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Week (9) Worksheet Solution

*/

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 * 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;()

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```java
            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          ;()
                            {
```

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```
{


    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} ()
```

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```java
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;(

{
;({
```

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```java
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)
```

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```
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(()
```

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```
);

        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((

);
```

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```java
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()
```

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```
.                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()
```

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```java
            .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;()
```

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```java
                fillTable;()

//{        end of try

            catch (SQLException ex(

}
JOptionPane.showMessageDialog(null,ex.getMessage(),"Error",JOptionPane.ERROR_MESSA
GE{;(

//        GEN-LAST:event_btnAddActionPerformed

        catch (Exception ex(

}
JOptionPane.showMessageDialog(null,"Exception:"+ex.getMessage(),"Error",JOptionPane.E
RROR_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;("")
```

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```java
        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;
```

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```java
        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;((()
```

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```java
            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;
```

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```java
    private javax.swing.JTextField txtID;

    private javax.swing.JTextField txtName;

    private javax.swing.JTextField txtSalary;

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

    {
```