**Week (9) Worksheet Solution**

/\*

\* 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.

\*/

package ampapp;

import java.sql.Connection;

import java.sql.Statement;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.SQLException;

import javax.swing.JOptionPane;

import net.proteanit.sql.DbUtils;

import javax.swing.JFrame;

import java.awt.event.WindowAdapter;

import java.awt.event.WindowEvent;

public class EmpTableFrame extends JFrame{

Connection con;

Statement st;

ResultSet rs;

public EmpTableFrame() {

super("Emplyees Info Application");

initComponents();

fillTable();

setDefaultCloseOperation(JFrame.DISPOSE\_ON\_CLOSE);

addWindowListener(new WindowAdapter(){

@Override

public void windowClosed(WindowEvent event)

{//close everything and terminate program

closeDB();

System.exit(0);

}//end of windowClosed

});

setVisible(true);

}

public void closeDB()

{

// close Statement and Connection

try

{

rs.close();

st.close();

con.close();

}

catch (SQLException sqlException)

{

sqlException.printStackTrace();

}

}

private void fillTable()

{

try {

con=DriverManager.getConnection("jdbc:derby://localhost:1527/Employees","esra","esra");

st=con.createStatement();

rs=st.executeQuery("select \* from Employee");

empTable.setModel(DbUtils.resultSetToTableModel(rs));

}

catch (SQLException ex)

{

JOptionPane.showMessageDialog(null, ex);

}

}//end of fillTable method

/\*\*

\* 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">//GEN-BEGIN:initComponents

private void initComponents() {

jLabel1 = new javax.swing.JLabel();

btnAdd = new javax.swing.JButton();

btnDelete = new javax.swing.JButton();

btnUpdate = new javax.swing.JButton();

jPanel1 = new javax.swing.JPanel();

jLabel2 = new javax.swing.JLabel();

jLabel3 = new javax.swing.JLabel();

jLabel4 = new javax.swing.JLabel();

jLabel5 = new javax.swing.JLabel();

txtID = new javax.swing.JTextField();

txtSalary = new javax.swing.JTextField();

txtName = new javax.swing.JTextField();

txtDep = new javax.swing.JTextField();

jScrollPane1 = new javax.swing.JScrollPane();

empTable = new javax.swing.JTable();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

jLabel1.setFont(new java.awt.Font("Tahoma", 1, 11)); // NOI18N

jLabel1.setText("Employees Information");

btnAdd.setText("Add");

btnAdd.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

btnAddActionPerformed(evt);

}

});

btnDelete.setText("Delete");

btnDelete.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

btnDeleteActionPerformed(evt);

}

});

btnUpdate.setText("Update");

btnUpdate.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

btnUpdateActionPerformed(evt);

}

});

jPanel1.setBorder(javax.swing.BorderFactory.createLineBorder(new java.awt.Color(0, 0, 0)));

jLabel2.setText("ID");

jLabel3.setText("Name");

jLabel4.setText("Department");

jLabel5.setText("Salary");

javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);

jPanel1.setLayout(jPanel1Layout);

jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel1Layout.createSequentialGroup()

.addContainerGap()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)

.addGroup(javax.swing.GroupLayout.Alignment.LEADING, jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jLabel4)

.addComponent(jLabel5))

.addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(txtSalary)

.addComponent(txtDep)))

.addGroup(javax.swing.GroupLayout.Alignment.LEADING, jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jLabel2)

.addComponent(jLabel3))

.addGap(48, 48, 48)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(txtID, javax.swing.GroupLayout.DEFAULT\_SIZE, 139, Short.MAX\_VALUE)

.addComponent(txtName))))

.addContainerGap())

);

jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel1Layout.createSequentialGroup()

.addGap(36, 36, 36)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel2)

.addComponent(txtID, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel3)

.addComponent(txtName, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel4)

.addComponent(txtDep, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(18, 18, 18)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel5)

.addComponent(txtSalary, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addContainerGap(55, Short.MAX\_VALUE))

);

empTable.setModel(new javax.swing.table.DefaultTableModel(

new Object [][] {

},

new String [] {

"Title 1", "Title 2", "Title 3", "Title 4"

}

));

empTable.addMouseListener(new java.awt.event.MouseAdapter() {

public void mouseClicked(java.awt.event.MouseEvent evt) {

empTableMouseClicked(evt);

}

});

jScrollPane1.setViewportView(empTable);

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(33, 33, 33)

.addComponent(jLabel1)

.addGap(0, 0, Short.MAX\_VALUE))

.addGroup(layout.createSequentialGroup()

.addContainerGap()

.addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED\_SIZE, 428, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(btnDelete, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)

.addComponent(btnAdd, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)

.addComponent(btnUpdate, javax.swing.GroupLayout.DEFAULT\_SIZE, 92, Short.MAX\_VALUE))

.addGap(18, 18, 18)

.addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE)))

.addContainerGap())

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGap(38, 38, 38)

