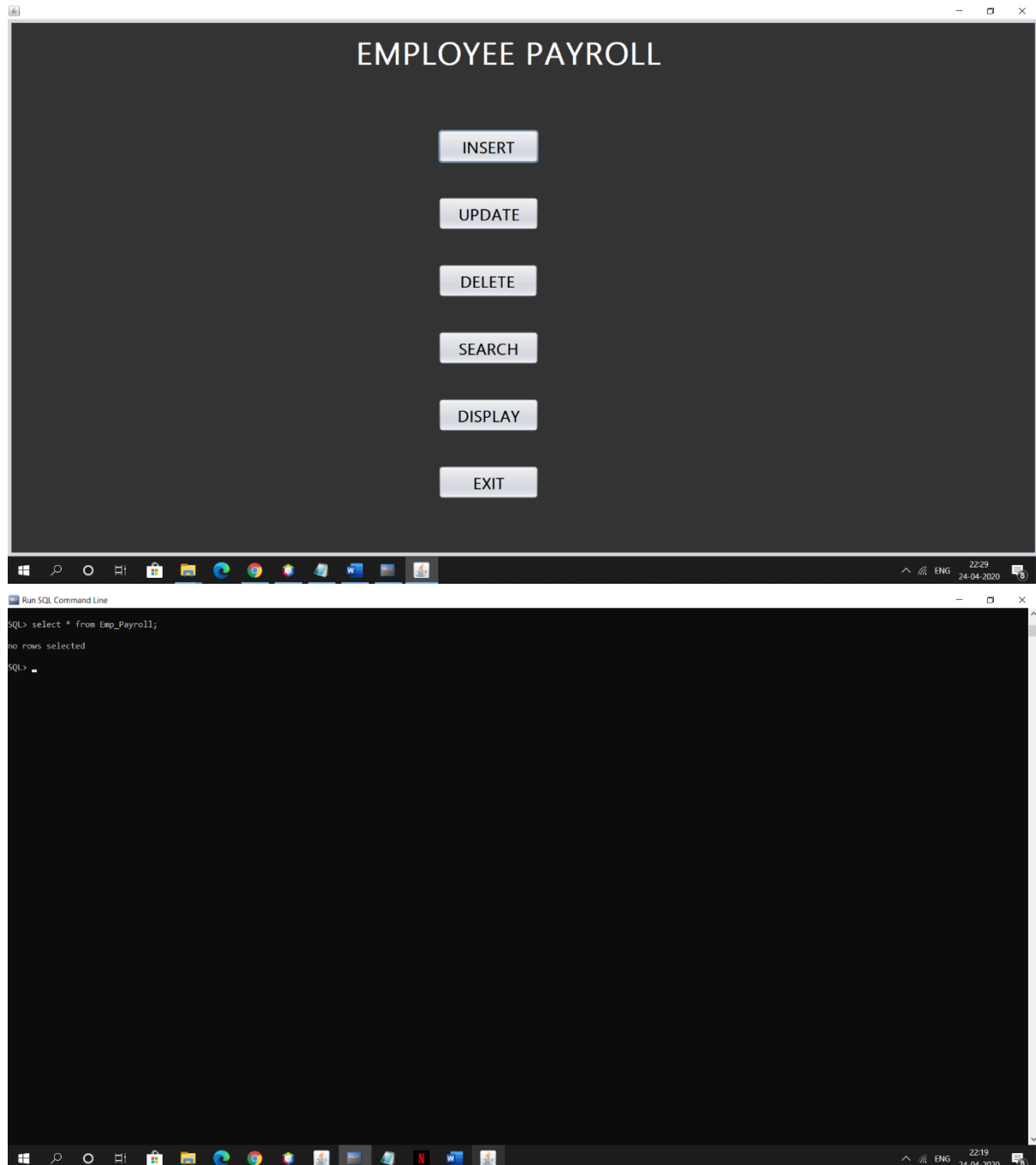


UCS1412 – DATABASE LAB ASSIGNMENT – 9

S Harshini -185001058

Title: Database Application Programming using JDBC

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



INSERT MODULE

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

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

The screenshot shows a web application interface for inserting employee details. The form includes fields for EID, NAME, DOB, SEX, DESIGNATION, and BASIC, along with a SUBMIT button. A message box indicates that a new row has been inserted successfully.

Form Fields:

- EID: e1
- NAME: Harshini
- DOB: 11-may-2001
- SEX: FEMALE
- DESIGNATION: GM
- BASIC: 90000

Message Box:

Message
NEW ROW HAS BEEN INSERTED
OK

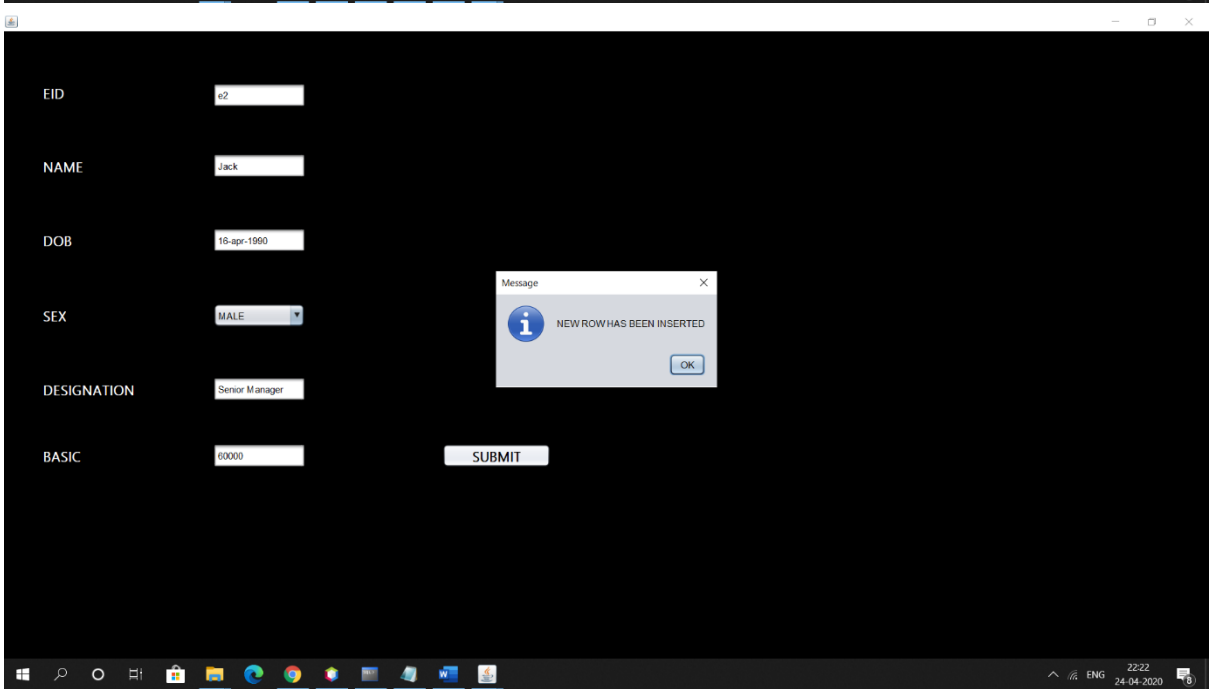
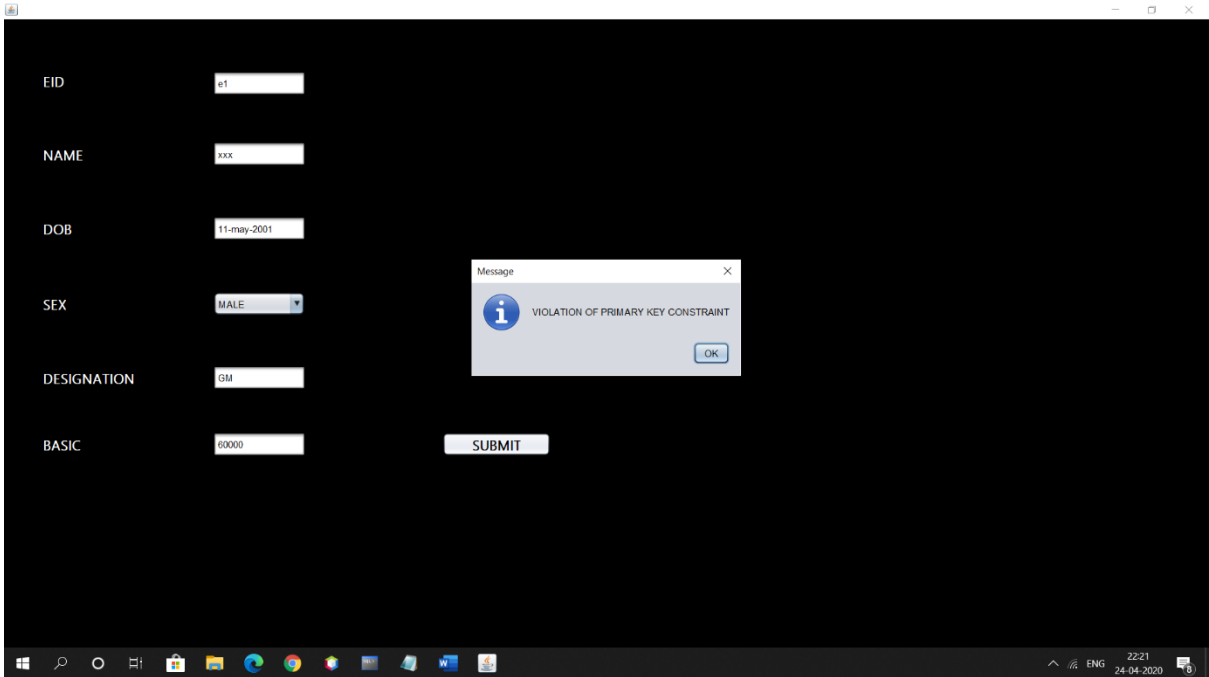
Run SQL Command Line

```
SQL> select * from Emp_Payroll;
```

