A Micro Project report on

ATTENDANCE MANAGEMENT SYSTEM

Submitted to the **CMR Technical Campus** in partial fulfilment of the requirement of the

Data Base Management System Lab

OF

II-B.Tech. II-Semester

In

COMPUTER SCIENCE AND ENGINEERING

Submitted by

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CMR INSTITUTE OF TECHNOLOGY

(UGC AUTONOMUS)

(Approved by AICTE and Affiliated to JNTUH, Hyderabad)

Kandlakoya,Medchal Road,Hyderabad 2022-2023

CMR Technical Campus

CERTIFICATE

This is to certify that a Micro Project entitled with "**ATTENDANCE MANAGEMENT SYSTEM**" is being

Submitted by

T. Vaishnavi   [227R1A05J8]

P. Vishali   [227R1A05G7]

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In partial fulfillment of the requirement for completion of the **Data Base Management Sytem Lab** of II– B.Tech II–Semester in **CSE** to CMRTC,Hyderabad is a record of a bonafide work carried out under our guidance and supervision.

.

Signature of Faculty   Signature of HOD

Mr.M.Madhusudhan   **Dr K. Srujan Raju**

CONTENTS

Attendance Management System Project In Java: Project Overview

Project Name:	Attendance Management System Project in Java
Abstract:	It's a GUI-based project used with the Swing module to manage the attendance of an Institution.
Language/s Used:	Java
IDE:	Eclipse IDE for Java Developers
Java version (Recommended):	**Java SE 18.0. 2.1**
Database:	MySQL
Type:	Desktop Application
Recommended for:	Final Year Students

MySQL Setup for Attendance Management System Project In Java

1. Creating the database

```
-- Creating database
create database attendance;
```

2. Selecting the database

```
-- Selecting the database
use attendance;
```

3. Creating the user table

```
-- User Table
CREATE TABLE user(id int primary key, username varchar(25), name varchar(25), password varchar(25), prio int);
```

4. Creating the class table

```
-- Class Table
CREATE TABLE class(id int primary key, name varchar(25));
```

5. Creating the student table

```
-- Student Table
CREATE TABLE students(id int primary key, name varchar(25), class varchar(10));
```

6. Creating the teacher's table

```
-- Teachers Table
CREATE TABLE teachers(id int primary key, name varchar(25));
```

7. Creating the attendance table

```
-- Attend Table
CREATE TABLE attend(stid int, dt date, status varchar(15), class varchar(15));
```

8. Adding the First user to get logged in

```
-- Creating admin user
INSERT INTO user VALUES(1, 'admin', 'Admin', 'admin', 1);
```

Coding Attendance Management System Project In Java

Home page for Teachers

File Name: "*TeacherView.java*"

The users with teacher credentials are directed to this page. We only have the option to add, edit and delete the attendance part. No other options are given.

Home page for Teachers

File Name: "*TeacherView.java*"

