# 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

S.Bharath Reddy <1602-20-737-007 >

Under the guidance of Ms B. Leelavathy



Department of Information Technology
Vasavi College of Engineering
(Autonomous) (Affiliated to Osmania
University) Ibrahimbagh, Hyderabad-31

## **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

Internal Examiner Examiner

Signature

External

#### 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:**

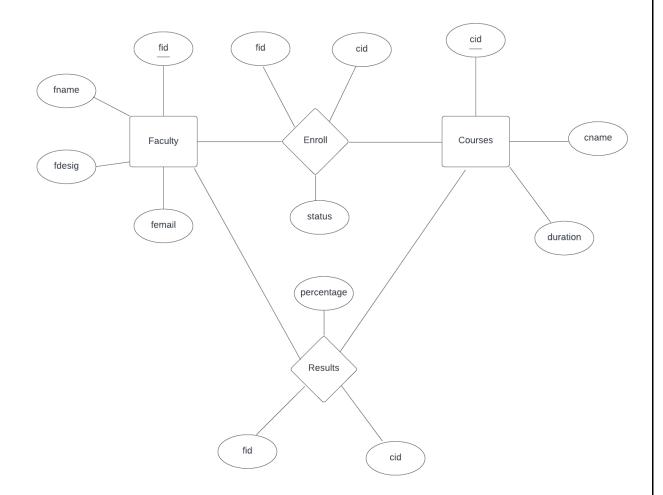
**Java SWINGS** is an API to develop GUI or window-based applications injava. Java SWING components are platform-independent. It is lightweight. The javax.swing package provides classes for SWING API such as JTextField, JLabel, JTextArea, JButton, JChoice, JList etc.

## **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
                       | Null | Key | Default |
 fid
          int
                        NO
                               PRI
                                     NULL
 fname
                        YES
          varchar(50)
                                     NULL
 fdesig
          varchar(30)
                        YES
                                     NULL
 femail
          varchar(40)
                        YES
                                     NULL
 rows in set (0.0365 sec)
MySOL localhost:3306 ssl staff SOL
```

Create table courses (cid int primary key, cname varchar(50),

cduration varchar(50));

```
MySQL Shell
MySQL localhost:3306 ssl staff
                                 SQL > desc courses;
 Field
                          | Null | Key
             Type
                                      Default
 cid
             int
                                  PRI
                                        NULL
                           NO
 cname
             varchar(50)
                           YES
                                        NULL
 cduration |
             varchar(50)
                           YES
                                        NULL
 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
 Field
                        Null
                               Key | Default
 fid
          int
                        YES
                               MUL
                                     NULL
 cid
                        YES
          int
                               MUL
                                     NULL
  status
          varchar(20) | YES
                                     NULL
 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
 fid
              int
                     YES
                                  NULL
 cid
              int
                     YES
                                  NULL
             int
                     YES
 percentage
                                  NULL
 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
       localhost:3306 ssl
                                             insert into courses values(111, "embedded system design with apm", "8weeks");
      OK, 1 row affected (0.0672 sec)
                                             insert into courses values(222, "programming in java", "12weeks");
       localhost:3306 ssl staff
Query OK, 1 row affected (0.1017 sec)
        localhost:3306 ssl staff
                                             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 SQ
                                             > insert into courses values(555, "cryptography and network security", "12weeks");
Query OK, 1 row affected (0.1475 sec)
MySQL localhost:3306 ssl staff SQ
Query OK, 1 row affected (0.1716 sec)
                                             > insert into courses values(666,"data mining","8weeks");
       localhost:3306 ssl staff
                                             > select * from courses;
  cid | cname
                                                  cduration
        embedded system design with apm
                                                   8weeks
        programming in java
database management systems
                                                   8weeks
        deep learning part-2
        cryptography and network security data mining
                                                   12weeks
 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)
                                          > insert into enroll values(2222,555,"yes");
    QL localhost:3306 ssl staff
Query OK, 1 row affected (0.1974 sec)
        localhost:3306 ssl staff
                                          > 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)
      localhost:3306 ssl staff
                                         > 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)
      localhost:3306 ssl staff
                                         > insert into enroll values(7777,333,"yes");
Query OK, 1 row affected (0.0970 sec)
MySQL localhost:3306 ssl staff
                                        > insert into enroll values(9999,111,"no");
Query OK, 1 row affected (0.0757 sec)
      localhost:3306 ssl staff
                                        > select * from enroll;
  fid
       | cid | status |
  1111
         666
               yes
               yes
  3333
         444
  4444
         555
               yes
  6666
               yes
  9999
               no
8 rows in set (0.0005 sec)
    QL localhost:3306 ssl staff SQL >
```

