SSN COLLEGE OF ENGINEERING, KALAVAKKAM (An Autonomous Institution, Affiliated to Anna University, Chennai)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UCS1412 – DBMS Lab Assignment – 9

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<u>Title</u>: Database Connectivity

Spool File for Table Creation and PL/SQL Block:

```
SQL> CREATE TABLE EMP_PAYROLL(
        EID VARCHAR(5) PRIMARY KEY,
 3 ENAME VARCHAR(10),
 4 DOB DATE,
 5 SEX VARCHAR(1),
 6 DESIGNATION VARCHAR(10),
 7 BASIC NUMBER,
 8 DA NUMBER,
 9 HRA NUMBER,
10 PF NUMBER,
11 MC NUMBER,
12 GROSS NUMBER,
13 TOT_DEDUC NUMBER,
14 NET_PAY NUMBER
Table created.
SQL> CREATE OR REPLACE PROCEDURE CALC
    (ID IN EMP_PAYROLL.EID%TYPE, BASIC IN EMP_PAYROLL.BASIC%TYPE)
 4 DA TEMP NUMBER;
 5 HRA_TEMP NUMBER;
 6 PF_TEMP NUMBER;
    MC TEMP NUMBER;
    GROSS_TEMP NUMBER;
    TOT_DEDUC_TEMP NUMBER;
    NET_PAY_TEMP NUMBER;
    BEGIN
    DA TEMP:=0.6*BASIC;
13 HRA_TEMP:=0.11*BASIC;
    PF TEMP:=0.04*BASIC;
   MC TEMP:=0.03*BASIC;
16 GROSS_TEMP:=BASIC+DA_TEMP+HRA_TEMP;
    TOT_DEDUC_TEMP:=PF_TEMP+MC_TEMP;
18 NET_PAY_TEMP:=GROSS_TEMP-TOT_DEDUC_TEMP;
```

```
19  UPDATE EMP_PAYROLL
20  SET DA=DA_TEMP, HRA=HRA_TEMP, PF=PF_TEMP, MC=MC_TEMP, GROSS=GROSS_TEMP,
21  TOT_DEDUC=TOT_DEDUC_TEMP, NET_PAY=NET_PAY_TEMP
22  WHERE EID=ID;
23  END;
24  /
Procedure created.
```

Java Code of JDBC Block:

```
import javax.swing.*;
import java.sql.Statement;
import java.util.logging.Level;
import java.util.logging.Logger;
  @author 1049
public class demo1 extends javax.swing.JFrame {
     * Creates new form demo1
    public demo1() {
        initComponents();
            JOptionPane.showMessageDialog(this, "Driver Loaded!");
        try {
            JOptionPane.showMessageDialog(this, "Connected to Oracle database!");
        catch (SQLException ex) {
            Logger.getLogger(demo1.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this,ex.getMessage());
        catch(ClassNotFoundException ex){
        Logger.getLogger(demo1.class.getName()).log(Level.SEVERE, null, ex);
        JOptionPane.showMessageDialog(this,ex.getMessage());
```

```
@SuppressWarnings("unchecked")
Code">
   private void initComponents() {
       SEX1 = new javax.swing.JLabel();
       EID = new javax.swing.JLabel();
       NAME = new javax.swing.JLabel();
       DOB = new javax.swing.JLabel();
       SEX = new javax.swing.JLabel();
       DESIGNATION = new javax.swing.JLabel();
       BASICPAY = new javax.swing.JLabel();
       name = new javax.swing.JTextField();
       eid = new javax.swing.JTextField();
       sex = new javax.swing.JTextField();
       dob = new javax.swing.JTextField();
       basic = new javax.swing.JTextField();
       designation = new javax.swing.JTextField();
       insert = new javax.swing.JButton();
       update = new javax.swing.JButton();
       delete = new javax.swing.JButton();
       refresh = new javax.swing.JButton();
       search = new javax.swing.JButton();
       jLabel1 = new javax.swing.JLabel();
       exit = new javax.swing.JButton();
       DA = new javax.swing.JLabel();
       HRA = new javax.swing.JLabel();
       PF = new javax.swing.JLabel();
       GROSS = new javax.swing.JLabel();
       TOTAL_DEDUCTION = new javax.swing.JLabel();
       NETPAY = new javax.swing.JLabel();
       da = new javax.swing.JTextField();
       hra = new javax.swing.JTextField();
       pf = new javax.swing.JTextField();
       gross = new javax.swing.JTextField();
       tot_deduc = new javax.swing.JTextField();
       net_pay = new javax.swing.JTextField();
       setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
       NAME.setText("NAME");
       SEX.setText("SEX");
```

```
DESIGNATION.setText("DESIGNATION");
BASICPAY.setText("BASIC PAY");
eid.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        eidActionPerformed(evt);
});
sex.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        sexActionPerformed(evt);
});
insert.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        insertActionPerformed(evt);
});
update.setText("UPDATE");
update.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        updateActionPerformed(evt);
});
delete.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        deleteActionPerformed(evt);
});
refresh.setText("REFRESH");
refresh.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        refreshActionPerformed(evt);
