name);
        pstmt.setString(2, pass);

        rs = pstmt.executeQuery();

        while (rs.next()) {
            uid = rs.getInt(1);
        }

    } catch (Exception e) {
        System.out.println(e.getMessage());

    }
    return uid;
}//login()

public ResultSet getRole(int uid) {
    con = getConnection();
    String role = null;
    try {
        String query = "select urole from user_master where uid=? ";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setInt(1, uid);
        rs = pstmt.executeQuery();

        while (rs.next()) {
            role = rs.getString(1);
        }

        query = "select uname from user_master where urole=? ";
        pstmt = (PreparedStatement) con.prepareStatement(query);
```

```
            pstmt.setString(1, role);
            rs = pstmt.executeQuery();

        } catch (Exception e) {
            System.out.println(e.getMessage());

        }

        return rs;
    }//getRole()

}//DataAccess
```

Q2)

Login.class

```
package Bank;

import Bank.DataAccess.DataAccess;
import javax.swing.JOptionPane;

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
/**
 *
 * @author student
 */
```

```
public class Login extends javax.swing.JFrame {

    /**
     * Creates new form Login
     */
    public Login() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        un = new javax.swing.JTextField();
        pa = new javax.swing.JPasswordField();
        btnLogin = new javax.swing.JButton();
        jButton1 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jLabel1.setText("Username");

        jLabel2.setText("Password");

        btnLogin.setText("Login");
```

```
        btnLogin.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnLoginActionPerformed(evt);
            }
        });

        jButton1.setText("SignUP");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(54, 54, 54)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(jLabel2)
                        .addGap(18, 18, 18)
                        .addComponent(pa, javax.swing.GroupLayout.PREFERRED_SIZE, 93,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(jLabel1)
                        .addGap(18, 18, 18)
                        .addComponent(un)))
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(46, 46, 46)
```

```
                .addComponent(btnLogin)
                .addContainerGap(20, Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jButton1)
                .addContainerGap()))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(45, 45, 45)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                            .addComponent(jLabel1)
                            .addComponent(un,                javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(59, 59, 59)
                        .addComponent(btnLogin)))
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                            .addComponent(jLabel2)
                            .addComponent(pa,                javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addContainerGap(24, Short.MAX_VALUE))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(jButton1)
```

```
                .addContainerGap())))
    );

    pack();
}// </editor-fold>

private void btnLoginActionPerformed(java.awt.event.ActionEvent evt) {
    DataAccess da = new DataAccess();
    String uname = un.getText();
    String pass = pa.getText();

    if (uname.equals("admin") && pass.equals("admin")) {
        this.setVisible(false);
        new AdminMaster().setVisible(true);
    } else {

        int uid = da.login(uname, pass);
        if (uid == 0) {
            JOptionPane.showMessageDialog(null, "Invalid Credentials! OR Admin has blocked You!");
        } else {
            JOptionPane.showMessageDialog(null, "Login Successful!");
            this.setVisible(false);
            Dashboard db = new Dashboard(uid);
            db.setVisible(true);
        }
    }

}

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    this.setVisible(false);
    SignUp su = new SignUp();
```

```
    su.setVisible(true);
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {
        java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (InstantiationException ex) {
        java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (IllegalAccessException ex) {
        java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {
        java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    }
    //</editor-fold>

    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
```

```
            public void run() {
                new Login().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton btnLogin;
    private javax.swing.JButton jButton1;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JPasswordField pa;
    private javax.swing.JTextField un;
    // End of variables declaration
}
```

SignUP.class

```
package Bank;

import Bank.DataAccess.DataAccess;
import javax.swing.JOptionPane;

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
/**
 *
 * @author student
```

```
 */
public class SignUp extends javax.swing.JFrame {

    /**
     * Creates new form SignUp
     */
    public SignUp() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        uname = new javax.swing.JTextField();
        accNo = new javax.swing.JTextField();
        upass = new javax.swing.JPasswordField();
        btn_signup = new javax.swing.JButton();
        jButton1 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jLabel1.setText("User Name:");
```

```
jLabel2.setText("Password:");

jLabel3.setText("Account Number:");

btn_signup.setText("SignUp");
btn_signup.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btn_signupActionPerformed(evt);
    }
});

jButton1.setText("Login");
jButton1.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton1ActionPerformed(evt);
    }
});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(layout.createSequentialGroup()
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(32, 32, 32)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jLabel3)
                    .addComponent(jLabel2)
                    .addComponent(jLabel1))
                .addGap(73, 73, 73)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
```

