UCS1412 – Database Lab Assignment – 10

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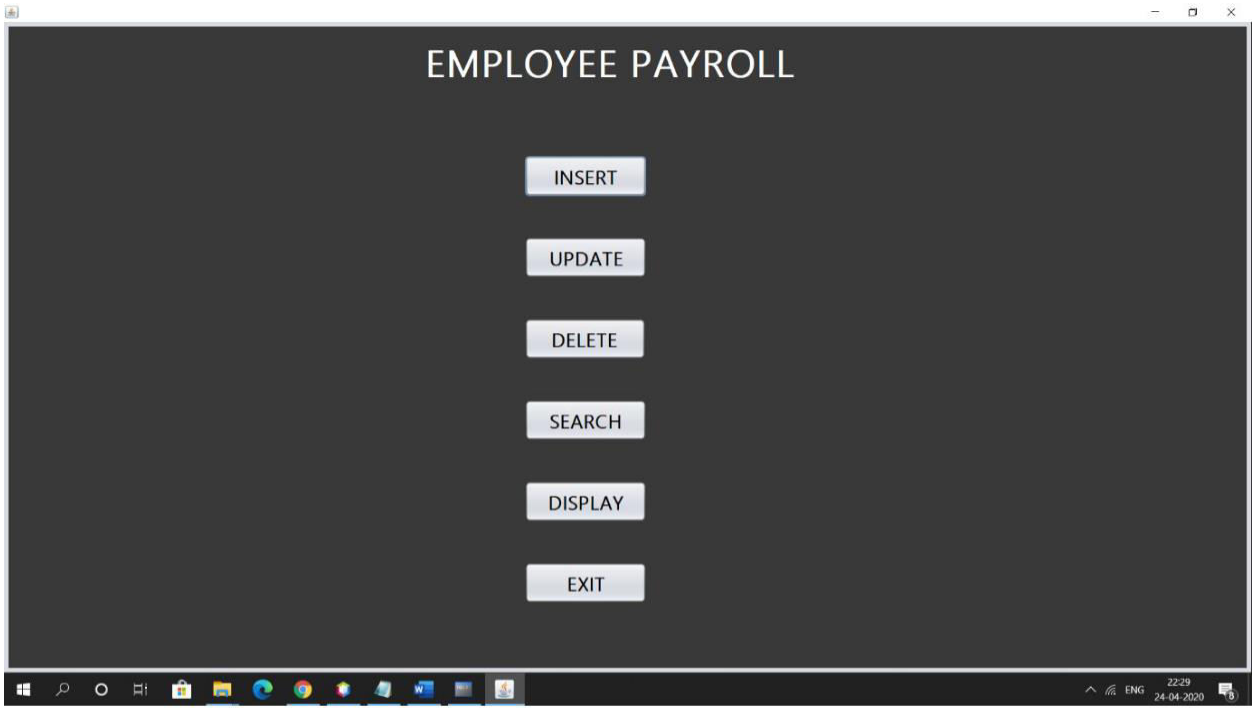
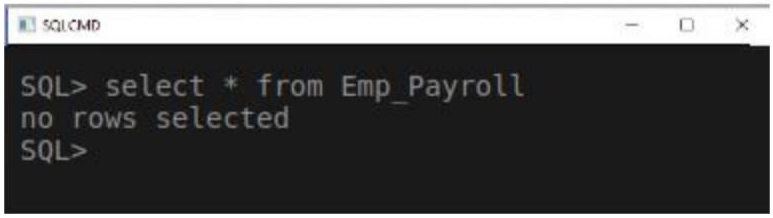
Title: Database Application Programming using JDBC

This application maintains the employee payroll and allows insert, update, delete, search and display the details of the employee.

