## 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**

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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**

#### (UGC-AUTONOMUS)

(Approved by AICTE, Affiliated to JNTUH, Hyderabad) Kandlakoya, Medchal Road, Hyderabad.



#### **CERTIFICATE**

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

#### Submitted by

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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

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# 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.

```
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 {
```

```
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);
});
```

```
//-----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();
```

```
});
//-----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);
```

```
frame.setVisible(true);
       frame.setFocusable(true);
       frame.getContentPane().setBackground(Color.decode("#37474F"));
       frame.set Default Close Operation (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;

```
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"));
```

```
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);
```

```
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);
```

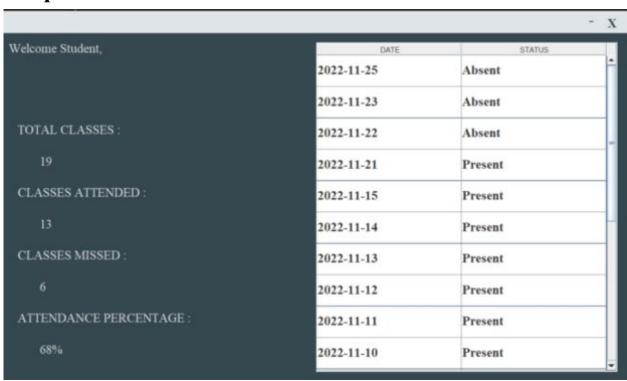
```
classAbs.setForeground(Color.decode("#DEE4E7"));
classAbs.setFont(new Font("Times New Roman", Font.PLAIN, 20));
frame.add(classAbs);
JLabel mtbox = new JLabel("");
mtbox.setBounds(60, 430, 250, 20);
mtbox.setForeground(Color.decode("#DEE4E7"));
mtbox.setFont(new Font("Times New Roman", Font.PLAIN, 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);
```

```
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);
```

```
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;

```
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");
```

```
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");</pre>
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"));
```

```
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"));
```

```
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);
```

```
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);
```

```
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);
```

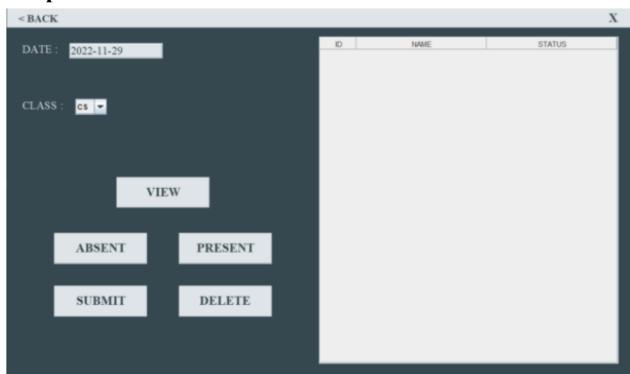
```
});
               frame.setSize(1000,600);
               frame.setResizable(false);
               frame.setLayout(null);
               frame.setUndecorated(true);
               frame.setLocationRelativeTo(null);
               frame.setVisible(true);
               frame.setFocusable(true);
               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;
```

```
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);
                }
```

```
} 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);
}
```

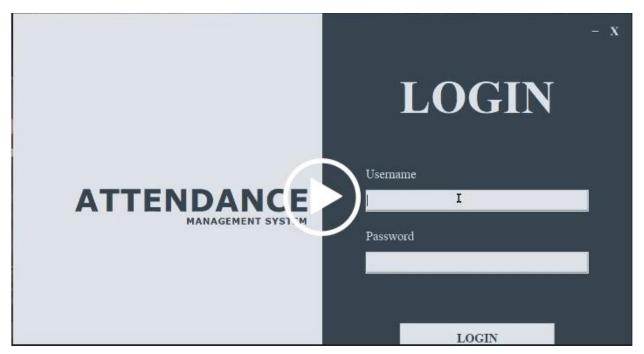
# **Output:**



# 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 (<a href="https://docs.oracle.com/en/java/javase/">https://docs.oracle.com/en/java/javase/</a>)

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/)