EID	ENAME	DOB	SEX	DESIGNATION	BASIC	DA	HRA	PF	MC	GROSS	TOT_DEDUC	NETPAY
e1	Harshini	11-may-2001	FEMALE	GM	90000	54000	9900	3600	2700	153900	6300	147600

SQL>

Insertion of e1 that is already present shows a pop up window.



Run SQL Command Line

SQL> select * from Emp_Payroll;

EID	ENAME	DOB	SEX	DESIGNATION	BASIC	DA	HRA	PF	MC	GROSS	TOT_DERUC	NETPAY
e1	Harshini	11-may-2001	FEMALE	GM	90000	54000	9900	3600	2700	153900	6300	147600
e2	Jack	16-apr-1990	MALE	Senior Manager	60000	36000	6600	2400	1800	102600	4200	98400

SQL>

ENG 22:22 24-04-2020

The screenshot shows a web application interface for managing employee data. On the left, there is a form with the following fields: EID (e3), NAME (Yamini), DOB (22-apr-1975), SEX (FEMALE), DESIGNATION (HR), and BASIC (60000). A 'SUBMIT' button is located at the bottom right of the form. A message box is displayed in the center, stating 'NEW ROW HAS BEEN INSERTED' with an 'OK' button.

Below the form, a 'Run SQL Command Line' window is open, showing the following SQL query and its results:

```
SQL> select * from Emp_Payroll;
```

EID	ENAME	DOB	SEX	DESIGNATION	BASIC	DA	HRA	PF	MC	GROSS	TOT_DEDUC	NETPAY
e1	Harshini	11-may-2001	FEMALE	GM	90000	54000	9900	3600	2700	153900	6300	147600
e2	Jack	16-apr-1990	MALE	Senior Manager	60000	36000	6600	2400	1800	102600	4200	98400
e3	Yamini	22-apr-1975	FEMALE	HR	60000	36000	6600	2400	1800	102600	4200	98400

The bottom of the screenshot shows a Windows taskbar with various application icons and a system tray displaying the date and time (22:23, 24-04-2020).

