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Course Registration System

Welcome to the Course Registration System.This application is designed to help manage student records, course enrollments, and administrative functions in an educational environment. The system provides an easy-to-use interface for students and administrators to handle various tasks efficiently.

Assumptions Made

Admin Authentication: The admin password (admin123) is hardcord for demonstration purposes.

Automatic Enrollment: When a student signs up, they are automatically enrolled in some first-semester courses. The system assumes these courses are available and suitable for new students.

OOP Concepts Applied

1. Encapsulation

Classes like Student and Admin encapsulate their data (like email, name, and password) and expose it through public methods (e.g., getEmail(), validatePassword()).
This ensures that data is accessed and modified in a controlled manner, enhancing security and maintainability.

2. Inheritance

Both Student and Admin classes inherit from the Person class,gaining access to common attributes and methods while adding their specific functionalities.
This setup reduces code duplication and establishes a clear hierarchy between different user roles.

3. Polymorphism

The User interface defines methods like signUp and login that are implemented differently in Student and Admin classes.
This allows the system to handle various user actions appropriately depending on whether the user is a student or an admin.

4. Abstraction

Classes such as Course, Complaint, and Grade abstract the internal workings of managing course data, complaints, and grades.

Users interact with these objects through simple methods, without needing to understand their internal complexity.
How to Use

How the code/Application will Run:

To start the system, run the Main class. This will launch the application and present you with options to access student or admin functionalities.

For Students:
Sign Up: Register your account to get started. You will be automatically enrolled in some courses for the first semester.
Login: Use your credentials to access your student dashboard.

Features:
View Available Courses: Check the list of courses available for your current semester.
Register for a Course: Enrol in courses based on availability and prerequisites.
Track Academic Progress: View your grades and calculate your SGPA and CGPA.
Drop a Course: Remove courses you no longer wish to take.
Submit a Complaint: Report any issues or feedback to the administration.

For Admins:
Login: Access the admin dashboard using the fixed password.

Features:
Manage Course Catalog: Add, remove, or view courses and manage course details.
Manage Student Records: View and manage student information.
Assign Professors to Courses: Assign professors to specific courses.
Handle Complaints: Review and resolve complaints submitted by students.
Update Semester Courses: Refresh the list of courses available for a specific semester.

For Professors:
Login: Access the professor dashboard using the credentials provided.

Features:
View Assigned Courses: See the list of courses assigned to you.
Submit Grades: Enter grades for students in your courses.
Manage Timetable: View and update your schedule for the semester.
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