```
                .addComponent(uname)
                .addComponent(upass, javax.swing.GroupLayout.DEFAULT_SIZE, 203, Short.MAX_VALUE)
                .addComponent(accNo, javax.swing.GroupLayout.PREFERRED_SIZE, 163, javax.swing.GroupLayout.PREFERRED_SIZE)))
            .addGroup(layout.createSequentialGroup()
                .addGap(142, 142, 142)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jButton1)
                .addComponent(btn_signup))))
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel1)
                .addComponent(uname, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(upass, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jLabel2))
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jLabel3)
                .addComponent(accNo, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addComponent(btn_signup)
                .addGap(30, 30, 30)
                .addComponent(jButton1)
```

```
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );

    pack();
}// </editor-fold>

private void btn_signupActionPerformed(java.awt.event.ActionEvent evt) {

    String name = uname.getText();
    String pass = upass.getText();
    String accno = accNo.getText();

    if (name.isEmpty() || pass.isEmpty() || accno.isEmpty()) {
        JOptionPane.showMessageDialog(null, "Please fill all the fields");
    } else if (accno.length() != 4) {
        JOptionPane.showMessageDialog(null, "Account Number can only 4 Digits");
    } else {

        DataAccess da = new DataAccess();
        int stat = da.signUp(name, pass, accno);
        if (stat == -1) {
            JOptionPane.showMessageDialog(null, "UserName already exists...Please choose a new one!");
        } else if (stat == -2) {
            JOptionPane.showMessageDialog(null, "Account Number Already Exists");
        } else if (stat > 0) {
            JOptionPane.showMessageDialog(null, "Successfull SignUP!");
            this.setVisible(false);
            Login log = new Login();
            log.setVisible(true);

        } else {
            JOptionPane.showMessageDialog(null, "Something went wrong...Please Try Again");
```

```
        }
    }
}

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    this.setVisible(false);
    Login su = new Login();
    su.setVisible(true);
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {
        java.util.logging.Logger.getLogger(SignUp.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (InstantiationException ex) {
        java.util.logging.Logger.getLogger(SignUp.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    } catch (IllegalAccessException ex) {
        java.util.logging.Logger.getLogger(SignUp.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
```

```
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(SignUp.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new SignUp().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JTextField accNo;
    private javax.swing.JButton btn_signup;
    private javax.swing.JButton jButton1;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JTextField uname;
    private javax.swing.JPasswordField upass;
    // End of variables declaration
}
```

Dashboard.class

```
package Bank;

import Bank.DataAccess.DataAccess;
import java.sql.ResultSet;
```

```
import javax.swing.DefaultListModel;
import javax.swing.JOptionPane;

/**
 *
 * @author Abhishek Karan
 */
public class Dashboard extends javax.swing.JFrame {

    /**
     * Creates new form Dashboard
     */
    int uid;
    double bal = 0.0;
    String nm = "", accn = "";

    public Dashboard(int uid) {
        initComponents();
        this.uid = uid;
    }

    public Dashboard() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
```

```
private void initComponents() {

    jLabel1 = new javax.swing.JLabel();
    jLabel2 = new javax.swing.JLabel();
    jLabel3 = new javax.swing.JLabel();
    name = new javax.swing.JTextField();
    acc = new javax.swing.JTextField();
    balance = new javax.swing.JTextField();
    jLabel4 = new javax.swing.JLabel();
    jScrollPane1 = new javax.swing.JScrollPane();
    trans = new javax.swing.JList();
    jLabel5 = new javax.swing.JLabel();
    amount = new javax.swing.JTextField();
    jButton1 = new javax.swing.JButton();
    acntno = new javax.swing.JTextField();
    jLabel6 = new javax.swing.JLabel();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
    addWindowListener(new java.awt.event.WindowAdapter() {
        public void windowActivated(java.awt.event.WindowEvent evt) {
            formWindowActivated(evt);
        }
    });

    jLabel1.setText("Name:");

    jLabel2.setText("Account Number:");

    jLabel3.setText("Balance:");

    name.setEditable(false);
```

```
acc.setEditable(false);

balance.setEditable(false);

jLabel4.setText("History of Transactions:");

trans.setModel(new javax.swing.AbstractListModel() {
   String[] strings = { "Item 1", "Item 2", "Item 3", "Item 4", "Item 5" };
   public int getSize() { return strings.length; }
   public Object getElementAt(int i) { return strings[i]; }
});
jScrollPane1.setViewportView(trans);

jLabel5.setText("Pay To (Account Number):");

jButton1.setText("Transfer Funds");
jButton1.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      jButton1ActionPerformed(evt);
   }
});

jLabel6.setText("Amount:");