The users with teacher credentials are directed to this page. We only have the option to add, edit and delete the attendance part. No other options are given.

```java
package Attendance;

import java.awt.Color;

import java.awt.Font;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.awt.event.MouseAdapter;

import java.awt.event.MouseEvent;

import java.sql.Connection;

import java.sql.DriverManager;

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.JPanel;

public class TeacherView {

        public void tcView(int id) throws SQLException {
```

```java
JFrame frame = new JFrame();

Font btn = new Font("Times New Roman", Font.BOLD, 20);

//------------------------CLOSE---------------------------

JLabel x = new JLabel("X");

x.setForeground(Color.decode("#37474F"));

x.setBounds(965, 10, 100, 20);

x.setFont(new Font("Times New Roman", Font.BOLD, 20));

frame.add(x);

x.addMouseListener(new MouseAdapter() {

        @Override

        public void mouseClicked(MouseEvent e) {

                System.exit(0);

        }

});

//----------------------MINIMIZE----------------------------

JLabel min = new JLabel("_");

min.setForeground(Color.decode("#37474F"));

min.setBounds(935, 0, 100, 20);

frame.add(min);

min.addMouseListener(new MouseAdapter() {

        @Override

        public void mouseClicked(MouseEvent e) {

                frame.setState(JFrame.ICONIFIED);

        }

});
```

```java
//-----------------Panel--------------------------------

JPanel panel = new  JPanel();

panel.setBounds(0, 0, 1000, 35);

panel.setBackground(Color.decode("#DEE4E7"));

frame.add(panel);

//-------------------Welcome--------------------------------

JLabel welcome = new JLabel("Welcome "+getUser(id)+",");

welcome.setForeground(Color.decode("#DEE4E7"));

welcome.setBounds(10, 50, 250, 20);

welcome.setFont(new Font("Times New Roman", Font.PLAIN, 20));

frame.add(welcome);

//---------------------ADDATTENDANCE--------------------------

JButton addattendance = new JButton("ADD ATTENDANCE");

addattendance.setBounds(150, 200, 650, 60);

addattendance.setFont(btn);

addattendance.setBackground(Color.decode("#DEE4E7"));

addattendance.setForeground(Color.decode("#37474F"));

frame.add(addattendance);

addattendance.addActionListener(new ActionListener() {

        @Override

        public void actionPerformed(ActionEvent e) {

                AddAttendance addatt = new AddAttendance();

                try {

                        addatt.addView();

                } catch (SQLException e1) {

                        e1.printStackTrace();
```

```java
                    }

                }

        });

        //---------------------EDITATTENDANCE---------------------------

        JButton editattendance = new JButton("EDIT ATTENDANCE");

        editattendance.setBounds(150, 350, 650, 60);

        editattendance.setFont(btn);

        editattendance.setBackground(Color.decode("#DEE4E7"));

        editattendance.setForeground(Color.decode("#37474F"));

        frame.add(editattendance);

        editattendance.addActionListener(new ActionListener() {

                @Override

                public void actionPerformed(ActionEvent e) {

                        EditAttendance editatt = new EditAttendance();

                        try {

                                editatt.editView();

                        } catch (SQLException e1) {

                                e1.printStackTrace();

                        }

                }

        });

        frame.setSize(1000,600);

        frame.setResizable(false);

        frame.setLayout(null);

        frame.setUndecorated(true);

        frame.setLocationRelativeTo(null);
```

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```java
                frame.setVisible(true);

                frame.setFocusable(true);

                frame.getContentPane().setBackground(Color.decode("#37474F"));

                frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        }

        public String getUser(int id) throws SQLException {

            //ENTER PORT, USER, PASSWORD.

                String url = "jdbc:mysql://localhost:3306/attendance";

                String user = "root";

                String pass = "password";

                Connection con = DriverManager.getConnection(url, user, pass);

                String str = "SELECT name FROM user WHERE id = "+id;

                Statement stm = con.createStatement();

                ResultSet rst = stm.executeQuery(str);

                rst.next();

                return rst.getString("name");

        }

}
```
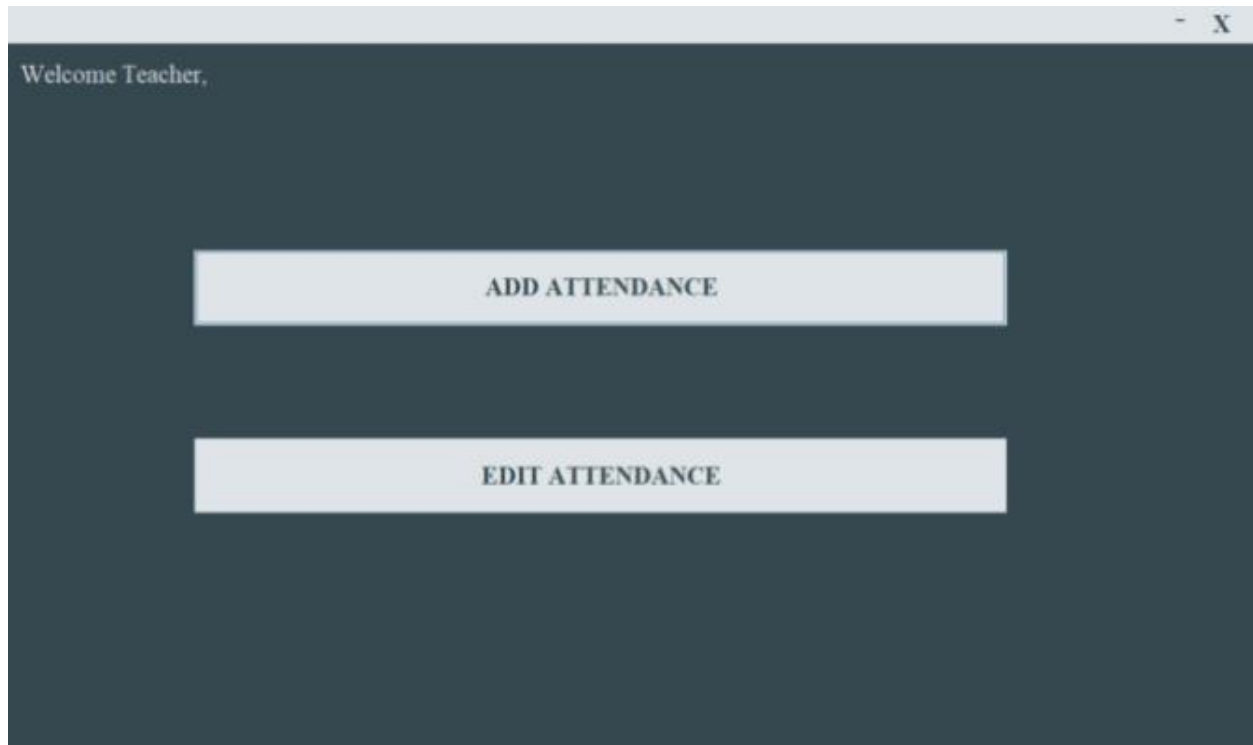
Output:

Homepage for students

File Name: "*StudentView.java*"

The students are directed to this page. They can view their total attendance, percentages, and their days of leaves.

package Attendance;

import java.awt.Color;

import java.awt.Font;

import java.awt.event.MouseAdapter;

import java.awt.event.MouseEvent;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;

import javax.swing.JFrame;