UPDATE MODULE

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

After updation it will be redirected to the first page.

Updation of employee whose id is not present will be an error. Updation of e3.(DOB, Basic)

UPDATE

ENTER EID IN THE TEXT BOX BELOW TO UPDATE:

ENAME

DOB

SEX

DESIGNATION

BASIC

UPDATE

Message

UPDATED!

OK

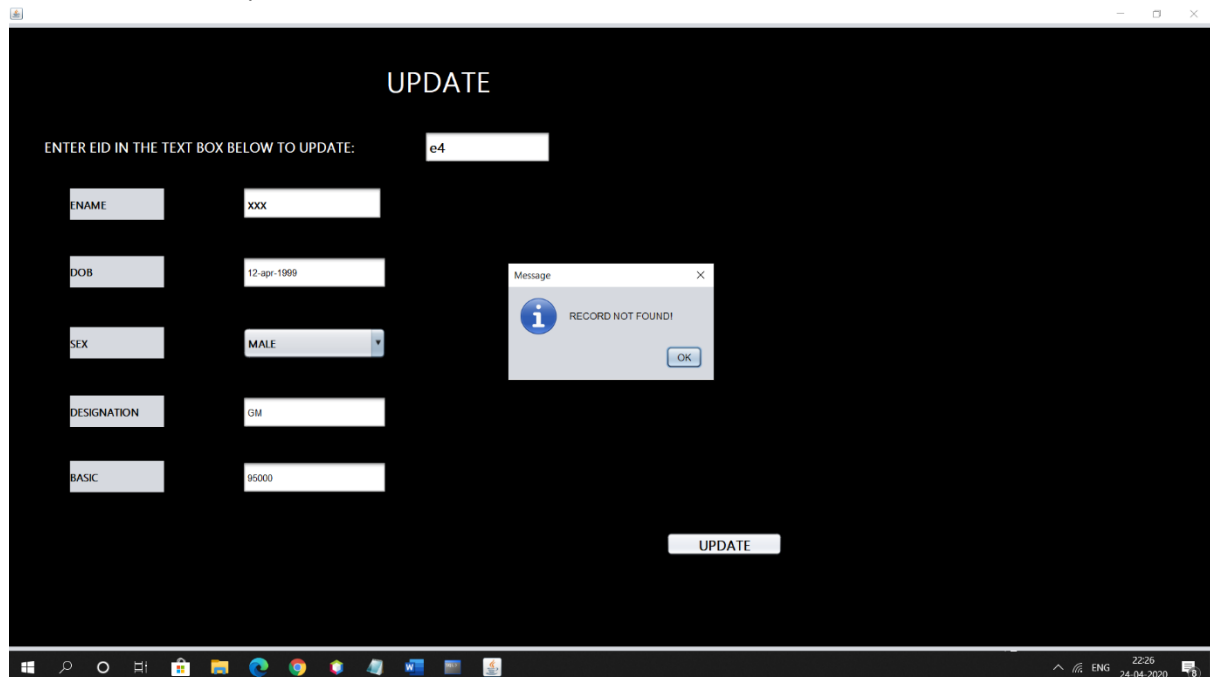
Run SQL Command Line

SQL> select * from Emp_Payroll;

EID	ENAME	DOB	SEX	DESIGNATION	BASIC	DA	HRA	PF	MC	GROSS	TOT_DEDUC	NETPAY
e1	Harshini	11-may-2001	FEMALE	GM	90000	54000	9900	3600	2700	153900	6300	147600
e2	Jack	16-apr-1990	MALE	Senior Manager	60000	36000	6600	2400	1800	102600	4200	98400
e3	Yamini	19-apr-1975	FEMALE	HR	66000	39600	7260	2640	1980	112860	4620	108240

SQL>

Error since e4 is not present.

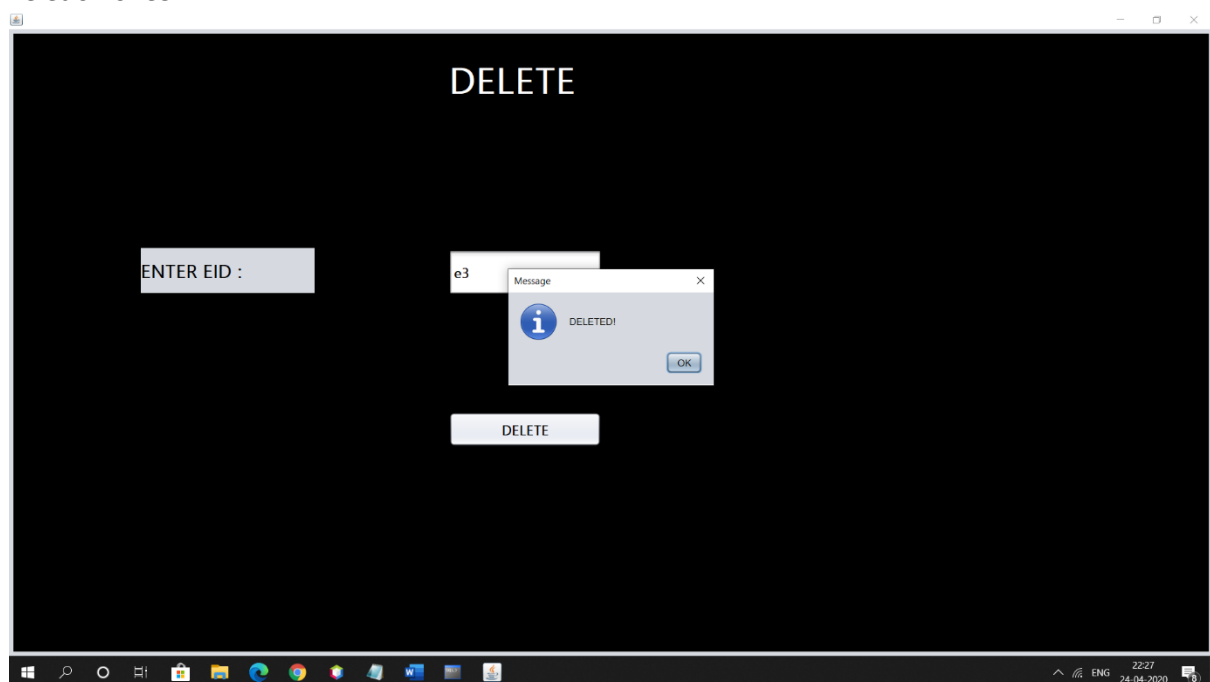


DELETE MODULE

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

After deletion it will be redirected to the first page.

Deletion of e3




```
Run SQL Command Line
SQL> select * from Emp_Payroll;
EID      ENAME      DOB      SEX      DESIGNATION      BASIC      DA      HRA      PF      MC      GROSS      TOT_DEDUC      NETPAY
-----
e1       Harshini   11-may-2001  FEMALE   GM               90000      54000      9900      3600      2700      153900      6300      147600
e2       Jack       16-apr-1990  MALE     Senior Manager   60000      36000      6600      2400      1800      102600      4200      98400
e3       Yamini     19-apr-1975  FEMALE   HR               66000      39600      7260      2640      1980      112860      4620      108240

SQL> select * from Emp_Payroll;
EID      ENAME      DOB      SEX      DESIGNATION      BASIC      DA      HRA      PF      MC      GROSS      TOT_DEDUC      NETPAY
-----
e1       Harshini   11-may-2001  FEMALE   GM               90000      54000      9900      3600      2700      153900      6300      147600
e2       Jack       16-apr-1990  MALE     Senior Manager   60000      36000      6600      2400      1800      102600      4200      98400

SQL>
```

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

DELETE

RECORD DOES NOT EXIST!

OK

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.

