# Savitribai Phule Pune University Modern Education Society's College of Engineering, Pune

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ACCREDITED BY NAAC WITH "A" GRADE (CGPA - 3.13)

#### DEPARTMENT OF COMPUTER ENGINEERING



# A MINI PROJECT REPORT

ON

## Student-Teacher Application

T.E. (COMPUTER)

SUBMITTED BY

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#### 1. Program:

#### • Choose Java Class

```
package source_code;
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class Choose {
  JFrame frame;
  JButton btnTeacher;
  JButton btnStudent;
  JPanel panel;
  Choose(){
    frame = new JFrame("Teacher or Student");
    btnTeacher = new JButton("Teacher");
    btnStudent = new JButton("Student");
    btnTeacher.addActionListener(new ActionListener() {
       @Override
       public void actionPerformed(ActionEvent e) {
         new source_code.Login();
         frame.dispose();
     });
    btnStudent.addActionListener(new ActionListener() {
```

```
@Override
       public void actionPerformed(ActionEvent e) {
         new source_code.Student();
         frame.dispose();
    });
    panel = new JPanel();
    panel.setLayout(new GridLayout(2,2));
    panel.setBackground(Color.LIGHT_GRAY);
    panel.add(btnTeacher);
    panel.add(btnStudent);
    frame.getContentPane().add(panel);
    frame.setVisible(true);
frame.setDefaultCloseOperation(WindowConstants.EXIT\_ON\_CLOSE);
    frame.setSize(200,150);
    frame.setLocation(500,250);
  }
  public static void main(String [] args){
    new source_code.Choose();
```

#### Login Java Class

Login(){

```
package source_code;
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
class OptionPaneExample {
  OptionPaneExample() {
    JFrame f = new JFrame();
    JOption Pane. show Message Dialog (f, "Wrong\ Username\ or\ Password");
public class Login {
  JFrame frame;
  JLabel username;
  JTextField userField;
  JLabel password;
  JPasswordField passwordField;
  JButton btnLogin;
  JButton btnClear;
  JPanel panel;
```

```
frame = new JFrame("Login Page");
username = new JLabel("Username:");
password = new JLabel("Password:");
userField = new JTextField(20);
passwordField = new JPasswordField(20);
btnLogin = new JButton("Login");
btnClear = new JButton("Clear");
btnLogin.addActionListener(new ActionListener() {
  @Override
  public void actionPerformed(ActionEvent e) {
    String pf = new String(passwordField.getPassword());
    if(userField.getText().equals("login") && pf.equals("login")){
       new source_code.Teacher();
       frame.dispose();
    }
    else{
       frame.setVisible(false);
       new OptionPaneExample();
       frame.setVisible(true);
       userField.setText("");
       passwordField.setText("");
});
```

```
panel = new JPanel();
    panel.setLayout(new GridLayout(3,2));
    panel.setBackground(Color.LIGHT_GRAY);
    panel.add(username);
    panel.add(userField);
    panel.add(password);
    panel.add(passwordField);
    panel.add(btnLogin);
    panel.add(btnClear);
    frame.getContentPane().add(panel);
    frame.setVisible(true);
frame.setDefaultCloseOperation(WindowConstants.EXIT\_ON\_CLOSE);
    frame.setSize(600,150);
    frame.setLocation(500,250);
  }
  public static void main(String [] args){
    new Login();
}
```

