







SOFTWARE APPLICATION DEVELOPMENT

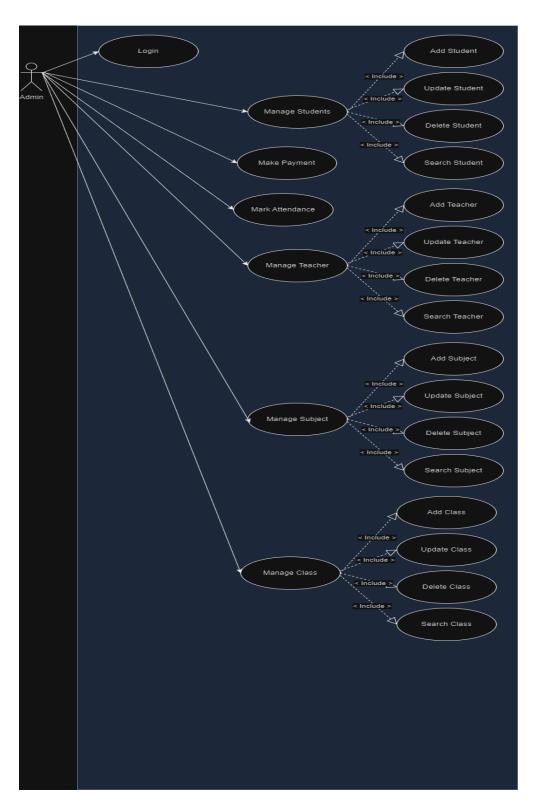
Software solution Development with a Database Management System (DBMS)

UNIT ID: **H7E1 04**

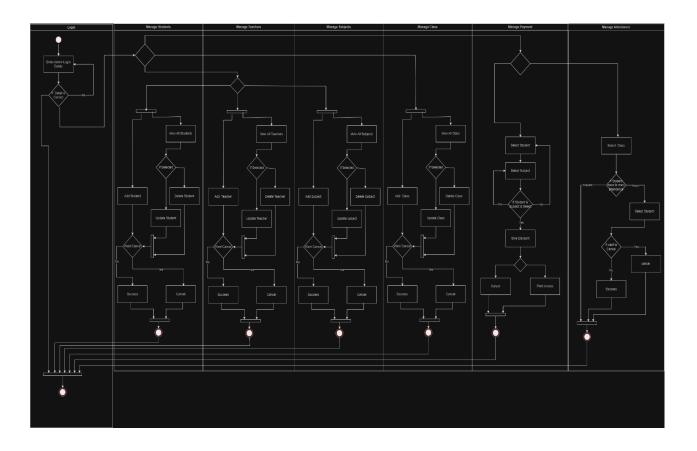
ASSIGNMENT ID: H7E1 04/AS/02

Batch: Moose-Matara Sanchitha Heshan (200312713429)