```java
import javax.swing.JLabel;

import javax.swing.JPanel;

import javax.swing.JScrollBar;

import javax.swing.JScrollPane;

import javax.swing.JTable;

import javax.swing.table.DefaultTableModel;

public class StudentView {

        Connection con;

        JFrame frame = new JFrame();

        DefaultTableModel model = new DefaultTableModel();

        public void stView(int id) throws SQLException {

                //-----------------------CLOSE--------------------------

                JLabel x = new JLabel("X");

                x.setForeground(Color.decode("#37474F"));

                x.setBounds(965, 10, 100, 20);

                x.setFont(new Font("Times New Roman", Font.BOLD, 20));

                frame.add(x);

                x.addMouseListener(new MouseAdapter() {

                        @Override

                        public void mouseClicked(MouseEvent e) {

                                System.exit(0);

                        }

                });

                //----------------------MINIMIZE---------------------------

                JLabel min = new JLabel("_");

                min.setForeground(Color.decode("#37474F"));
```

```java
min.setBounds(935, 0, 100, 20);

frame.add(min);

min.addMouseListener(new MouseAdapter() {

        @Override

        public void mouseClicked(MouseEvent e) {

                frame.setState(JFrame.ICONIFIED);

        }

});

//-----------------Panel--------------------------------

JPanel panel = new  JPanel();

panel.setBounds(0, 0, 1000, 35);

panel.setBackground(Color.decode("#DEE4E7"));

frame.add(panel);

//-------------------Welcome--------------------------------

JLabel welcome = new JLabel("Welcome "+getUser(id)+",");

welcome.setForeground(Color.decode("#DEE4E7"));

welcome.setBounds(10, 50, 250, 20);

welcome.setFont(new Font("Times New Roman", Font.PLAIN, 20));

frame.add(welcome);

//----------------TABLE--------------------------------

JTable table=new JTable();

model = (DefaultTableModel)table.getModel();

model.addColumn("DATE");

model.addColumn("STATUS");

JScrollPane scPane=new JScrollPane(table);

scPane.setBounds(500, 50, 480, 525);
```

```java
table.setFont(new Font("Times New Roman", Font.BOLD, 20));

table.setRowHeight(50);

frame.add(scPane);

//-------------------------INFO-----------------------

JLabel totalclass = new JLabel("TOTAL CLASSES : ");

totalclass.setBounds(25, 180, 250, 20);

totalclass.setForeground(Color.decode("#DEE4E7"));

totalclass.setFont(new Font("Times New Roman", Font.PLAIN, 20));

frame.add(totalclass);

JLabel ttbox = new JLabel("");

ttbox.setBounds(60, 230, 250, 20);

ttbox.setForeground(Color.decode("#DEE4E7"));

ttbox.setFont(new Font("Times New Roman", Font.PLAIN, 20));

frame.add(ttbox);

