Case Study: Student Management System

You are tasked with developing a Student Academic Information System using CodeIgniter 4 framework. This system will manage student data, course management, enrollment processes, and grade tracking. The main focus of implementation is on form validation (client-side using Pristine.js and server-side using CI4 model validation), searching, filtering, sorting, and pagination of student data. Modify Assignment 4 to complete the tasks.

Required Features

1. Student Data Management

- Create, read, update, and delete student data (CRUD)
- Implementation validation:
    - Client-side
        - Implement Pristine.js for client-side form validation
        - Display clear and informative error messages
    - Server-side
        - Use CI4 model validation features
        - Student ID validation (must be unique)
        - Semester minimum 1 and maximum 14
        - GPA (0-4.00)
        - Academic status: active, on leave, graduated
- Implement search functionality for all columns (except timestamp)
- Filter data using dropdowns for column: study_program, academic_status, entry_year
- Implement data sorting (asc/desc) for student_id and current_semester by clicking table headers
- Pagination with user-friendly page numbering display

2. Course Management

- CRUD for course data
- Implement search functionality for all columns (except timestamp)
- Filter data using dropdowns for column: credits and semester
- Implement data sorting (asc/desc) for code and name by clicking table headers
- Pagination with user-friendly page numbering displays

Evaluation Criteria

1. Feature completeness

2. Form validation implementation
3. Search, filter, sort, and pagination implementation
4. Code structure and quality
5. UI/UX design