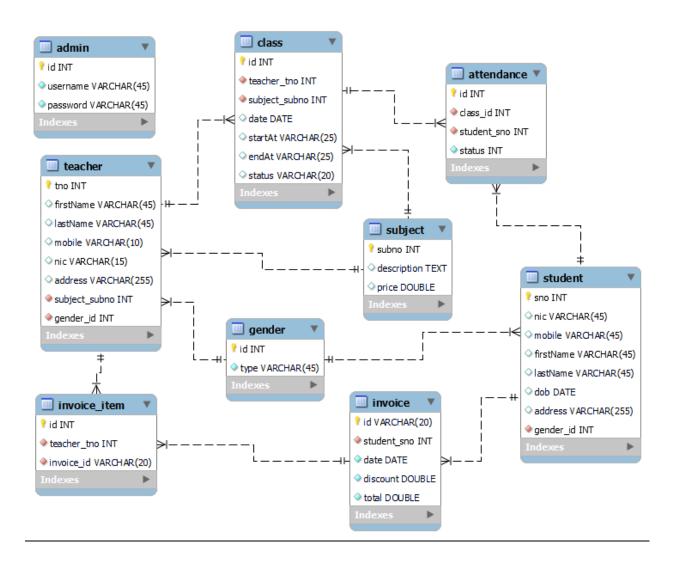
Use Case Diagram



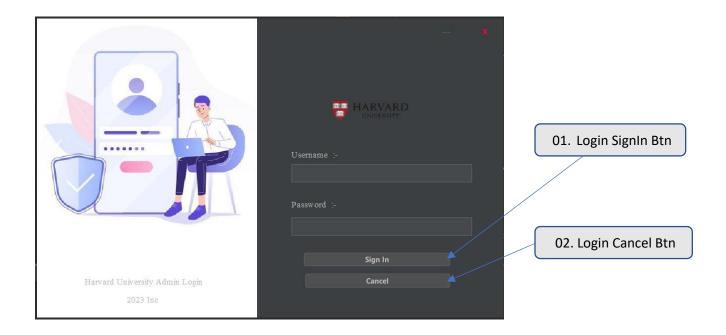
Activity Diagram



ER Diagram



Admin Login Page

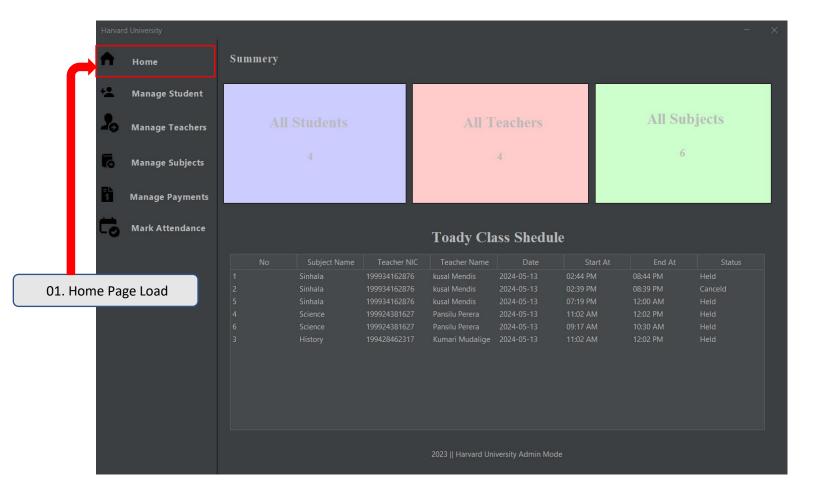


01. Login SignIn Btn

02. Login Cancel Btn

```
private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
    dispose();
}
```

Home Page



01. Home Page Load

```
private void jPanel5MouseClicked(java.awt.event.MouseEvent evt) {
    AddStudentPanel.setVisible(false);
    AddTeacherPanel.setVisible(false);
    AddSubjectPanel.setVisible(false);
    AddPaymentPanel.setVisible(false);
    AttendancePanel.setVisible(false);

    Content
    HomeObjectCount();
    loadHomeClassSheduleTable();
    Content
    HomePanel.setVisible(true);
}
```

```
private void HomeObjectCount() {
   int StudentCount = 0;
   int TeacherCount = 0;
   int TeacherCount = 0;

try {
   ResultSet result1 = MySQL.Search("SELECT COUNT('sno') AS 'studentCount' FROM 'student'");
   ResultSet result2 = MySQL.Search("SELECT COUNT('ton') AS 'teacherCount' FROM 'teacher'");
   ResultSet result3 = MySQL.Search("SELECT COUNT('subno') AS 'subjectCount' FROM 'teacher'");

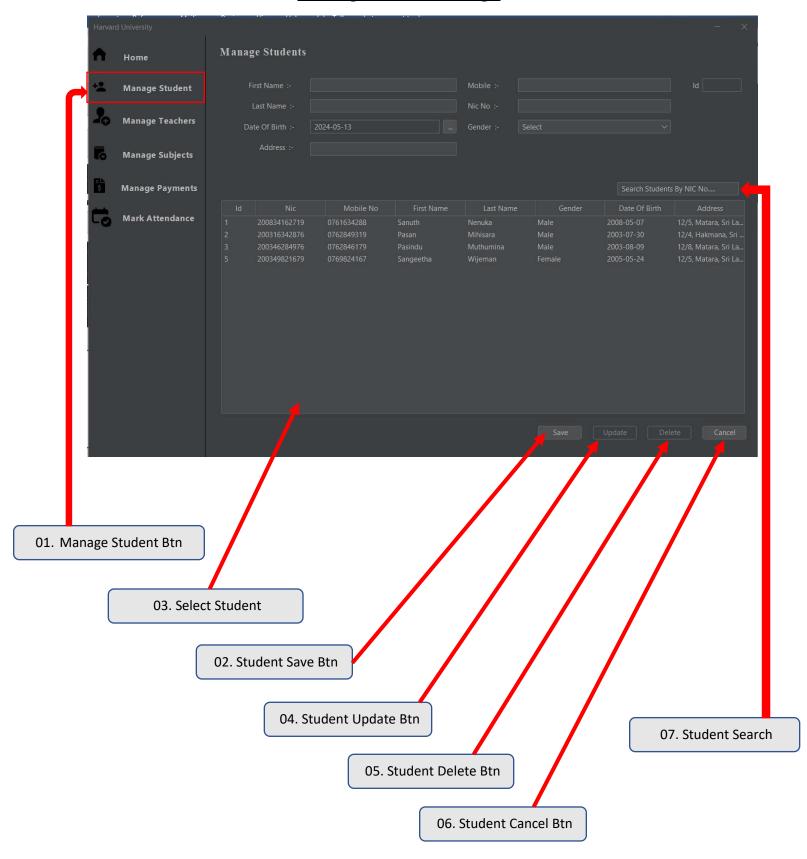
   while (result1.next()) {
        StudentCount += result1.getInt("studentCount");
   }

   while (result2.next()) {
        TeacherCount += result2.getInt("teacherCount");
   }

   while (result3.next()) {
        SubjectCount += result3.getInt("subjectCount");
   }

   jLabel73.setText(String.valueOf(StudentCount));
   jLabel74.setText(String.valueOf(StudentCount));
   jLabel75.setText(String.valueOf(SubjectCount));
   }
} catch (Exception e) {
    e.printStackTrace();
}
```