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
   layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
   .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()
      .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
      .addComponent(jLabel4)
      .addGap(82, 82, 82))
```

```
        .addGroup(layout.createSequentialGroup()
            .addGap(45, 45, 45)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                        .addComponent(jButton1)
                        .addGroup(javax.swing.GroupLayout.Alignment.LEADING, layout.createSequentialGroup()
                            .addComponent(jLabel5)
                            .addGap(18, 18, 18)
                            .addComponent(acntno, javax.swing.GroupLayout.PREFERRED_SIZE, 132, javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addGap(28, 28, 28)
                            .addComponent(jLabel6)))
                    .addGap(18, 18, 18)
                    .addComponent(amount, javax.swing.GroupLayout.PREFERRED_SIZE, 132, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGroup(layout.createSequentialGroup()
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(jLabel1)
                        .addComponent(jLabel2)
                        .addComponent(jLabel3))
                    .addGap(18, 18, 18)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(balance, javax.swing.GroupLayout.PREFERRED_SIZE, 129, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(acc, javax.swing.GroupLayout.PREFERRED_SIZE, 129, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(name, javax.swing.GroupLayout.PREFERRED_SIZE, 129, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(18, 18, 18)
                    .addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 327, Short.MAX_VALUE)))
            .addContainerGap())
    );
```

```
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jLabel4)
                .addGap(5, 5, 5)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(jLabel1)
                            .addComponent(name, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(jLabel2)
                            .addComponent(acc, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(jLabel3)
                            .addComponent(balance, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)))
                    .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 82, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(30, 30, 30)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel5)
                    .addComponent(acntno, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel6)
                    .addComponent(amount, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addComponent(jButton1)
```

```
                .addContainerGap(97, Short.MAX_VALUE))
        );

        pack();
    }// </editor-fold>

    private void formWindowActivated(java.awt.event.WindowEvent evt) {

        DataAccess da = new DataAccess();
        ResultSet rs = null;

        try {
            rs = da.fetchData(uid);
            rs.next();
            nm = rs.getString(1);
            accn = rs.getString(2);
            bal = rs.getDouble(3);

            name.setText(nm);
            acc.setText(accn);
            balance.setText("" + bal);

            DefaultListModel model = new DefaultListModel();

            rs = da.fetchpayeeTrans(uid);
            while (rs.next()) {
                model.addElement("You Payed " + rs.getDouble(1) + " to " + rs.getString(2) + "  on " + rs.getString(3) + "
");
            }
            rs = da.fetchpayerTrans(uid);
            while (rs.next()) {
```

```
            model.addElement("You received " + rs.getDouble(1) + " from " + rs.getString(2) + "  on " + rs.getString(3)
+ " ");
        }

        trans.setModel(model);

    } catch (Exception e) {
        System.out.println(e.getMessage());
    }


}

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

    Double amt = Double.parseDouble(amount.getText());
    String acno = acntno.getText();
    DataAccess da = new DataAccess();

    if (acno.isEmpty() || amt <= 0.0 || amt > bal) {
        JOptionPane.showMessageDialog(null, "Please give valid details");
    } else {
        if (da.checkAccNo(acno) == 1) {
            JOptionPane.showMessageDialog(null, "Invalid Account Number.");
        } else {
            int x = da.updateAmount(acno, amt, uid);
            if (x == 0) {
                JOptionPane.showMessageDialog(null, "Something went wrong!!");
            } else if (x == 1) {
                JOptionPane.showMessageDialog(null, "Updated....");
                da.updateBankTrans(uid, acno, amt);
            }
```

```
        }
    }

}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {
        java.util.logging.Logger.getLogger(Dashboard.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (InstantiationException ex) {
        java.util.logging.Logger.getLogger(Dashboard.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (IllegalAccessException ex) {
        java.util.logging.Logger.getLogger(Dashboard.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {
        java.util.logging.Logger.getLogger(Dashboard.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
```

```
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Dashboard().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JTextField acc;
    private javax.swing.JTextField acntno;
    private javax.swing.JTextField amount;
    private javax.swing.JTextField balance;
    private javax.swing.JButton jButton1;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JTextField name;
    private javax.swing.JList trans;
    // End of variables declaration
}
```

AdminMaster.class

