JAVA SWINGS BASED- MOOCS DATABASE FOR STAFF
- SQL CONNECTIVITY USING JDBC

A

Report

Submitted in partial fulfillment of the

Requirements for the award of the Degree

of

BACHELOR OF ENGINEERING

IN

INFORMATION TECHNOLOGY

By

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BONAFIDE CERTIFICATE

This is to certify that this project report titled 'Moocs Database For Staff' is a project work of S.Bharath Reddy bearing roll no. 1602-20-737-007 who carried out the project under my supervision in the IV semester for the academic year 2021- 2022.

Signature   Signature

  Internal Examiner   External
  Examiner

ABSTRACT:

In this project Moocs database for staff .The data of the faculty who has enrolled the couses will be displayed clearly and we can display the total couses enrolled by the faculty in the specific year and total marks secured by the faculty .

To implement this and to display all the data on the screen we need to build the database with details of faculty,enroll, courses and results as a backend database. To build this portal, we are using SQL for the backend and java for the frontend part
 .

REQUIREMENT ANALYSIS:

List of Tables:
- faculty
- courses
- enroll
- results

List of attributes with their domain types:

Faculty

- fid(int)
- fname(varchar(50))
- fdesig(varchar(30))
- femail(varchar(40))

Courses

- cid(int)
- cname(varchar(50))
- cduration(varchar(50))

Enroll

- fid(int)
- cid(int)
- status(varchar(20))

Results

- fid(int)

- cid(int)

- percentage(int)

AIM AND PRIORITY OF THE PROJECT

To create a Java GUI based for sih it portal which takes the values like details of all students, faculty, projects and the registrations of students for projects. These values are to be updated in the database using JDBC connectivity.

ARCHITECTURE AND TECHNOLOGY

Software used: Java Notepad++, Oracle 11g Database, Java SE version 13,

SQL*Plus.

Java SWINGS:

Java SWINGS is an API to develop GUI or window-based applications injava. Java SWING components are platform-independent. It is lightweight. The javax.swing package provides classes for SWING API such as JTextField, JLabel, JTextArea, JButton, JChoice, JList etc.

SQL:
Structure Query Language(SQL) is a database query language used for storing and managing data in Relational DBMS. SQL was the first commercial language introduced for E.F Codd's **Relational** model of database. Today almost all RDBMS (MySql, Oracle, Infomix, Sybase, MS Access) use **SQL** as the standard database query language. SQL is used to perform all types of data operations in RDBMS.

DESIGN:

ER DIAGRAM:
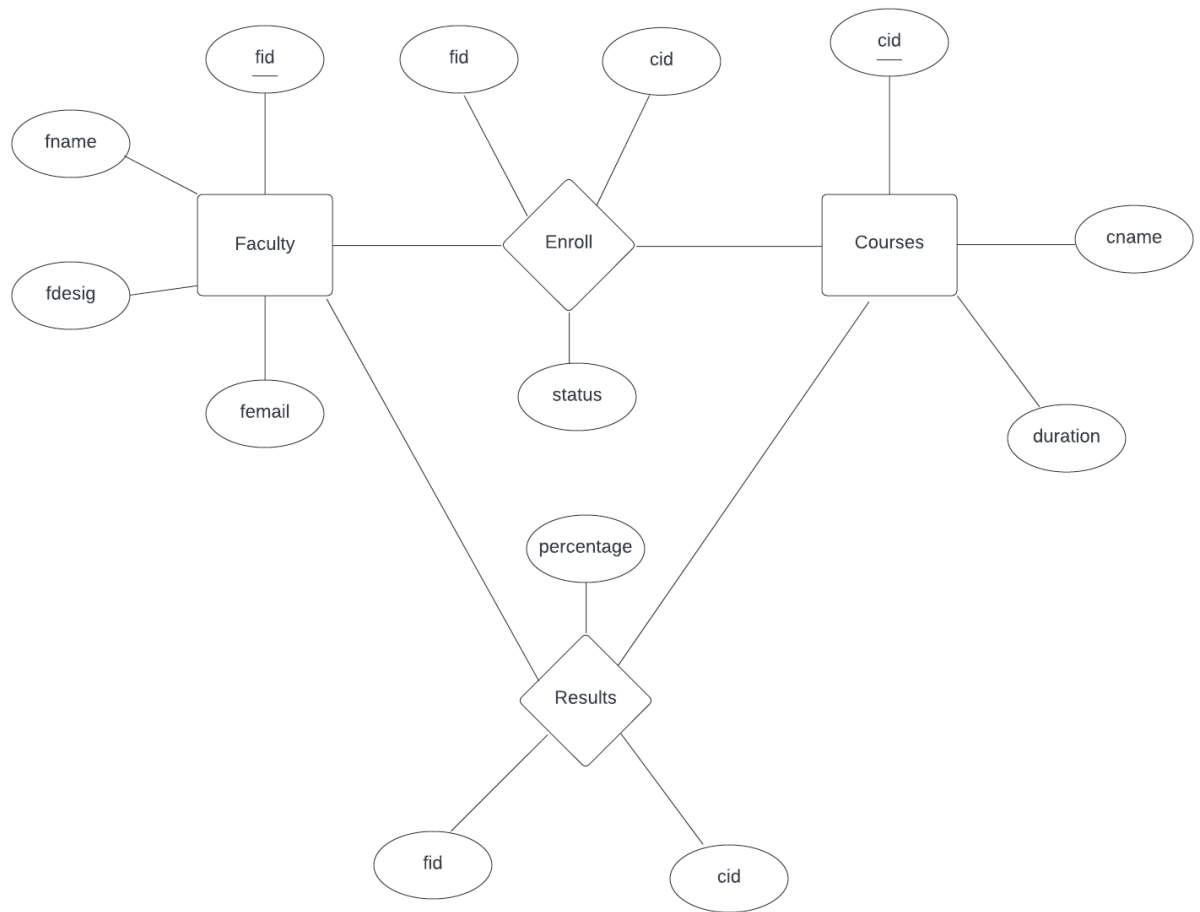
DDL COMMANDS:

Create table faculty(fid int primary key,

Fname varchar(50),

Fdesig varchar(30),

Femail varchar(40));

```
MySQL Shell
MySQL  localhost:3306 ssl  staff  SQL > desc faculty;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| fid    | int         | NO   | PRI | NULL    |       |
| fname  | varchar(50) | YES  |     | NULL    |       |
| fdesig | varchar(30) | YES  |     | NULL    |       |
| femail | varchar(40) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
4 rows in set (0.0365 sec)
MySQL  localhost:3306 ssl  staff  SQL >
```

Create table courses (cid int primary key,

cname varchar(50),

cduration varchar(50));

```
MySQL Shell
MySQL  localhost:3306 ssl  staff  SQL > desc courses;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| cid       | int         | NO   | PRI | NULL    |       |
| cname     | varchar(50) | YES  |     | NULL    |       |
| cduration | varchar(50) | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
3 rows in set (0.0225 sec)
MySQL  localhost:3306 ssl  staff  SQL > _
```

Create table enroll(fid int,

cid int,

status varchar(20));

```
MySQL Shell
MySQL  localhost:3306 ssl  staff  SQL > desc  enroll;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| fid    | int         | YES  | MUL | NULL    |       |
| cid    | int         | YES  | MUL | NULL    |       |
| status | varchar(20) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
3 rows in set (0.0289 sec)
MySQL  localhost:3306 ssl  staff  SQL >
```

Create table results(fid int,

cid int,

percentage int);

```
MySQL Shell
MySQL  localhost:3306 ssl  staff  SQL > desc results;
+------------+------+------+-----+---------+-------+
| Field      | Type | Null | Key | Default | Extra |
+------------+------+------+-----+---------+-------+
| fid        | int  | YES  |     | NULL    |       |
| cid        | int  | YES  |     | NULL    |       |
| percentage | int  | YES  |     | NULL    |       |
+------------+------+------+-----+---------+-------+
3 rows in set (0.0518 sec)
MySQL  localhost:3306 ssl  staff  SQL >
```

CONSTRAINTS:

1)Alter table fauclty add primary key(fid);

2)Alter table courses add primary key(cid);

3)Alter table enroll add foreign key(fid) references faculty(fid);

4) Alter table enroll add foreign key(cid) references courses(cid);

5) Alter table results add foreign key(fid) references faculty(fid);

6) Alter table results add foreign key(fid) references faculty(fid);

DML COMMANDS:

```
MySQL Shell
MySQL  localhost:3306 ssl  staff  SQL > insert into faculty values(7777,"c.sireesha","Asst.Prof","sireesha11@gmail.com");
Query OK, 1 row affected (0.1746 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into faculty values(8888,"j.sunnetha","Asst.Prof","suneetha33@gmail.com");
Query OK, 1 row affected (0.1163 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into faculty values(9999,"g.srinivas rao","Asst.Prof","srinivasrao3@gmail.com");
Query OK, 1 row affected (0.1126 sec)
MySQL  localhost:3306 ssl  staff  SQL > select * from faculty;
+------+----------------+-----------+------------------------+
| fid  | fname          | fdesig    | femail                 |
+------+----------------+-----------+------------------------+
| 1111 | Aruna          | Asst.Prof | aruna11@gmail.com      |
| 2222 | Rajya Lakshmi  | Asst.Prof | rlakshmi221@gmail.com  |
| 3333 | Dharma Reddy   | Asst.Prof | dharmareddy33@gmail.com |
| 4444 | David Raju     | Asst.Prof | davidraju44@gmail.com  |
| 5555 | Kavitha        | Asst.Prof | kavitha55@gmail.com    |
| 6666 | B.Leelavathy   | Asst.Prof | leelavathy66@gmail.com |
| 7777 | c.sireesha     | Asst.Prof | sireesha11@gmail.com   |
| 8888 | j.sunnetha     | Asst.Prof | suneetha33@gmail.com   |
| 9999 | g.srinivas rao | Asst.Prof | srinivasrao3@gmail.com |
+------+----------------+-----------+------------------------+
9 rows in set (0.0005 sec)
MySQL  localhost:3306 ssl  staff  SQL >
```

```
MySQL Shell

MySQL  localhost:3306 ssl  staff  SQL > insert into courses values(111,"embedded system design with apm","8weeks");
Query OK, 1 row affected (0.0672 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into courses values(222,"programming in java","12weeks");
Query OK, 1 row affected (0.1017 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into courses values(333,"database management systems","8weeks");
Query OK, 1 row affected (0.1231 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into courses values(444,"deep learning part-2","8weeks");
Query OK, 1 row affected (0.2304 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into courses values(555,"cryptography and network security","12weeks");
Query OK, 1 row affected (0.1475 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into courses values(666,"data mining","8weeks");
Query OK, 1 row affected (0.1716 sec)
MySQL  localhost:3306 ssl  staff  SQL > select * from courses;
+-----+----------------------------------+-----------+
| cid | cname                            | cduration |
+-----+----------------------------------+-----------+
| 111 | embedded system design with apm  | 8weeks    |
| 222 | programming in java              | 12weeks   |
| 333 | database management systems      | 8weeks    |
| 444 | deep learning part-2             | 8weeks    |
| 555 | cryptography and network security| 12weeks   |
| 666 | data mining                      | 8weeks    |
+-----+----------------------------------+-----------+
6 rows in set (0.0006 sec)
MySQL  localhost:3306 ssl  staff  SQL >
```

```
MySQL Shell

MySQL  localhost:3306 ssl  staff  SQL > insert into enroll values(1111,666,"yes");
Query OK, 1 row affected (0.0975 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into enroll values(2222,555,"yes");
Query OK, 1 row affected (0.1974 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into enroll values(3333,444,"yes");
Query OK, 1 row affected (0.0641 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into enroll values(5555,111,"no");
Query OK, 1 row affected (0.1092 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into enroll values(4444,555,"yes");
Query OK, 1 row affected (0.0915 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into enroll values(6666,333,"yes");
Query OK, 1 row affected (0.1158 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into enroll values(7777,333,"yes");
Query OK, 1 row affected (0.0970 sec)
MySQL  localhost:3306 ssl  staff  SQL > insert into enroll values(9999,111,"no");
Query OK, 1 row affected (0.0757 sec)
MySQL  localhost:3306 ssl  staff  SQL > select * from enroll;
+------+-----+--------+
| fid  | cid | status |
+------+-----+--------+
| 1111 | 666 | yes    |
| 2222 | 555 | yes    |
| 3333 | 444 | yes    |
| 5555 | 111 | no     |
| 4444 | 555 | yes    |
| 6666 | 333 | yes    |
| 7777 | 333 | yes    |
| 9999 | 111 | no     |
+------+-----+--------+
8 rows in set (0.0005 sec)
MySQL  localhost:3306 ssl  staff  SQL >
```

IMPLEMENTATION:

Front end programs and its connectivity

Java Database Connectivity (**JDBC**) is an application programming interface (API) for the programming language Java, which defines how a client may access a database. It is a Java-based data access technology used for Java database connectivity. It is part of the Java Standard Edition platform, from Oracle Corporation. It provides methods to query and update data in a database and is oriented towards relational databases.