});
search.setText("SEARCH");
search.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        searchActionPerformed(evt);
});
jLabel1.setText("EMPLOYEE DATABASE");
```

```
exit.setText("EXIT");
        exit.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                exitActionPerformed(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(61, 61, 61)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Align
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                            .addComponent(insert, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                        .addGap(30, 30, 30)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Align
ment.LEADING, false)
                            .addComponent(refresh, javax.swing.GroupLayout.DEFAULT_SIZE,
                            .addComponent(update, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                        .addGap(27, 27, 27)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Align
                            .addComponent(delete, javax.swing.GroupLayout.DEFAULT_SIZE,
                            .addComponent(exit, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))
                    .addGroup(layout.createSequentialGroup()
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Align
                            .addGroup(layout.createSequentialGroup()
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayo
                                    .addComponent(BASICPAY,
javax.swing.GroupLayout.PREFERRED SIZE, 93, javax.swing.GroupLayout.PREFERRED SIZE)
                                    .addComponent(SEX,
javax.swing.GroupLayout.PREFERRED_SIZE, 93, javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(NAME,
javax.swing.GroupLayout.PREFERRED_SIZE, 93, javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(EID,
javax.swing.GroupLayout.PREFERRED_SIZE, 93, javax.swing.GroupLayout.PREFERRED_SIZE))
                                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacemen
t.RELATED)
                                .addGroup(layout.createParallelGroup(javax.swing.GroupLayo
                                    .addGroup(layout.createSequentialGroup()
                                        .addGroup(layout.createParallelGroup(javax.swing.G
                                            .addComponent(dob,
                                            .addComponent(name,
                                            .addComponent(eid,
                                        .addGap(39, 39, 39)
                                        .addGroup(layout.createParallelGroup(javax.swing.G
                                            .addComponent(PF,
                                            .addGroup(layout.createParallelGroup(javax.swi
                                                .addComponent(HRA,
                                                .addComponent(DA,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))))
                                   .addGroup(layout.createSequentialGroup()
                                        .addGroup(layout.createParallelGroup(javax.swing.G
                                            .addComponent(sex,
                                            .addComponent(designation,
                                            .addComponent(basic,
javax.swing.GroupLayout.PREFERRED_SIZE, 111, javax.swing.GroupLayout.PREFERRED_SIZE))
                                        .addGap(39, 39, 39)
                                        .addGroup(layout.createParallelGroup(javax.swing.G
                                            .addComponent(NETPAY,
 avax.swing.GroupLayout.PREFERRED_SIZE, 84, javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
.addGroup(layout.createParallelGroup(javax.swi
                                                 .addComponent(TOTAL DEDUCTION,
javax.swing.GroupLayout.PREFERRED SIZE, 1, Short.MAX VALUE)
                                                 .addComponent(GROSS,
javax.swing.GroupLayout.DEFAULT_SIZE, 84, Short.MAX_VALUE))))))
                            .addGroup(layout.createSequentialGroup()
                                .addGap(176, 176, 176)
                                .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 124, javax.swing.GroupLayout.PREFERRED_SIZE)))