JLabel classAtt = new JLabel("CLASSES ATTENDED : ");

classAtt.setBounds(25, 280, 250, 20);

classAtt.setForeground(Color.decode("#DEE4E7"));

classAtt.setFont(new Font("Times New Roman", Font.PLAIN, 20));

frame.add(classAtt);

JLabel atbox = new JLabel("");

atbox.setBounds(60, 330, 250, 20);

atbox.setForeground(Color.decode("#DEE4E7"));

atbox.setFont(new Font("Times New Roman", Font.PLAIN, 20));

frame.add(atbox);

JLabel classAbs = new JLabel("CLASSES MISSED : ");

classAbs.setBounds(25, 380, 250, 20);
```

```java
classAbs.setForeground(Color.decode("#DEE4E7"));

classAbs.setFont(new Font("Times New Roman", Font.PLAIN, 20));

frame.add(classAbs);

JLabel mtbox = new JLabel("");

mtbox.setBounds(60, 430, 250, 20);

mtbox.setForeground(Color.decode("#DEE4E7"));

mtbox.setFont(new Font("Times New Roman", Font.PLAIN, 20));

frame.add(mtbox);

JLabel AttPer = new JLabel("ATTENDANCE PERCENTAGE : ");

AttPer.setBounds(25, 480, 300, 20);

AttPer.setForeground(Color.decode("#DEE4E7"));

AttPer.setFont(new Font("Times New Roman", Font.PLAIN, 20));

frame.add(AttPer);

JLabel prbox = new JLabel("");

prbox.setBounds(60, 530, 250, 20);

prbox.setForeground(Color.decode("#DEE4E7"));

prbox.setFont(new Font("Times New Roman", Font.PLAIN, 20));

frame.add(prbox);

//----------------------SETVALUES--------------------------

int[] arr = stat(4);

ttbox.setText(String.valueOf(arr[0]));

atbox.setText(String.valueOf(arr[1]));

mtbox.setText(String.valueOf(arr[2]));

prbox.setText(String.valueOf(arr[3])+"%");

frame.setSize(1000,600);

frame.setResizable(false);
```

```java
                frame.setLayout(null);

                frame.setUndecorated(true);

                frame.setLocationRelativeTo(null);

                frame.setVisible(true);

                frame.setFocusable(true);

                frame.getContentPane().setBackground(Color.decode("#37474F"));

                frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        }

        public String getUser(int id) throws SQLException {

                //ENTER PORT, USER, PASSWORD.

                String url = "jdbc:mysql://localhost:3306/attendance";

                String user = "root";

                String pass = "password";

                con = DriverManager.getConnection(url, user, pass);

                String str = "SELECT name FROM user WHERE id = "+id;

                Statement stm = con.createStatement();

                ResultSet rst = stm.executeQuery(str);

                rst.next();

                return rst.getString("name");

        }

        public void tblupdt(int id) {

                try {

                        ResultSet res = dbSearch(id);

                        for(int i=0; res.next(); i++) {

                                model.addRow(new Object[0]);

                                model.setValueAt(res.getString("dt"), i, 0);
```

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```java
                    model.setValueAt(res.getString("status"), i, 1);

                    }

              } catch (SQLException e1) {

                    e1.printStackTrace();

              }

       }

       public int[] stat(int id) throws SQLException {

              String str = "SELECT COUNT(*) AS pre FROM attend WHERE stid = "+id+" AND
status = 'Present'";

              String str2 = "SELECT COUNT(*) AS abs FROM attend WHERE stid = "+id+" AND
status = 'Absent'";

              int[] x = new int[4];

              Statement stm = con.createStatement();

              ResultSet rst = stm.executeQuery(str);

              rst.next();

              x[1] = rst.getInt("pre");

              rst = stm.executeQuery(str2);

              rst.next();

              x[2] = rst.getInt("abs");

              x[0] = x[1] + x[2];

              x[3] = (x[1]*100)/x[0];

              tblupdt(id);

              return x;

       }

       public ResultSet dbSearch(int id) throws SQLException {

              String str1 = "SELECT * from attend where stid = "+id+" ORDER BY dt desc";

              Statement stm = con.createStatement();
```

```
            ResultSet rst = stm.executeQuery(str1);

            return rst;

        }

}
```

Output:

Attendance Edit Module

Module to edit and delete the added attendance. Attendances once added are only shown in the edit window.