The connection to the database can be performed using Java programming (JDBC

API) as:

```java
public class DB {
    public static Connection getConnection(){
        Connection con=null;
        try{
            Class.forName("com.mysql.cj.jdbc.Driver");

            con=DriverManager.getConnection("jdbc:mysql://localhost:3306/staff","root","Vasavi_0123");
        }catch(Exception e){System.out.println(e);}
        return con;
    }

}
```

Code:

Login.java:

```java
import java.awt.EventQueue;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.ImageIcon;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import java.awt.Font;

import java.awt.Color;

import javax.swing.JTextField;

import javax.swing.JButton;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;
```

```java
import javax.swing.JPasswordField;


public class Login extends JFrame {

        private static final long serialVersionUID = 1L;

        static Login frame;

        private JPanel contentPane;

        private JTextField TextField;

        private JPasswordField PasswordField;


        /**

         * Launch the application.

         */

        public static void main(String[] args) {

                EventQueue.invokeLater(new Runnable() {

                        public void run() {

                                try {

                                        frame = new Login();

                                        frame.setTitle("MOOCS DataBase");

                                        frame.setVisible(true);

                                } catch (Exception e) {

                                        e.printStackTrace();

                                }

                        }

                });

        }


        /**

         * Create the frame.
```

```java
 */

public Login() {

        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        setBounds(0, 0, 650, 430);

        contentPane = new JPanel();

        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

        setContentPane(contentPane);

        contentPane.setLayout(null);

        ImageIcon i = new ImageIcon("src/pic.png");

        JLabel lbllogo = new JLabel(i);

        lbllogo.setForeground(Color.GRAY);

        lbllogo.setFont(new Font("Tahoma", Font.PLAIN, 18));

        lbllogo.setBounds(30, 30, 600, 210);

        contentPane.add(lbllogo);


        JButton btnLogin = new JButton("MOOCS");

        btnLogin.addActionListener(new ActionListener() {

                public void actionPerformed(ActionEvent e) {

                Menu.main(new String[]{});

                        frame.dispose();


                }

        });

        btnLogin.setFont(new Font("Tahoma", Font.PLAIN, 20));

btnLogin.setBackground(new Color(240, 240, 240));

btnLogin.setBounds(250, 280, 130, 50);

contentPane.add(btnLogin);
```

```
        }

}
```

Menu.java:

```
import java.awt.EventQueue;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.JLabel;

import java.awt.Font;

import java.awt.Color;

import javax.swing.JButton;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;


public class Menu extends JFrame {

        private static final long serialVersionUID = 1L;

        static Menu frame;

        private JPanel contentPane;

        static String idd;


        /**

         * Launch the application.

         */

        public static void main(String[] args) {

                EventQueue.invokeLater(new Runnable() {
```

```java
                public void run() {

                        try {

                                frame = new Menu();

                                frame.setTitle("MOOCS DATABASE FOR STAFF");

                                frame.setVisible(true);

                        } catch (Exception e) {

                                e.printStackTrace();

                        }

                }

        });

    }

public static void id(String id) {

    idd=id;

}

    /**

     * Create the frame.

     */

    public Menu() {

            setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

            setBounds(100, 100, 450, 433);

            contentPane = new JPanel();

            contentPane.setForeground(Color.GRAY);

            contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

            setContentPane(contentPane);


            JLabel lblLibrarianSection = new JLabel("Welcome To Moocs DataBase For Staff");

            lblLibrarianSection.setFont(new Font("Academy Engraved LET", Font.BOLD , 40));
```

```java
JButton btnBInfo = new JButton("Faculty Info");

btnBInfo.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent e) {

Faculty.main(new String[]{});

        frame.dispose();

        }

});

btnBInfo.setFont(new Font("Tahoma", Font.PLAIN, 13));


JButton btnSInfo = new JButton("Courses Info");

btnSInfo.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent arg0) {

                Course.main(new String[]{});

                frame.dispose();

        }

});

btnSInfo.setFont(new Font("Tahoma", Font.PLAIN, 13));


JButton btnIssueBook = new JButton("Enrolls");

btnIssueBook.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent e) {

                Enroll.main(new String[]{});

                frame.dispose();

        }

});

btnIssueBook.setFont(new Font("Tahoma", Font.PLAIN, 13));
```

```java
/*

JButton btnChange = new JButton("Change Password");

btnChange.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent e) {

                //ChangePassword.frame = new ChangePassword(idd);

                //ChangePassword.frame.setTitle("Change Password");

                //ChangePassword.frame.setVisible(true);

                frame.dispose();

        }

});

btnChange.setFont(new Font("Tahoma", Font.PLAIN, 13));*/


JButton btnReturnBook = new JButton("Results");

btnReturnBook.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent e) {

                Results.main(new String[]{});

                frame.dispose();

        }

});

btnReturnBook.setFont(new Font("Tahoma", Font.PLAIN, 13));

/*

JButton btnLogout = new JButton("Logout");

btnLogout.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent e) {

                //Login.main(new String[]{});

                frame.dispose();

        }
```

```java
			});

			btnLogout.setFont(new Font("Tahoma", Font.PLAIN, 13));*/

			GroupLayout gl_contentPane = new GroupLayout(contentPane);

			gl_contentPane.setHorizontalGroup(

					gl_contentPane.createParallelGroup(Alignment.LEADING)

							.addGroup(Alignment.TRAILING,
gl_contentPane.createSequentialGroup()

									.addContainerGap(81, Short.MAX_VALUE)

									.addComponent(lblLibrarianSection)

									.addGap(54))

							.addGroup(gl_contentPane.createSequentialGroup()

									.addGap(132)


		.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)

										//.addComponent(btnLogout,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE)

										//.addComponent(btnChange,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE)

										.addComponent(btnReturnBook,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE)

										.addComponent(btnIssueBook,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE)

										.addComponent(btnSInfo,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE)

										.addComponent(btnBInfo,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE))

									.addContainerGap(101, Short.MAX_VALUE))
			);

			gl_contentPane.setVerticalGroup(

					gl_contentPane.createParallelGroup(Alignment.LEADING)

							.addGroup(gl_contentPane.createSequentialGroup()
```

```
                                        .addContainerGap()

                                        .addComponent(lblLibrarianSection)

                                        .addGap(18)

                                        .addComponent(btnBInfo, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)

                                        .addGap(18)

                                        .addComponent(btnSInfo, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)

                                        .addGap(18)

                                        .addComponent(btnIssueBook, GroupLayout.PREFERRED_SIZE,
37, GroupLayout.PREFERRED_SIZE)

                                        .addGap(18)

                                        .addComponent(btnReturnBook, GroupLayout.PREFERRED_SIZE,
37, GroupLayout.PREFERRED_SIZE)

                                        .addGap(18)

                                        //.addComponent(btnChange, GroupLayout.PREFERRED_SIZE,
37, GroupLayout.PREFERRED_SIZE)

                                        .addGap(18)

                                        //.addComponent(btnLogout, GroupLayout.PREFERRED_SIZE,
37, GroupLayout.PREFERRED_SIZE)

                                        .addContainerGap(16, Short.MAX_VALUE))
            );
            contentPane.setLayout(gl_contentPane);
      }

}
```

Faculty.java:

```java
import java.awt.BorderLayout;

import java.awt.EventQueue;


import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.JLabel;

import java.awt.Font;

import java.awt.Color;

import javax.swing.JButton;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;


public class Faculty extends JFrame {

        static Faculty frame;

        private JPanel contentPane;



        public static void main(String[] args) {

                EventQueue.invokeLater(new Runnable() {

                        public void run() {

                                try {

                                        frame = new Faculty();

                                        frame.setTitle("Faculty Info");

                                        frame.setVisible(true);
```

```java
                } catch (Exception e) {

                        e.printStackTrace();

                }

        }

    });

}



public Faculty() {

        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        setBounds(100, 100, 450, 433);

        contentPane = new JPanel();

        contentPane.setForeground(Color.GRAY);

        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

        setContentPane(contentPane);


        JLabel lblFacultyinfo = new JLabel("Faculty Information");

        lblFacultyinfo.setFont(new Font("Tahoma", Font.PLAIN, 22));


        JButton btnNewButton = new JButton("Add faculty");

        btnNewButton.addActionListener(new ActionListener() {

                public void actionPerformed(ActionEvent e) {

                Addfaculty.main(new String[]{});

                frame.dispose();

                }

        });

        btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 13));
```

```java
JButton btnUpdateFaculty = new JButton("Modify faculty Details");

btnUpdateFaculty.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent arg0) {

        Updatefaculty.main(new String[]{});

                frame.dispose();

        }

});

btnUpdateFaculty.setFont(new Font("Tahoma", Font.PLAIN, 13));


JButton btnDeleteFaculty = new JButton("Delete faculty details");

btnDeleteFaculty.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent e) {

        Deletefaculty.main(new String[]{});

                frame.dispose();

        }

});

btnDeleteFaculty.setFont(new Font("Tahoma", Font.PLAIN, 13));


JButton btnViewFaculty = new JButton("View All faculty");

btnViewFaculty.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent e) {

                Viewfaculty.main(new String[]{});

        }

});

btnViewFaculty.setFont(new Font("Tahoma", Font.PLAIN, 13));


JButton btnBack = new JButton("Back");

btnBack.addActionListener(new ActionListener() {
```

```java
                public void actionPerformed(ActionEvent e) {

                Menu.main(new String[]{});

                        frame.dispose();

                }

        });

        btnBack.setFont(new Font("Tahoma", Font.PLAIN, 13));


        GroupLayout gl_contentPane = new GroupLayout(contentPane);

        gl_contentPane.setHorizontalGroup(

                gl_contentPane.createParallelGroup(Alignment.LEADING)

                        .addGroup(Alignment.CENTER, gl_contentPane.createSequentialGroup()

                                .addComponent(lblFacultyinfo)

                                .addGap(54))

                        .addGroup(Alignment.CENTER ,gl_contentPane.createSequentialGroup()

                                .addGap(132)

                                .addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)

                                        .addComponent(btnBack, GroupLayout.PREFERRED_SIZE, 191,
GroupLayout.PREFERRED_SIZE)

                                        .addComponent(btnViewFaculty,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE)

                                        .addComponent(btnDeleteFaculty,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE)

                                        .addComponent(btnUpdateFaculty,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE)

                                        .addComponent(btnNewButton,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE))

                                .addContainerGap(101, Short.MAX_VALUE))

        );

        gl_contentPane.setVerticalGroup(

                gl_contentPane.createParallelGroup(Alignment.LEADING)

                        .addGroup(gl_contentPane.createSequentialGroup()
```

```
                                           .addContainerGap()

                                           .addComponent(lblFacultyinfo)

                                           .addGap(18)

                                           .addComponent(btnNewButton, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)

                                           .addGap(18)

                                           .addComponent(btnUpdateFaculty, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)

                                           .addGap(18)

                                           .addComponent(btnDeleteFaculty, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)

                                           .addGap(18)

                                           .addComponent(btnViewFaculty, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)

                                           .addGap(18)

                                           .addComponent(btnBack, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)

                                           .addContainerGap(16, Short.MAX_VALUE))
                );
                contentPane.setLayout(gl_contentPane);
        }
```

Facultydetails.java:

```
import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

public class Facultydetails{


        public static boolean checkfid(int fid){

                boolean status=false;
```

```java
        try{

                Connection con=DB.getConnection();

                PreparedStatement ps=con.prepareStatement("select * from faculty where fid=?");

                ps.setInt(1,fid);

            ResultSet rs=ps.executeQuery();

                status=rs.next();

                con.close();

        }catch(Exception e){System.out.println(e);}

        return status;

    }

    public static int insertfaculty(int fid,String fname,String fdesig,String femail){

        int status=0;

        try{

                Connection con=DB.getConnection();

                PreparedStatement ps=con.prepareStatement("insert into
Faculty(Fid,Fname,Fdesig,Femail) values(?,?,?,?)");

                    ps.setInt(1,fid);

                    ps.setString(2,fname);

                    ps.setString(3,fdesig);

                    ps.setString(4,femail);

                    status=ps.executeUpdate();

                    con.close();

        }catch(Exception e){System.out.println(e);}

        return status;

    }

    public static int deletefaculty(int id){

        int status=0;

        try{

                Connection con=DB.getConnection();
```

```
            PreparedStatement ps=con.prepareStatement("delete from faculty where fid=?");

            ps.setInt(1,id);

            status=ps.executeUpdate();

            con.close();

        }catch(Exception e){System.out.println(e);}

        return status;

    }

}


}
```

Updatefaculty.java:

```
import java.awt.Color;

import java.awt.EventQueue;

import java.awt.Font;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;


import javax.swing.JButton;

import javax.swing.JFrame;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import javax.swing.JPanel;
```

```java
import javax.swing.JTextField;

import javax.swing.border.EmptyBorder;


public class Updatefaculty extends JFrame {


    private static final long serialVersionUID = 1L;

    static Updatefaculty frame;

    private JPanel contentPane;

    private JTextField TextField;

    private JLabel lblEnterOldPassword;

    private JTextField TextField1;

    private JLabel lblEnterNewPassword;

    private JTextField TextField2;

    private JLabel lblReEnterNewPassword;

    private JTextField TextField3;

    private JLabel lblReEnterNewPassword1;


    /**

     * Launch the application.

     */
    public static void main(String[] args) {

                EventQueue.invokeLater(new Runnable() {

                    public void run() {

                            try {

                                    frame = new Updatefaculty();

                                    frame.setTitle("Modify Faculty Info.");

                                    frame.setVisible(true);

                            } catch (Exception e) {
```

```java
                                e.printStackTrace();

                    }

                }

        });

    }


/**
 * Create the frame.
 */
public Updatefaculty() {

    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

    setBounds(110, 95, 650, 370);

    setResizable(false);


    contentPane = new JPanel();

    contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

    setContentPane(contentPane);

    contentPane.setLayout(null);


    TextField = new JTextField();

    TextField.setFont(new Font("Tahoma", Font.PLAIN, 18));

    TextField.setBounds(290, 37, 326, 40);

    contentPane.add(TextField);

    TextField.setColumns(10);


    TextField1 = new JTextField();

    TextField1.setFont(new Font("Tahoma", Font.PLAIN, 18));

    TextField1.setBounds(290, 87, 326, 40);
```

```java
contentPane.add(TextField1);

TextField.setColumns(10);


TextField2 = new JTextField();

TextField2.setFont(new Font("Tahoma", Font.PLAIN, 18));

TextField2.setBounds(290, 137, 326, 40);

contentPane.add(TextField2);

TextField2.setColumns(10);


TextField3 = new JTextField();

TextField3.setFont(new Font("Tahoma", Font.PLAIN, 18));

TextField3.setBounds(290, 187, 326, 40);

contentPane.add(TextField3);

TextField3.setColumns(10);


TextField.setText("");

        TextField1.setText("");

        TextField2.setText("");

        TextField3.setText("");


         Connection con = DB.getConnection();


         JButton btnBack = new JButton("Back");

     btnBack.addActionListener(new ActionListener() {

       public void actionPerformed(ActionEvent e) {

        frame.dispose();

        Faculty.main(new String[]{});

       }});
```

```java
            btnBack.setFont(new Font("Tahoma", Font.PLAIN, 20));

            btnBack.setBackground(new Color(240, 240, 240));

            btnBack.setBounds(450, 255, 130, 50);

            contentPane.add(btnBack);
    JButton btnSave = new JButton("Save");

    btnSave.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent e) {

                int b =Integer.parseInt( TextField.getText());

            String t = TextField1.getText();

            String a = TextField2.getText();

            String m = TextField3.getText();

        if(Facultydetails.checkfid(b)) {

        try {


            PreparedStatement st = con.prepareStatement("Update faculty set fname=?, fdesig = ?,femail=?,
where fid=?");


            st.setString(1, t);

            st.setString(2, a);

            st.setString(3, m);

            st.setInt(4, b);

            st.executeUpdate();

        System.out.println("updated info for fid : " + b);

            JOptionPane.showMessageDialog(btnSave, "Data Updated Successfully :)");


        } catch (SQLException sqlException) {

            sqlException.printStackTrace();

        }}

                        else{
```

```java
                                    JOptionPane.showMessageDialog(Updatefaculty.this,"Faculty ID is
Invalid !!!");

                        TextField.setText("");

                        TextField1.setText("");

                        TextField2.setText("");TextField3.setText("");

    }



    }
});
btnSave.setFont(new Font("Tahoma", Font.PLAIN, 20));

btnSave.setBackground(new Color(240, 240, 240));

btnSave.setBounds(300, 255, 130, 50);

contentPane.add(btnSave);


lblEnterOldPassword = new JLabel("F id :");

lblEnterOldPassword.setFont(new Font("Tahoma", Font.PLAIN, 18));

lblEnterOldPassword.setBounds(45, 37, 326, 40);

contentPane.add(lblEnterOldPassword);


lblEnterNewPassword = new JLabel("F name :");

lblEnterNewPassword.setFont(new Font("Tahoma", Font.PLAIN, 18));

lblEnterNewPassword.setBounds(45, 87, 326, 40);

contentPane.add(lblEnterNewPassword);


lblReEnterNewPassword = new JLabel("Fdesig :");

lblReEnterNewPassword.setFont(new Font("Tahoma", Font.PLAIN, 18));

lblReEnterNewPassword.setBounds(45, 137, 326, 40);

contentPane.add(lblReEnterNewPassword);
```

```java
lblReEnterNewPassword1 = new JLabel("Email :");

lblReEnterNewPassword1.setFont(new Font("Tahoma", Font.PLAIN, 18));

lblReEnterNewPassword1.setBounds(45, 187, 326, 40);

contentPane.add(lblReEnterNewPassword1);


JButton btnLoad = new JButton("Load");

btnLoad.addActionListener(new ActionListener() {

   public void actionPerformed(ActionEvent e) {

           int fid = Integer.parseInt(TextField.getText());

      String fname = TextField1.getText();

      String fdesig = TextField2.getText();

      String femail = TextField3.getText();

         Connection con = DB.getConnection();

         if(Facultydetails.checkfid(fid)) {

         Statement st;

                      try {

                             PreparedStatement stmt = con.prepareStatement("select * from
faculty where fid=?");

                             stmt.setInt(1,fid);//book

                             ResultSet rs = stmt.executeQuery();

                             while(rs.next())

                             {       TextField.setText(Integer.toString(rs.getInt(1)));

               TextField1.setText(rs.getString(2));

               TextField2.setText(rs.getString(3));

               TextField3.setText(rs.getString(4));}

               } catch (SQLException e1) {

                      e1.printStackTrace();

               }}else {
```

```
                                    JOptionPane.showMessageDialog(Updatefaculty.this,"Faculty ID is Invalid !!!");

                                    TextField.setText("");

                                    TextField1.setText("");

                                    TextField2.setText("");

                                    TextField3.setText("");

                        }


            }});

        btnLoad.setFont(new Font("Tahoma", Font.PLAIN, 20));

        btnLoad.setBackground(new Color(240, 240, 240));

        btnLoad.setBounds(150, 255, 130, 50);

        contentPane.add(btnLoad);



    }
}
```

ViewFaculty.java:

```
import java.awt.BorderLayout;

import java.awt.EventQueue;

import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.ResultSetMetaData;


import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.JScrollPane;
```

```java
import javax.swing.border.EmptyBorder;

import javax.swing.JTable;


public class Viewfaculty extends JFrame {


	private JPanel contentPane;

	private JTable table;


	public static void main(String[] args) {

		EventQueue.invokeLater(new Runnable() {

			public void run() {

				try {

					Viewfaculty frame = new Viewfaculty();

					frame.setTitle("Faculty");

					frame.setVisible(true);

				} catch (Exception e) {

					e.printStackTrace();

				}

			}

		});

	}


	/**

	 * Create the frame.

	 */

	public Viewfaculty() {

		setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);

		setBounds(100, 100, 450, 300);
```

```
contentPane = new JPanel();

contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

contentPane.setLayout(new BorderLayout(0, 0));

setContentPane(contentPane);


String data[][]=null;

String column[]=null;

try{

        Connection con=DB.getConnection();

        PreparedStatement ps=con.prepareStatement("select * from
faculty",ResultSet.TYPE_SCROLL_SENSITIVE,ResultSet.CONCUR_UPDATABLE);

        ResultSet rs=ps.executeQuery();


        ResultSetMetaData rsmd=rs.getMetaData();

        int cols=rsmd.getColumnCount();

        column=new String[cols];

        for(int i=1;i<=cols;i++){

                column[i-1]=rsmd.getColumnName(i);

        }


        rs.last();

        int rows=rs.getRow();

        rs.beforeFirst();


        data=new String[rows][cols];

        int count=0;

        while(rs.next()){

                for(int i=1;i<=cols;i++){

                        data[count][i-1]=rs.getString(i);
```

```
                        }

                        count++;

                }

                con.close();

        }catch(Exception e){System.out.println(e);}


        table = new JTable(data,column);

        table.setDefaultEditor(Object.class, null);

        JScrollPane sp=new JScrollPane(table);


        contentPane.add(sp, BorderLayout.CENTER);

    }


}
```

Deletefaculty.java:

```
import java.awt.BorderLayout;

import java.awt.EventQueue;


import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import javax.swing.JTextField;
```

```java
import javax.swing.JButton;

import java.awt.Font;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;


public class Deletefaculty extends JFrame {

        static Deletefaculty frame;

        private JPanel contentPane;

        private JTextField textField;


        /**

         * Launch the application.

         */

        public static void main(String[] args) {

                EventQueue.invokeLater(new Runnable() {

                        public void run() {

                                try {

                                        frame = new Deletefaculty();

                                        frame.setTitle("Delete Faculty Info.");

                                        frame.setVisible(true);

                                } catch (Exception e) {

                                        e.printStackTrace();

                                }

                        }

                });

        }


        /**
```

```
     * Create the frame.
     */
    public Deletefaculty() {
            setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            setBounds(100, 100, 400, 200);

            contentPane = new JPanel();
            contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

            setContentPane(contentPane);

            JLabel lblEnterId = new JLabel("Enter Faculty Id :");

            textField = new JTextField();
            textField.setColumns(10);

            JButton btnDelete = new JButton("Delete");
            btnDelete.addActionListener(new ActionListener() {
                    public void actionPerformed(ActionEvent e) {
                            String id=textField.getText();
                            if(id==null||id.trim().equals("")){
                                    JOptionPane.showMessageDialog(Deletefaculty.this,"Id can't be
blank");
                            }else{
                                    int sid=Integer.parseInt(textField.getText());
                                    //int id=Integer.parseInt(textField.getText());
                                    int i=Facultydetails.deletefaculty(sid);
                                    if(i>0){
                                            JOptionPane.showMessageDialog(Deletefaculty.this," Record
```

```
deleted successfully!");

                                        }else{

                                                JOptionPane.showMessageDialog(Deletefaculty.this,"Unable
to delete given id!");

                                        }

                                }

                        }

                });

                btnDelete.setFont(new Font("Tahoma", Font.PLAIN, 13));


                JButton btnNewButton = new JButton("Back");

                btnNewButton.addActionListener(new ActionListener() {

                        public void actionPerformed(ActionEvent e) {

                                Faculty.main(new String[]{});

                                frame.dispose();

                        }

                });

                btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 13));

                GroupLayout gl_contentPane = new GroupLayout(contentPane);

                gl_contentPane.setHorizontalGroup(

                        gl_contentPane.createParallelGroup(Alignment.LEADING)

                                .addGroup(gl_contentPane.createSequentialGroup()

                                        .addGap(39)

                                        .addComponent(lblEnterId)

                                        .addGap(57)

                                        .addComponent(textField, GroupLayout.PREFERRED_SIZE, 178,
GroupLayout.PREFERRED_SIZE)

                                        .addContainerGap(107, Short.MAX_VALUE))

                                .addGroup(gl_contentPane.createSequentialGroup()
```

```
                    .addGap(100)

                    .addComponent(btnDelete)

                    .addGap(30)

                    .addComponent(btnNewButton)

                    )

        );

        gl_contentPane.setVerticalGroup(

                gl_contentPane.createParallelGroup(Alignment.CENTER)

                        .addGroup(gl_contentPane.createSequentialGroup()

                            .addGap(19)

                            .addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)

                                .addComponent(textField, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE)

                                .addComponent(lblEnterId))

                            .addGap(33)

                            .addGroup(gl_contentPane.createParallelGroup()

                                    .addComponent(btnDelete)

                                    .addComponent(btnNewButton)

        )));

        contentPane.setLayout(gl_contentPane);

    }

}
```

GitHub links and folder structure:
https://github.com/Bharathreddy11/DataBase_For_Staff

Name	Date modified	Type	Size
.settings	6/4/2022 8:31 PM	File folder	
bin	6/27/2022 2:57 PM	File folder	
src	6/27/2022 2:57 PM	File folder	
.classpath	6/6/2022 7:44 PM	CLASSPATH File	1 KB
.project	6/4/2022 8:31 PM	PROJECT File	1 KB

Name	Date modified	Type	Size
Addcourse	6/19/2022 2:14 PM	JAVA File	7 KB
Addfaculty	6/7/2022 10:35 AM	JAVA File	7 KB
Addresult	6/27/2022 11:22 AM	JAVA File	7 KB
Addstatus	6/27/2022 10:50 AM	JAVA File	7 KB
Course	6/19/2022 5:21 PM	JAVA File	5 KB
Coursedetails	6/19/2022 2:14 PM	JAVA File	2 KB
DB	6/6/2022 11:47 PM	JAVA File	1 KB
Deletecourse	6/19/2022 2:34 PM	JAVA File	4 KB
Deletefaculty	6/7/2022 10:35 AM	JAVA File	4 KB
Deleteresult	6/27/2022 11:23 AM	JAVA File	4 KB
Deletestatus	6/27/2022 11:28 AM	JAVA File	4 KB
Enroll	6/27/2022 1:02 AM	JAVA File	5 KB
Faculty	6/19/2022 5:22 PM	JAVA File	5 KB
Facultydetails	6/7/2022 9:45 AM	JAVA File	2 KB
Login	6/27/2022 2:59 PM	JAVA File	2 KB
Menu	6/27/2022 2:48 PM	JAVA File	6 KB
pic	6/27/2022 12:25 PM	PNG File	9 KB
Resultdetails	6/27/2022 11:21 AM	JAVA File	2 KB
Results	6/27/2022 11:33 AM	JAVA File	5 KB
Statusdetails	6/27/2022 10:53 AM	JAVA File	2 KB
Updatecourse	6/19/2022 5:13 PM	JAVA File	8 KB
Updatefaculty	6/27/2022 2:55 PM	JAVA File	8 KB
Updateresult	6/27/2022 11:26 AM	JAVA File	8 KB
Updatestatus	6/27/2022 7:29 AM	JAVA File	8 KB

Viewcourse	6/19/2022 3:48 PM	JAVA File	3 KB
Viewfaculty	6/7/2022 10:13 AM	JAVA File	3 KB
Viewresult	6/27/2022 11:19 AM	JAVA File	3 KB
Viewstatus	6/27/2022 1:01 PM	JAVA File	3 KB

Local Disk (F:) ▸ New Folder ▸ eclipse11 ▸ staffdb ▸ bin

Name	Date modified	Type	Size
Addcourse$1.class	6/27/2022 1:02 AM	CLASS File	1 KB
Addcourse$2.class	6/27/2022 1:02 AM	CLASS File	2 KB
Addcourse$3.class	6/27/2022 1:02 AM	CLASS File	1 KB
Addcourse.class	6/27/2022 1:02 AM	CLASS File	5 KB
Addfaculty$1.class	6/27/2022 1:02 AM	CLASS File	1 KB
Addfaculty$2.class	6/27/2022 1:02 AM	CLASS File	2 KB
Addfaculty$3.class	6/27/2022 1:02 AM	CLASS File	1 KB
Addfaculty.class	6/27/2022 1:02 AM	CLASS File	5 KB
Addresult$1.class	6/27/2022 11:22 AM	CLASS File	1 KB
Addresult$2.class	6/27/2022 11:22 AM	CLASS File	2 KB
Addresult$3.class	6/27/2022 11:22 AM	CLASS File	1 KB
Addresult.class	6/27/2022 11:22 AM	CLASS File	5 KB
Addstatus$1.class	6/27/2022 10:50 AM	CLASS File	1 KB
Addstatus$2.class	6/27/2022 10:50 AM	CLASS File	2 KB
Addstatus$3.class	6/27/2022 10:50 AM	CLASS File	1 KB
Addstatus.class	6/27/2022 10:50 AM	CLASS File	5 KB
Course$1.class	6/27/2022 1:02 AM	CLASS File	1 KB
Course$2.class	6/27/2022 1:02 AM	CLASS File	1 KB
Course$3.class	6/27/2022 1:02 AM	CLASS File	1 KB
Course$4.class	6/27/2022 1:02 AM	CLASS File	1 KB
Course$5.class	6/27/2022 1:02 AM	CLASS File	1 KB
Course$6.class	6/27/2022 1:02 AM	CLASS File	1 KB
Course.class	6/27/2022 1:02 AM	CLASS File	4 KB

Type: 6/27/2022 1:02 AM
Size: 770 bytes
Date modified: 6/27/2022 1:02 AM

Testing:

Java GUI Testing:

MOOCS DataBase

MOOCS DATABASE
FOR
STAFF

MOOCS

MOOCS DATABASE FOR STAFF — □ ✕

Welcome To Moocs DataBase For Staff

- Faculty Info
- Courses Info
- Enrolls
- Results

Faculty Info — □ ✕

Faculty Information

- Add faculty
- Modify faculty Details
- Delete faculty details
- View All faculty
- Back
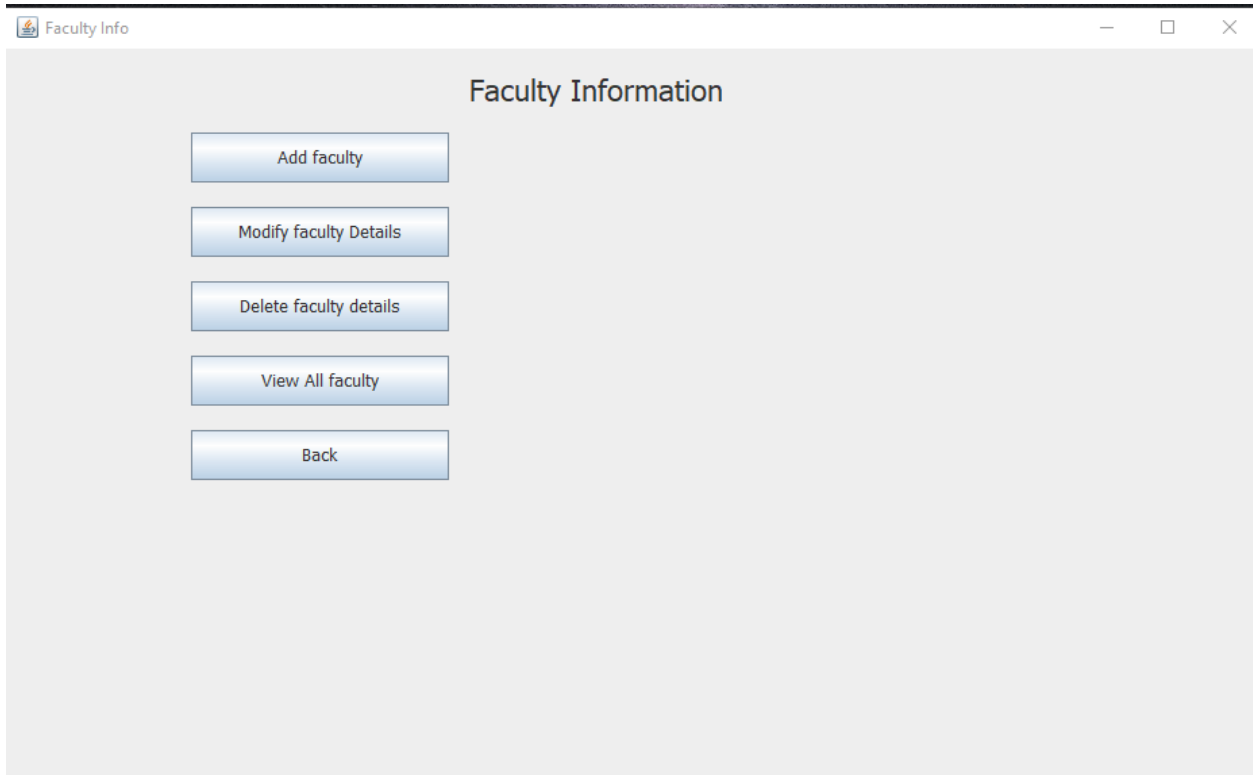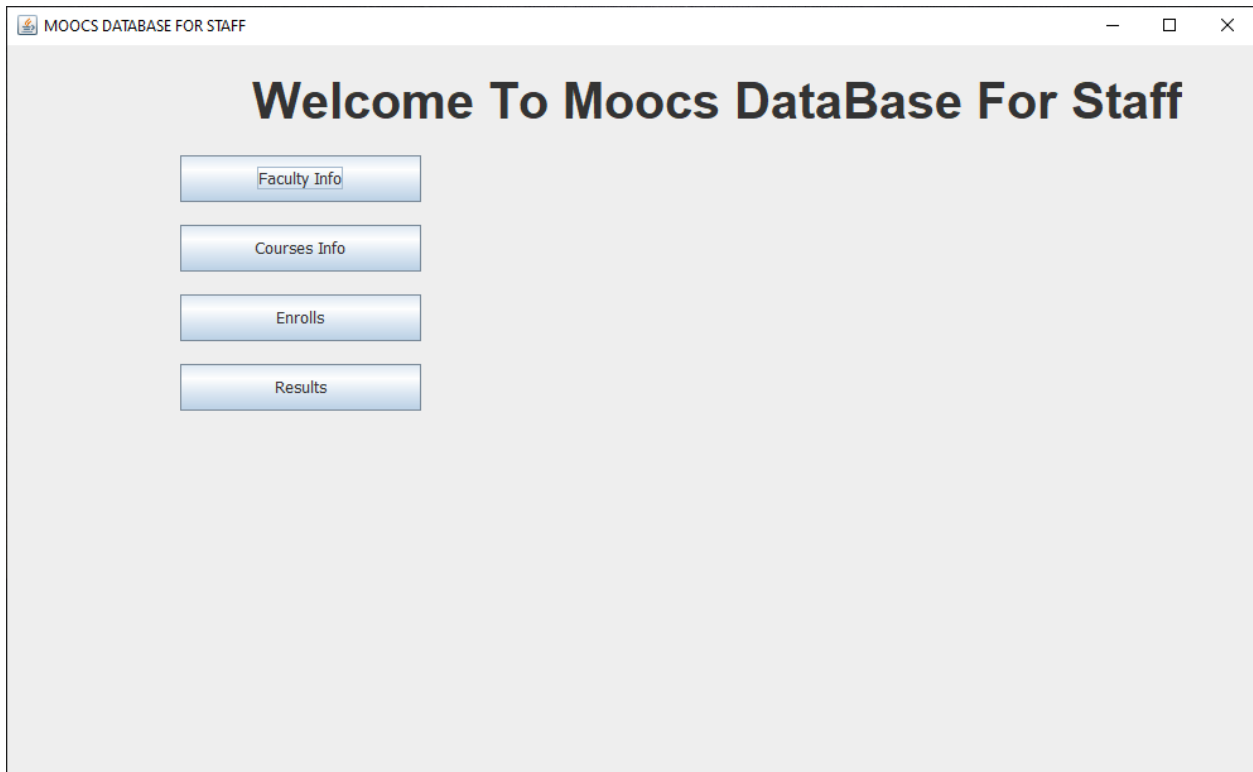
Faculty Info.   — ☐ ✕

Add Faculty Details

Faculty ID : `1123`

Faculty Name: `M.Vishnu Chaitanya`

F Desig : `Asst.Prof`

F Email : `mvchaitanya11@gmail.com`

[**Submit**]   [**Back**]

Message   ✕

(i) **Faculty added successfully!**

[OK]

Faculty Info   — ☐ ✕

Faculty Information

[Add faculty]

[Modify faculty Details]

[Delete faculty details]

[View All faculty]

[Back]

Faculty   — ☐ ✕

fid	fname	fdesig	femail
1111	Aruna	Asst.Prof	aruna11@gmail...
1123	M.Vishnu Chaita...	Asst.Prof	mvchaitanya11...
2222	Rajya Lakshmi	Asst.Prof	rlakshmi221@g...
3333	Dharma Reddy	Asst.Prof	dharmareddy33...
4444	David Raju	Asst.Prof	davidraju44@g...
5555	Kavitha	Asst.Prof	kavitha55@gmai...
6666	B.Leelavathy	Asst.Prof	leelavathy66@g...
7777	c.sireesha	Asst.Prof	sireesha11@gm...
8888	j.sunnetha	Asst.Prof	suneetha33@g...
9999	g.srinivas rao	Asst.Prof	srinivasrao3@g...

Delete Faculty Info.

Enter Faculty Id : 1123

Delete   Back

Message

ⓘ **Record deleted successfully!**

OK

Faculty

fid	fname	fdesig	femail
1111	Aruna	Asst.Prof	aruna11@gmail....
1123	M.Vishnu Chaita...	Asst.Prof	mvchaitanya11...
2222	Rajya Lakshmi	Asst.Prof	rlakshmi221@g...
3333	Dharma Reddy	Asst.Prof	dharmareddy33...
4444	David Raju	Asst.Prof	davidraju44@g...
5555	Kavitha	Asst.Prof	kavitha55@gmai...
6666	B.Leelavathy	Asst.Prof	leelavathy66@g...
7777	c.sireesha	Asst.Prof	sireesha11@gm...
8888	j.sunnetha	Asst.Prof	suneetha33@g...
9999	g.srinivas rao	Asst.Prof	srinivasrao3@g...

Modify Faculty Info.

F id :   2222

F name :   Rajya Lakshmi

Fdesig :   Asst.Prof

Email :   rlakshmi221@gmail.com

Load   Save   Back

Course Info — □ ✕

Course Information

Add Course

Modify Course Details

Delete Course details

View All Courses

Back

The data entered in the above form is updated in the "Faculty" table of the MySQL database as:

Results: I successfully completed this MINI PROJECT "MOOCS DataBase For Staff".

Discussion and Future work:
While doing this project I got new ideas I understood how to work on projects. Now to further extend this project I want to create a android app by which I can control my project on my hand and connect to it.

References:
- https://docs.oracle.com/javase/7/docs/api/javax/swing/package-summary.html

- https://www.javatpoint.com/mysql-connection

https://dev.mysql.com/doc/dev/connector-j/8.0/