#### • Teacher Java Class

```
package source_code;
import javax.swing.*;
import java.awt.event.*;
import java.awt.*;
import java.sql.*;
import java.util.HashSet;
import java.util.Set;
import static java.lang.Integer.parseInt;
class Errorpane{
  Errorpane(String r){
    JFrame f = new JFrame("Alert Message");
    JOptionPane.showMessageDialog(f, r);
}
public class Teacher {
  JFrame frame;
  JPanel main_panel;
  JButton btnAddStudent;
  JButton btnUpdateStudent;
  JButton btnDeleteStudent;
  JButton btnDisplayStudent;
  JButton btnSearchStudent;
```

```
Teacher(){
  frame = new JFrame("Welcome to Teacher");
  main_panel = new JPanel();
  main_panel.setLayout(new GridLayout(5,1));
  btnAddStudent = new JButton("Add Student");
  btnUpdateStudent = new JButton("Update Student");
  btnDeleteStudent = new JButton("Delete Student");
  btnDisplayStudent = new JButton("Display All Students");
  btnSearchStudent = new JButton("Search Student");
  btnAddStudent.addActionListener(new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
       frame.dispose();
       new ADD_student();
    }
  });
  btnUpdateStudent.addActionListener(new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
       frame.dispose();
       new update_student();
    }
```

```
});
btnDeleteStudent.addActionListener(new ActionListener() {
  @Override
  public void actionPerformed(ActionEvent e) {
    frame.dispose();
    new Delete_student();
  }
});
btnDisplayStudent.addActionListener(new ActionListener() {
  @Override
  public void actionPerformed(ActionEvent e) {
    frame.dispose();
    new Display_student();
  }
});
btnSearchStudent.addActionListener(new ActionListener() {
  @Override
  public void actionPerformed(ActionEvent e) {
    frame.dispose();
    new Search_student();
  }
});
main_panel.add(btnAddStudent);
main_panel.add(btnUpdateStudent);
```

```
main_panel.add(btnDeleteStudent);
    main_panel.add(btnDisplayStudent);
    main_panel.add(btnSearchStudent);
    frame.getContentPane().add(main_panel);
    frame.setVisible(true);
    frame.setLocation(500,250);
    frame.setSize(400,400);
frame.setDefaultCloseOperation(WindowConstants.EXIT\_ON\_CLOSE);
}
class ADD_student{
  JFrame f;
  JPanel panel;
  JLabel id;
  JTextField idFld;
  JLabel name;
  JTextField nameFld;
  JLabel marks;
  JTextField marksFld;
  JButton btnAdd;
  JButton btnBack;
```

```
ADD_student()
    try {
       Class.forName("com.mysql.jdbc.Driver");
       Connection con=
DriverManager.getConnection("jdbc:mysql://localhost:3306/sdl","root","dhru
vil283");
       Statement stmt = con.createStatement();
       f = new JFrame("Add Student");
       id = new JLabel("Enter ID or PRN : ");
       idFld = new JTextField(20);
       name = new JLabel("Enter Name: ");
       nameFld = new JTextField(20);
       marks = new JLabel("Enter marks:");
       marksFld = new JTextField(20);
       btnAdd = new JButton("ADD");
       btnBack = new JButton("Back");
       panel = new JPanel();
       panel.setLayout(new GridLayout(4,2));
       panel.add(id);
       panel.add(idFld);
       panel.add(name);
```

```
panel.add(nameFld);
       panel.add(marks);
       panel.add(marksFld);
       panel.add(btnAdd);
       panel.add(btnBack);
       btnAdd.addActionListener(new ActionListener() {
         @Override
         public void actionPerformed(ActionEvent e) {
            String i = idFld.getText();
            String j = nameFld.getText();
            String k = marksFld.getText();
            int p,m;
            Integer o = Integer.parseInt(k);
            Integer l = Integer.parseInt(i);
            p = 1;
            m = 0;
            Set<Integer> s = new HashSet<>();
            try {
              ResultSet ad_s = stmt.executeQuery("select id from
teacher_database;");
              while (ad_s.next()) {
                 Integer values = parseInt(ad_s.getString(1));
                 s.add(values);
```

```
catch(Exception etr)
               System.out.println(etr);
            }
            try{
               if(p == 1 \&\& (!j.equals("")) \&\& m == o \&\& (!s.contains(l)))
               {
                 try {
                    stmt.executeUpdate("insert into teacher_database
values("+i+",""+j+"',"+k+");");
                    marksFld.setText("");
                    nameFld.setText("");
                    idFld.setText("");
                  } catch (Exception throwables) {
                    f.setVisible(false);
                    new Errorpane("Error Occured During Add operation");
                    f.setVisible(true);
                    marksFld.setText("");
                    nameFld.setText("");
                    idFld.setText("");
                    throwables.printStackTrace();
                  }
               }
               else{
```

```
f.setVisible(false);
         new Errorpane("Error Occured During Add operation");
         f.setVisible(true);
         marksFld.setText("");
         nameFld.setText("");
         idFld.setText("");
       }
     }catch (Exception et){
       f.setVisible(false);
