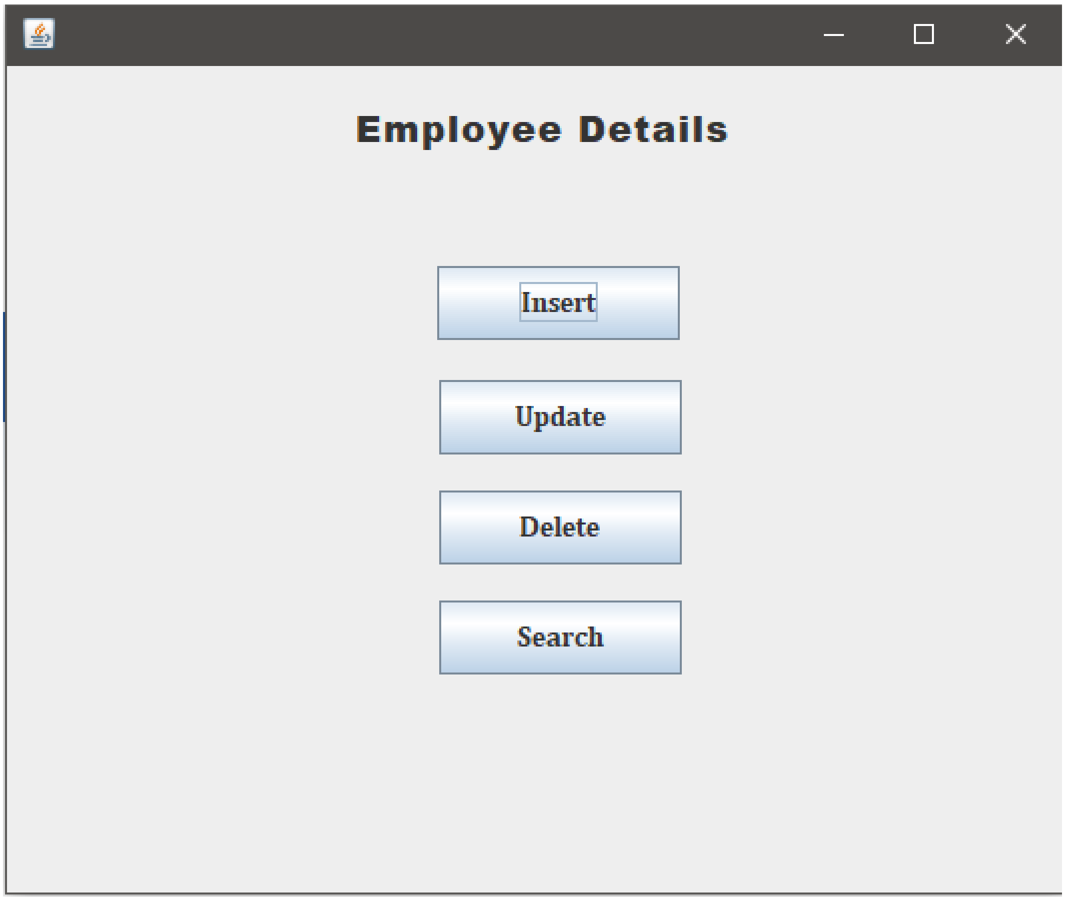
Database Application Programming using JDBC

Assignment – 10

Application interface Design and its operations:

1. Main menu

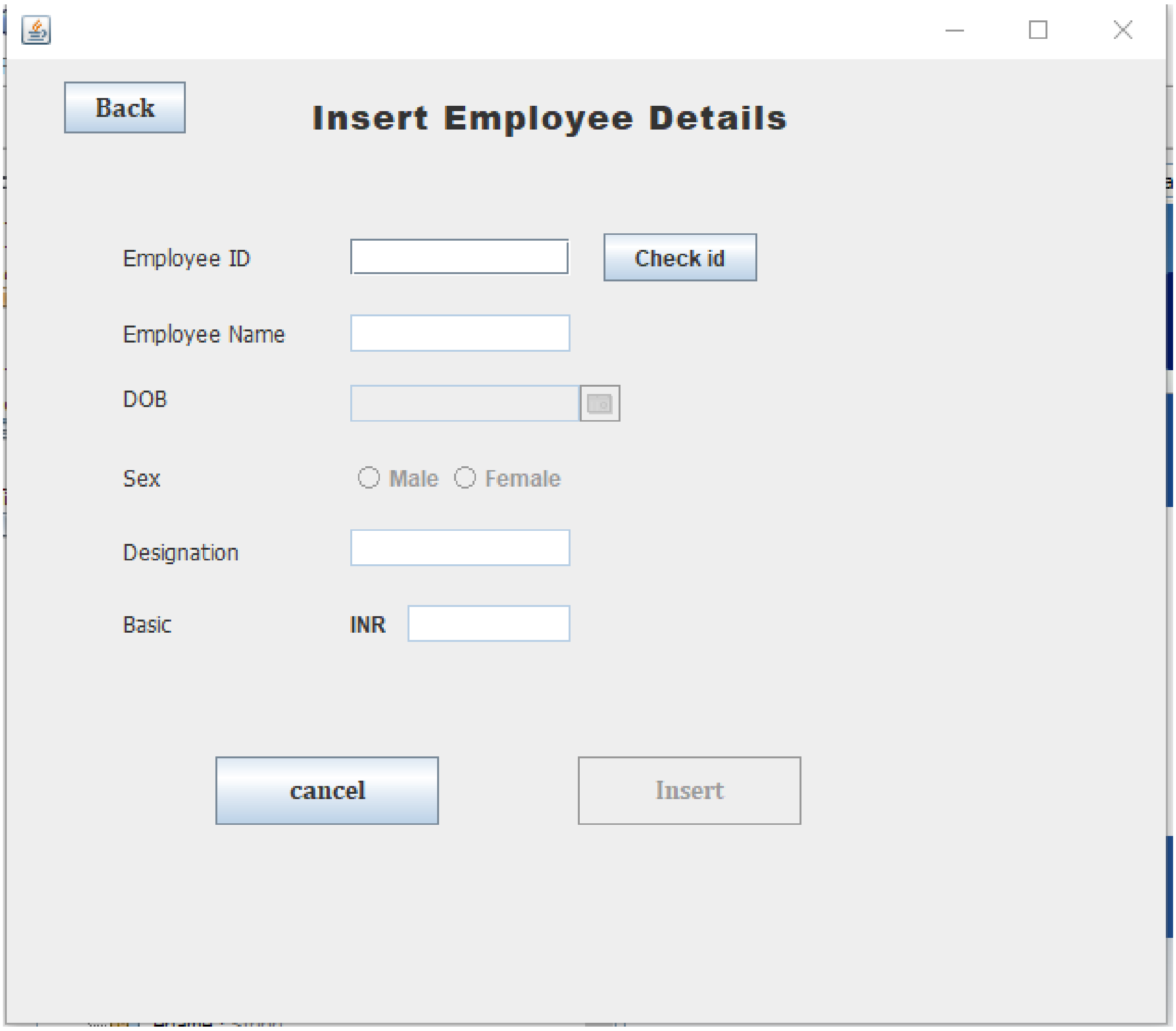


The Main menu has the options of

- Insert
- Update
- Delete
- Search

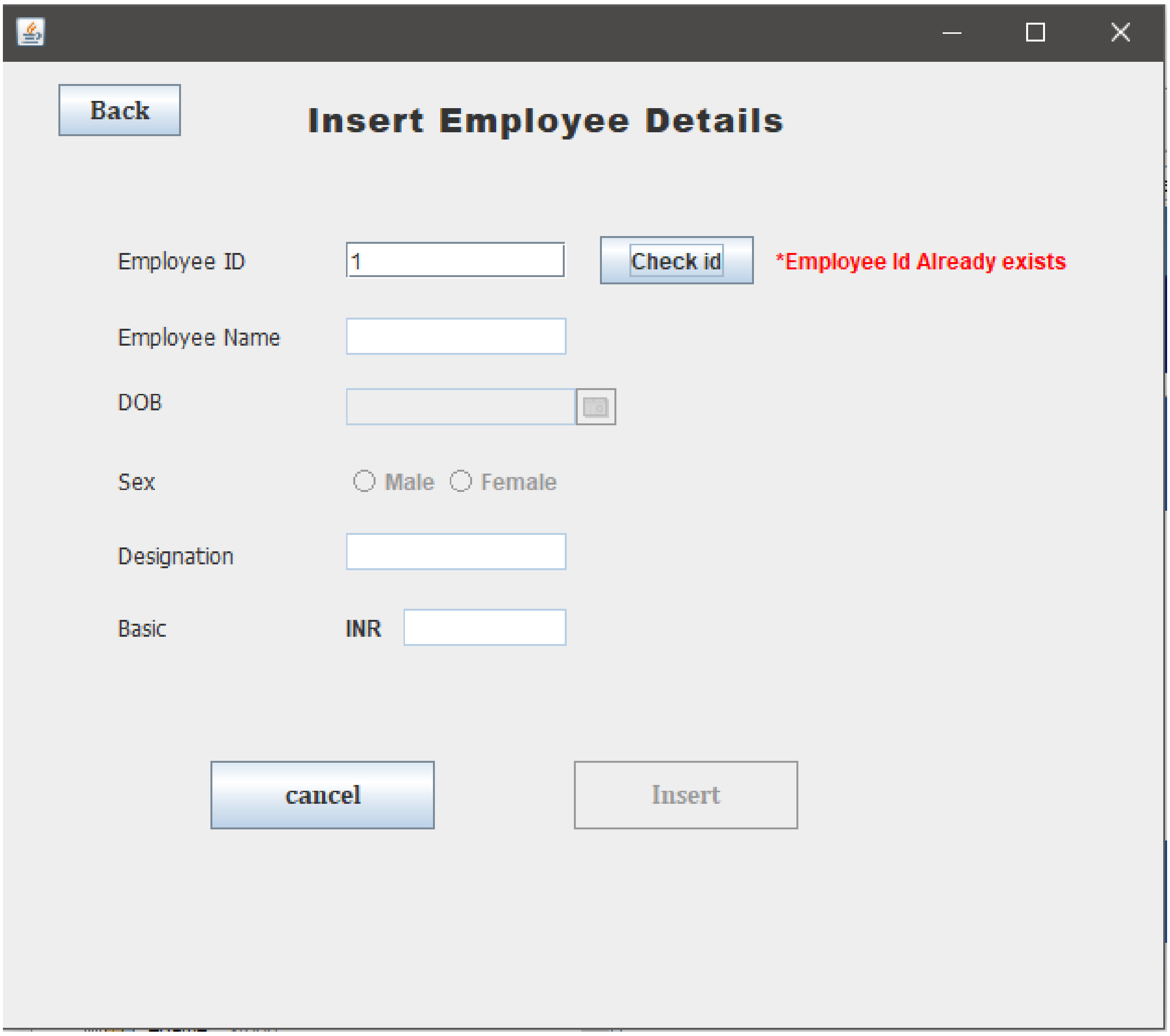
On the Employee payroll details database.