package Attendance;

import java.awt.Color;

import java.awt.Font;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.awt.event.MouseAdapter;

import java.awt.event.MouseEvent;

```java
import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;

import java.text.SimpleDateFormat;

import java.util.Date;

import javax.swing.JButton;

import javax.swing.JComboBox;

import javax.swing.JFrame;

import javax.swing.JLabel;

import javax.swing.JPanel;

import javax.swing.JScrollPane;

import javax.swing.JTable;

import javax.swing.JTextField;

import javax.swing.table.DefaultTableModel;

public class EditAttendance {

        Connection con;

        DefaultTableModel model = new DefaultTableModel();

        public void editView() throws SQLException {

                connect();

                JFrame frame = new JFrame();

                Font text = new Font("Times New Roman", Font.PLAIN, 18);

                Font btn = new Font("Times New Roman", Font.BOLD, 20);

                //------------------------CLOSE--------------------------

                JLabel x = new JLabel("X");
```

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```java
x.setForeground(Color.decode("#37474F"));

x.setBounds(965, 10, 100, 20);

x.setFont(new Font("Times New Roman", Font.BOLD, 20));

frame.add(x);

x.addMouseListener(new MouseAdapter() {

        @Override

        public void mouseClicked(MouseEvent e) {

                System.exit(0);

        }

});
 //----------------------BACK--------------------------------

JLabel back = new JLabel("< BACK");

back.setForeground(Color.decode("#37474F"));

back.setFont(new Font("Times New Roman", Font.BOLD, 17));

back.setBounds(18, 10, 100, 20);

frame.add(back);

back.addMouseListener(new MouseAdapter() {

        @Override

        public void mouseClicked(MouseEvent e) {

                frame.dispose();

        }

});
//-----------------Panel--------------------------------

JPanel panel = new  JPanel();

panel.setBounds(0, 0, 1000, 35);

panel.setBackground(Color.decode("#DEE4E7"));
```

```java
        frame.add(panel);

        //----------------TABLE--------------------------------

        @SuppressWarnings("serial")

        JTable table=new JTable(){

                public boolean isCellEditable(int row,int column){

                        if(column == 3)

                                return true;

                        else

                                return false;

                }

        };

        model = (DefaultTableModel)table.getModel();

        model.addColumn("ID");

        model.addColumn("NAME");

        model.addColumn("STATUS");

        table.getColumnModel().getColumn(0).setPreferredWidth(50);

        table.getColumnModel().getColumn(1).setPreferredWidth(200);

        table.getColumnModel().getColumn(2).setPreferredWidth(200);

        JScrollPane scPane=new JScrollPane(table);

        scPane.setBounds(500, 50, 480, 525);

        frame.add(scPane);

        //-------------------------DATE------------------------

        JLabel dt = new JLabel("DATE : ");

        dt.setFont(text);

        dt.setBounds(25, 60, 75, 20);

        dt.setForeground(Color.decode("#DEE4E7"));
```

```java
frame.add(dt);

JTextField dtbox= new JTextField();

dtbox.setBounds(100, 60, 150, 25);

dtbox.setBackground(Color.decode("#DEE4E7"));

dtbox.setFont(text);

dtbox.setForeground(Color.decode("#37474F"));

String dateInString =new SimpleDateFormat("yyyy-MM-dd").format(new Date());

dtbox.setText(dateInString);

frame.add(dtbox);

//--------------------CLASS--------------------------------

JLabel classes = new JLabel("CLASS : ");

classes.setFont(text);

classes.setBounds(25, 150, 100, 20);

classes.setForeground(Color.decode("#DEE4E7"));

frame.add(classes);

@SuppressWarnings("unchecked")

JComboBox clss= new JComboBox(classEt());

clss.setBounds(110, 150, 50, 25);

frame.add(clss);

//---------------------VIEWBUTTON----------------------

JButton view = new JButton("VIEW");

view.setBounds(175, 275, 150, 50);

view.setFont(btn);

view.setBackground(Color.decode("#DEE4E7"));

view.setForeground(Color.decode("#37474F"));

frame.add(view);
```

```java
view.addActionListener(new ActionListener() {

        @Override

        public void actionPerformed(ActionEvent e) {

                tblupdt(String.valueOf(clss.getSelectedItem()), dtbox.getText());

        }

});