.addComponent(jLabel1)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGap(38, 38, 38)

.addComponent(btnAdd)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(btnDelete)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(btnUpdate))

.addGroup(layout.createSequentialGroup()

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED\_SIZE, 227, javax.swing.GroupLayout.PREFERRED\_SIZE))))

.addContainerGap(32, Short.MAX\_VALUE))

);

pack();

}// </editor-fold>//GEN-END:initComponents

private void btnAddActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event\_btnAddActionPerformed

try

{

PreparedStatement insertSt=con.prepareStatement("INSERT INTO Employee (empID,name,department,salary) VALUES (?,?,?,?)");

insertSt.setInt(1,Integer.valueOf(txtID.getText()));

insertSt.setString(2,txtName.getText());

insertSt.setString(3,txtDep.getText());

insertSt.setDouble(4,Double.valueOf(txtSalary.getText()));

//We can check the retured value if it is 1 that means the row is updated

insertSt.executeUpdate();

JOptionPane.showMessageDialog(null, "Added..");

closeDB();

fillTable();

}//end of try

catch (SQLException ex)

{ JOptionPane.showMessageDialog(null,ex.getMessage(),"Error",JOptionPane.ERROR\_MESSAGE);}

//GEN-LAST:event\_btnAddActionPerformed

catch (Exception ex)

{ JOptionPane.showMessageDialog(null,"Exception:"+ex.getMessage(),"Error",JOptionPane.ERROR\_MESSAGE);}

}//GEN-LAST:event\_btnAddActionPerformed

private void btnDeleteActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event\_btnDeleteActionPerformed

try

{

int answer=JOptionPane.showConfirmDialog(null, "Are you sure you want to delete the selected record?",

"Delete Record",JOptionPane.YES\_NO\_OPTION);

if (answer==JOptionPane.YES\_OPTION)

{ String sql="delete from employee where empID="+txtID.getText();

int rows=st.executeUpdate(sql);

if (rows == 1)

JOptionPane.showMessageDialog(null, "Deleted..");

txtID.setText("");

txtName.setText("");

txtDep.setText("");

txtSalary.setText("");

closeDB();

fillTable();

}

}//end of try

catch (SQLException ex)

{ JOptionPane.showMessageDialog(null,ex.getMessage());}

}//GEN-LAST:event\_btnDeleteActionPerformed

private void empTableMouseClicked(java.awt.event.MouseEvent evt) {//GEN-FIRST:event\_empTableMouseClicked

try

{

int row=empTable.getSelectedRow();

int tableClickID=Integer.parseInt(empTable.getModel().getValueAt(row, 0).toString());

String tableClickname=empTable.getModel().getValueAt(row, 1).toString();

String tableClickDep=empTable.getModel().getValueAt(row, 2).toString();

int tableClickSal=Integer.parseInt(empTable.getModel().getValueAt(row, 3).toString());

txtID.setText(""+tableClickID);

txtName.setText(tableClickname);

txtDep.setText(tableClickDep);

txtSalary.setText(""+tableClickSal);

//Another way to get the info using SQL query

/\*

String sql="select \* from employee where empID="+tableClickID;

rs=st.executeQuery(sql);

//To move the curser to the first row.

rs.next();

txtID.setText(String.format("%d",rs.getInt("empID")));

txtName.setText(rs.getString("name"));

txtDep.setText(rs.getString("department"));

txtSalary.setText(String.format("%.2f",rs.getDouble("salary")));

\*/

}//end of try

catch (Exception ex)

{ JOptionPane.showMessageDialog(null,ex.getMessage());}

}//GEN-LAST:event\_empTableMouseClicked

private void btnUpdateActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event\_btnUpdateActionPerformed

try

{

PreparedStatement updateSt=con.prepareStatement("Update Employee set name=?,department=?,salary=? where empID= ?");

updateSt.setString(1,txtName.getText());

updateSt.setString(2,txtDep.getText());

updateSt.setDouble(3,Double.valueOf(txtSalary.getText()));

updateSt.setInt(4,Integer.valueOf(txtID.getText()));

int updatedRows=updateSt.executeUpdate();

if (updatedRows > 0)

JOptionPane.showMessageDialog(null, "Updated..");

else

JOptionPane.showMessageDialog(null, "Cannot apply update process !");

closeDB();

fillTable();

}//end of try

catch (SQLException ex)

{ JOptionPane.showMessageDialog(null,ex.getMessage());}

}//GEN-LAST:event\_btnUpdateActionPerformed

// Variables declaration - do not modify//GEN-BEGIN:variables

private javax.swing.JButton btnAdd;

private javax.swing.JButton btnDelete;

private javax.swing.JButton btnUpdate;

private javax.swing.JTable empTable;

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.JPanel jPanel1;

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JTextField txtDep;

private javax.swing.JTextField txtID;

private javax.swing.JTextField txtName;

private javax.swing.JTextField txtSalary;

// End of variables declaration//GEN-END:variables

}