```
MySQL Shell
MySQL localhost:3306 ssl staff SQL > insert into results values(1111,666,65);
Query OK, 1 row affected (0.0933 sec)
                                      > insert into results values(2222,555,72);
MySQL localhost:3306 ssl staff
Query OK, 1 row affected (0.1406 sec)
                                      > insert into results values(3333,444,86);
MySQL localhost:3306 ssl staff
Query OK, 1 row affected (0.2333 sec)
                                      insert into results values(4444,555,47);
MySQL localhost:3306 ssl staff
Ouery OK, 1 row affected (0.0797 sec)
MySQL localhost:3306 ssl staff SQL > insert into results values(5555,111,0);
Query OK, 1 row affected (0.0649 sec)
MySQL localhost:3306 ssl staff
                                      insert into results values(6666,333,74);
Query OK, 1 row affected (0.1411 sec)
                                      insert into results values(7777,333,65);
MySQL localhost:3306 ssl staff SQL
Query OK, 1 row affected (0.1303 sec)
                                      > insert into results values(9999,111,0);
MySQL localhost:3306 ssl staff SQL
Query OK, 1 row affected (0.0827 sec)
                          staff SQL > select * from results;
       localhost:3306 ssl
 fid
      | cid |
              percentage
 1111
        666
  2222
        555
  3333
        444
                      86
  4444
        555
                      47
  5555
        111
                       0
 6666
        333
                      74
  7777
        333
                      65
  9999
        111
 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:
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:
 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.lmagelcon;
 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;
```

```
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.
```

```
*/
 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);
          Imagelcon i = new Imagelcon("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() {
```

```
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));
```

```
JButton btnBInfo = new JButton("Faculty Info");
btnBlnfo.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");
btnlssueBook.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
               Enroll.main(new String[]{});
               frame.dispose();
        }
});
btnlssueBook.setFont(new Font("Tahoma", Font.PLAIN, 13));
```