The screenshot shows a web application window titled "SEARCH FOR A RECORD". It features a search input field labeled "ENTER EID :" containing the text "e2", and a "SEARCH" button. Below the search area is a table displaying employee details for "Jack". At the bottom of the window is a "BACK" button. The Windows taskbar at the bottom shows the date as 24-04-2020 and time as 22:28.

ENAME	DOB	SEX	DESIGNATION	BASIC	DA	HRA	PF	MC	GROSS	DEDUCTION	NETPAY
Jack	16-apr-1990	MALE	Senior Manager	60000.0	36000.0	6600.0	2400.0	1800.0	102600.0	4200.0	98400.0

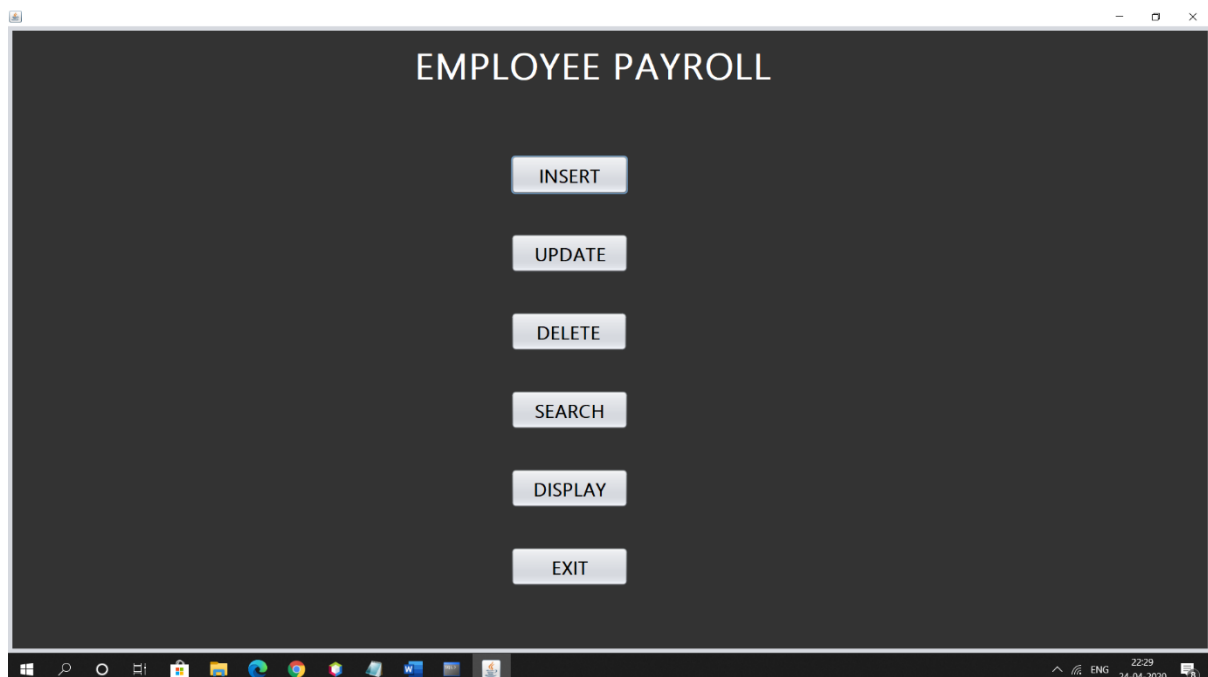
The screenshot shows the same "SEARCH FOR A RECORD" web application window, but with the search input field containing "e5". A message box popup is displayed in the center of the screen with the text "RECORD NOT FOUND!". The "BACK" button is visible at the bottom. The Windows taskbar at the bottom shows the date as 24-04-2020 and time as 22:28.

DISPLAY MODULE

This option displays the contents of Employee Payroll table. Back button will redirect to the first page.



Exit option terminates the program.