```
package Bank;
```

```
import Bank.DataAccess.DataAccess;
import javax.swing.JOptionPane;

/**
 *
 * @author Abhishek Karan
 */
public class AdminMaster extends javax.swing.JFrame {

    /**
     * Creates new form AdminMaster
     */
    public AdminMaster() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jLabel1 = new javax.swing.JLabel();
        jButton1 = new javax.swing.JButton();
        acnt = new javax.swing.JTextField();
        jButton2 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
```

```
        jLabel1.setText("Enter Account Number:");

        jButton1.setText("Grant");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        jButton2.setText("Freeze");
        jButton2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton2ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(37, 37, 37)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                    .addComponent(jButton1)
                    .addComponent(jLabel1))
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(18, 18, 18)
                        .addComponent(acnt, javax.swing.GroupLayout.PREFERRED_SIZE, 208,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(41, 41, 41)
```

```
                    .addComponent(jButton2)))
                .addContainerGap(25, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(25, 25, 25)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel1)
                    .addComponent(acnt, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jButton1)
                    .addComponent(jButton2))
                .addContainerGap(26, Short.MAX_VALUE))
        );

        pack();
    }// </editor-fold>

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

        DataAccess da = new DataAccess();
        String ac = acnt.getText();

        int x = da.updateAdmin(ac,'G');
        if (x == 1) {
            JOptionPane.showMessageDialog(null, "Updation Successfull...");
        } else if (x == 0) {
            JOptionPane.showMessageDialog(null, "Invalid Account No or Something went wrong!");
        }
```

```
}

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
  DataAccess da = new DataAccess();
    String ac = acnt.getText();

    int x = da.updateAdmin(ac,'F');
    if (x == 1) {
        JOptionPane.showMessageDialog(null, "Updation Successfull...");
    } else if (x == 0) {
        JOptionPane.showMessageDialog(null, "Invalid Account No or Something went wrong!");
    }

}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
```

```
            }
        } catch (ClassNotFoundException ex) {
            java.util.logging.Logger.getLogger(AdminMaster.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(AdminMaster.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(AdminMaster.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(AdminMaster.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new AdminMaster().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JTextField acnt;
    private javax.swing.JButton jButton1;
    private javax.swing.JButton jButton2;
    private javax.swing.JLabel jLabel1;
    // End of variables declaration
}
```

DataAccess.class

```
package Bank.DataAccess;

import com.mysql.jdbc.*;
import java.sql.DriverManager;
import java.sql.ResultSet;

/**
 *
 * @author Abhishek Karan
 */
public class DataAccess {

    static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";
    static final String DB_URL = "jdbc:mysql://localhost/abhi";
    static final String USER = "root";
    static final String PASS = "student";
    Connection con = null;
    ResultSet rs = null;
    PreparedStatement pstmt = null;

    private Connection getConnection() {
        try {
            Class.forName(JDBC_DRIVER);
            con = (Connection) DriverManager.getConnection(DB_URL, USER, PASS);

        } catch (Exception e) {
            System.out.println(e.getMessage());
        }

        return con;
    }//getConnection()
```

```
private int checkUname(String uname) {
    con = getConnection();

    try {
        String query = "select uid from bank_user where uname=? ";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setString(1, uname);
        rs = pstmt.executeQuery();

        if (!rs.next()) {
            return 1;
        }

    } catch (Exception e) {
        System.out.println(e.getMessage());

    }
    return 0;
}//checkUname()

public int signUp(String name, String pass, String acc) {
    con = getConnection();
    int x = 0;
    try {

        if (checkAccNo(acc) == 0) {
            return -2;
        }
        if (checkUname(name) == 0) {
            return -1;
        }
```

```
        String query = "insert into bank_user(uname,upass,account_no) values(?,?,?)";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setString(1, name);
        pstmt.setString(2, pass);
        pstmt.setString(3, acc);
        x = pstmt.executeUpdate();

    } catch (Exception e) {
        System.out.println(e.getMessage());

    }
    return x;
}//signUp()

public int login(String name, String pass) {
    con = getConnection();
    int uid = 0;
    try {
        String query = "select uid from bank_user where uname=? and upass=? and status=?";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setString(1, name);
        pstmt.setString(2, pass);
        pstmt.setInt(3, 1);

        rs = pstmt.executeQuery();

        while (rs.next()) {
            uid = rs.getInt(1);
        }

    } catch (Exception e) {
```

```
            System.out.println(e.getMessage());

        }
        return uid;
    }//login()

    public ResultSet getRole(int uid) {
        con = getConnection();
        String role = null;
        try {
            String query = "select urole from user_master where uid=? ";
            pstmt = (PreparedStatement) con.prepareStatement(query);
            pstmt.setInt(1, uid);
            rs = pstmt.executeQuery();

            while (rs.next()) {
                role = rs.getString(1);
            }

            query = "select uname from user_master where urole=? ";
            pstmt = (PreparedStatement) con.prepareStatement(query);
            pstmt.setString(1, role);
            rs = pstmt.executeQuery();

        } catch (Exception e) {
            System.out.println(e.getMessage());

        }

        return rs;
    }//getRole()
```

```
public int checkAccNo(String acc) {
    con = getConnection();

    try {
        String query = "select uid from bank_user where account_no=? ";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setString(1, acc);
        rs = pstmt.executeQuery();

        if (!rs.next()) {
            return 1;
        }

    } catch (Exception e) {
        System.out.println(e.getMessage());

    }
    return 0;
}//checkUname()

public ResultSet fetchData(int uid) {
    con = getConnection();

    try {
        String query = "select uname,account_no,balance from bank_user where uid=? ";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setInt(1, uid);
        rs = pstmt.executeQuery();

    } catch (Exception e) {
        System.out.println(e.getMessage());
    }
```

```
    return rs;
}//fetchData()

public ResultSet fetchpayeeTrans(int payee) {
    con = getConnection();

    try {
        String query = "select bt.amount,bu.uname,bt.timestamp from bank_trans bt,bank_user bu "
                + " where bt.payer=bu.uid and payee=? ";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setInt(1, payee);
        rs = pstmt.executeQuery();

    } catch (Exception e) {
        System.out.println(e.getMessage());
    }
    return rs;
}//fetchPayeeTrans()

public ResultSet fetchpayerTrans(int payer) {
    con = getConnection();

    try {
        String query = "select bt.amount,bu.uname,bt.timestamp from bank_trans bt,bank_user bu "
                + " where bt.payer=bu.uid and payer=? ";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setInt(1, payer);
        rs = pstmt.executeQuery();

    } catch (Exception e) {
        System.out.println(e.getMessage());
    }
```

```
    return rs;
}//fetchPayeeTrans()

public int updateAmount(String acc, double amt, int uid) {
    con = getConnection();
    try {
        String query = "update bank_user set balance=balance+? where account_no=?";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setDouble(1, amt);
        pstmt.setString(2, acc);

        if (pstmt.executeUpdate() == 0) {
            return 0;
        } else {
            query = "update bank_user set balance=balance-? where uid=?";
            pstmt = (PreparedStatement) con.prepareStatement(query);
            pstmt.setDouble(1, amt);
            pstmt.setInt(2, uid);

            if (pstmt.executeUpdate() == 0) {
                return 0;
            } else {
                return 1;
            }
        }

    } catch (Exception e) {
        System.out.println(e.getMessage());

    }
    return 0;
}//updateAmt()
```

```
public int updateBankTrans(int payee, String accno, double amt) {
    con = getConnection();
    try {

        String query = "select uid from bank_user where account_no=?";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setString(1, accno);

        rs = pstmt.executeQuery();
        rs.next();
        int payer = rs.getInt("uid");

        query = "insert into bank_trans(payee,payer,amount) values(?,?,?)";
        pstmt = (PreparedStatement) con.prepareStatement(query);
        pstmt.setInt(1, payee);
        pstmt.setInt(2, payer);
        pstmt.setDouble(3, amt);

        if (pstmt.executeUpdate() == 0) {
            return 0;
        }
    } catch (Exception e) {
        System.out.println(e.getMessage());

    }
    return 1;
}//updatetrans()

public int updateAdmin(String acnt,char stat) {
    con = getConnection();
    try {
```

```
            String query = "update bank_user set status=? where account_no=?";
            pstmt = (PreparedStatement) con.prepareStatement(query);
            pstmt.setString(2, acnt);
            if(stat=='G'){
            pstmt.setInt(1, 1);
            }else if(stat=='F'){
            pstmt.setInt(1, 0);
            }

            if (pstmt.executeUpdate() == 0) {
                return 0;
            }

        } catch (Exception e) {
            System.out.println(e.getMessage());

        }
        return 1;
    }

}//DataAccess
```

Abhishek Karan

130911122