Manage Students Page



01. Manage Student Btn

```
private void jPanel6MouseClicked(java.awt.event.MouseEvent evt) {
    HomePanel.setVisible(false);
    AddTeacherPanel.setVisible(false);
    AddSubjectPanel.setVisible(false);
    AddPaymentPanel.setVisible(false);
    AttendancePanel.setVisible(false);

    container
    loadStudentsTable();
    container
    AddStudentPanel.setVisible(true);
}
```

```
private void loadStudentsTable() {
    DefaultTableModel model = (DefaultTableModel) jTable2.getModel();
    model.setRowCount(0);

try {
    ResultSet resultset = MySQL.Search("SELECT * FROM `student`");

    while (resultset.next()) {
        Vector<String> studentTableRow = new Vector<>();
        studentTableRow.add(resultset.getString("nic"));
        studentTableRow.add(resultset.getString("mic"));
        studentTableRow.add(resultset.getString("mic"));
        studentTableRow.add(resultset.getString("firstName"));
        studentTableRow.add(resultset.getString("lastName"));
        studentTableRow.add((resultset.getString("gender_id").equals("1")) ? "Male" : "Female");
        studentTableRow.add(resultset.getString("dob"));
        studentTableRow.add(resultset.getString("address"));
        model.addRow(studentTableRow);
    }
} catch (Exception ex) {
        ex.printStackTrace();
}
```

02. Student Save Btn

```
private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

String fieldStatus = valdateStudentsFields();

if (fieldStatus.equals("Success")) {

String firstName = jTextField1.getText();

String lastName = jTextField2.getText();

String address = jTextField6.getText();

String mobile = jTextField6.getText();

String mobile = jTextField6.getText();

String gender = String.valueOf(jComboBox5.getSelectedItem());

String result = (gender.equals("Male")) ? "l" : "2";

System.out.println(result);

MySQL.Iud("INSERT INTO"

# "'Student'('firstName', 'lastName', 'dob', 'address', 'mobile', 'nic', 'gender_id')"

# "VALUES('" + firstName + "','" + lastName + "','" + dob + "','" + address + "',"

# "" + "" + mobile + "','" + nic + "','" + result + "')");

loadStudentsTable();

ManageStudentFieldReset();

} else {

Alert(fieldStatus, true);
}
```

```
private String valdateStudentsFields() {
   if (jTextField1.getText().isEmpty()) {
      return "Please Enter First Name ....";

   } else if (jTextField2.getText().isEmpty()) {
      return "Please Enter Last Name ....";

   } else if (jTextField6.getText().isEmpty()) {
      return "Please Enter Living Address ....";

   } else if (jTextField7.getText().isEmpty()) {
      return "Please Enter Mobile Number ....";

   } else if (jTextField7.getText().length() != 10) {
      return "Invalid Mobile Number ....";

   } else if (jTextField11.getText().isEmpty()) {
      return "Please Enter National ID Number ....";

   } else if (jComboBox5.getSelectedIndex() == 0) {
      return "Please Select Gender ....";

} else {
      return "Success";
}
```

03. Select Student

```
private void jTable2MouseClicked(java.awt.event.MouseEvent evt) {
    if (evt.getClickCount() == 2) {
        int row = jTable2.getSelectedRow();

    if (row != -1) {
            jTextField8.setText(String.valueOf(jTable2.getValueAt(row, 0)));
            jTextField11.setText(String.valueOf(jTable2.getValueAt(row, 1)));
            jTextField7.setText(String.valueOf(jTable2.getValueAt(row, 2)));
            jTextField3.setText(String.valueOf(jTable2.getValueAt(row, 3)));
            jTextField2.setText(String.valueOf(jTable2.getValueAt(row, 4)));
            jComboBox5.setSelectedItem(jTable2.getValueAt(row, 5));
            jTextField33.setText(String.valueOf(jTable2.getValueAt(row, 6)));
            jTextField6.setText(String.valueOf(jTable2.getValueAt(row, 7)));

            jTextField11.setEnabled(false);
            jTable2.setEnabled(false);
            jButton2.setEnabled(false);
            jButton5.setEnabled(false);
            jButton5.setEnabled(false);
            jButton6.setEnabled(true);
            jButton2.setEnabled(true);
            jButton2.setEnabled(true);
```

04. Student Update Btn

05. Student Delete Btn

```
private void jButton15ActionPerformed(java.awt.event.ActionEvent evt) {
    MySQL.Iuc("DELETE FROM `student` WHERE `sno`='" + Integer.valueOf(jTextField8.getText()) + "' ");
    ManageStudentFieldReset();
}
```