//---------------------ABSENTBUTTON----------------------

JButton ab = new JButton("ABSENT");

ab.setBounds(75, 365, 150, 50);

ab.setFont(btn);

ab.setBackground(Color.decode("#DEE4E7"));

ab.setForeground(Color.decode("#37474F"));

frame.add(ab);

ab.addActionListener(new ActionListener() {

        @Override

        public void actionPerformed(ActionEvent e) {

                table.setValueAt("Absent", table.getSelectedRow(), 2);

        }

});

//---------------------PRESENTBUTTON----------------------

JButton pre = new JButton("PRESENT");

pre.setBounds(275, 365, 150, 50);

pre.setFont(btn);

pre.setBackground(Color.decode("#DEE4E7"));

pre.setForeground(Color.decode("#37474F"));

frame.add(pre);
```

```java
                    pre.addActionListener(new ActionListener() {

                            @Override

                            public void actionPerformed(ActionEvent e) {

                                    System.out.print(table.getSelectedRow());

                                    table.setValueAt("Present", table.getSelectedRow(), 2);

                            }

                    });

                    //--------------------SUBMITBUTTON--------------------

                    JButton sbmt = new JButton("SUBMIT");

                    sbmt.setBounds(75, 450, 150, 50);

                    sbmt.setFont(btn);

                    sbmt.setBackground(Color.decode("#DEE4E7"));

                    sbmt.setForeground(Color.decode("#37474F"));

                    frame.add(sbmt);

                    sbmt.addActionListener(new ActionListener() {

                            @Override

                            public void actionPerformed(ActionEvent e) {

                                    for(int i= 0; i<table.getRowCount(); i++) {

                                            try {

                                    editItem(Integer.parseInt(String.valueOf(table.getValueAt(i, 0))),
String.valueOf(table.getValueAt(i, 2)), dtbox.getText());

                                            } catch (NumberFormatException | SQLException e1) {

                                                    e1.printStackTrace();

                                            }

                                    }

                                    for (int i=0; i < model.getRowCount(); i++) {

                                        model.removeRow(i);
```

```
                                    model.setRowCount(0);

                            }

                    }

            });

            //---------------------DELETEBUTTON----------------------

            JButton del = new JButton("DELETE");

            del.setBounds(275, 450, 150, 50);

            del.setFont(btn);

            del.setBackground(Color.decode("#DEE4E7"));

            del.setForeground(Color.decode("#37474F"));

            frame.add(del);

            del.addActionListener(new ActionListener() {

                    @Override

                    public void actionPerformed(ActionEvent e) {

                            String adding = "DELETE FROM attend WHERE class =
'"+String.valueOf(clss.getSelectedItem())+"' AND dt = '"+dtbox.getText()+"'";

                            try {

                                    Statement stm = con.createStatement();

                                    stm.executeUpdate(adding);

                            } catch (SQLException e1) {

                                    // TODO Auto-generated catch block

                                    e1.printStackTrace();

                            }

                            for (int i=0; i < model.getRowCount(); i++) {

                                model.removeRow(i);

                                model.setRowCount(0);

                            }
```

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```java
                    }

                });

                frame.setSize(1000,600);

                frame.setResizable(false);

                frame.setLayout(null);

                frame.setUndecorated(true);

                frame.setLocationRelativeTo(null);

                frame.setVisible(true);

                frame.setFocusable(true);

                frame.getContentPane().setBackground(Color.decode("#37474F"));

                frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        }

        public void connect() throws SQLException {

                //ENTER PORT, USER, PASSWORD.

                String url = "jdbc:mysql://localhost:3306/attendance";

                String user = "root";

                String pass = "password";

                con = DriverManager.getConnection(url, user, pass);

        }

        public ResultSet dbSearch(String classes, String dt) throws SQLException {

                //ENTER PORT, USER, PASSWORD.

                String str1 = "SELECT * from attend, students where attend.stid=students.id AND
attend.class = '"+classes+"' AND attend.dt = '"+dt+"'";

                Statement stm = con.createStatement();

                ResultSet rst = stm.executeQuery(str1);

                return rst;

        }
```

```java
public String[] classEt() throws SQLException {

        String str1 = "SELECT name from class";

        Statement stm = con.createStatement();

        ResultSet rst = stm.executeQuery(str1);

        String[] rt = new String[25];

        int i=0;

        while(rst.next()) {

                rt[i] = rst.getString("name");

                i++;

        }

        return rt;

}

public void tblupdt(String classes, String dt) {

        try {

                for (int i=0; i < model.getRowCount(); i++) {

                   model.removeRow(i);

                   model.setRowCount(0);

                }

                ResultSet res = dbSearch(classes, dt);

                for(int i=0; res.next(); i++) {

                        model.addRow(new Object[0]);

                        model.setValueAt(res.getInt("stid"), i, 0);

                   model.setValueAt(res.getString("name"), i, 1);

                   model.setValueAt(res.getString("status"), i, 2);

                }
```

