

# Exercise: Extend the Spring Boot Application

## Client Request

### Context

You are provided with a Spring Boot application that currently manages:

- **Students**
- **Subjects**

Each Student can have multiple Subjects.

### Current Missing Features

- No search functionality for students by name.
- No way to delete or update students or subjects.
- No management of classrooms.

### Requirements

#### 1. Search Student by Name

- Implement an endpoint to search for students by their full name or partial name.

#### 2. Delete Students and Subjects

- Implement an endpoint to delete a specific student by ID.
- Implement an endpoint to delete a specific subject by ID.

#### 3. Update Subject and Recalculate Student Average

- When updating a subject's grade for a student, automatically recalculate the student's average grade.

### Notes

- Using **git** is a HUGE bonus
- Handle errors properly (e.g., trying to delete a non-existing student should throw an exception).
- Return clean and structured JSON responses.
- Update your database models accordingly using JPA IF needed.

### Source project

**FORK** it before **CLONING** it, or just download it: <https://github.com/iyZAIRI/first-spring-application>

**Good Luck!**