06. Student Cancel Btn

```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    ManageStudentFieldReset();
}
```

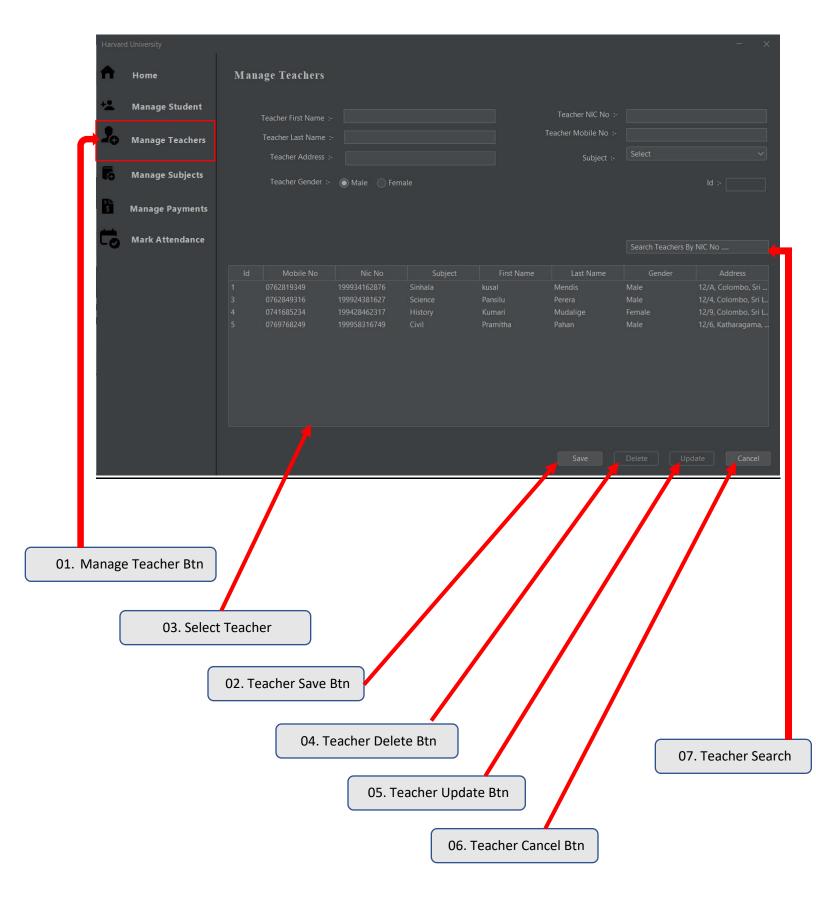
```
private void ManageStudentFieldReset() {
    jTextField1.setText("");
    jTextField6.setText("");
    jTextField7.setText("");
    jTextField11.setText("");
    jTextField8.setText("");
    Date date = new Date();
    SimpleDateFormat format = new SimpleDateFormat("yyyy-MM-dd");
    String stringDate = format.format(date);
    jButton2.setEnabled(true);
    jButton15.setEnabled(false);
    jTextField11.setEnabled(true);
    jTable2.setEnabled(true);
    jComboBox5.setEnabled(true);
    ComboBox5.setSelectedIndex(0);
    jTextField1.grabFocus();
    loadStudentsTable();
```

07. Student Search

```
private void jTextField10KeyReleased(java.awt.event.KeyEvent evt) {
    try {
        ResultSet resultset = MySQL.Search("SELECT * FROM `student` WHERE `nic` LIKE '%" + jTextField10.getText() + "%'");
        DefaultTableModel model = (DefaultTableModel) jTable2.getModel();
        model.setRowCount(0);

    while (resultset.next()) {
        Vector<String> studentTableRow = new Vector<>();
        studentTableRow.add(resultset.getString("no"));
        studentTableRow.add(resultset.getString("nic"));
        studentTableRow.add(resultset.getString("mobile"));
        studentTableRow.add(resultset.getString("lastName"));
        studentTableRow.add(resultset.getString("lastName"));
        studentTableRow.add(resultset.getString("address"));
        model.addRow(studentTableRow);
    }
} catch (Exception e) {
        e.printStackTrace();
}
```

Manage Teachers Page



01. Manage Teacher Btn

```
private void jPanel2MouseClicked(java.awt.event.MouseEvent evt) {
   AddStudentPanel.setVisible(false);
   HomePanel.setVisible(false);
   AddSubjectPanel.setVisible(false);
   AddPaymentPanel.setVisible(false);
   AttendancePanel.setVisible(false);

   //Content
   //LoadSubjectComboBox
   try {
      ResultSet resultSet = MySQL.Search("SELECT * FROM `subject` ");

      Vector<String> vector = new Vector<String>();
      vector.add("Select");

      while (resultSet.next()) {
            vector.add(resultSet.getString("description"));
      }

      DefaultComboBoxModel Combomodel = new DefaultComboBoxModel(vector);
      jComboBox6.setModel(Combomodel);

   } catch (Exception e) {
      e.printStackTrace();
   }
   //LoadSubjectComboBox
   loadTeacherStable();
   //Content
   AddTeacherPanel.setVisible(true);
}
```

02. Teacher Save Btn

```
private String validateTeacherField() {
    if (jTextField35.getText().isEmpty()) {
        return "Please Enter First Name ....";
    } else if (jTextField27.getText().isEmpty()) {
        return "Please Enter Last Name ....";
    } else if (jTextField36.getText().isBlank()) {
        return "Please Enter Living Address ....";
    } else if (jTextField38.getText().isBlank()) {
        return "Please Enter National ID Number ....";
    } else if (jTextField37.getText().isBlank()) {
        return "Please Enter Mobile Number ....";
    } else if (jTextField37.getText().length() != 10) {
        return "Invalid Mobile Number ....";
    } else if (buttonGroup1.getSelection() == null) {
        return "Please Select Gender ....";
    } else if (jComboBox6.getSelectedIndex() == 0) {
        return "Please Select Subject ....";
    } else {
        return "Success";
    }
}
```

03. Select Teacher

04. Teacher Delete Btn

```
private void jButton16ActionPerformed(java.awt.event.ActionEvent evt) {
    MySQL.Iuc("DELETE FROM `teacher` WHERE `tno`='" + jTextField24.getText() + "' ");
    ManageTeacherFieldReset();
    loadTeachersTable();
}
```

05. Teacher Update Btn

06. Teacher Cancel Btn

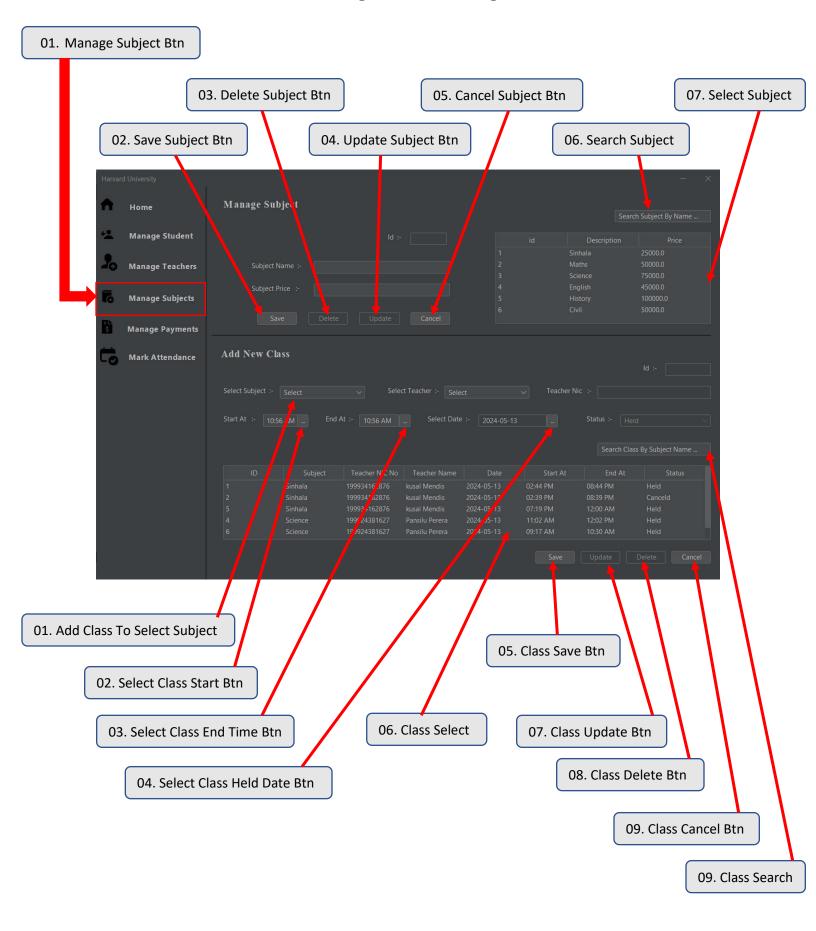
```
private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {
         ManageTeacherFieldReset();
}
```

```
private void ManageTeacherFieldReset() {
    jTextField35.setText("");
    jTextField27.setText("");
    jTextField36.setText("");
    jTextField38.setText("");
    jTextField37.setText("");
    jTextField24.setText("");
    jTextField12.setText("Search Teachers By NIC No ....");
    jComboBox6.setSelectedIndex(0);
    jRadioButton1.setSelected(true);
    jTextField35.grabFocus();

    jButton16.setEnabled(false);
    jButton3.setEnabled(false);
    jButton3.setEnabled(true);
    jRadioButton1.setEnabled(true);
    jRadioButton2.setEnabled(true);
    jTextField38.setEnabled(true);
    jTextField38.setEnabled(true);
    jTextField38.setEnabled(true);
```

07. Teacher Search

Manage Teachers Page



01. Manage Subject Btn

```
private void jPanel7MouseClicked(java.awt.event.MouseEvent evt) {
    AddStudentPanel.setVisible(false);
   AddTeacherPanel.setVisible(false);
   HomePanel.setVisible(false);
   AddSubjectPanel.setVisible(false);
   AttendancePanel.setVisible(false);
    loadSubjectsTable();
    loadClassSheduleTable();
       ResultSet resultSet = MySQL.Search("SELECT * FROM `subject`");
       Vector<String> vector = new Vector<String>();
       vector.add("Select");
            vector.add(resultSet.getString("description"));
        DefaultComboBoxModel Smodel = new DefaultComboBoxModel(vector);
        jComboBox1.setModel(Smodel);
    } catch (Exception e) {
       e.printStackTrace();
    AddSubjectPanel.setVisible(true);
```

```
private void loadSubjectsTable() {

   DefaultTableModel tModel = (DefaultTableModel) jTable3.getModel();
   tModel.setRowCount(0);

try {

   ResultSet resultSet = MySQL.Search("SELECT * FROM 'subject'");

   while (resultSet.next()) {

       Vector<String> row = new Vector<>();
       row.add(resultSet.getString("subno"));
       row.add(resultSet.getString("description"));
       row.add(resultSet.getString("price"));
       tModel.addRow(row);
   }

} catch (Exception e) {
       e.printStackTrace();
}
```

02. Save Subject Btn

03. Delete Subject Btn

```
private void jButton19ActionPerformed(java.awt.event.ActionEvent evt) {
    MySQL.Iua("DELETE FROM `subject` WHERE `subno`='" + jTextField26.getText() + "'");
    subjectFieldReset();
    loadSubjectsTable();
}
```

04. Update Subject Btn

```
private void jButton7ActionPerformed(java.awt.event.ActionEvent evt) {
   String status = ValidateManageSubjectsField();
   String subId = jTextField26.getText();
   String description = jTextField25.getText();
   String price = jTextField4.getText();

if (status == "Success") {
    MySQL.Iud("UPDATE `subject` SET `description`='" + description + "', `price`='" + price + "' WHERE `subno`='" + subId + "' ");
    subjectFieldReset();
    loadSubjectsTable();
}
```

05. Cancel Subject Btn

```
private void jButton8ActionPerformed(java.awt.event.ActionEvent evt) {
    subjectFieldReset();
    loadSubjectsTable();
}
```

```
private void subjectFieldReset() {
    jTextField9.setText("Search Subject By Name ...");
    jTextField25.setText("");
    jTextField4.setText("");
    jTextField26.setText("");
    jButton19.setEnabled(false);
    jButton7.setEnabled(false);
    jButton9.setEnabled(true);
    jTable3.setEnabled(true);
    jTextField25.grabFocus();
}
```

06. Search Subject

07. Select Subject

```
private void jTable3MouseClicked(java.awt.event.MouseEvent evt) {
   if (evt.getClickCount() == 2) {
      int tableRow = jTable3.getSelectedRow();

      if (tableRow != -1) {
        jTextField26.setText(String.valueOf(jTable3.getValueAt(tableRow, 0)));
        jTextField25.setText(String.valueOf(jTable3.getValueAt(tableRow, 1)));
        jTextField4.setText(String.valueOf(jTable3.getValueAt(tableRow, 2)));

        SubjectName = String.valueOf(jTable3.getValueAt(tableRow, 1));
        jButton9.setEnabled(false);
        jButton19.setEnabled(false);
        jButton7.setEnabled(true);
        jButton7.setEnabled(true);
    }
}
```

01. Add Class To Select Subject

```
private void jComboBox1ItemStateChanged(java.awt.event.ItemEvent evt) {
    String Subject = String.valueOf(jComboBox1.getSelectedItem());

try {
    ResultSet resultSet = MySQL.Search("SELECT `subno` FROM `subject` WHERE `description`='" + Subject + "' ");

    if (resultSet.next()) {
        int subNo = resultSet.getInt("subno");

        ResultSet result = MySQL.Search("SELECT * FROM `teacher` WHERE `subject_subno`='" + subNo + "' ");

        Vector<String> vector = new Vector<>();
        vector.add("Select");

        while (result.next()) {
            vector.add(result.getString("firstName"));
        }

        DefaultComboBoxModel tModel = new DefaultComboBoxModel(vector);
        tcjComboBox2.setModel(tModel);
    }
}

catch (Exception e) {
    e.printStackTrace();
}
```

02. Select Class Start Btn Time

```
private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {
    timePicker1.showPopup(this, 50, 50);
}
```

03. Select Class End Time Btn

```
private void jButton20ActionPerformed(java.awt.event.ActionEvent evt) {
    timePicker2.showPopup(this, 50, 50);
}
```

04. Select Class Held Date Btn

```
private void jButton21ActionPerformed(java.awt.event.ActionEvent evt) {
    dateChooser1.showPopup();
}
```

05. Class Save Btn

```
private String validateAddClassFields() {
   if (jComboBox1.getSelectedIndex() == 0) {
      return "Please Select Subject";

   } else if (tcjComboBox2.getSelectedIndex() == 0) {
      return "Please Select Teacher";

   } else {
      return "Success";
   }
}
```

07. Class Update Btn

08. Class Delete Btn

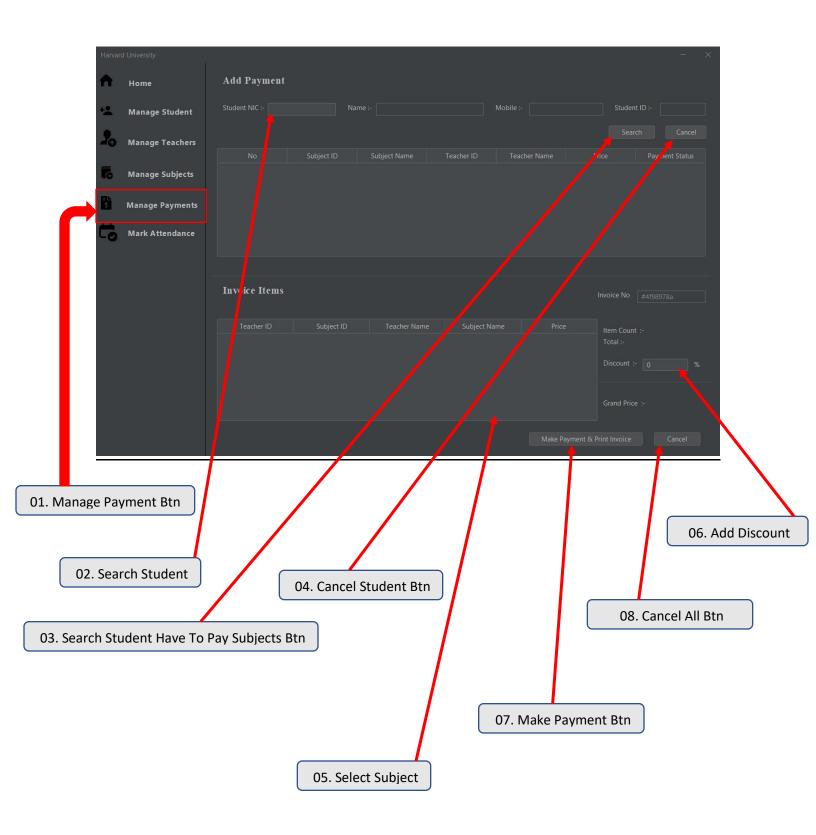
```
private void jButton24ActionPerformed(java.awt.event.ActionEvent evt) {
    MySQL.Iuc("DELETE FROM `class` WHERE `id`='" + jTextField32.getText() + "' ");
    loadClassSheduleTable();
    resetAllAddClassFields();
}
```

09. Class Cancel Btn

```
private void jButton25ActionPerformed(java.awt.event.ActionEvent evt) {
    resetAllAddClassFields();
    jComboBox1.setEnabled(true);
    tcjComboBox2.setEnabled(true);
    jTable4.setEnabled(true);
    jComboBox3.setEnabled(false);
    loadClassSheduleTable();
}
```

09. Class Search

Manage Payment Page



01. Manage Payment Btn

```
private void jPanel10MouseClicked(java.awt.event.MouseEvent evt) {
    HomePanel.setVisible(false);
    AddTeacherPanel.setVisible(false);
    AddSubjectPanel.setVisible(false);
    AddStudentPanel.setVisible(false);
    AttendancePanel.setVisible(false);

jTextField45.setText(generateUniqueId());
    AddPaymentPanel.setVisible(true);
}
```

02. Search Student

03. Search Student Have To Pay Subjects Btn

04. Cancel Student Btn

```
private void jButton12ActionPerformed(java.awt.event.ActionEvent evt) {
    jTextField13.setText("");
    jTextField48.setText("");
    jTextField50.setText("");
    jTextField51.setText("");

DefaultTableModel model = (DefaultTableModel) jTable14.getModel();
    model.setRowCount(0);
}
```

05. Select Subject

```
Vector<String> vector = new Vector<String>();
```

06. Add Discount

```
private void jTextField46KeyReleased(java.awt.event.KeyEvent evt) {
    double total = Double.parseDouble(jLabel68.getText());
    double precentage;
    if (jTextField46.getText().isEmpty()) {
        precentage = 0;
    } else {
        precentage = Double.parseDouble(jTextField46.getText());
    }

    double discount = (total * precentage) / 100;
    jLabel66.setText(String.valueOf(total - discount));
}
```

07. Make Payment Btn

```
Date date are late():
SimpleTreat Format | now SimpleDateFormat("yyyy-Moded");
SimpleTreatFormat Format = now SimpleDateFormat("yyyy-Moded");
SimpleTreatFormat Format = now SimpleDateFormat("yyyy-Moded");
Soring simpleTreatFormat Format = now SimpleDateFormat("yyyy-Moded");
Soring simpleTreatFormat Format = now SimpleDateFormat("yyyy-Moded");
Soring simpleTreatFormat Format = now SimpleTreatFormat(");
MySGL_Pade("NUMBET HITO 'Invoice" 'MALHES(" + sawalceMode + "," + son + "," + stringDate + "," + jTextFieldSG.getText() + "", " + jLabelSG.getText() + "") * 1)

MySGL_Pade("NUMBET HITO 'Invoice" MALHES(" + sawalceMode + "," + son + "," + stringDate + "," + jTextFieldSG.getText() + "") * 1)

Bring searched = SimpleTreatFormat = now SimpleTreatF
```

08. Cancel All Btn

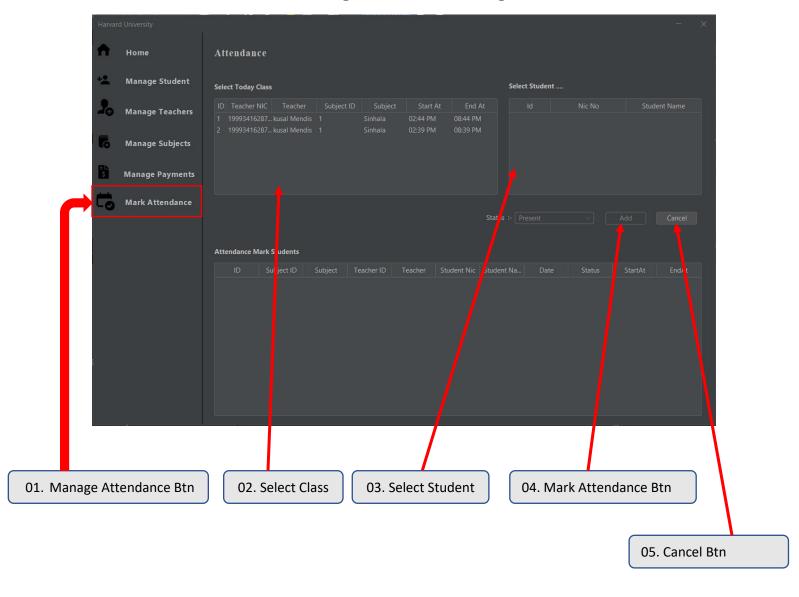
```
private void jButtonl4ActionPerformed(java.awt.event.ActionEvent evt) {
    jTextFieldl3.setText("");
    jTextFieldl48.setText("");
    jTextFieldl50.setText("");

    DefaultTableModel model = (DefaultTableModel) jTablel4.getModel();
    model.setRowCount(0);
    resetAllPaymentFieldsTables();
    jTextFieldl45.setText(generateUniqueId());
}
```

```
private void resetAllPaymentFieldsTables() {
    jTextField13.setText("");
    jTextField45.setText("");
    jLabel67.setText("");
    jLabel68.setText("");
    jTextField46.setText("");
    jLabel66.setText("");

DefaultTableModel invoiceItemTModel = (DefaultTableModel) jTable9.getModel();
    invoiceItemTModel.setRowCount(0);
}
```

Manage Attendance Page



01. Manage Attendance Btn

```
private void loadAttendanceTeacherTable(String query) {
    try {
        ResultSet resultSet = MySQL.Search(query);
        DefaultTableModel model = (DefaultTableModel) jTablell.getModel();
        model.setRowCount(0);

    while (resultSet.next()) {
        String time = resultSet.getString("class.endAt");
        if (!checkTimeIsPassedOrNot(time)) {
            Vector v = new Vector();
            v.add(resultSet.getString("class.id"));
            v.add(resultSet.getString("teacher.nic"));
            v.add(resultSet.getString("teacher.firstName") + " " + resultSet.getString("teacher.lastName"));
            v.add(resultSet.getString("subject.subno"));
            v.add(resultSet.getString("subject.subno"));
            v.add(resultSet.getString("class.startAt"));
            v.add(resultSet.getString("class.endAt"));
            model.addRow(v);
        } else {
            System.out.println("pass");
        }
    }
} catch (Exception e) {
        e.printStackTrace();
}
```

02. Select Class

```
private void jTablellMouseClicked(java.awt.event.MouseEvent evt) {
   if (evt.getClickCount() == 1) {
     int selectedRowIndex = jTablell.getSelectedRow();
     if (selectedRowIndex != -1) {
        loadAttendanceStudentTable(jTablell.getValueAt(selectedRowIndex, 3).toString());
        loadAttendanceMarkedTable();
     }
}
```

03. Select Student

```
private void jTable12MouseClicked(java.awt.event.MouseEvent evt) {
   int selectedRow = jTable12.getSelectedRow();

if (selectedRow != -1) {
    jTable12.setEnabled(false);
    System.out.println("selected");
    jComboBox2.setEnabled(true);
    jButton17.setEnabled(true);

} else {
    jComboBox2.setSelectedIndex(0);
    jComboBox2.setEnabled(false);
    jButton17.setEnabled(false);
    jButton17.setEnabled(false);
}
```

04. Mark Attendance Btn

05. Cancel Btn

```
private void jButton18ActionPerformed(java.awt.event.ActionEvent evt) {
    resetAllAttendancePage();
    DefaultTableModel model2 = (DefaultTableModel) jTable13.getModel();
    model2.setRowCount(0);
    DefaultTableModel model1 = (DefaultTableModel) jTable12.getModel();
    model1.setRowCount(0);
}
```