2. Insert Interface
    a. Upon start the application disables the all the details except **employee id** and **check id availability button.** This checks whether the assigning employee ID is already in existence or not. This further reduces the **primary key violation on employee ID.**



Here the Back and cancel button terminates the insert process and Insert button is disabled.

b. If we enter an **Existing Employee id,** as it violates the primary key of eid, it shows an error message besides the input field stating **“Employee ID already exists”** and the content will be still disabled until we enter a non-existing Employee id.



Employee ID: 1

*Employee Id Already exists

Employee Name

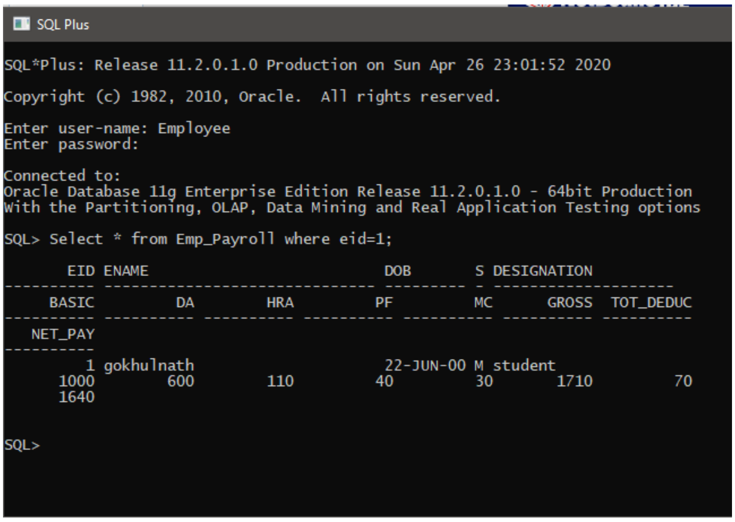
DOB

Sex ○ Male ○ Female

Designation

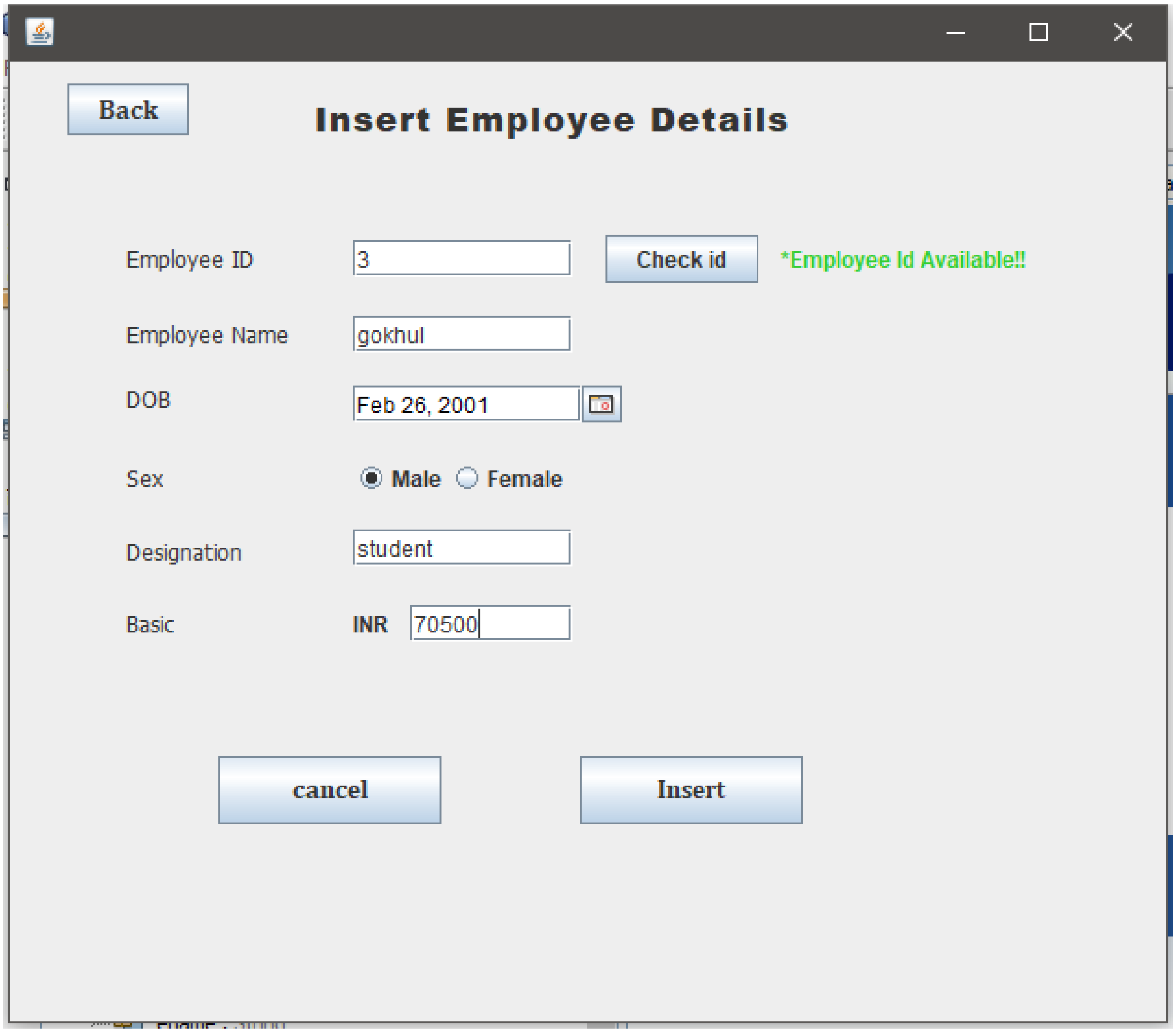
Basic INR

Here You can see that the data with Employee ID 1 exists.



```
SQL*Plus: Release 11.2.0.1.0 Production on Sun Apr 26 23:01:52 2020

Copyright (c) 1982, 2010, Oracle.  All rights reserved.

Enter user-name: Employee
Enter password:

Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> Select * from Emp_Payroll where eid=1;

       EID ENAME                          DOB       S DESIGNATION
---------- ------------------------------ --------- - --------------------
     BASIC         DA        HRA         PF         MC      GROSS  TOT_DEDUC
---------- ---------- ---------- ---------- ---------- ---------- ----------
   NET_PAY
----------
         1 gokhulnath                     22-JUN-00 M student
      1000        600        110 40         30               1710         70
      1640


SQL>
```

c. Once you enter a non-existing Employee id the application enables u to fill up the remaining details.



Insert Employee Details

Employee ID: 3

*Employee Id Available!!

Employee Name: gokhul

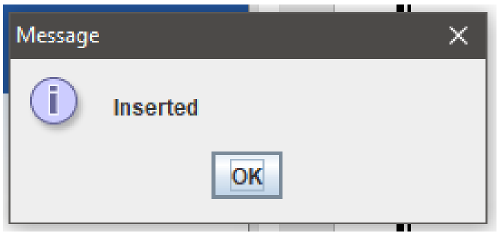
DOB: Feb 26, 2001

Sex: ● Male ○ Female

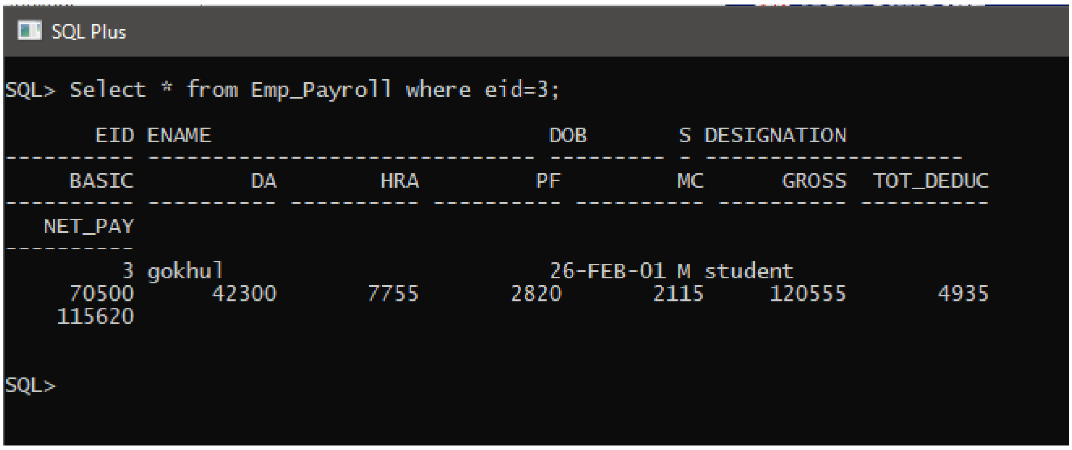
Designation: student

Basic: INR 70500

Which gives u an affirmative on insertion of the data in to the database. With proof of Insertion.

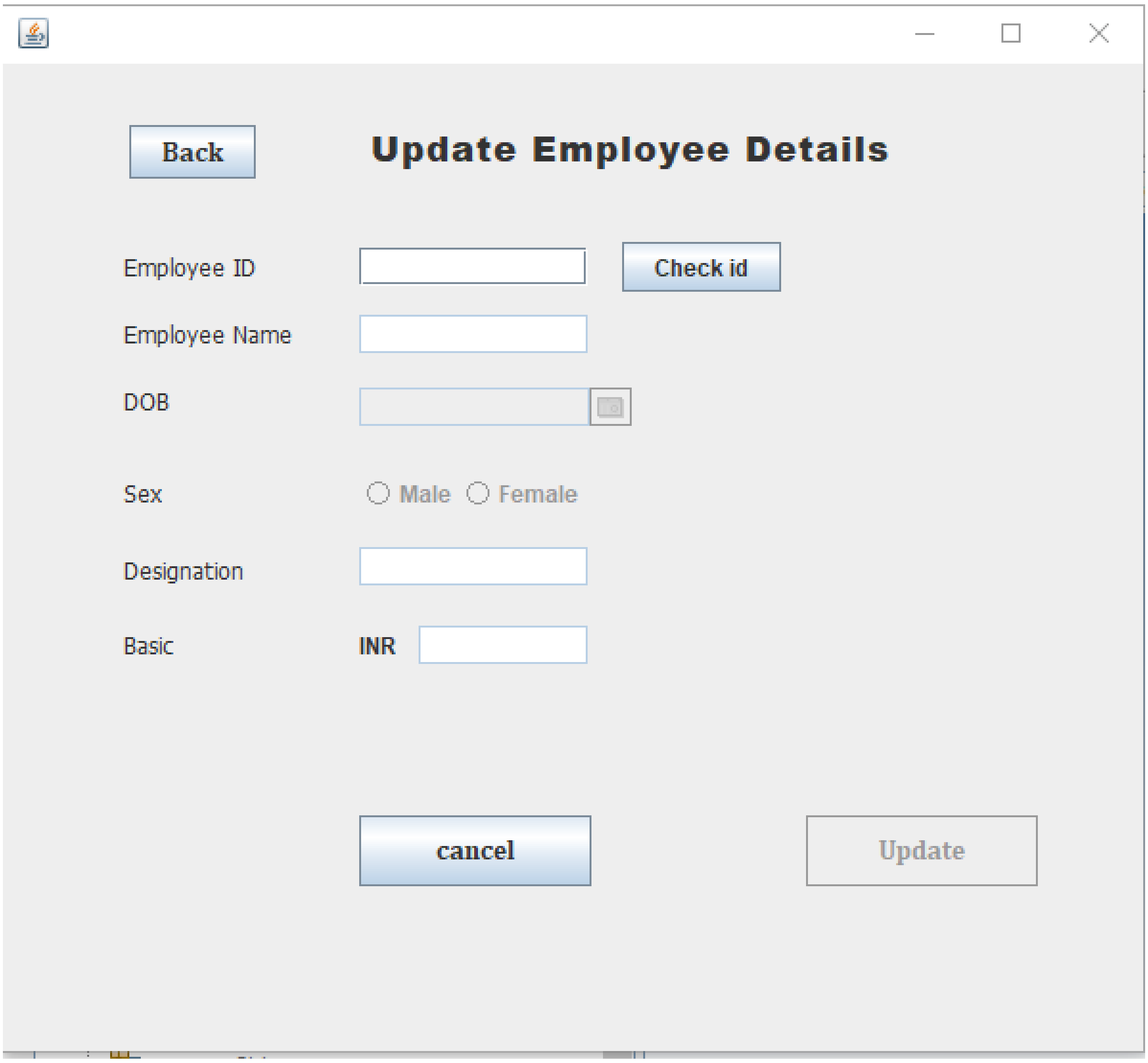


Inserted



```
SQL> Select * from Emp_Payroll where eid=3;

       EID ENAME                          DOB       S DESIGNATION
---------- ------------------------------ --------- - --------------------
     BASIC         DA        HRA         PF         MC      GROSS  TOT_DEDUC
---------- ---------- ---------- ---------- ---------- ---------- ----------
   NET_PAY
----------
         3 gokhul                         26-FEB-01 M student
     70500      42300       7755       2820       2115     120555       4935
    115620


SQL>
```

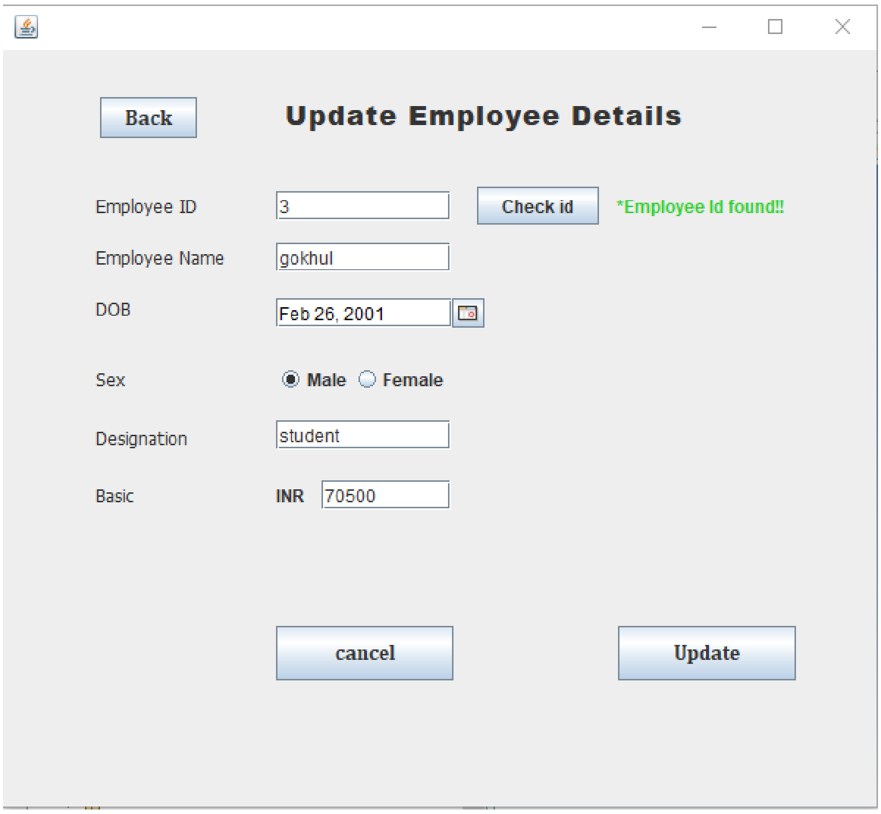
3. Update Interface
    a. Upon start similar to the Insert interface all the button and input is disabled except the employee id input and check id button.



Here u could see the Update Employee details interface.

b. If you enter the Employee id whose details must be updated, an prompt messages pop stating **“Employee id found”** enables all the input field that can be updated.

Before updating the contents:



Employee ID 3 *Employee Id found!!

Employee Name gokhul

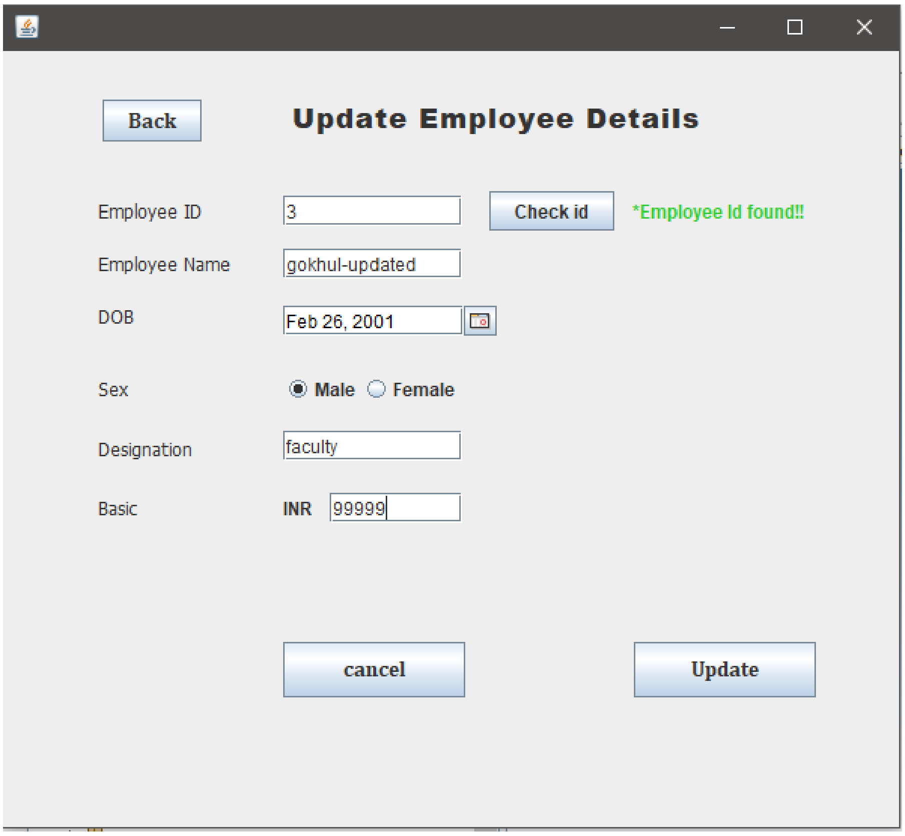
DOB Feb 26, 2001

Sex ● Male ○ Female

Designation student

Basic INR 70500

After updating the contents:



Employee ID 3 *Employee Id found!!

Employee Name gokhul-updated

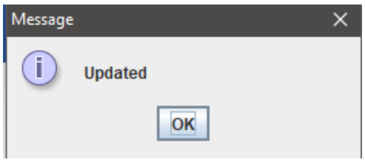
DOB Feb 26, 2001

Sex ● Male ○ Female

Designation faculty

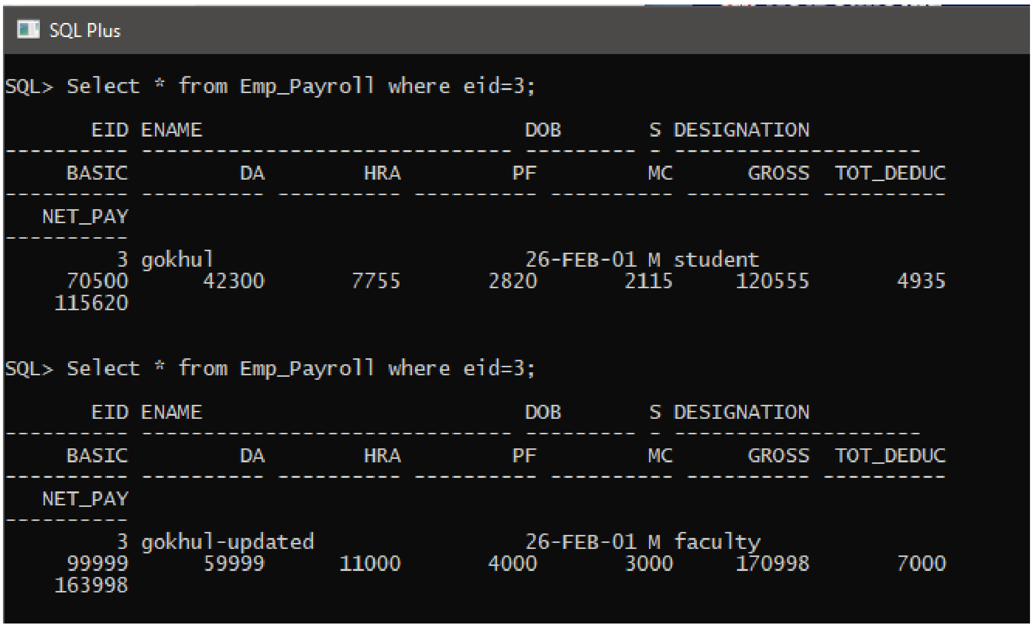
Basic INR 99999

On successful Update a dialog box pops stating **"Updated".** Proof of updating attached.



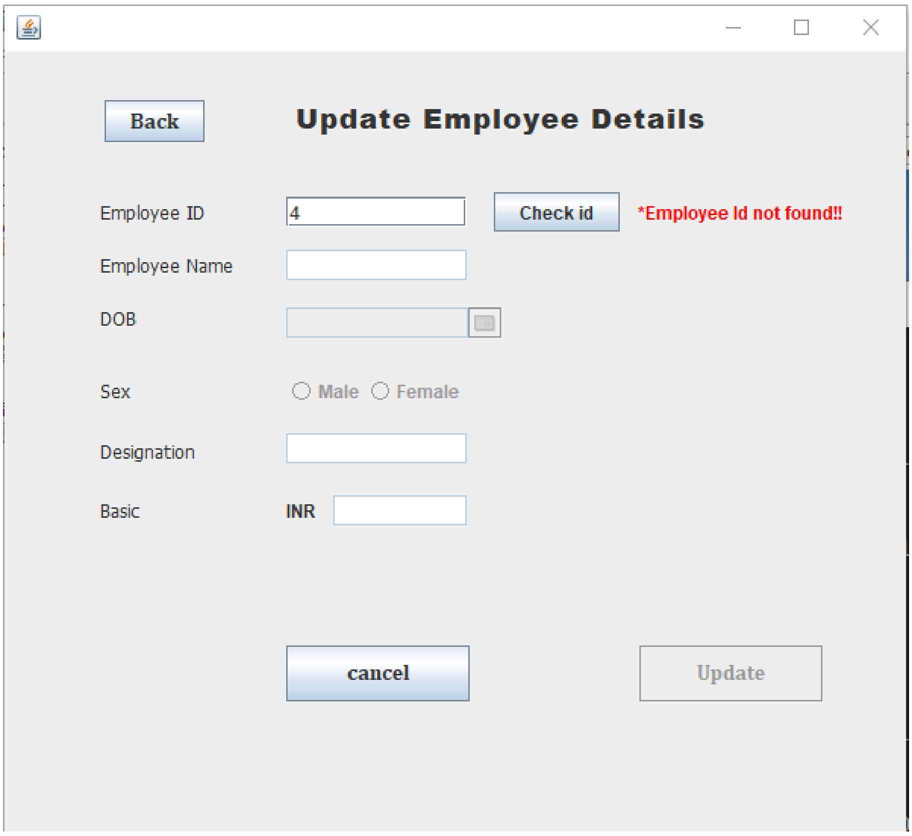
Updated

The first sql statement was before the updated and the following sql statement was after the update.



```
SQL> Select * from Emp_Payroll where eid=3;

       EID ENAME                          DOB       S DESIGNATION
---------- ------------------------------ --------- - --------------------
     BASIC         DA        HRA         PF         MC      GROSS  TOT_DEDUC
---------- ---------- ---------- ---------- ---------- ---------- ----------
   NET_PAY
----------
         3 gokhul                         26-FEB-01 M student
     70500      42300       7755       2820       2115     120555       4935
    115620

SQL> Select * from Emp_Payroll where eid=3;

       EID ENAME                          DOB       S DESIGNATION
---------- ------------------------------ --------- - --------------------
     BASIC         DA        HRA         PF         MC      GROSS  TOT_DEDUC
---------- ---------- ---------- ---------- ---------- ---------- ----------
   NET_PAY
----------
         3 gokhul-updated                 26-FEB-01 M faculty
     99999      59999      11000       4000       3000     170998       7000
    163998
```

c. On entering a non-existing Employee ID all the inputs and button will be disabled and prompts a message **"Employee ID not found".**



Update Employee Details

Employee ID 4

*Employee Id not found!!

Employee Name

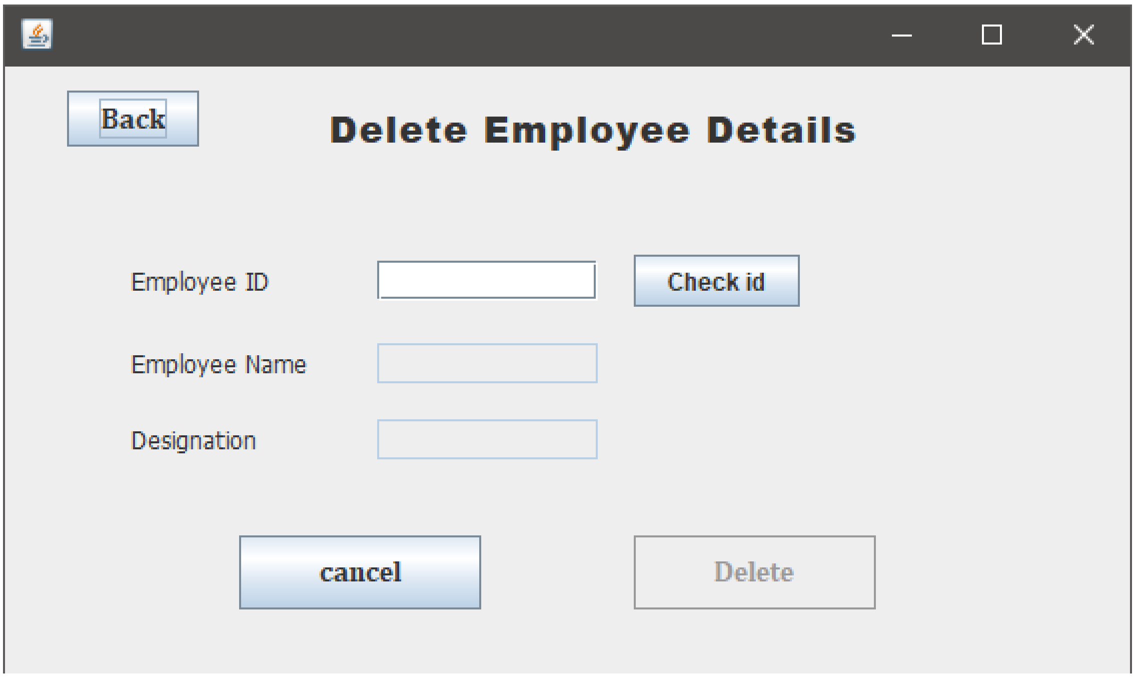
DOB

Sex

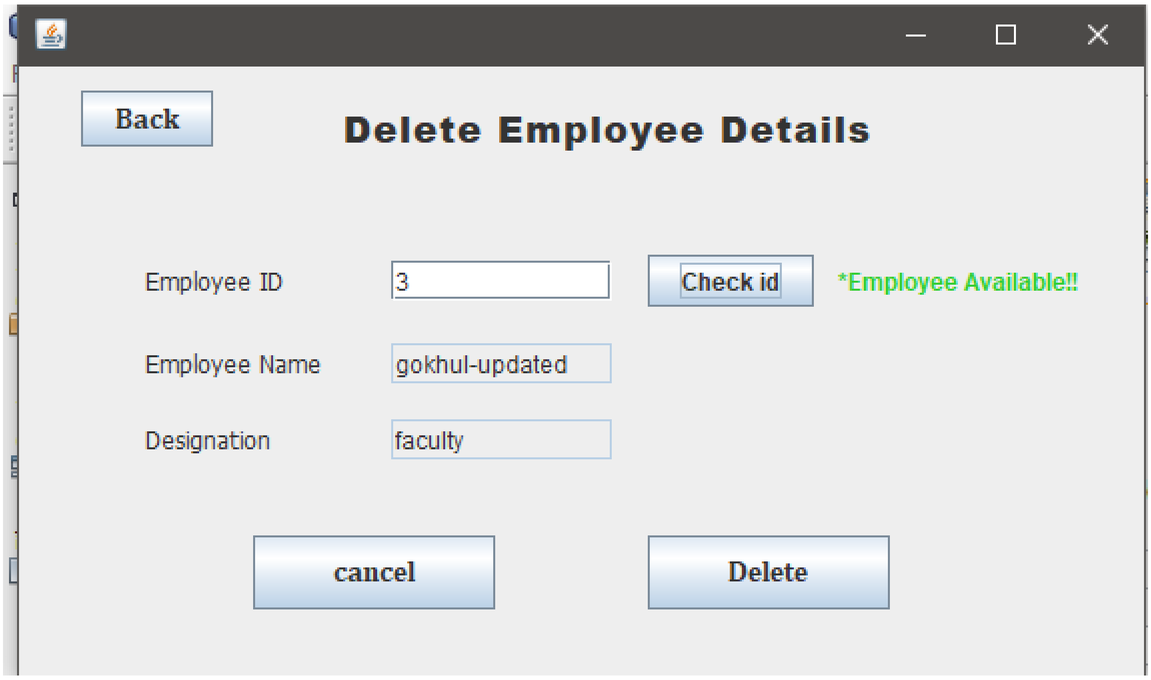
Designation

Basic INR

4. Delete Interface
   a. Initially Delete interface contains the information of employee id as input field and employee name, designation for more convenient for cross checking whether we are removing the correct employee details.



   b. By entering the Employee id whose details are to be deleted, the information of the employee appears for further cross-check and these input are non editable.