       new Errorpane("Error Occured During Add operation");
       f.setVisible(true);
       marksFld.setText("");
       nameFld.setText("");
       idFld.setText("");
  }
});
btnBack.addActionListener(new ActionListener(){
  @Override
  public void actionPerformed(ActionEvent e) {
    f.dispose();
    try {
       con.close();
     } catch (SQLException throwables) {
```

```
throwables.printStackTrace();
            new Teacher();
         }
       });
       f.getContentPane().add(panel);
       f.setVisible(true);
       f.setSize(600,150);
       f.setLocation(500,250);
       f. set Default Close Operation (Window Constants. EXIT\_ON\_CLOSE);
     } catch (ClassNotFoundException | SQLException e) {
       e.printStackTrace();
     }
class update_student {
  JFrame f;
  JPanel panel;
  JLabel id;
  JTextField idFld;
  JLabel marks;
  JTextField marksFld;
```

```
JButton btnUpdate;
  JButton btnBack;
  update_student() {
    try {
       Class.forName("com.mysql.jdbc.Driver");
       Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/sdl", "root",
"dhruvil283");
       Statement stmt = con.createStatement();
       f = new JFrame("Update Student marks");
       id = new JLabel("Enter ID or Prn:");
       idFld = new JTextField(20);
       marks = new JLabel("Enter new Marks :");
       marksFld = new JTextField(20);
       btnUpdate = new JButton("Update ");
       btnBack = new JButton("Back");
       btnUpdate.addActionListener(new ActionListener() {
         @Override
         public void actionPerformed(ActionEvent e) {
            Set<Integer> s = new HashSet<>();
           try {
              ResultSet ad_s = stmt.executeQuery("select id from
```

```
teacher_database;");
              while (ad_s.next()) {
                 Integer values = parseInt(ad_s.getString(1));
                 s.add(values);
            }catch(Exception ert)
              ert.printStackTrace();
            }
            String k = idFld.getText();
            String p = marksFld.getText();
            Integer m = Integer.parseInt(k);
            Integer n = Integer.parseInt(p);
            int r=m,u=n;
            if(m==r \&\& n == u \&\& s.contains(m))
            {
              try {
                 stmt.executeUpdate("update teacher_database set marks
="+p+" where id ="+k+";");
                 new Errorpane("Updated marks");
                 idFld.setText("");
                 marksFld.setText("");
               } catch (SQLException throwables) {
                 throwables.printStackTrace();
               }
```

```
}
    else{
       f.setVisible(false);
       new Errorpane("Error occured during updating the data");
       f.setVisible(true);
       idFld.setText("");
       marksFld.setText("");
    }
  }
});
btnBack.addActionListener(new ActionListener(){
  @Override
  public void actionPerformed(ActionEvent e) {
    f.dispose();
    try {
       con.close();
    } catch (SQLException throwables) {
       throwables.printStackTrace();
     }
    new Teacher();
  }
});
panel = new JPanel();
```

```
panel.setLayout(new GridLayout(3,2));
       panel.add(id);
       panel.add(idFld);
       panel.add(marks);
       panel.add(marksFld);
       panel.add(btnUpdate);
       panel.add(btnBack);
       f.getContentPane().add(panel);
       f.setVisible(true);
       f.setSize(600 ,200);
       f.setLocation(500,250);
       f. set Default Close Operation (Window Constants. EXIT\_ON\_CLOSE);
    } catch (ClassNotFoundException | SQLException e) {
       e.printStackTrace();
    }
class Delete_student
  JFrame f;
```

```
JLabel id;
  JTextField idFld;
  JButton btnDel;
  JButton btnBack;
  JPanel panel;
  Delete_student()
  {
    f = new JFrame("Delete Student");
    try{
       Class.forName("com.mysql.jdbc.Driver");
       Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/sdl","root","dhru
vil283");
       Statement stmt = con.createStatement();
       id = new JLabel("Enter ID or PRN to delete");
       idFld = new JTextField(20);
       btnDel = new JButton("Delete Student");
       btnBack = new JButton("Back");
       panel = new JPanel();
       panel.setLayout(new GridLayout(2,2));
```

```
panel.add(id);
       panel.add(idFld);
       panel.add(btnDel);
       panel.add(btnBack);
       btnDel.addActionListener(new ActionListener() {
          @Override
         public void actionPerformed(ActionEvent e) {
            Set<Integer> s = new HashSet<>();
            try{
              ResultSet ad_s = stmt.executeQuery("select id from
teacher_database;");
              while(ad_s.next())
                 Integer values = parseInt(ad_s.getString(1));
                 s.add(values);
              }
            }
            catch(Exception erth){
              erth.printStackTrace();
            }
            String k = idFld.getText();
            Integer l = Integer.parseInt(k);
            int o = 1;
```

```
if(o==1 && (s.contains(1))){
              try{
                 stmt.executeUpdate("delete from teacher_database where id
="+k+";");