```
/*
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();
       }
```

```
});
             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)
                                          .add Component (btn Return Book,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE)
                                          .addComponent(btnlssueBook,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE)
                                          .addComponent(btnSInfo,
GroupLayout.PREFERRED_SIZE, 191, GroupLayout.PREFERRED_SIZE)
                                          .addComponent(btnBlnfo,
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(btnlssueBook, 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:

```
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);
```

```
} 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));
```

```
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() {
```

```
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;
```

```
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;
```

```
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) {
```

```
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);
```

```
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[]{});
         }});
```

```
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{
```

```
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);
```

```
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 !!!");

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;
```

```
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++){</pre>
                                          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++){</pre>
                                                   data[count][i-1]=rs.getString(i);
```

```
count++;

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;
```

```
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{
                                                 {\sf JOptionPane.showMessageDialog(Delete faculty.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)
               );
               {\tt gl\_contentPane.setVerticalGroup} (
                       gl_contentPane.createParallelGroup(Alignment.CENTER)
                                .addGroup(gl_contentPane.createSequentialGroup()
                                        .addGap(19)
                                        . add Group (gl\_content Pane.create Parallel Group (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:

Name	Date modified	Туре	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
project	6/4/2022 8:31 PM	PROJECT File	1 KB

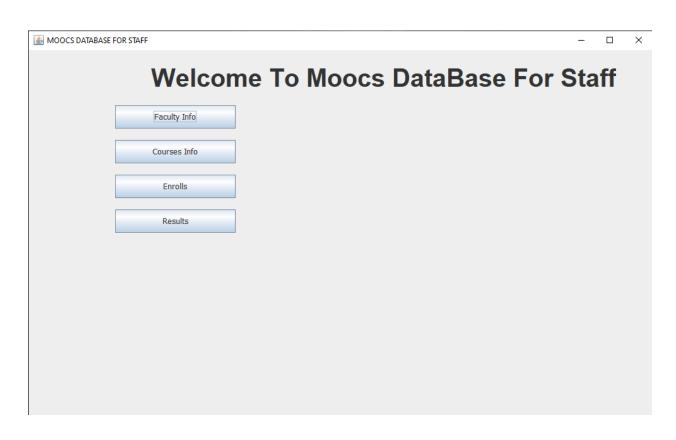
Name	Date modified	Туре	Size
Addcourse	6/19/2022 2:14 PM	JAVA File	7 KB
Addfaculty	6/7/2022 10:35 AM	JAVA File	7 KB
Addresult	6/27/2022 11:22 AM	JAVA File	7 KB
Addstatus	6/27/2022 10:50 AM	JAVA File	7 KB
Course	6/19/2022 5:21 PM	JAVA File	5 KB
Coursedetails	6/19/2022 2:14 PM	JAVA File	2 KB
DB	6/6/2022 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
Opuniciesum	6/27/2022 T1.20 ANA	IAVA FIL	0 1/0
Login	0/21/2022 2:39 PIVI	JAVA FIIE	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 JAVA File	8 KB 8 KB
Updateresult	6/27/2022 11:26 AM	JAVA File JAVA File	
Updatestatus Viewcourse	6/27/2022 7:29 AM 6/19/2022 3:48 PM	JAVA File JAVA File	8 KB 3 KB
Viewcourse Viewfaculty	6/19/2022 3:48 PIVI 6/7/2022 10:13 AM	JAVA File JAVA File	3 KB
Viewracuity	6/27/2022 10:13 AM	JAVA File	3 KB
Viewstatus	6/27/2022 1:01 AM	JAVA File	3 KB
	O/ E// EVEE 1101 MIVI	27 117 117 117	5 140

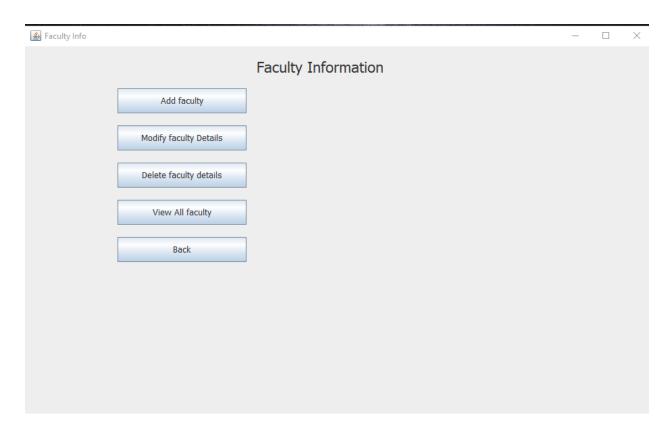
ightarrow Local Disk (F:) ightarrow New Folder ightarrow eclipse11 ightarrow staffdb ightarrow bin

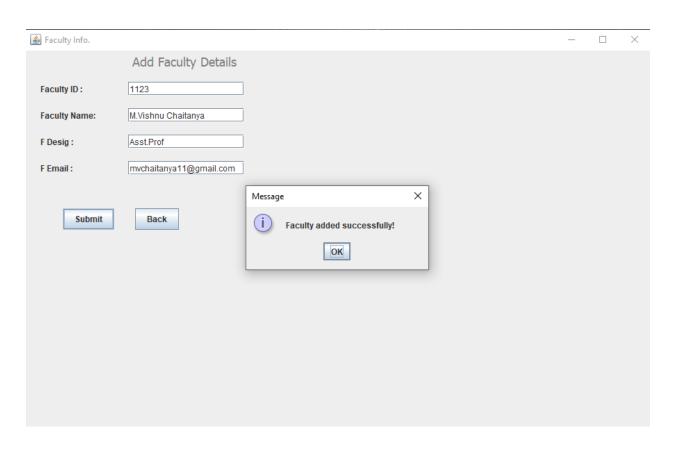
Name	Date modified	Туре	Size
Addcourse\$1.class	6/27/2022 1:02 AM	CLASS File	1 KB
Addcourse\$2.class	6/27/2022 1:02 AM	CLASS File	2 KB
Addcourse\$3.class	6/27/2022 1:02 AM	CLASS File	1 KB
Addcourse.class	6/27/2022 1:02 AM	CLASS File	5 KB
Addfaculty\$1.class	6/27/2022 1:02 AM	CLASS File	1 KB
Addfaculty\$2.class	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	Type: 6/27/2022-1:02 AM	CLASS File	1 KB
Course\$3.class	Size: 76/27/2022 1:02 AM Date modified: 6/27/2022 1:02	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

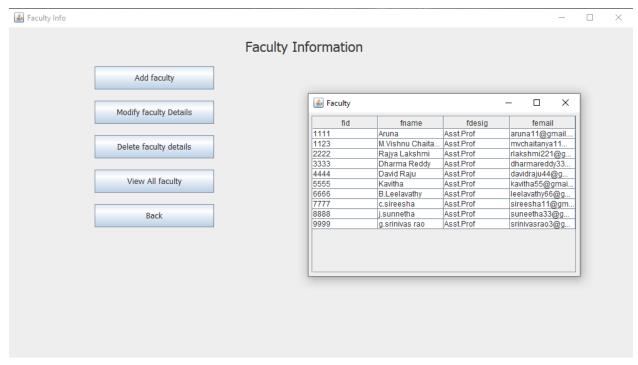
# Testing:

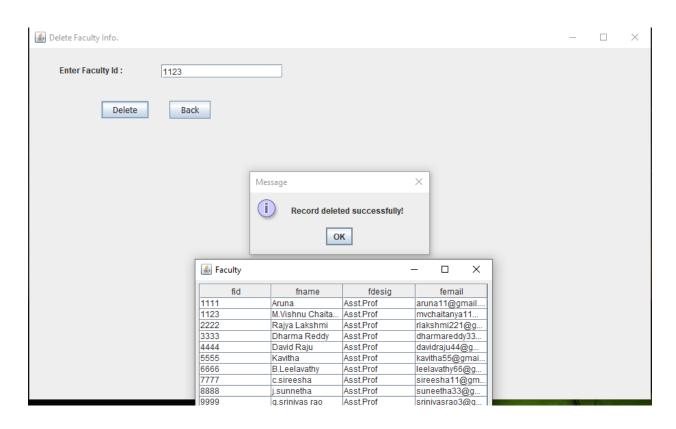
Java GUI Testing:

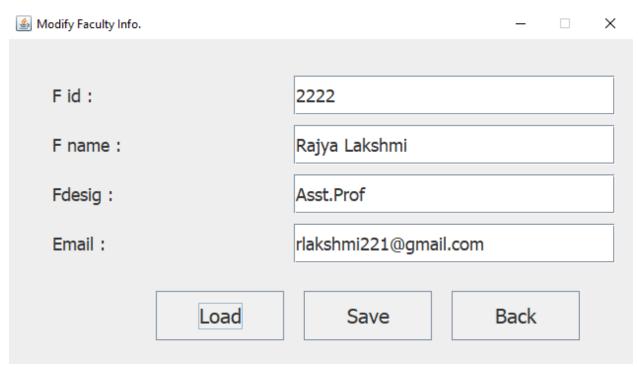


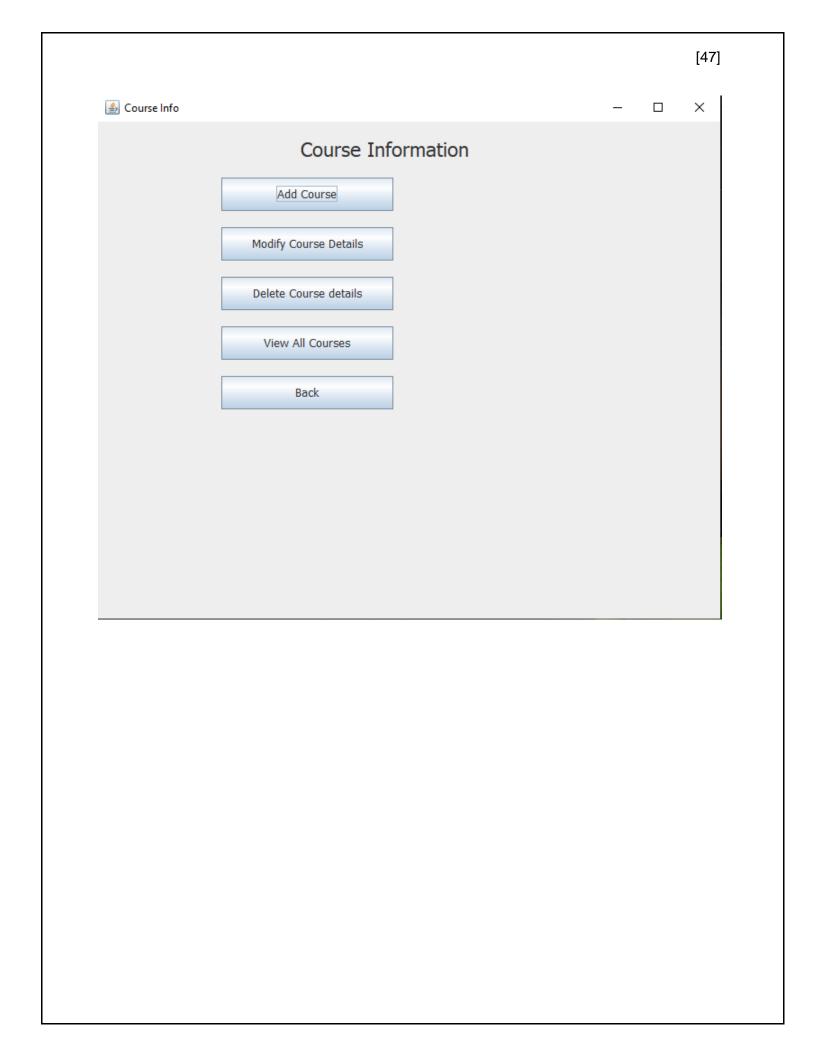




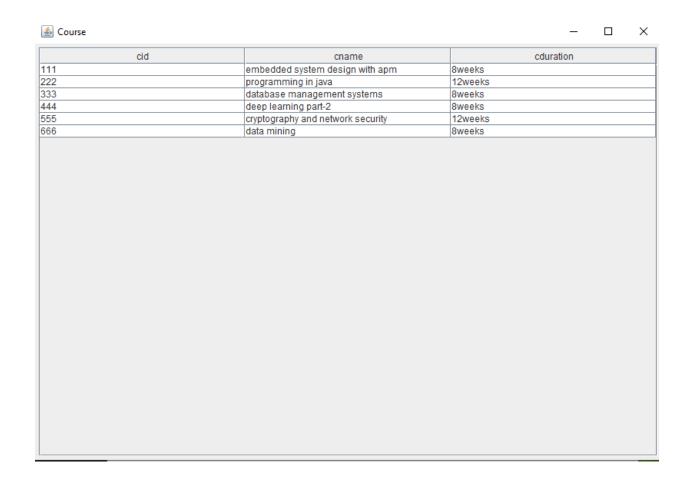




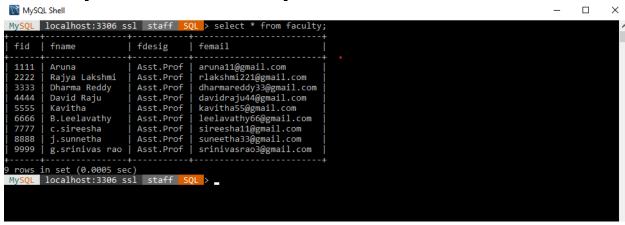








The data entered in the above form is updated in the "Faculty" table of the MySQL database as:



**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:**

- <a href="https://docs.oracle.com/javase/7/docs/api/javax/swing/package-summary.html">https://docs.oracle.com/javase/7/docs/api/javax/swing/package-summary.html</a>
- https://www.javatpoint.com/mysql-connection

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