                        .addGap(31, 31, 31)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Align
ment.TRAILING)
                            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.A
lignment.LEADING, false)
                                .addComponent(hra)
                                 .addComponent(pf)
                                .addComponent(gross)
                                .addComponent(net_pay,
javax.swing.GroupLayout.DEFAULT_SIZE, 121, Short.MAX_VALUE))
                            .addComponent(da, javax.swing.GroupLayout.PREFERRED_SIZE, 121,
javax.swing.GroupLayout.PREFERRED SIZE))
                        .addGap(0, 0, Short.MAX_VALUE)))
                .addGap(57, 57, 57))
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 24,
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
                    .addComponent(EID)
                    .addComponent(eid, javax.swing.GroupLayout.PREFERRED_SIZE,
                    .addComponent(DA)
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(12, 12, 12)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
                    .addComponent(NAME)
                    .addComponent(name, javax.swing.GroupLayout.PREFERRED_SIZE,
                    .addComponent(HRA)
                    .addComponent(hra, 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.BAS
ELINE)
```

```
.addComponent(DOB, javax.swing.GroupLayout.PREFERRED SIZE, 20,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(dob)
                    .addComponent(PF)
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
                    .addComponent(SEX)
                    .addComponent(sex, javax.swing.GroupLayout.PREFERRED_SIZE,
                    .addComponent(GROSS)
                    .addComponent(gross, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(11, 11, 11)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
                    .addComponent(DESIGNATION)
                    .addComponent(designation)
                    .addComponent(TOTAL_DEDUCTION)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
                    .addComponent(BASICPAY)
                    .addComponent(NETPAY)
                .addGap(54, 54, 54)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
                    .addComponent(insert)
                    .addComponent(update)
                    .addComponent(delete))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
                    .addComponent(refresh)
                    .addComponent(search)
                    .addComponent(exit))
                .addGap(19, 19, 19))
        pack();
    private void eidActionPerformed(java.awt.event.ActionEvent evt)
```

```
private void refresh(){
private void calcf(String eid, String basic){
    try{
        String sql="call calc(?,?)";
        ps=con.prepareStatement(sql);
        ps.setString(1,eid);
        ps.setString(2, basic);
        ps.execute();
    catch(SQLException ex){
        Logger.getLogger(demo1.class.getName()).log(Level.SEVERE, null, ex);
        JOptionPane.showMessageDialog(this, ex.getMessage());
private void refreshActionPerformed(java.awt.event.ActionEvent evt)
        refresh();
private void sexActionPerformed(java.awt.event.ActionEvent evt)
private void insertActionPerformed(java.awt.event.ActionEvent evt)
    try {
        ps.setString(1, eid.getText());
        ps.setString(2, name.getText());
        ps.setString(3, dob.getText());
        ps.setString(4, sex.getText());
        ps.setString(5, designation.getText());
        ps.setString(6, basic.getText());
        ps.execute();
        calcf(eid.getText(),basic.getText());
        JOptionPane.showMessageDialog(this,"Inserted!");
        refresh();
```

```
Logger.getLogger(demo1.class.getName()).log(Level.SEVERE, null, ex);
           JOptionPane.showMessageDialog(this,ex.getMessage());
   private void deleteActionPerformed(java.awt.event.ActionEvent evt)
       try{
           String sql = "delete from emp_payroll where eid=?";
           ps = con.prepareStatement(sql);
           ps.setString(1, eid.getText());
           ps.execute();
           JOptionPane.showMessageDialog(this, "Deleted!");
           refresh();
           Logger.getLogger(demo1.class.getName()).log(Level.SEVERE, null, ex);
           JOptionPane.showMessageDialog(this,ex.getMessage());
   private void exitActionPerformed(java.awt.event.ActionEvent evt)