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```
                } catch (SQLException e1) {

                        e1.printStackTrace();

                }

        }

        public void editItem(int id, String status, String date) throws SQLException {

                String adding = "UPDATE attend SET status = '"+status+"' WHERE stid = "+id+" AND
dt = '"+date+"'";

                Statement stm = con.createStatement();

        stm.executeUpdate(adding);

        }

}
```
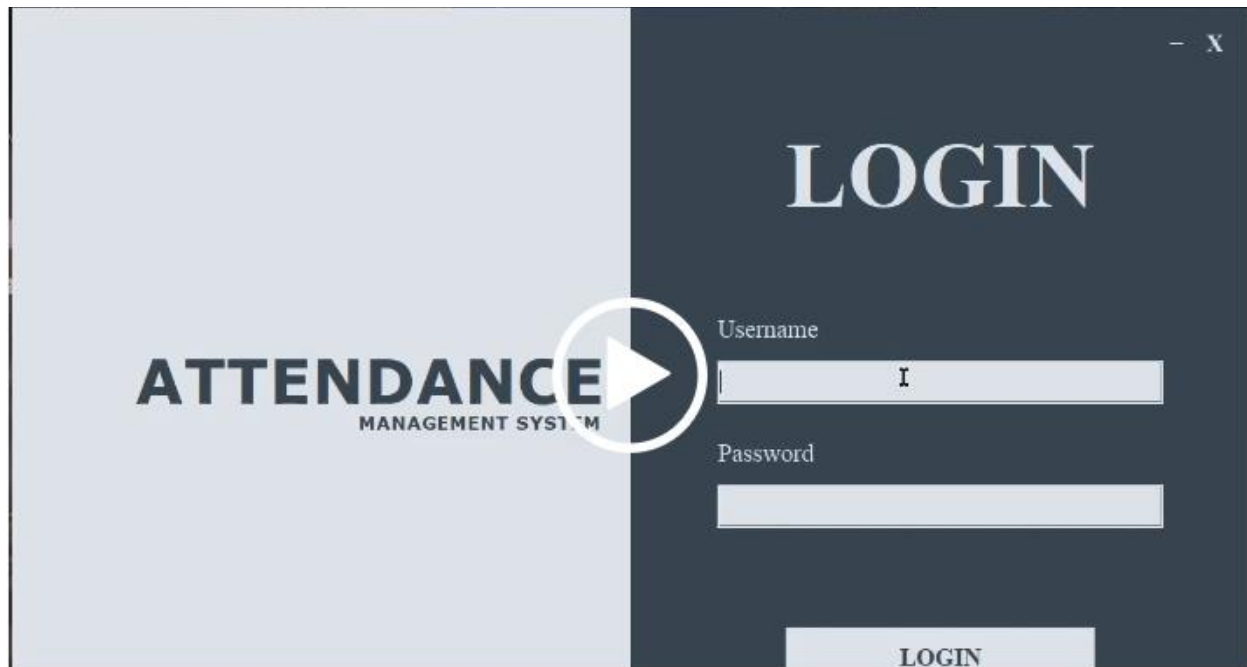
Output:

Output for Attendance Management System Project In Java:

The final output of the project will be as shown.

For Admin users, For Teachers, For Students:

Conclusion

In this article, we have created an *Attendance Management System* Project in Java and MySQL. It can create, edit and delete admins, teachers, and students. Also helps to register attendance based on the class of students.

References:

Oracle Java Technology Home Pages (https://www.oracle.com/java/technologies/)
Java Download Page (https://www.oracle.com/in/java/technologies/javase-downloads.html)
Java API Reference (https://docs.oracle.com/en/java/javase/)
The Java Tutorial (https://docs.oracle.com/javase/tutorial/)
Java Ranch (http://www.javaranch.com)
Java EE related projects on GitHub (https://javaee.github.io)
Javapedia (https://www.javapedia.net/)