MODULES IN THE APPLICATION->

Basic Front End

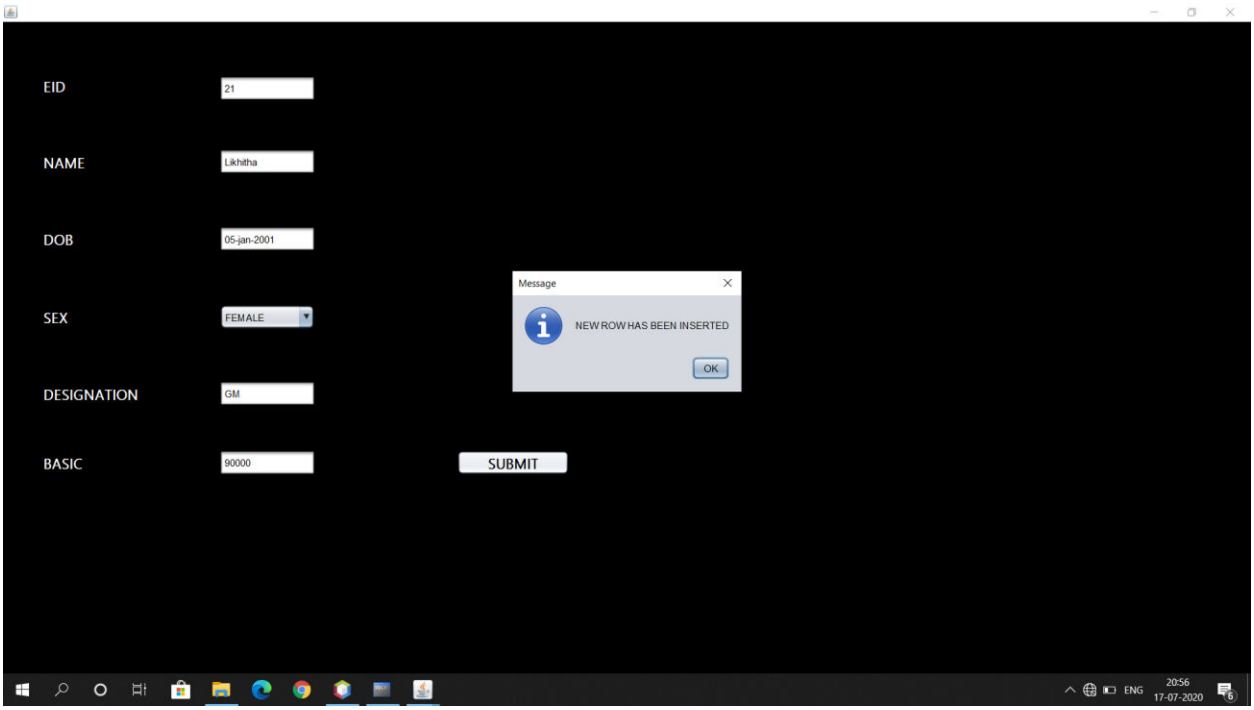


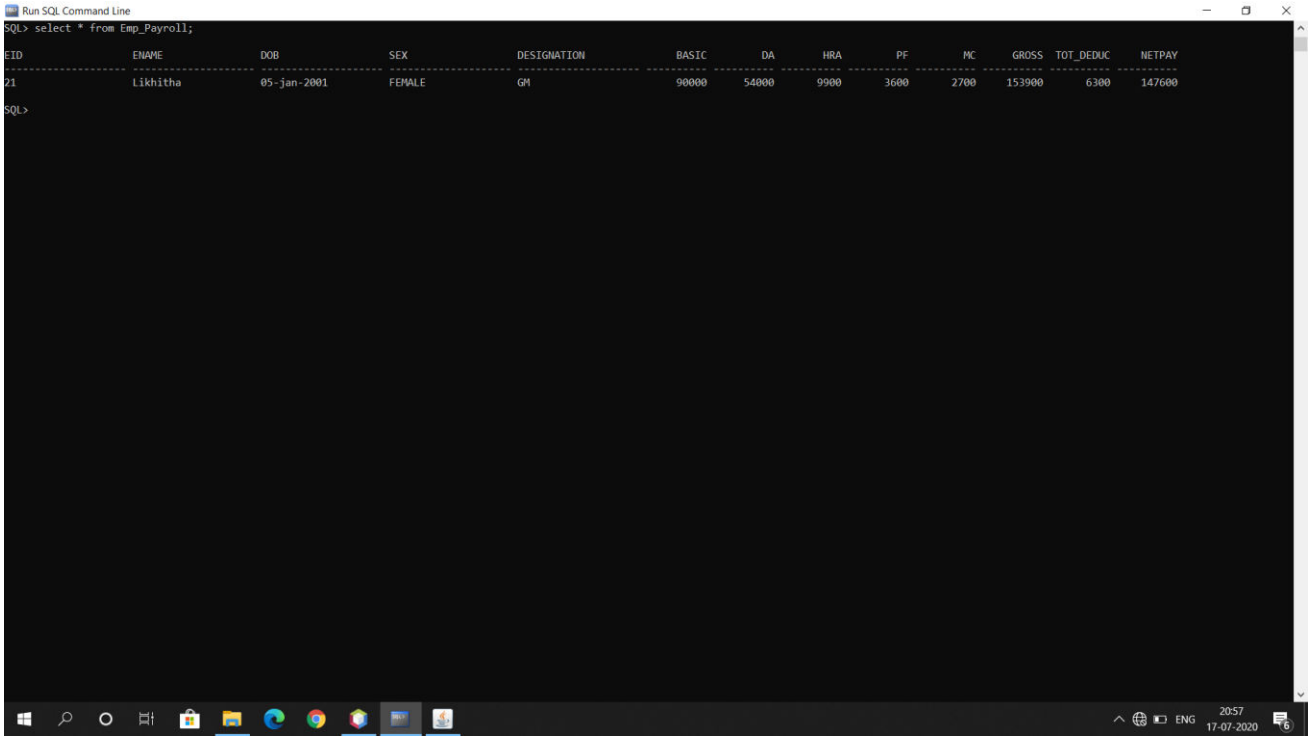


Insert Module

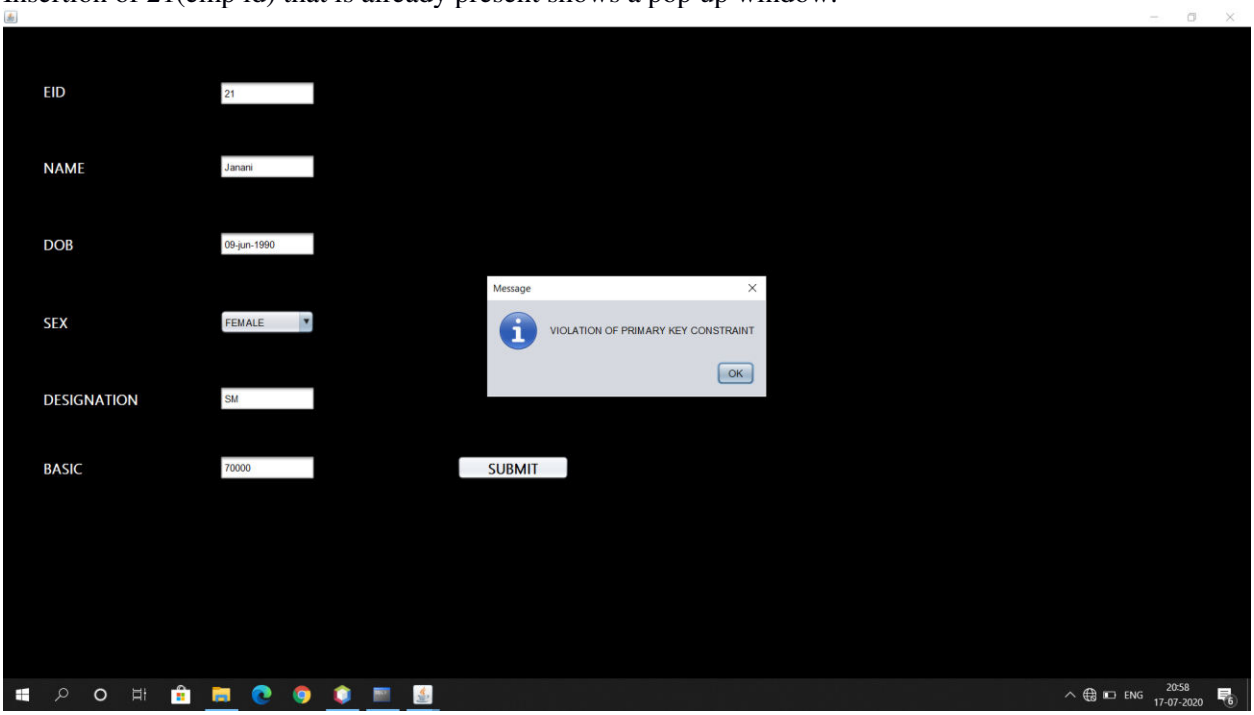
Allows insertion of an employee details into the database table Emp_Payroll and calculates the net pay with basic using a procedure .

