

# **REPORT OBJECT ORIENTED VISUAL PROGRAMMING**

**IT 2 -20242**

**AJENG MIFTAHUL CARINA (001202400015)**

**JIHAN AZARIA BIBI (001202400161)**

**SHENY AYU ZAHRA ANUGERAH (001202400164)**

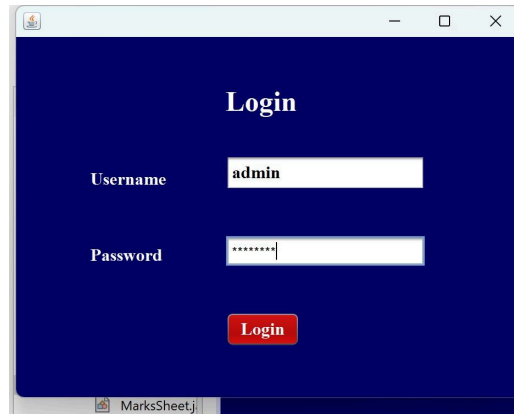
## **A. Description**

The Student Management System is a desktop application developed using Java Swing, designed to facilitate effective and efficient management of student data. The application features an interactive and user-friendly graphical interface that allows users, such as academic staff or administrators, to easily input, edit, and monitor student information, courses, and academic grades. With a simple yet comprehensive design, this system helps speed up administrative processes while minimizing input errors.

In addition to providing basic CRUD (Create, Read, Update, Delete) functionality for data management, the system is equipped with fast and accurate search features that enable users to quickly find the information they need. Printing capabilities are also available to support official documentation and reporting required by the institution. Overall, the Student Management System offers a complete and efficient solution to support academic data management in higher education environments.

## B. Documentation and Explanation

### 1. Admin Login



A screenshot of a web browser window displaying a login form. The form has a dark blue background with white text. It includes fields for 'Username' (containing 'admin') and 'Password' (containing masked characters). A red 'Login' button is positioned below the password field. The browser's address bar shows 'MarksSheet.j'.

The login page serves as a secure entry point by validating the username and password, allowing only admin users to access the system. Upon successful login, users are directed to the main dashboard.

### 2. Student Table



A screenshot of the 'STUDENT MANAGEMENT SYSTEM' dashboard. The interface features a red header with the system name and a clock showing '09:47:09 PM'. Below the header is a navigation bar with tabs for 'Student', 'Course', 'Score', and 'Marks Sheet'. The 'Student' tab is active, displaying a form for adding or editing student information on the left and a table of existing students on the right.

**Student Information Form:**

- Student's ID: 002837940
- Student Name: hoshi
- Date Of Birth: 1998-01-10
- Gender: Male
- Email: horanghae@gmail.com
- Phone Number: 09872637490
- Father's Name: romeo
- Mother's Name: juliet
- Address Line 1: dubai
- Address Line 2: antartika
- Image: [Browse button and image placeholder]

**Search Student:** [Search button] [Refresh button]

Student ID	Student Name	Date Of Birth	Gender	Email	Phone Number	Father's Name
2	mingyu	2000-02-21	Male	mingyu@gmail...	08873549874	ucok
1	jungkook	2006-06-27	Male	jungkookjhan...	08123456789	jeon

**Actions:** [Add New] [Update] [Delete] [Print] [Clear]

Within the Student tab, users can input comprehensive student data, including Student ID, name, date of birth (with date selection), gender (via combo box), email, phone number, parents' names, address, and student photo uploads. The data is saved to a database, displayed in an interactive table with search functionality, and can be updated or deleted as required.

## 2.1 Add new.

Search Student

SearchRefresh

Student ID	Student Name	Date Of Birth	Gender	Email	Phone Number	Father's Name
4	hoshi	1998-01-10	Male	horanghae@g...	09872637490	romeo
2	mingyu	2000-02-21	Male	mingyu@gmail...	08873549874	ucok
1	jungkook	2006-06-27	Male	jungkookjihan...	08123456789	jeon

Add New

Update

Delete

Print

Clear

After adding the new student data through the input form or editing interface, the changes are immediately reflected in the student table displayed within the application.

## 2.2 Update.

Search Student

SearchRefresh

Student ID	Student Name	Date Of Birth	Gender	Email	Phone Number	Father's Name
5	hoshi	1998-10-01	Male	horanghae@g...	098765432112	yey
2	mingyu	2000-02-21	Male	mingyu@gmail...	08873549874	ucok
1	jungkook	2006-06-27	Male	jungkookjihan...	08123456789	jeon

Add New

Update

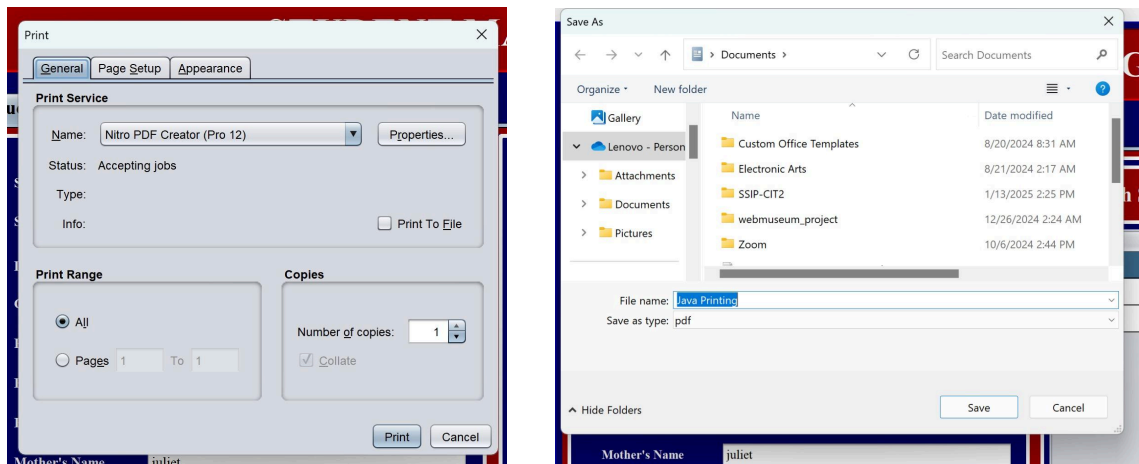
Delete

Print

Clear

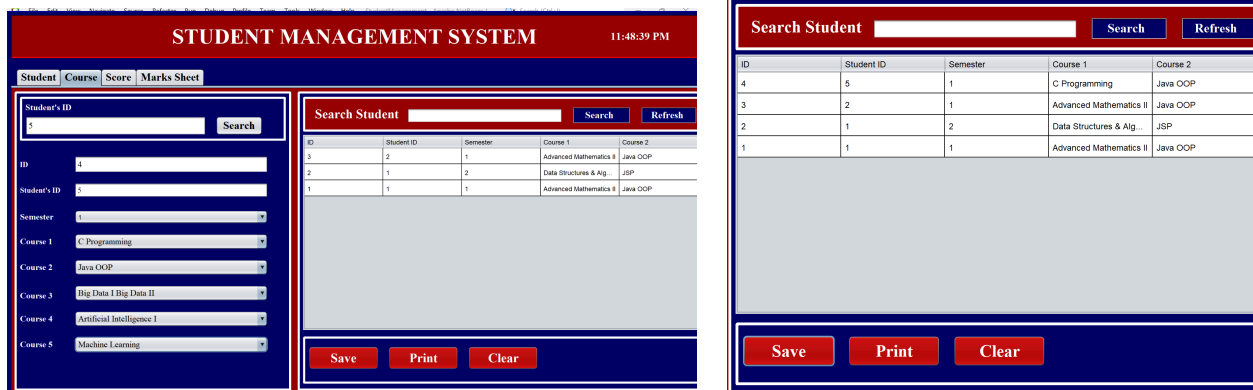
This automatic update ensures that the table always shows the most current and accurate information without requiring the user to manually refresh or reload the data. Such real-time synchronization between the data source and the table enhances user experience by providing instant feedback and maintaining data consistency throughout the system.

## 2.3 Print



The system includes a print functionality that allows users to generate physical or digital copies of the student data and academic reports directly from the application. Once the desired data such as student records, grades, or marks sheets is displayed on the screen, users can initiate the print process through a dedicated print button.

## 3. Course



The Course tab offers a comprehensive set of features designed to facilitate efficient management of course data. Users can easily input essential information such as course codes and course names through a dedicated input form. All existing courses are displayed in a well-organized, searchable table that allows users to quickly locate specific courses based on various criteria.

#### 4. Search by name

Student ID	Student Name	Date of Birth	Gender	Email	Phone Number	Father Name
1	jungkook	2006-06-27	Male	jungkookjihan...	08123456789	jeon

This feature allows users to quickly and efficiently find student data based on their names. By entering a full or partial student name into the search field, the system filters and displays relevant results automatically in the data table.

#### 5. Score

ID	Student ID	Semester	Course1	Score1	Course2	Score2	Course3	Score3
2	1	2	Data Stru...	1.0	JSP	2.0	Software...	3.0
1	1	1	Advanced...	4.0	Java OOP	4.0	Data Scie...	4.0

In the Score tab, admin can input and manage student grades for each course and semester. This feature allows academic staff to accurately record student performance by entering scores linked to specific courses and academic periods. The grades are securely stored in the database and displayed in an organized table, enabling easy review and search. This functionality streamlines grade management, helps maintain accurate academic records, and supports further calculations such as GPA within the system.

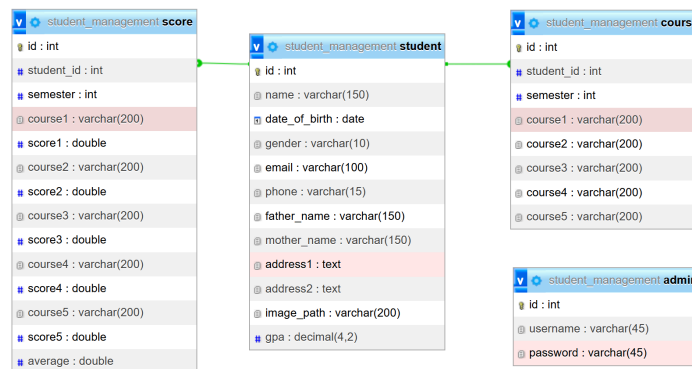
## 6. Mark Sheet

The screenshot shows a web application titled "STUDENT MANAGEMENT SYSTEM" with a timestamp of 12:20:11 AM. It features four tabs: "Student", "Course", "Score", and "Marks Sheet". The "Marks Sheet" tab is active, displaying a form for "Student's ID" with a search button. Below the form, the CGPA is calculated as 3.04. To the right, a table shows student records with columns for ID, Student ID, Semester, Course1, Score1, Course2, Score2, Course3, Score3, and Course4. The table contains two rows of data. At the bottom, there are "Print" and "Clear" buttons.

ID	Student ID	Semester	Course1	Score1	Course2	Score2	Course3	Score3	Course4
1	1	1	Advance...	4.0	Java OOP	4.0	Data Str...	4.0	Artifici...
2	1	2	Data Stru...	1.0	JSP	2.0	Software ...	3.0	H5K 3

The Marks Sheet tab displays summarized grades and calculates the Cumulative Grade Point Average (CGPA) automatically based on the input scores. This information can be printed as official academic reports.

## 7. Database



### 7.1 Relationships Between Tables:

- The **student** table is the central entity storing student information.
- The **course** and **score** tables are linked to the **student** table via the **student\_id** foreign key, associating each course list and grade record with a specific student.
- This design allows each student to have multiple course and score records corresponding to different semesters.