CREATION OF EMP_PAYROLL TABLE

```
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));

```

PROCEDURE CODE FOR CALCULATION OF NETPAY,DA, HRA, PF, MC, GROSS, DEDUCTION

```

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

```

CONNECTION CODE FOR ORACLE XE AND NETBEANS

```

Connection conn=null;

try{

    String driverName="oracle.jdbc.driver.OracleDriver";

    Class.forName(driverName);

    conn=DriverManager.getConnection("jdbc:oracle:thin:@DESKTOP-N6BHVVF:1521:XE",
"harshu", "harshu123");

}

catch (ClassNotFoundException e)

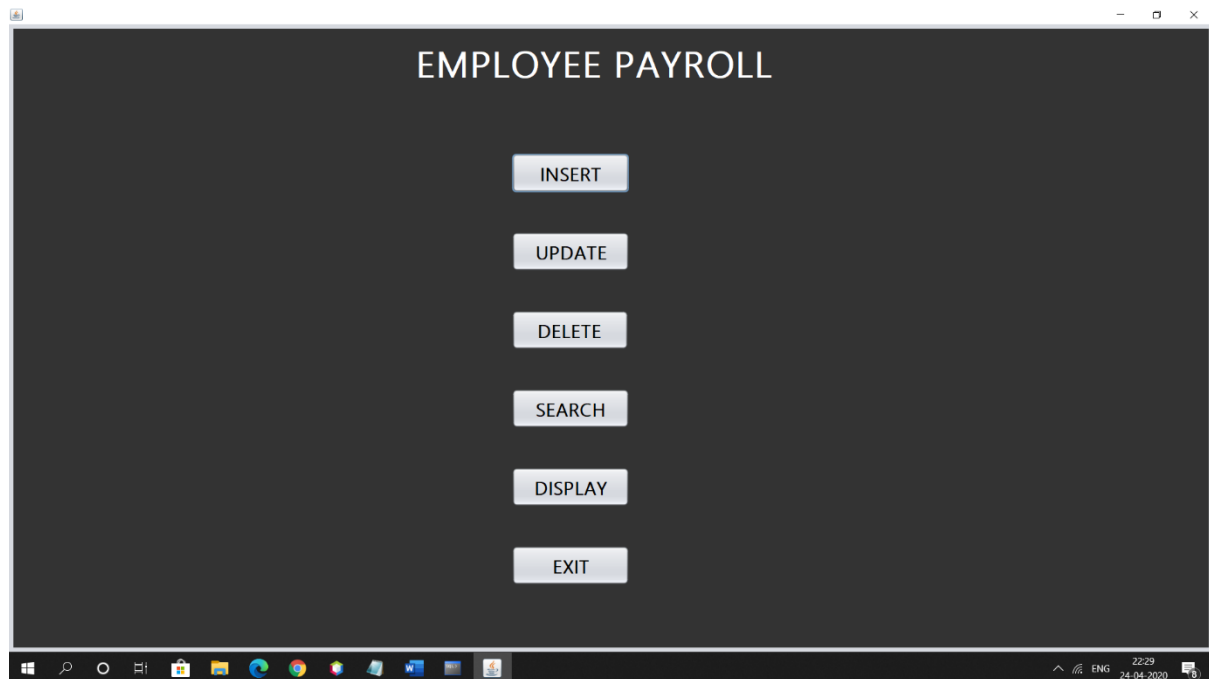
{
    System.out.println("could not find conn db driver"+e.getMessage());
}

catch(SQLException e)

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

```

IMPLEMENTATION CODE



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();  
}
```

}

INSERT MODULE

Design Preview [insertop]

EID

NAME

DOB

SEX

DESIGNATION

BASIC

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();
}

```

UPDATE MODULE

If UPDATE Button is clicked

```

try {
    String id=jTextField1.getText();
    String msg="update Emp_Payroll set
ename='"+jTextField2.getText()+"',dob='"+jTextField3.getText()+"',sex='"+jComboBox1.getSelectedIte
m().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();
}

```

DELETE MODULE



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();

```

SEARCH MODULE



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.get
Float(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();
```


DISPLAY MODULE



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();
}
```

If BACK Button is clicked

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