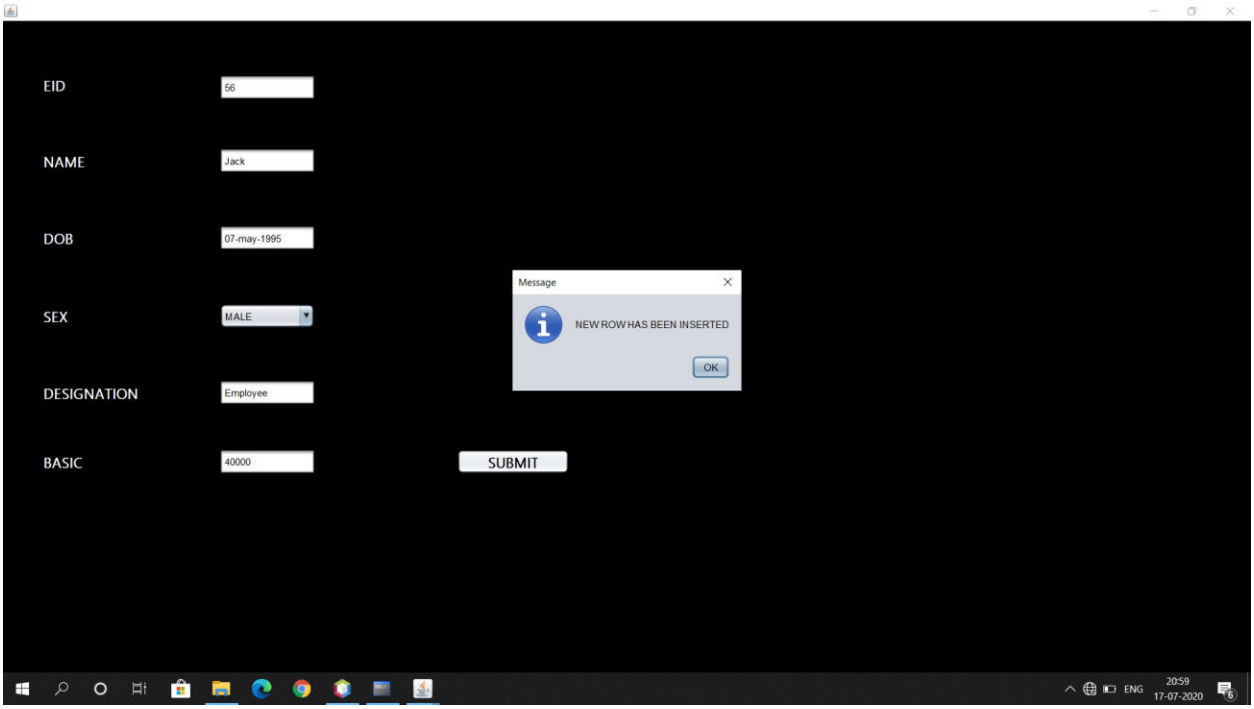
It also shows an error message if we try to insert another employee with the same id since it is the primary key of the table. After insert it will be redirected to the first page.

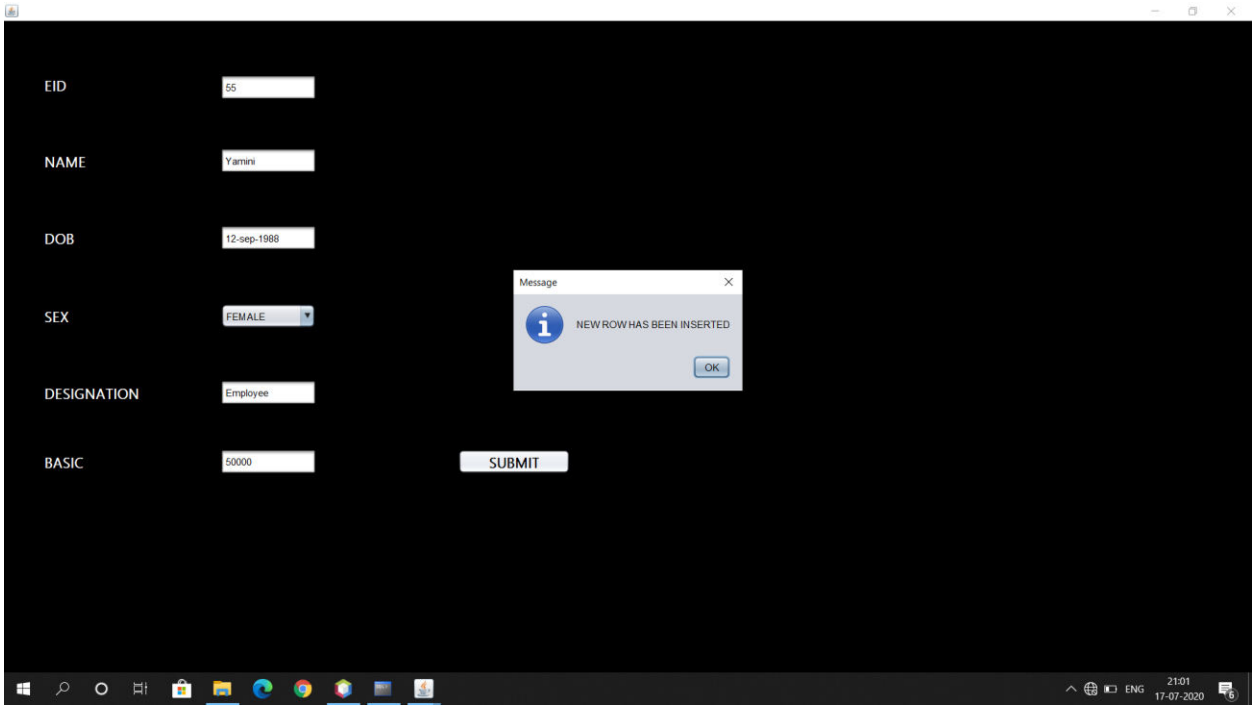


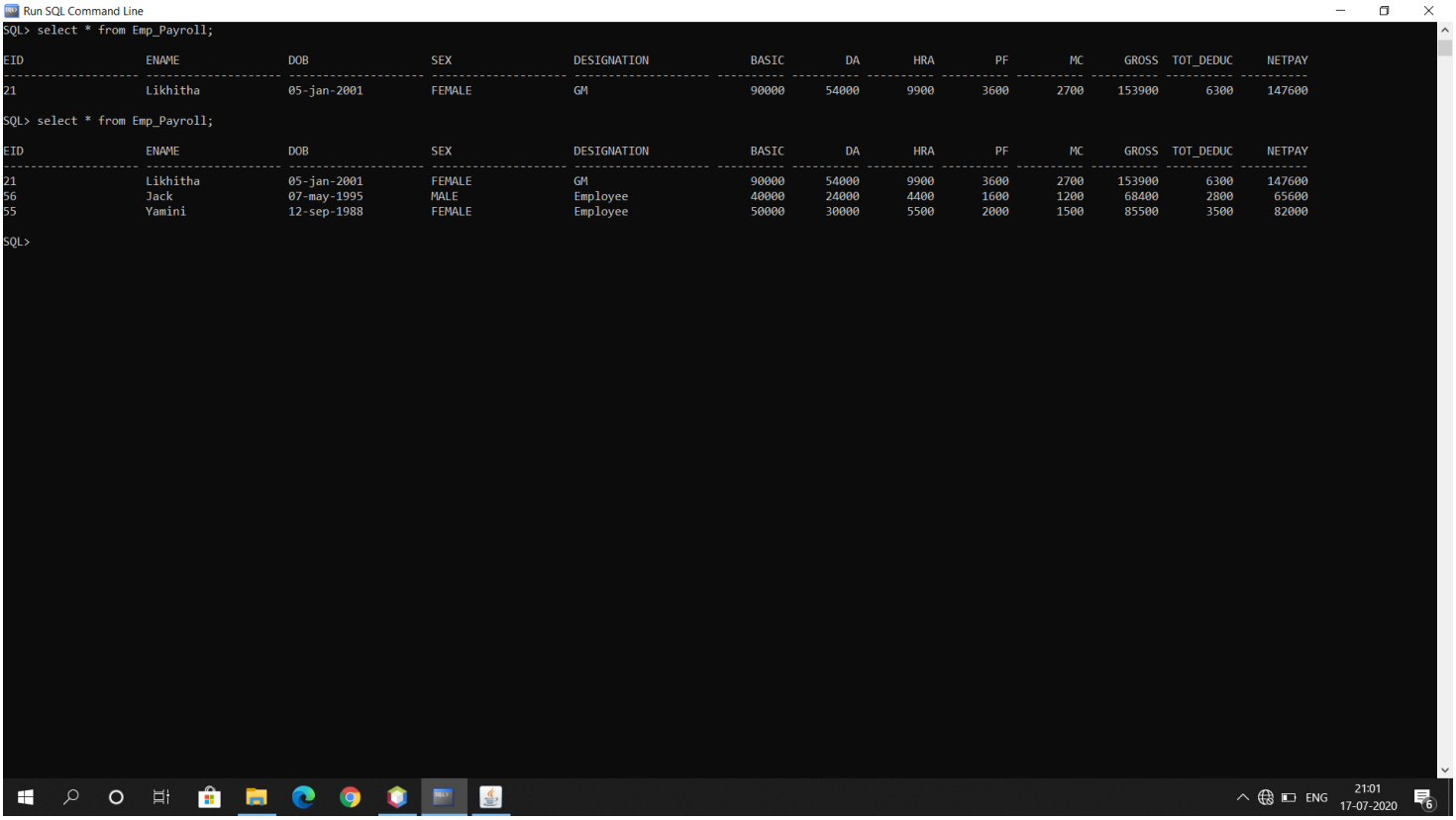


Insertion of 21(emp id) that is already present shows a pop up window.




EID
56
NAME
Jack
DOB
07-may-1995
SEX
MALE
DESIGNATION
Employee
BASIC
40000
SUBMIT
Message
NEW ROW HAS BEEN INSERTED
OK
ENG
20:59
17-07-2020


EID
55
NAME
Yamini
DOB
12-sep-1988
SEX
FEMALE
DESIGNATION
Employee
BASIC
50000
SUBMIT
Message
NEW ROW HAS BEEN INSERTED
OK
ENG
21:01
17-07-2020

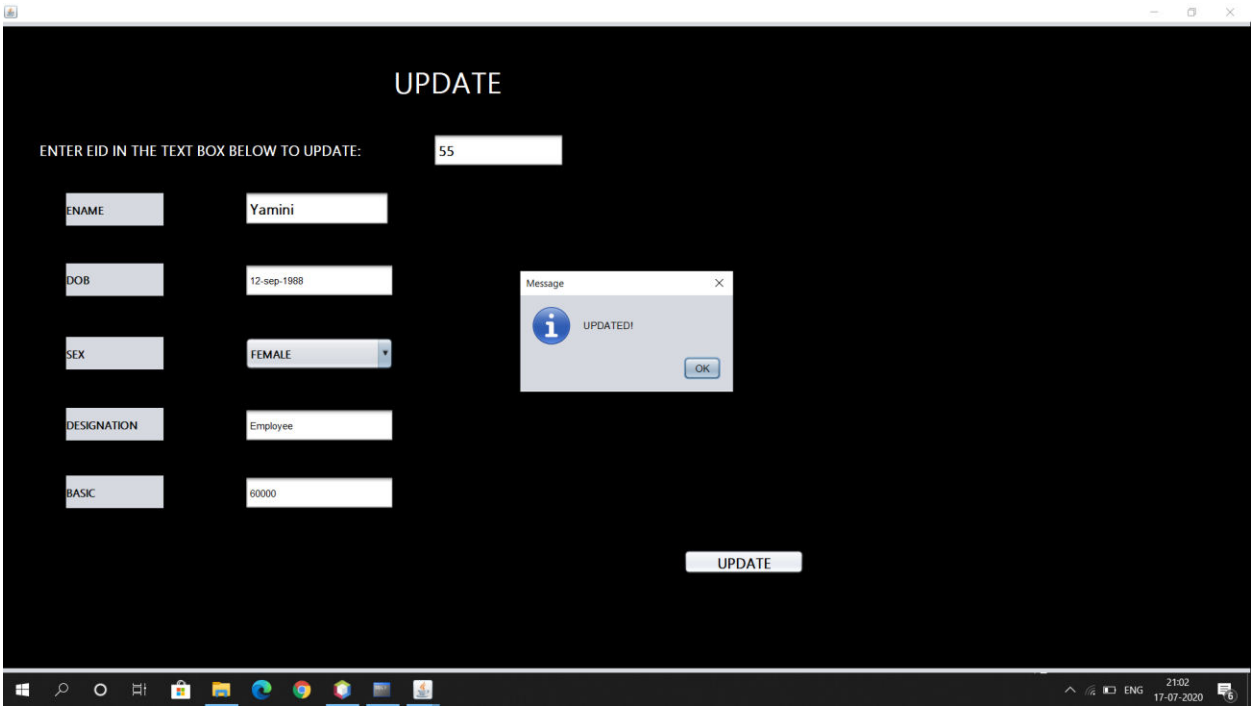

Run SQL Command Line
SQL> select * from Emp_Payroll;
EID ENAME DOB SEX DESIGNATION BASIC DA HRA PF MC GROSS TOT_DEDUC NETPAY
21 Likhitha 05-jan-2001 FEMALE GM 90000 54000 9900 3600 2700 153900 6300 147600
SQL> select * from Emp_Payroll;
EID ENAME DOB SEX DESIGNATION BASIC DA HRA PF MC GROSS TOT_DEDUC NETPAY
21 Likhitha 05-jan-2001 FEMALE GM 90000 54000 9900 3600 2700 153900 6300 147600
56 Jack 07-may-1995 MALE Employee 40000 24000 4400 1600 1200 68400 2800 65600
55 Yamini 12-sep-1988 FEMALE Employee 50000 30000 5500 2000 1500 85500 3500 82000
SQL>
ENG
21:01
17-07-2020

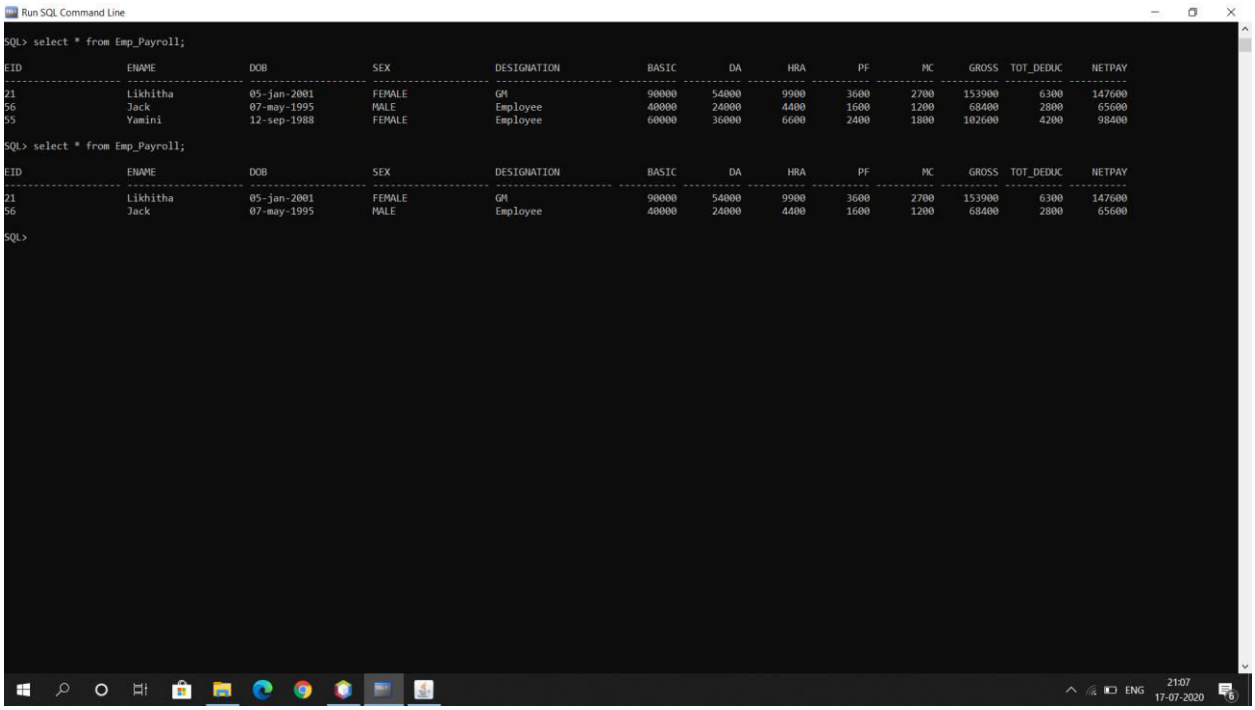
Update Module

This option allows to modify the details of existing employees and the updation of basic pay will also calculate the new net pay.

After updating it will be redirected to the first page.