                 new Errorpane("Student delete");
                 s.remove(l);
                 idFld.setText("");
              }
              catch (Exception kl)
              {
                 kl.printStackTrace();
               }
            }
            else{
              f.setVisible(false);
              new Errorpane("Error");
              f.setVisible(true);
              idFld.setText("");
            }
         }
       });
       btnBack.addActionListener(new ActionListener() {
          @Override
         public void actionPerformed(ActionEvent e) {
```

```
f.dispose();
            try {
               con.close();
            } catch (SQLException throwables) {
              throwables.printStackTrace();
            }
            new Teacher();
          }
       });
       f.getContentPane().add(panel);
       f.setVisible(true);
       f. set Default Close Operation (Window Constants. EXIT\_ON\_CLOSE);
       f.setSize(600,200);
       f.setLocation(500,250);
     }catch (Exception ert){
       System.out.println(ert);
class Display_student{
  JFrame f;
  JTable t;
  JButton btnBack;
  JScrollPane panel;
```

```
Display_student()
    f = new JFrame("Displaying ALL Students");
    try{
       Class.forName("com.mysql.jdbc.Driver");
       Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/sdl","root","dhru
vil283");
       Statement stmt = con.createStatement();
       btnBack = new JButton("Back");
       Set<Integer> s = new HashSet<>();
       ResultSet ds = stmt.executeQuery("select id from teacher_database;");
       while(ds.next())
       {
         s.add(Integer.parseInt(ds.getString(1)));
       }
       String [][] data = new String[s.size()][3];
       String column[]={"ID","NAME","Marks"};
       int i=0;
       ResultSet ad_s = stmt.executeQuery("select * from
teacher_database;");
       while(ad_s.next() && i<s.size())</pre>
         for(int j=0; j<3; j++)
         {
```

```
data[i][j] = ad_s.getString(j+1);
  }
  i++;
}
t = new JTable(data,column);
btnBack.addActionListener(new ActionListener() {
  @Override
  public void actionPerformed(ActionEvent e) {
    f.dispose();
    try {
       con.close();
     } catch (SQLException throwables) {
       throwables.printStackTrace();
     }
    new Teacher();
  }
});
t.setBounds(40,50,200,300);
panel = new JScrollPane(t);
f.setLayout(new GridLayout(2,1));
f.add(panel);
f.add(btnBack);
f.setVisible(true);
f. set Default Close Operation (Window Constants. EXIT\_ON\_CLOSE);
```

```
f.setSize(600,200);
       f.setLocation(500,250);
     }catch (Exception ert){
       System.out.println(ert);
    }
class Search_student{
  JFrame f;
  JTable t;
  JLabel name, result;
  JTextField nameFld;
  JButton btnSearch;
  JButton btnBack;
  JScrollPane panel;
  Search_student()
    f = new JFrame("Search Students");
    try{
       Class.forName("com.mysql.jdbc.Driver");
       Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/sdl","root","dhru
vil283");
       Statement stmt = con.createStatement();
```

```
name = new JLabel("Enter ID or PRN to be searched:");
       nameFld = new JTextField(20);
       result = new JLabel("Result");
       btnSearch = new JButton("Search");
       btnBack = new JButton("Back");
       btnSearch.addActionListener(new ActionListener() {
         @Override
         public void actionPerformed(ActionEvent e) {
            String k = nameFld.getText();
           Integer\ l = Integer.parseInt(k);
            Set<Integer> s1 = new HashSet<>();
            try {
              ResultSet ds = stmt.executeQuery("select id from
teacher_database ;");
              while (ds.next()) {
                s1.add(Integer.parseInt(ds.getString(1)));
              }
            }catch (Exception er){
              er.printStackTrace();
            }
            if(s1.contains(l))
```

```
String s="";
              try{
                 ResultSet ad_s = stmt.executeQuery("select name from
teacher_database where id = "+k+";");
                 while(ad_s.next()) {
                   s = ad_s.getString(1);
                 }
                 result.setText(s);
               }
              catch (Exception lk){
                 lk.printStackTrace();
               }
            else{
              f.setVisible(false);
              new Errorpane("Not Found");
              f.setVisible(true);
              result.setText("Result");
            }
          }
       });
       btnBack.addActionListener(new ActionListener() {
          @Override
          public void actionPerformed(ActionEvent e) {
```

```
f.dispose();
       try {
         con.close();
       } catch (SQLException throwables) {
         throwables.printStackTrace();
       }
       new Teacher();
     }
  });
  f.setLayout(new GridLayout(3,2));
  f.add(name);
  f.add(nameFld);
  f.add(btnSearch);
  f.add(btnBack);
  f.add(result);
  f.setVisible(true);
  f. set Default Close Operation (Window Constants. EXIT\_ON\_CLOSE);
  f.setSize(600,200);
  f.setLocation(500,250);
}catch (Exception ert){
  System.out.println(ert);
```

}

#### • Student Java Class

```
package source_code;
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.*;
import java.util.HashSet;
import java.util.Set;
import static java.lang.Integer.parseInt;
public class Student {
  JFrame frame;
  JPanel main_panel;
  JButton btnUpdateStudent;
  Student(){
    frame = new JFrame("Welcome to Student");
    main_panel = new JPanel();
    main_panel.setLayout(new GridLayout(1,1));
    btnUpdateStudent = new JButton("Update Student");
```

```
btnUpdateStudent.addActionListener(new ActionListener() {
       @Override
       public void actionPerformed(ActionEvent e) {
         frame.dispose();
         new update_student1();
       }
    });
    main_panel.add(btnUpdateStudent);
    frame.getContentPane().add(main_panel);
    frame.setVisible(true);
    frame.setLocation(500,250);
    frame.setSize(100,100);
frame.setDefaultCloseOperation(WindowConstants.EXIT\_ON\_CLOSE);
  }
class update_student1 {
  JFrame f;
  JPanel panel;
  JLabel id;
  JTextField idFld;
  JLabel name;
```

}

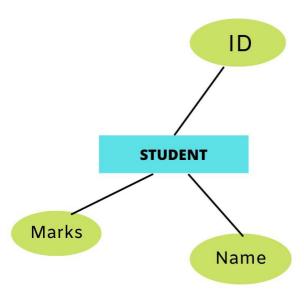
```
JTextField nameFld;
 JButton btnUpdate;
  JButton btnBack;
  update_student1() {
    try {
       Class.forName("com.mysql.jdbc.Driver");
       Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/sdl", "root",
"dhruvil283");
       Statement stmt = con.createStatement();
       f = new JFrame("Update Student Details");
       id = new JLabel("Enter ID or Prn:");
       idFld = new JTextField(20);
       name = new JLabel("Enter new Name :");
       nameFld = new JTextField(20);
       btnUpdate = new JButton("Update ");
       btnBack = new JButton("Back");
       btnUpdate.addActionListener(new ActionListener() {
         @Override
         public void actionPerformed(ActionEvent e) {
            Set<Integer> s = new HashSet<>();
           try {
              ResultSet ad_s = stmt.executeQuery("select id from
```

```
teacher_database;");
               while (ad_s.next()) {
                 Integer values = parseInt(ad_s.getString(1));
                 s.add(values);
            }catch(Exception ert)
               ert.printStackTrace();
            }
            String k = idFld.getText();
            String p = nameFld.getText();
            Integer m = Integer.parseInt(k);
            int r=m;
            if(m==r && s.contains(m))
            {
               try {
                 stmt.executeUpdate("update teacher\_database \ set \ name = ""+
nameFld.getText() +"'where id = " + k + ";");
                 new source_code.Errorpane("Updated Details");
                 idFld.setText("");
                 nameFld.setText("");
               } catch (SQLException throwables) {
                 throwables.printStackTrace();
               }
```

```
}
            else{
              f.setVisible(false);
              new source_code.Errorpane("Error occured during updating
the data");
              f.setVisible(true);
              idFld.setText("");
              nameFld.setText("");
          }
       });
       btnBack.addActionListener(new ActionListener(){
          @Override
         public void actionPerformed(ActionEvent e) {
            f.dispose();
            try {
              con.close();
            } catch (SQLException throwables) {
              throwables.printStackTrace();
            }
            new source_code.Choose();
          }
       });
       panel = new JPanel();
```

```
panel.setLayout(new GridLayout(3,2));
  panel.add(id);
  panel.add(idFld);
  panel.add(name);
  panel.add(nameFld);
  panel.add(btnUpdate);
  panel.add(btnBack);
  f.getContentPane().add(panel);
  f.setVisible(true);
  f.setSize(600 ,150);
  f.setLocation(500,250);
  f. set Default Close Operation (Window Constants. EXIT\_ON\_CLOSE);
} catch (ClassNotFoundException | SQLException e) {
  e.printStackTrace();
```

## 2. ER Diagram:



## 3. Specifications:

• Front End: Java (Swing and AWT)

• Back End: MySQL

#### 4. Screenshots:

