

# Course Management System

The objective of this project is to create a simple Course Management System that allows management of courses, teachers, and students within a university or educational institution.

## Classes and Responsibilities:

1. **Person Class:**
  - Represents a generic person with basic attributes like ID, name, and department.
  - Used as a base class for both students and teachers.
2. **Student Class:**
  - Inherits from Person.
  - Includes additional attributes specific to students such as batch.
  - Has a method to display student information.
3. **Teacher Class:**
  - Inherits from Person.
  - Includes additional attributes specific to teachers such as initial (initials of their name) and basic salary.
  - Calculates and displays teacher's salary based on a predefined formula.
  - Overrides the show method to include salary details.
4. **Course Class:**
  - Represents a course with attributes like course code, title, and credit hours.
  - Has methods to get course details and display them.
5. **CourseOffer Class:**
  - Represents an offering of a course in a specific semester, taught by a specific teacher.
  - Stores information about the semester, the course being offered, and the teacher assigned.
  - Includes a method to display semester-wise course and teacher information.
6. **PartTimeTeacher Class:**
  - Inherits from Teacher.
  - Represents a part-time teacher with a basic salary.
  - Includes methods to calculate salary, accounting for any additional allowances.
7. **PSTCCMain Class:**
  - Contains the main method to run the application.
  - Demonstrates the usage of the classes by creating instances of students, teachers, courses, and course offerings.
  - Displays information using the show methods defined in each class.

## Usage:

- **Students:** Instances of Student class represent students enrolled in the courses.
- **Teachers:** Instances of Teacher (and PartTimeTeacher) class represent instructors teaching the courses.

- **Courses:** Instances of Course class represent individual courses offered by the institution.
- **Course Offers:** Instances of CourseOffer class represent specific instances of courses being offered in particular semesters, taught by specific teachers.

**Features:**

- **Basic Information Display:** Each class has a method to display its specific information.
- **Salary Calculation:** Teachers' salaries are calculated based on predefined formulas, demonstrating inheritance and method overriding.
- **Composition:** CourseOffer class demonstrates composition by storing instances of Course and Teacher classes.