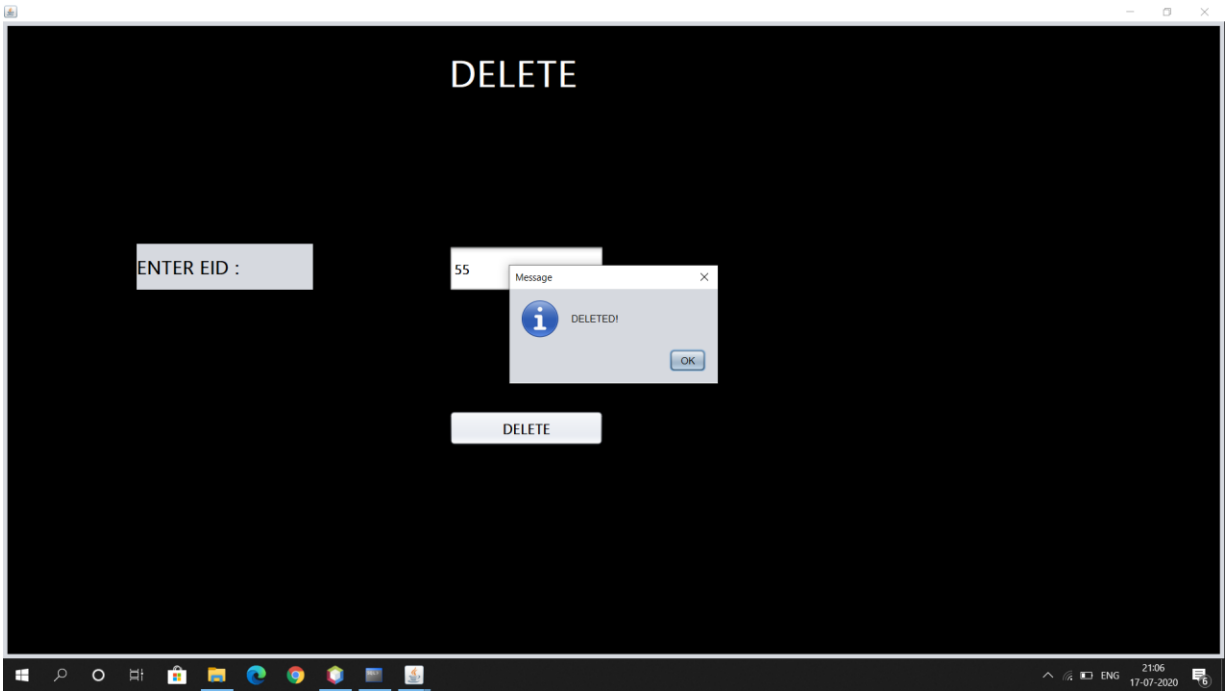
Updating an employee whose id is not present will be an error.



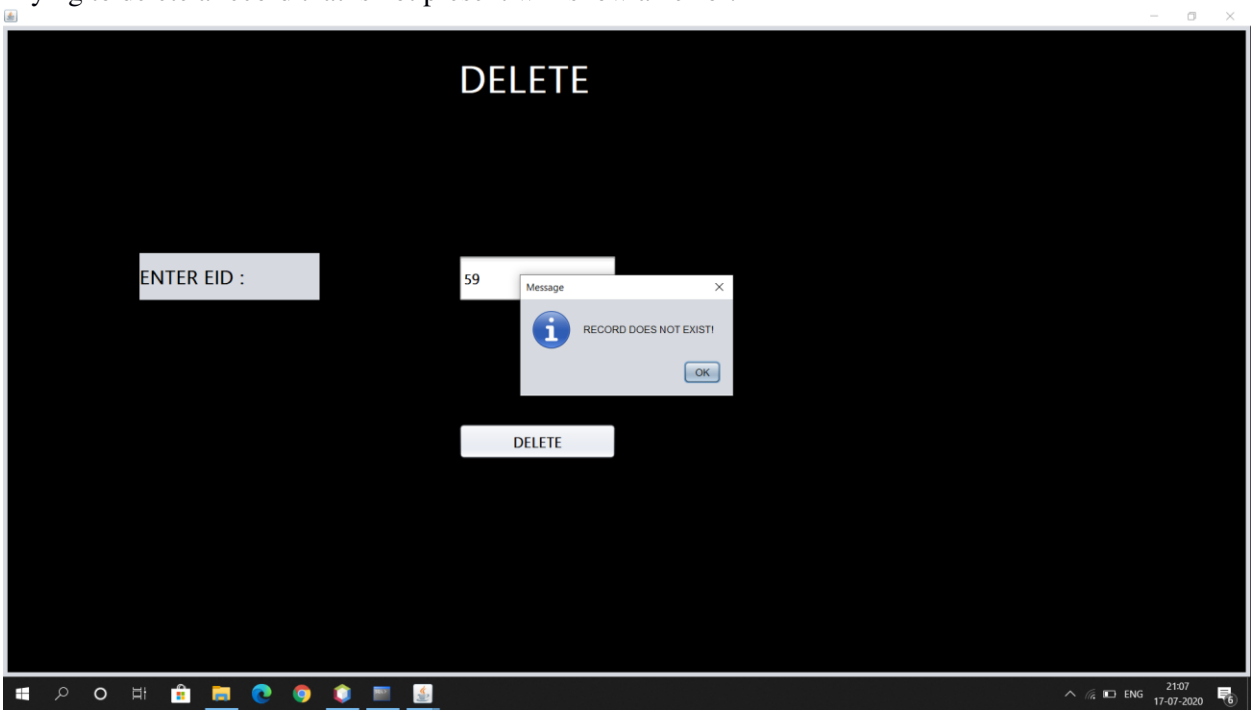


Delete Module

This module deletes the existing record and will show an error if the employee id is not present.

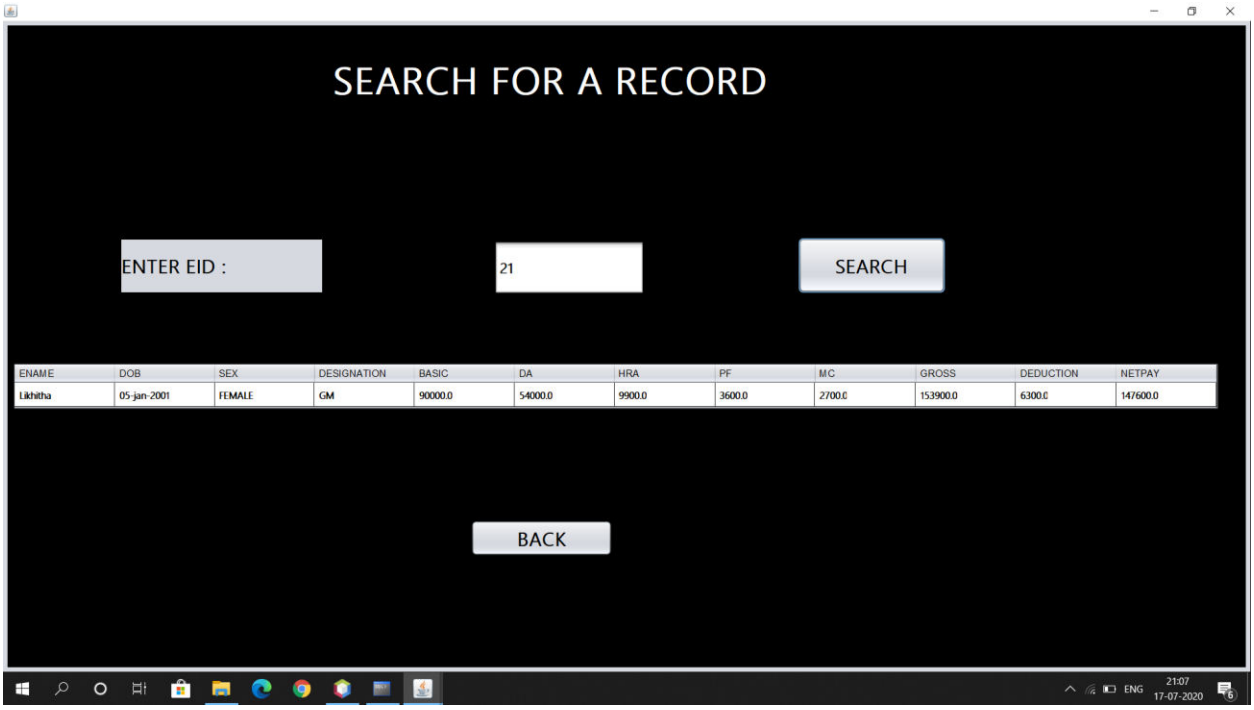


Trying to delete a record that is not present will show an error.



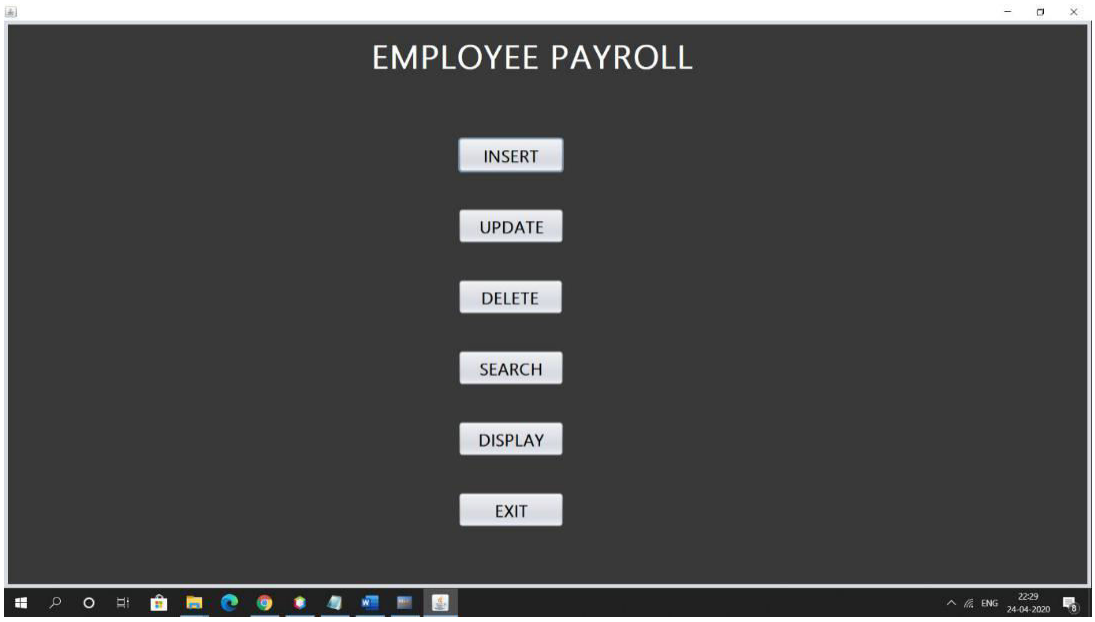
Search Module

This module displays the searched record and shows a popup window if the employee id is not present.
Back button will redirect to the first page.



Exit Module

Exit option terminates the program.



SQL CODE→

```
drop table Emp_Payroll;

create table Emp_Payroll(eid varchar2(20) primary key,ename char(20),dob
char(20),sex char(20),designation char(20),basic number(10),

da number(10),hra number(10),pf number(10),mc number(10),gross
number(10),tot_deduc number(10),netpay number(10));

rem create procedure

create or replace procedure comp(id in Emp_Payroll.eid%type,pay in Emp_Payroll.basic%type) is

        d       n

        umber(10

        ); hr

        number(

        10); p_f

        number(

        10); m_c

        number(

        10); gr

        number(

        10); ded

        number(

        10); np

        number(

        10);
BEGIN

        d:=(60*pay)/100;

        hr:=(11*pay)/100;
```

```
        p_f:=(4*pay)/100;
        m_c:=(3*pay)/100;
        gr:=pay+d+hr;
        ded:=p_f+m_c;
        np:=gr-ded;
        update Emp_Payroll set basic=pay,da=d,hra=hr,pf=p_f,mc=m_c,gross=gr,tot_deduc=ded,
        netpay=np where eid=id;
END;
```

JAVA APPLICATION 10(Extracted from netbeans 10)

src file contents-->Under java application 10-> Javaapplication10.java(CONTENTS)

```
package javaapplication10;

import java.sql.*;

/*

 * @author

 Likhitha*/

public class JavaApplication10

{

    public static void main(String[] args)

   {

        Connection  conn=null;

        try

      { String driverName="oracle.jdbc.driver.OracleDriver"; Class.forName(driverName);

         conn=DriverManager.getConnection("jdbc:oracle:thin:@DESKTOP-N6BHVVF:1521:XE",

"likki", "likki123");

        }

        catch (ClassNotFoundException e)

        { System.out.println("could not find conn db driver"+e.getMessage());}

        catch(SQLException e)

        { System.out.println("could not connect to db"+e.getMessage()); }

   }

}
```

IMPLEMENTATION CODE->

MODULE CODES→

If insert button is clicked

```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
insertop insert=new insertop();
insert.setVisible(true);
}
```

If update button is clicked

```
private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
updateop update=new updateop();
update.setVisible(true);
}
```

If delete button is clicked

```
private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
deleteop delete=new deleteop();
delete.setVisible(true);
}
```

If search button is clicked

```
private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {
searchop search=new searchop();
search.setVisible(true);
}
```

If display button is clicked

```
private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {
displayop display=new displayop();
display.setVisible(true);
}
```

If exit button is clicked

```
private void jButton6ActionPerformed(java.awt.event.ActionEvent evt) {
this.dispose();
}
```

NAVIGATING BUTTON CODES->

If SUBMIT button is clicked

```
String eid=jTextField1.getText();
String name=jTextField2.getText();
String dob=jTextField3.getText();
String sex=jComboBox1.getSelectedItem().toString();
String desig=jTextField4.getText();
float basic=Float.parseFloat(jTextField5.getText());
try{
String msg="select * from Emp_Payroll";
PreparedStatement s=conn.prepareStatement(msg);
ResultSet res = s.executeQuery();
while(res.next()) {
String data=res.getString(1);
if(data.equals(eid))
{
JOptionPane.showMessageDialog(null,"VIOLATION OF PRIMARY KEY CONSTRAINT");
this.dispose();
}
}
s.close();
res.close();
PreparedStatement st=conn.prepareStatement("insert into
Emp_Payroll(eid,ename,dob,sex,designation,basic) values(?,?,?,?,?,?)");
st.setString(1,eid);st.setString(2,name);st.setString(3,dob);st.setString(4,sex);st.setString(5,desig);
st.setFloat(6, basic);
int rs=st.executeUpdate();
System.out.println(rs+" status");
st.close();
PreparedStatement ss=conn.prepareStatement("call comp(?,?)");
ss.setString(1,eid);
ss.setFloat(2, basic);
int rss=ss.executeUpdate();
ss.close();
JOptionPane.showMessageDialog(null,"NEW ROW HAS BEEN INSERTED");
this.dispose();
} catch(SQLException e)
{ e.printStackTrace(); }
```

If UPDATE Button is clicked

```
try {
String id=jTextField1.getText();
String msg="update Emp_Payroll set ename='"+jTextField2.getText()+"
',dob='"+jTextField3.getText()+"',
sex='"+jComboBox1.getSelectedItem().toString()+"',
designation='"+jTextField4.getText()+"'
where eid='"+jTextField1.getText()+"'";
PreparedStatement st=conn.prepareStatement(msg);
int res=st.executeUpdate();
System.out.println(res+" rest status");
st.close();
PreparedStatement s=conn.prepareStatement("call comp(?,?)");
s.setString(1,id);
s.setFloat(2,Float.parseFloat(jTextField5.getText()));
int rs=s.executeUpdate();
s.close();
if(res==1)
{JOptionPane.showMessageDialog(null,"UPDATED!");
this.dispose();
} else
{
JOptionPane.showMessageDialog(null,"RECORD NOT FOUND!");
this.dispose();
}
}
catch (SQLException ex)
{ ex.printStackTrace();
}
```

If DELETE Button is clicked

```
try {
String id=jTextField1.getText();
String msg="delete from Emp_Payroll where eid='"+id+"'";
PreparedStatement st=conn.prepareStatement(msg); int
res=st.executeUpdate();
System.out.println(res+" rest status");
st.close();
if(res==1)
JOptionPane.showMessageDialog(null,"DELETED!");
else
JOptionPane.showMessageDialog(null,"RECORD DOES NOT EXIST!");
} catch (SQLException ex)
{ ex.printStackTrace(); }
this.dispose();
```

If SEARCH Button is clicked

```
try {
String id=jTextField1.getText();
String msg="select * from Emp_Payroll where eid='"+id+"'";
PreparedStatement st=conn.prepareStatement(msg);
ResultSet rs = st.executeQuery();
if (rs.next())
{Object data[]={rs.getString(2),rs.getString(3),rs.getString(4),rs.getString(5),rs.getFloat(6),rs.getFloat(7),
                    rs.getFloat(8) ,rs.getFloat(9),rs.getFloat(10),rs.getFloat(11),rs.getFloat(12), rs.getFloat(13)

                   };
  DefaultTableModel  tb=(DefaultTableModel)jTable1.getModel();
  tb.addRow(data);
}
else
   JOptionPane.showMessageDialog(null,"RECORD NOT FOUND!");
st.close();
} catch (SQLException ex)
{ ex.printStackTrace();
}
```

If BACK Button is clicked

```
this.dispose();
```

If DISPLAY Button is clicked

```
try {
String msg="select * from Emp_Payroll";
PreparedStatement st=conn.prepareStatement(msg);
ResultSet rs = st.executeQuery();
while(rs.next())
{
Object data[] = {rs.getString(1),rs.getString(2),rs.getString(3),rs.getString(4),rs.getString(5),rs.getFloat(6) ,rs.getFloat(7),rs.getFloat(8),rs.getFloat(9),rs.getFloat(10),rs.getFloat(11),rs.getFloat(12),
rs.getFloat(13)};

DefaultTableModel tb=(DefaultTableModel)jTable1.getModel();
tb.addRow(data);
}
st.close();
}
catch (SQLException ex) {
ex.printStackTrace();
}
```