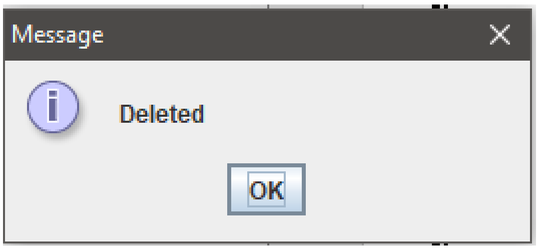
Employee ID: 3

*Employee Available!!

Employee Name: gokhul-updated

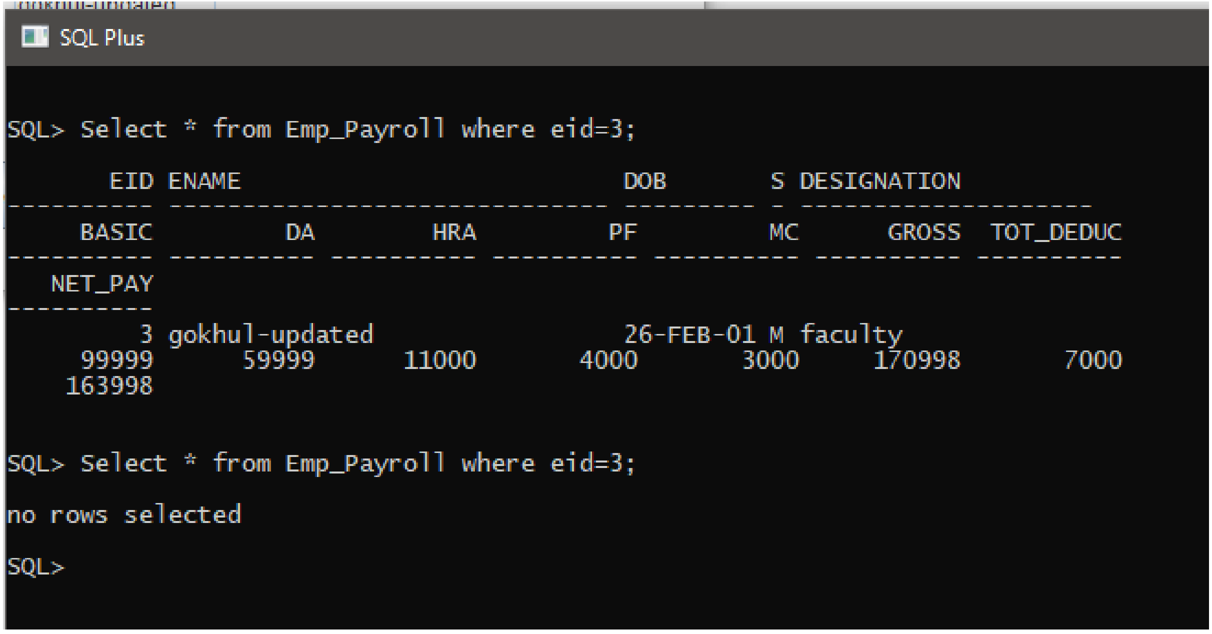
Designation: faculty

The pop-up dialog box appears on successful deletion. Proof is attached for deletion.



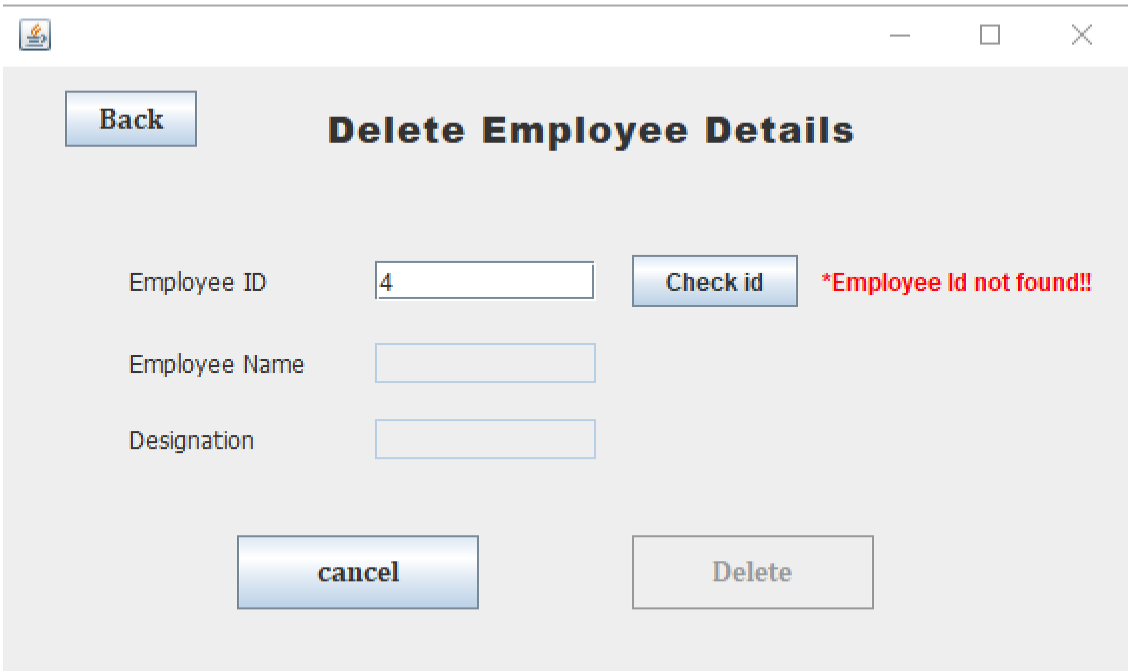
Deleted

The first SQL query was before deletion and the following was after deletion.



```
SQL> Select * from Emp_Payroll where eid=3;

       EID ENAME                          DOB       S DESIGNATION
---------- ------------------------------ --------- - --------------------
     BASIC         DA        HRA         PF         MC      GROSS  TOT_DEDUC
---------- ---------- ---------- ---------- ---------- ---------- ----------
   NET_PAY
----------
         3 gokhul-updated                 26-FEB-01 M faculty
     99999      59999      11000       4000       3000     170998       7000
    163998


SQL> Select * from Emp_Payroll where eid=3;

no rows selected

SQL>
```

c. On entering the non-existing employee id it prompts that **“Employee id not found.”**



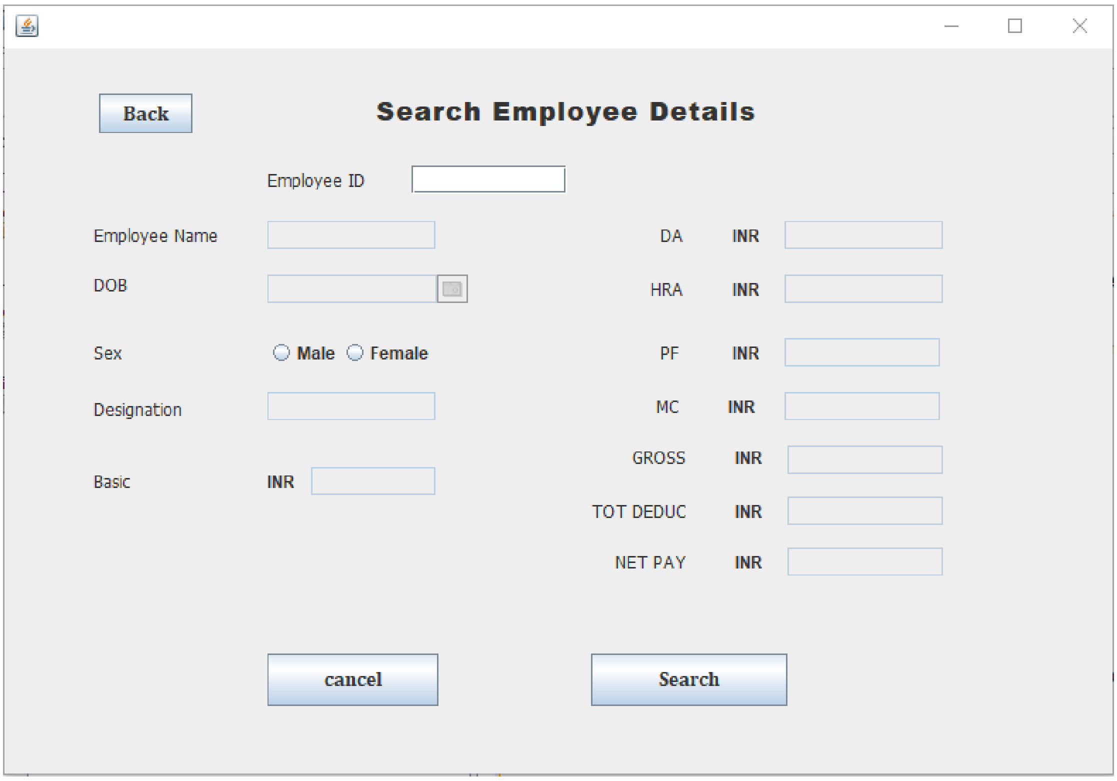
Delete Employee Details

Employee ID 4 *Employee Id not found!!

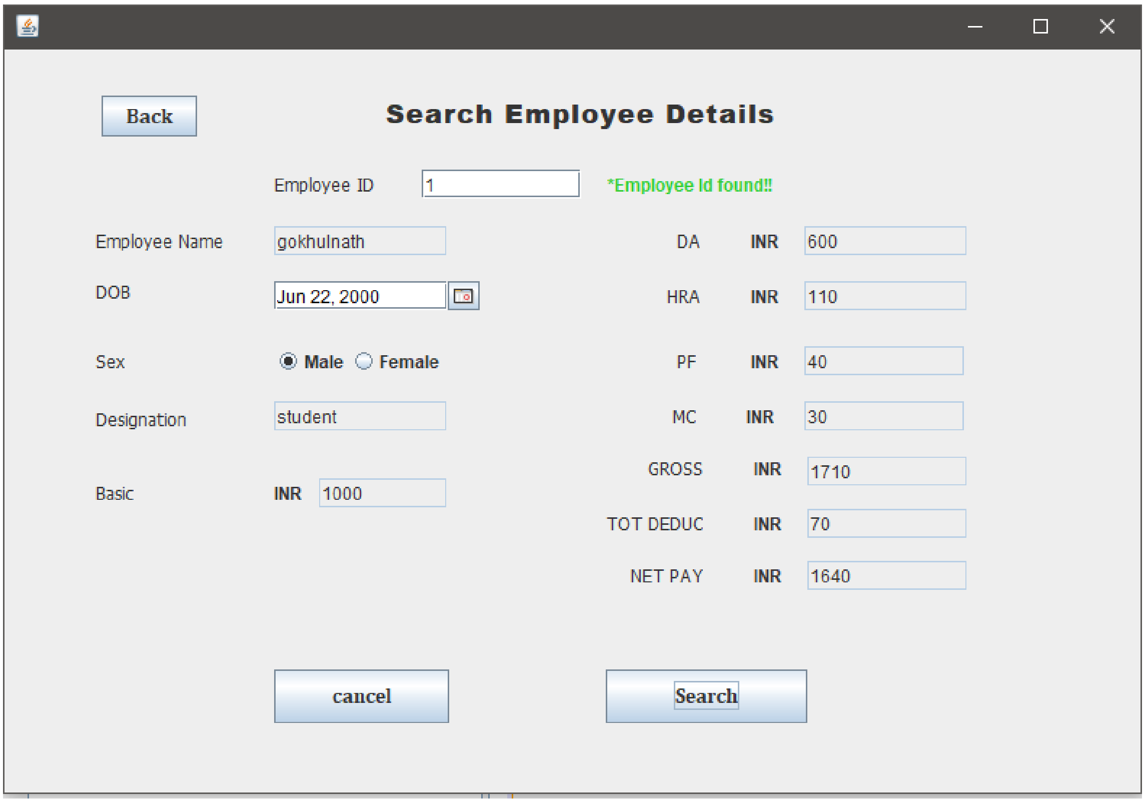
Employee Name

Designation

5. Search Interface
   a. Everything in the interface is disabled, so you can't edit any information. You can just see the info.



   b. Entering the employee id fills the data over the interface until the employee id exists in the database.

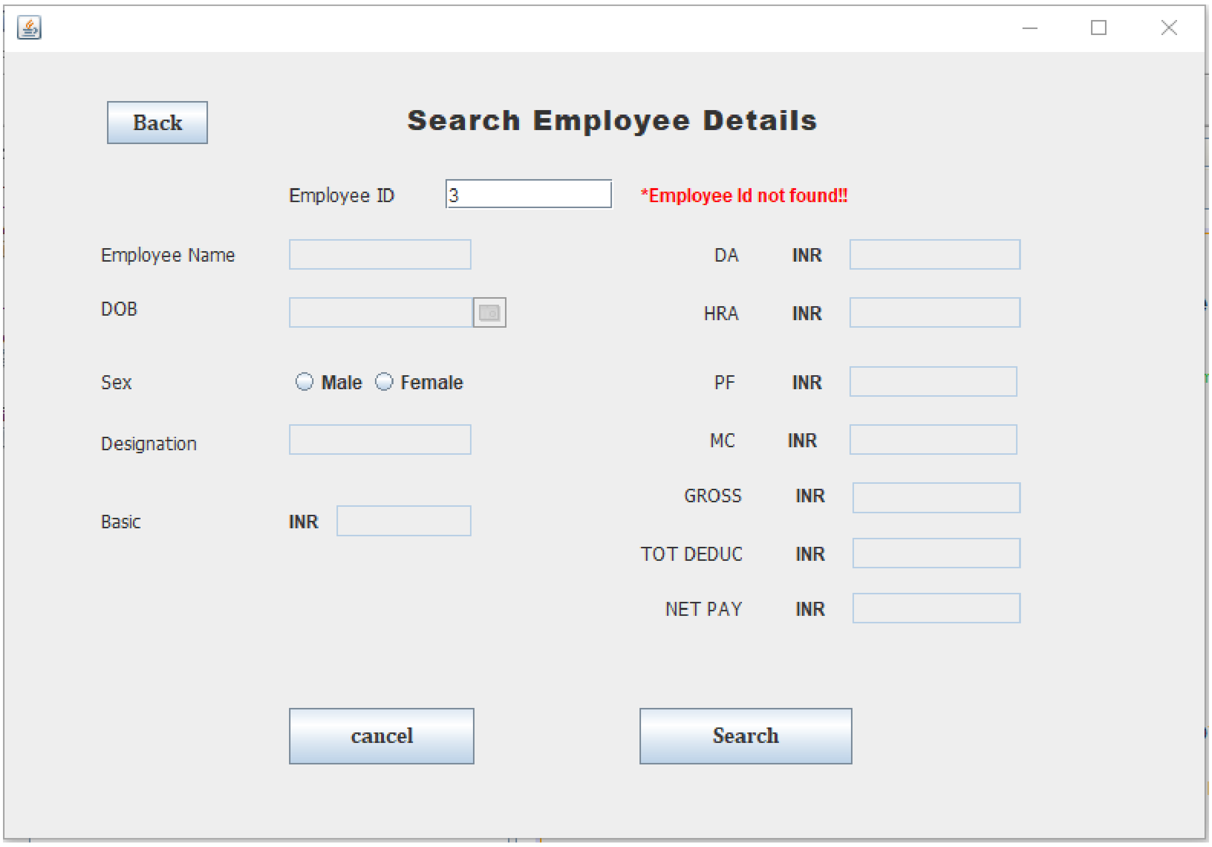


Search Employee Details

Employee ID: 1 *Employee Id found!!

Employee Name	gokhulnath	DA	INR	600
DOB	Jun 22, 2000	HRA	INR	110
Sex	● Male ○ Female	PF	INR	40
Designation	student	MC	INR	30
		GROSS	INR	1710
Basic	INR 1000	TOT DEDUC	INR	70
		NET PAY	INR	1640

c. Non-existing employee id doesn't reveal any info. In this case since the employee id 3 was deleted previous tasks, it's not available in the database.



Search Employee Details

Employee ID: 3

*Employee Id not found!!

Technologies used:

- NetBeans 8.0.2
- Oracle Database 11g edition

SQL Commands and connection code

Connection code:

Connection : jdbc:oracle:thin:@localhost:1521:orcl

UserName: Employee

Password: gokhul

Database creation:

```
SQL> connect system/gokhul;
Connected.
SQL> create user Employee identified by gokhul;

User created.

SQL> grant connect, resource to Employee;

Grant succeeded.

SQL> connect Employee;
Enter password:
Connected.
SQL> create table Emp_Payroll(
  2    eid number(5) constraint emp_id_pk primary key,
  3    ename varchar(30),
  4    dob date,
  5    sex varchar(1),
  6    designation varchar(20),
  7    basic number(10),
  8    da number(10),
  9    hra number(10),
 10    pf number(10),
 11    mc number(10),
 12    gross number(10),
 13    tot_deduc number(10),
 14    net_pay number(10));

Table created.


SQL> create or replace procedure net_pay_calc(emp_id in Emp_Payroll.eid%type,
basic_amt in Emp_Payroll.basic%type) is
  2  da_amt Emp_Payroll.da%type;
  3  hra_amt Emp_Payroll.hra%type;
  4  pf_amt Emp_Payroll.pf%type;
  5  mc_amt Emp_Payroll.mc%type;
  6  gross_amt Emp_Payroll.gross%type;
  7  tot_deduc_amt Emp_Payroll.tot_deduc%type;
  8  net_pay_amt Emp_Payroll.net_pay%type;
  9  begin
 10  da_amt:=0.6*basic_amt;
 11  hra_amt:=0.11*basic_amt;
 12  pf_amt:=0.04*basic_amt;
 13  mc_amt:=0.03*basic_amt;
 14  gross_amt:=basic_amt+da_amt+hra_amt;
 15  tot_deduc_amt:=pf_amt+mc_amt;
 16  net_pay_amt:=gross_amt-tot_deduc_amt;
 17  update Emp_Payroll set da=da_amt, hra=hra_amt, pf=pf_amt, mc=mc_amt,
gross=gross_amt,
 18  tot_deduc=tot_deduc_amt, net_pay=net_pay_amt where eid=emp_id;
 19  exception
 20  WHEN no_data_found THEN
 21  dbms_output.put_line('no orders found!!');
 22  end;
 23  /

Procedure created.
```

SQL command used in application:

INSERT:

```
insert into Emp_Payroll(eid,ename,dob,sex,designation,basic) values
(00001,'gokhulnath','22-jun-2000','M','student',100000);
```

UPDATE:

```
update Emp_Payroll set ename='gokhul', dob='26-jun-2000', sex='F', designation='profesor',
basic=1000 where eid=00001;
```

DELETE:

```
delete from Emp_Payroll where eid=00001;
```

SEARCH:

```
select * from Emp_Payroll where eid=00001;
```

GUI CODE

1. **Main Menu:**

```
    private void InsertActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_InsertActionPerformed
        Insert inst = new Insert();
        inst.show();
        this.hide();
    }//GEN-LAST:event_InsertActionPerformed

    private void UpdateActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_UpdateActionPerformed
        Update upd = new Update();
        upd.show();
        this.hide();
    }//GEN-LAST:event_UpdateActionPerformed

    private void DeleteActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_DeleteActionPerformed
        Delete dlt = new Delete();
        dlt.show();
        this.hide();
    }//GEN-LAST:event_DeleteActionPerformed

    private void SearchActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_SearchActionPerformed
        Search sh = new Search();
        sh.show();
        this.hide();
    }//GEN-LAST:event_SearchActionPerformed
```

2. **Insert Interface:**

```
/*
 * 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 employee_pay_roll;

import java.awt.Color;
import java.sql.*;
import java.text.SimpleDateFormat;
import javax.swing.JOptionPane;

/**
 *
 * @author gokhu
 */
public class Insert extends javax.swing.JFrame {

    /**
     * Creates new form Delete
     */
    public Insert() {
        initComponents();
            jLabel9.setVisible(false);
        ename_text.setEnabled(false);
        dob_date.setEnabled(false);
        jRadioButton2.setEnabled(false);
        jRadioButton3.setEnabled(false);
        designation_text.setEnabled(false);
        basic_text.setEnabled(false);
        InsertButton.setEnabled(false);
    }

    String sex = null;
    String date = null;
    String ename = null;

    String designation = null;

    String basic = null;


    /**

     * 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() {

                                        //Content for swing elements palcement

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


    private void CancelButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_CancelButtonActionPerformed

        Main_Menu mm = new Main_Menu();

        mm.show();

        this.hide();

    }//GEN-LAST:event_CancelButtonActionPerformed


    private void eid_textInputMethodTextChanged(java.awt.event.InputMethodEvent evt) {//GEN-FIRST:event_eid_textInputMethodTextChanged


    }//GEN-LAST:event_eid_textInputMethodTextChanged


    private void eid_textActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_eid_textActionPerformed


    }//GEN-LAST:event_eid_textActionPerformed


    private void BackButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_BackButtonActionPerformed

        Main_Menu mm = new Main_Menu();

        mm.show();

        this.hide();

    }//GEN-LAST:event_BackButtonActionPerformed
    private void InsertButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_InsertButtonActionPerformed

        ename = ename_text.getText();

        designation = designation_text.getText();

        basic = basic_text.getText();

        if(dob_date.getDate()!= null){

            SimpleDateFormat dd = new SimpleDateFormat("dd");

            SimpleDateFormat mm = new SimpleDateFormat("MM");

            SimpleDateFormat yyyy = new SimpleDateFormat("yyyy");

            String d = dd.format(dob_date.getDate());

            Integer m = Integer.parseInt(mm.format(dob_date.getDate()));

            String y = yyyy.format(dob_date.getDate());

            String month = null;

            switch(m){

                case 1:month="jan";

                break;

                case 2:month="feb";

                break;

                case 3:month="mar";

                break;

                case 4:month="apr";

                break;

                case 5:month="may";

                break;

                case 6:month="jun";

                break;

                case 7:month="july";

                break;

                case 8:month="aug";

                break;

                case 9:month="sep";

                break;

                case 10:month="oct";

                break;

                case 11:month="nov";

                break;
                case 12:month="dec";
                break;
            }
            date=d+"-"+month+"-"+y;
        }


        if(!( ename!=null && date !=  null && sex != null && designation!=null && basic != null)){
            JOptionPane.showMessageDialog(null,"Please fill all the details");
        }
        else{
            try{Class.forName("oracle.jdbc.OracleDriver");
                Connection con1=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl","Employee",
"gokhul");
                String sql="insert into Emp_Payroll(eid,ename,dob,sex,designation,basic) values (?,?,?,?,?,?)";
                PreparedStatement pst=con1.prepareStatement(sql);
                pst.setInt(1,Integer.parseInt(eid_text.getText()));
                pst.setString(2,ename_text.getText());
                pst.setString(3,date);
                pst.setString(4,sex);
                pst.setString(5,designation_text.getText());
                pst.setInt(6,Integer.parseInt(basic_text.getText()));
                pst.execute();


                CallableStatement cst = con1.prepareCall("{CALL net_pay_calc(?,?)}");
                cst.registerOutParameter(1,Types.INTEGER);
                cst.registerOutParameter(2,Types.INTEGER);
                cst.setInt(1,Integer.parseInt(eid_text.getText()));
                cst.setInt(2,Integer.parseInt(basic_text.getText()));
                cst.execute();


                JOptionPane.showMessageDialog(null,"Inserted");
                cst.close();
                pst.close();
                con1.close();
            }catch(Exception e) {JOptionPane.showMessageDialog(null,"Error="+e);}
        }
    }//GEN-LAST:event_InsertButtonActionPerformed
    private void jRadioButton2ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jRadioButton2ActionPerformed

        sex="M";

    }//GEN-LAST:event_jRadioButton2ActionPerformed


    private void jRadioButton3ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jRadioButton3ActionPerformed

        sex = "F";

    }//GEN-LAST:event_jRadioButton3ActionPerformed


    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton1ActionPerformed

        int temp=0;

        ename_text.setText("");

        dob_date.setDate(null);

        sex_radio.clearSelection();

        designation_text.setText("");

        basic_text.setText("");

        try{Class.forName("oracle.jdbc.OracleDriver");

            Connection con1=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl","Employee",
"gokhul");

            Statement st = con1.createStatement();

            ResultSet rs = st.executeQuery("select * from Emp_Payroll");

            while(rs.next()){

                int no = rs.getInt(1);

                if(no==Integer.parseInt(eid_text.getText())){

                    temp+=1;

                }

            }

            rs.close();

            con1.close();

        }catch(Exception e) {JOptionPane.showMessageDialog(null,"Error="+e);}

        if(temp>=1){

            jLabel9.setText("*Employee Id Already exists");

            jLabel9.setVisible(true);

            jLabel9.setForeground(Color.red);

            ename_text.setEnabled(false);
            dob_date.setEnabled(false);
            jRadioButton2.setEnabled(false);
            jRadioButton3.setEnabled(false);
            designation_text.setEnabled(false);
            basic_text.setEnabled(false);
            InsertButton.setEnabled(false);
        }
        else{
            jLabel9.setVisible(true);
            jLabel9.setText("*Employee Id Available!!");
            jLabel9.setForeground(Color.decode("#32CD32"));
            ename_text.setEnabled(true);
            dob_date.setEnabled(true);
            jRadioButton2.setEnabled(true);
            jRadioButton3.setEnabled(true);
            designation_text.setEnabled(true);
            basic_text.setEnabled(true);
            InsertButton.setEnabled(true);
        }
    }//GEN-LAST:event_jButton1ActionPerformed
```

3. Update Interface:

```
package employee_pay_roll;
import java.awt.Color;
import java.sql.*;
import java.text.SimpleDateFormat;
import javax.swing.JOptionPane;
/**
 *
 * @author gokhu
 */
public class Update extends javax.swing.JFrame {
    public Update() {
        initComponents();
        jLabel9.setVisible(false);
        ename_text.setEnabled(false);
        dob_date.setEnabled(false);
        jRadioButton2.setEnabled(false);
        jRadioButton3.setEnabled(false);
        designation_text.setEnabled(false);
        basic_text.setEnabled(false);
        InsertButton.setEnabled(false);
    }
    String sex = null;
    String date = null;
    String ename = null;
    String designation = null;
    int basic = 0;
    Date dob=null;
    /**
     * 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() {
        //Content for Swing elements placement
    }// </editor-fold>//GEN-END:initComponents

    private void CancelButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_CancelButtonActionPerformed
        Main_Menu mm = new Main_Menu();
        mm.show();
        this.hide();
    }//GEN-LAST:event_CancelButtonActionPerformed

    private void eid_textInputMethodTextChanged(java.awt.event.InputMethodEvent evt) {//GEN-FIRST:event_eid_textInputMethodTextChanged

    }//GEN-LAST:event_eid_textInputMethodTextChanged

    private void eid_textActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_eid_textActionPerformed

    }//GEN-LAST:event_eid_textActionPerformed

    private void BackButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_BackButtonActionPerformed
        Main_Menu mm = new Main_Menu();
        mm.show();
        this.hide();
    }//GEN-LAST:event_BackButtonActionPerformed

    private void InsertButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_InsertButtonActionPerformed
        if(dob_date.getDate()!= null){
                SimpleDateFormat dd = new SimpleDateFormat("dd");
        SimpleDateFormat mm = new SimpleDateFormat("MM");
        SimpleDateFormat yyyy = new SimpleDateFormat("yyyy");
        String d = dd.format(dob_date.getDate());
        Integer m = Integer.parseInt(mm.format(dob_date.getDate()));
        String y = yyyy.format(dob_date.getDate());
        String month = null;
        switch(m){
            case 1:month="jan";
            break;
            case 2:month="feb";
            break;
            case 3:month="mar";
            break;
            case 4:month="apr";
            break;
            case 5:month="may";
            break;
            case 6:month="jun";
            break;
            case 7:month="july";
            break;
            case 8:month="aug";
            break;
            case 9:month="sep";
            break;
            case 10:month="oct";
            break;
            case 11:month="nov";
            break;
            case 12:month="dec";
            break;
        }
        date=d+"-"+month+"-"+y;
        }
        else{
            date=dob.toString();
        }
        if(!(ename!=null && date !=  null && sex != null && designation!= null && basic!=0)){
           JOptionPane.showMessageDialog(null,"Please fill all the details");
       }
       else{
            try{Class.forName("oracle.jdbc.OracleDriver");
                Connection con1=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl","Employee",
"gokhul");
```

```
                String sql="update Emp_Payroll set ename=?, dob=?, sex=?, designation=?, basic=? where eid=?";
                PreparedStatement pst=con1.prepareStatement(sql);

                pst.setString(1,ename_text.getText());
                pst.setString(2,date);
                pst.setString(3,sex);
                pst.setString(4,designation_text.getText());
                pst.setInt(5,Integer.parseInt(basic_text.getText()));
                pst.setInt(6,Integer.parseInt(eid_text.getText()));
                pst.execute();

                CallableStatement cst = con1.prepareCall("{CALL net_pay_calc(?,?)}");
                cst.registerOutParameter(1,Types.INTEGER);
                cst.registerOutParameter(2,Types.INTEGER);
                cst.setInt(1,Integer.parseInt(eid_text.getText()));
                cst.setInt(2,Integer.parseInt(basic_text.getText()));
                cst.execute();

                JOptionPane.showMessageDialog(null,"Updated");
                cst.close();
                pst.close();
                con1.close();
            }catch(Exception e) {JOptionPane.showMessageDialog(null,"Error="+e);}

        }

    }//GEN-LAST:event_InsertButtonActionPerformed

    private void jRadioButton2ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jRadioButton2ActionPerformed
        sex="M";
    }//GEN-LAST:event_jRadioButton2ActionPerformed

    private void jRadioButton3ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jRadioButton3ActionPerformed
        sex = "F";
    }//GEN-LAST:event_jRadioButton3ActionPerformed
    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton1ActionPerformed

        int temp=0;

        ename_text.setText("");

        dob_date.setDate(null);

        sex_radio.clearSelection();

        designation_text.setText("");

        basic_text.setText("");

        try{Class.forName("oracle.jdbc.OracleDriver");

            Connection con1=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl","Employee",
"gokhul");

            Statement st = con1.createStatement();

            ResultSet rs = st.executeQuery("select * from Emp_Payroll");

            while(rs.next()){

                int no = rs.getInt(1);

                if(no==Integer.parseInt(eid_text.getText())){

                    temp+=1;

                }

            }

            rs.close();

            con1.close();

        }catch(Exception e) {JOptionPane.showMessageDialog(null,"Error="+e);}

        if(temp>=1){

            jLabel9.setText("*Employee Id found!!");

            jLabel9.setVisible(true);

            jLabel9.setForeground(Color.decode("#32CD32"));

            ename_text.setEnabled(true);

            dob_date.setEnabled(true);

            jRadioButton2.setEnabled(true);

            jRadioButton3.setEnabled(true);

            designation_text.setEnabled(true);

            basic_text.setEnabled(true);

            InsertButton.setEnabled(true);

            try{Class.forName("oracle.jdbc.OracleDriver");

            Connection con1=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl","Employee",
"gokhul");

            Statement st = con1.createStatement();
            ResultSet rs = st.executeQuery("select * from Emp_Payroll where 
eid="+Integer.parseInt(eid_text.getText()));

            while(rs.next()){

               ename=rs.getString("ename");

            ename_text.setText(ename);

            if(rs.getString("sex").equals("M")){

               jRadioButton2.setSelected(true);

               sex="M";

            }else{

               jRadioButton3.setSelected(true);

               sex="F";

            }

            designation=rs.getString("designation");

            designation_text.setText(designation);

            basic=rs.getInt("basic");

            basic_text.setText(String.valueOf(basic));

            dob=rs.getDate("dob");

            dob_date.setDate(dob);

            }

            rs.close();

            con1.close();

         }catch(Exception e) {JOptionPane.showMessageDialog(null,"Error="+e);}

         }

         else{

            jLabel9.setVisible(true);

            jLabel9.setText("*Employee Id not found!!");

            jLabel9.setForeground(Color.red);

            ename_text.setEnabled(false);

            dob_date.setEnabled(false);

            jRadioButton2.setEnabled(false);

            jRadioButton3.setEnabled(false);

            designation_text.setEnabled(false);

            basic_text.setEnabled(false);

            InsertButton.setEnabled(false);

         }

      }//GEN-LAST:event_jButton1ActionPerformed
```

4. **Delete Interface:**

```
/*
 * 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 employee_pay_roll;

import java.awt.Color;
import java.sql.*;
import java.text.SimpleDateFormat;
import java.time.LocalDate;
import javax.swing.ButtonGroup;
import javax.swing.JOptionPane;
import org.jdesktop.swingx.JXDatePicker;

/**
 *
 * @author gokhu
 */
public class Delete extends javax.swing.JFrame {

    /**
     * Creates new form Insert
     */
    public Delete() {
        initComponents();
        jLabel9.setVisible(false);
        InsertButton.setEnabled(false);
    }

    String sex = null;
    String date = null;
    String eid = null;
    String ename = null;
    String designation = null;
    String basic = null;

    /**
     * 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() {


     //content fro swing elements placement
    }// </editor-fold>//GEN-END:initComponents


    private void BackButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_BackButtonActionPerformed
        Main_Menu mm = new Main_Menu();
        mm.show();
        this.hide();
    }//GEN-LAST:event_BackButtonActionPerformed


    private void CancelButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_CancelButtonActionPerformed
        Main_Menu mm = new Main_Menu();
        mm.show();
        this.hide();
    }//GEN-LAST:event_CancelButtonActionPerformed


    private void InsertButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_InsertButtonActionPerformed


        try{Class.forName("oracle.jdbc.OracleDriver");
            Connection con1=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl","Employee",
"gokhul");
            String sql="delete from Emp_Payroll where eid=?";
            PreparedStatement pst=con1.prepareStatement(sql);
            pst.setInt(1,Integer.parseInt(eid_text.getText()));
            pst.execute();
            JOptionPane.showMessageDialog(null,"Deleted");
            pst.close();
            con1.close();
            }catch(Exception e) {JOptionPane.showMessageDialog(null,"Error="+e);}
            ename_text.setText("");
            designation_text.setText("");
            eid_text.setText("");
    }//GEN-LAST:event_InsertButtonActionPerformed

    private void eid_textActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_eid_textActionPerformed
    }//GEN-LAST:event_eid_textActionPerformed

    private void eid_textInputMethodTextChanged(java.awt.event.InputMethodEvent evt) {//GEN-
FIRST:event_eid_textInputMethodTextChanged

    }//GEN-LAST:event_eid_textInputMethodTextChanged

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton1ActionPerformed
        int temp=0;

        try{Class.forName("oracle.jdbc.OracleDriver");
            Connection con1=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl","Employee",
"gokhul");
            Statement st = con1.createStatement();
            ResultSet rs = st.executeQuery("select * from Emp_Payroll");
            while(rs.next()){
                int no = rs.getInt(1);
                if(no==Integer.parseInt(eid_text.getText())){
                    temp+=1;
                    ename_text.setText(rs.getString("ename"));
                    designation_text.setText(rs.getString("designation"));
                }
            }
            rs.close();
            con1.close();
            }catch(Exception e) {JOptionPane.showMessageDialog(null,"Error="+e);}
            if(temp>=1){
          jLabel9.setText("*Employee Available!!");
          jLabel9.setVisible(true);
          jLabel9.setForeground(Color.decode("#32CD32"));
          InsertButton.setEnabled(true);
          eid=eid_text.getText();


        }
        else{
          jLabel9.setVisible(true);
          jLabel9.setText("*Employee Id not found!!");
          jLabel9.setForeground(Color.red);
          InsertButton.setEnabled(false);
          ename_text.setText("");
          designation_text.setText("");
        }
  }//GEN-LAST:event_jButton1ActionPerforme
```

5. Search Interface

```
/*
 * 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 employee_pay_roll;

import java.awt.Color;
import java.sql.*;
import java.sql.Date;
import java.text.SimpleDateFormat;
import javax.swing.JOptionPane;

/**
 *
 * @author gokhu
 */
public class Search extends javax.swing.JFrame {

    /**
     * Creates new form Search
     */
    public Search() {
        initComponents();
          jLabel9.setVisible(false);
          dob_date.setEnabled(false);
        //InsertButton.setEnabled(false);
    }
    String sex = null;
    String date = null;
    String ename = null;
    String designation = null;
    int basic = 0;
    Date dob=null;
    /**
     * 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() {

      //content for swing placement
    }// </editor-fold>//GEN-END:initComponents

    private void CancelButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_CancelButtonActionPerformed
        Main_Menu mm = new Main_Menu();
        mm.show();
        this.hide();
    }//GEN-LAST:event_CancelButtonActionPerformed

    private void eid_textInputMethodTextChanged(java.awt.event.InputMethodEvent evt) {//GEN-FIRST:event_eid_textInputMethodTextChanged

    }//GEN-LAST:event_eid_textInputMethodTextChanged

    private void eid_textActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_eid_textActionPerformed

    }//GEN-LAST:event_eid_textActionPerformed

    private void BackButtonActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_BackButtonActionPerformed
        Main_Menu mm = new Main_Menu();
        mm.show();
        this.hide();
    }//GEN-LAST:event_BackButtonActionPerformed

    private void jRadioButton2ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_jRadioButton2ActionPerformed
        sex="M";
    }//GEN-LAST:event_jRadioButton2ActionPerformed


    private void jRadioButton3ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jRadioButton3ActionPerformed
        sex = "F";
    }//GEN-LAST:event_jRadioButton3ActionPerformed


    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton1ActionPerformed
        int temp=0;
        ename_text.setText("");
        dob_date.setDate(null);
        sex_radio.clearSelection();
        designation_text.setText("");
        basic_text.setText("");
        da_text.setText("");
        hra_text.setText("");
        pf_text.setText("");
        mc_text.setText("");
        gross_text.setText("");
        tot_deduc_text.setText("");
        net_pay_text.setText("");
        sex_radio.clearSelection();
        dob_date.setEnabled(false);
        try{Class.forName("oracle.jdbc.OracleDriver");
            Connection con1=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl","Employee",
"gokhul");
            Statement st = con1.createStatement();
            ResultSet rs = st.executeQuery("select * from Emp_Payroll");
            while(rs.next()){
                int no = rs.getInt(1);
                if(no==Integer.parseInt(eid_text.getText())){
                    temp+=1;
                }
            }
            rs.close();
            con1.close();
        }catch(Exception e) {JOptionPane.showMessageDialog(null,"Error="+e);}
```

```
if(temp>=1){
    jLabel9.setText("*Employee Id found!!");
    jLabel9.setVisible(true);
    jLabel9.setForeground(Color.decode("#32CD32"));
    //InsertButton.setEnabled(true);
    try{Class.forName("oracle.jdbc.OracleDriver");
        Connection con1=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:orcl","Employee", "gokhul");
        Statement st = con1.createStatement();
        ResultSet rs = st.executeQuery("select * from Emp_Payroll where eid="+Integer.parseInt(eid_text.getText()));
        while(rs.next()){
            ename=rs.getString("ename");
            ename_text.setText(ename);
            if(rs.getString("sex").equals("M")){
                jRadioButton2.setSelected(true);
                sex="M";
            }else{
                jRadioButton3.setSelected(true);
                sex="F";
            }
            designation=rs.getString("designation");
            designation_text.setText(designation);
            basic=rs.getInt("basic");
            basic_text.setText(String.valueOf(basic));
            dob=rs.getDate("dob");
            dob_date.setEnabled(true);
            dob_date.setDate(dob);
            da_text.setText(String.valueOf(rs.getInt("da")));
            hra_text.setText(String.valueOf(rs.getInt("hra")));
            pf_text.setText(String.valueOf(rs.getInt("pf")));
            mc_text.setText(String.valueOf(rs.getInt("mc")));
            gross_text.setText(String.valueOf(rs.getInt("gross")));
            tot_deduc_text.setText(String.valueOf(rs.getInt("tot_deduc")));
            net_pay_text.setText(String.valueOf(rs.getInt("net_pay")));
        }
        rs.close();
```

```
            con1.close();
        }catch(Exception e) {JOptionPane.showMessageDialog(null,"Error="+e);}
    }
    else{
        jLabel9.setVisible(true);
        jLabel9.setText("*Employee Id not found!!");
        jLabel9.setForeground(Color.red);

        //InsertButton.setEnabled(false);
    }
}//GEN-LAST:event_jButton1ActionPerformed
```