   private void searchActionPerformed(java.awt.event.ActionEvent evt)
       try {
           String sql = "select * from emp_payroll where eid = '"+eid.getText()+"'";
con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,ResultSet.CONCUR_UPDATABLE);
           rs = st.executeQuery(sql);
           if(rs.next()){
               eid.setText(rs.getString(1));
               name.setText(rs.getString(2));
               dob.setText(rs.getString(3));
               sex.setText(rs.getString(4));
               designation.setText(rs.getString(5));
               basic.setText(rs.getString(6));
               da.setText(rs.getString(7));
               hra.setText(rs.getString(8));
               gross.setText(rs.getString(9));
               pf.setText(rs.getString(10));
               tot_deduc.setText(rs.getString(11));
               net_pay.setText(rs.getString(12));
               JOptionPane.showMessageDialog(this, "Record Found!");
```

```
JOptionPane.showMessageDialog(this, "Record Not Found!");
                Logger.getLogger(demo1.class.getName()).log(Level.SEVERE, null, ex);
                JOptionPane.showMessageDialog(this, ex.getMessage());
   private void updateActionPerformed(java.awt.event.ActionEvent evt)
       try{
            String sql = "update emp_payroll set ename=?,dob=?,sex=?,designation=?,basic=?
           ps = con.prepareStatement(sql);
           ps.setString(6, eid.getText());
           ps.setString(1, name.getText());
           ps.setString(2, dob.getText());
           ps.setString(3, sex.getText());
           ps.setString(4, designation.getText());
           ps.setString(5, basic.getText());
           ps.execute();
           calcf(eid.getText(),basic.getText());
           JOptionPane.showMessageDialog(this, "Updated!");
           refresh();
       catch (SQLException ex) {
           Logger.getLogger(demo1.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this,ex.getMessage());
     * @param args the command line arguments
   public static void main(String args[]) {
(optional) ">
       try {
           for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
               if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
```

```
java.util.logging.Logger.getLogger(demo1.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
       } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(demo1.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
           java.util.logging.Logger.getLogger(demo1.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
       } catch (javax.swing.UnsupportedLookAndFeelException ex) {
           java.util.logging.Logger.getLogger(demo1.class.getName()).log(java.util.loggin
g.Level.SEVERE, null, ex);
       java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
               new demo1().setVisible(true);
       });
   private javax.swing.JLabel BASICPAY;
   private javax.swing.JLabel DA;
   private javax.swing.JLabel DESIGNATION;
   private javax.swing.JLabel DOB;
   private javax.swing.JLabel EID;
   private javax.swing.JLabel GROSS;
   private javax.swing.JLabel HRA;
   private javax.swing.JLabel NAME;
   private javax.swing.JLabel NETPAY;
   private javax.swing.JLabel PF;
   private javax.swing.JLabel SEX;
   private javax.swing.JLabel SEX1;
   private javax.swing.JLabel TOTAL_DEDUCTION;
   private javax.swing.JTextField basic;
   private javax.swing.JTextField da;
   private javax.swing.JButton delete;
   private javax.swing.JTextField designation;
   private javax.swing.JTextField dob;
   private javax.swing.JTextField eid;
   private javax.swing.JButton exit;
   private javax.swing.JTextField gross;
   private javax.swing.JTextField hra;
   private javax.swing.JButton insert;
   private javax.swing.JLabel jLabel1;
   private javax.swing.JTextField name;
   private javax.swing.JTextField net_pay;
   private javax.swing.JTextField pf;
   private javax.swing.JButton refresh;
   private javax.swing.JButton search;
   private javax.swing.JTextField sex;
```

```
private javax.swing.JTextField tot_deduc;
private javax.swing.JButton update;
// End of variables declaration

private void log(Level SEVERE, Object object, SQLException ex) {
    throw new UnsupportedOperationException("Not supported yet."); //To change body of generated methods, choose Tools | Templates.
}
}
```

Screenshots:





