

# Faculty Management System - Java Swing Assignment

## Assignment Overview

Develop a desktop-based **Faculty Management System** using **Java Swing** that manages **students, lecturers, courses, departments, and degrees** within the **Computing and Technology Faculty**. This application must adhere to the MVC (Model-View-Controller) design pattern and utilize **JDBC** with **MySQL** for data persistence. (JDBC with MySQL for data persistence is optional for ET Students)

## Team Requirements

### GitHub Organization (**MANDATORY**)

- **Team Size:** Maximum 6 students
- **Create GitHub Organization:** `FMS-GroupXX`
- **Repository Name:** `faculty-management-system`
- **Individual grading based on commit history**

### Repository Structure

```
com.faculty-management-system/
  └── src/com/faculty/
    ├── model/
    ├── view/
    ├── controller/
    ├── dao/
    ├── util/
    └── main/
  └── database/
    ├── schema.sql
    └── sample_data.sql
  └── docs/
    └── FMS-GroupXX.pdf
  └── demo/
    └── demo_video.mp4 (or link)
  └── .gitignore
└── README.md
```

## Technical Requirements

### MVC Architecture

**Model** - Entity classes (POJOs):

- `User.java, Student.java, Lecturer.java, Course.java, Department.java, Degree.java, Enrollment.java`

**View** - Swing GUI components:

- `LoginView.java, StudentDashboardView.java, AdminDashboardView.java`, and management views for each entity

**Controller** - Business logic handlers:

- `LoginController.java, StudentController.java, AdminController.java`, etc.

**DAO** - Database operations:

- `UserDAO.java, StudentDAO.java, LecturerDAO.java`, etc., with full CRUD operations

*\*Class names are only for reference; there can be additional classes*

## Features

### Authentication

- Log in with username/password
- Role-based access: **Admin, Student, Lecturer**

### Student Module

- View/edit profile (name, ID, degree, email, mobile)
- View timetable
- View enrolled courses with grades

### Admin Module (Full CRUD)

- **Students**: Add, view, edit, delete
- **Lecturers**: Add, view, edit, delete (with department and courses)
- **Courses**: Add, view, edit, delete (assign lecturers)
- **Departments**: Add, view, edit, delete (HOD, staff count)
- **Degrees**: Add, view, edit, delete (link to departments)

## Deliverables

### GitHub Repository Must Include:

- Complete source code
- Database SQL files (`schema.sql`, `sample_data.sql`)
- `FMS-GroupXX.pdf` detailing each member's work along with their student numbers
- Demo video

### Demo Video Must Include:

1. Database demonstration - show tables and relationships
2. Feature walkthrough:
  - o Log in as different roles
  - o Student: profile, timetable, courses
  - o Admin: CRUD operations on all entities
3. Code walkthrough
4. GitHub repository tour - show commits

## Submission Guidelines

- Submit documentation as a PDF `FMS-GroupXX.pdf`
  - **Include:** GitHub org URL, repository URL, team members, demo video link
  - **Make the repository public** or add me([KesavanSelvarajah](#)) as a collaborator
  - **Deadline:** 10/01/2026

The FMS application visualization is shown in the following video for your reference. It can differ from the actual application, but the functionalities should remain the same.

<https://youtu.be/VSIHZzsqMX0>

Good luck with your assignment! Remember to start early and test frequently.