Advanced JAVA 2022 Project Specification

CourseGradingProject

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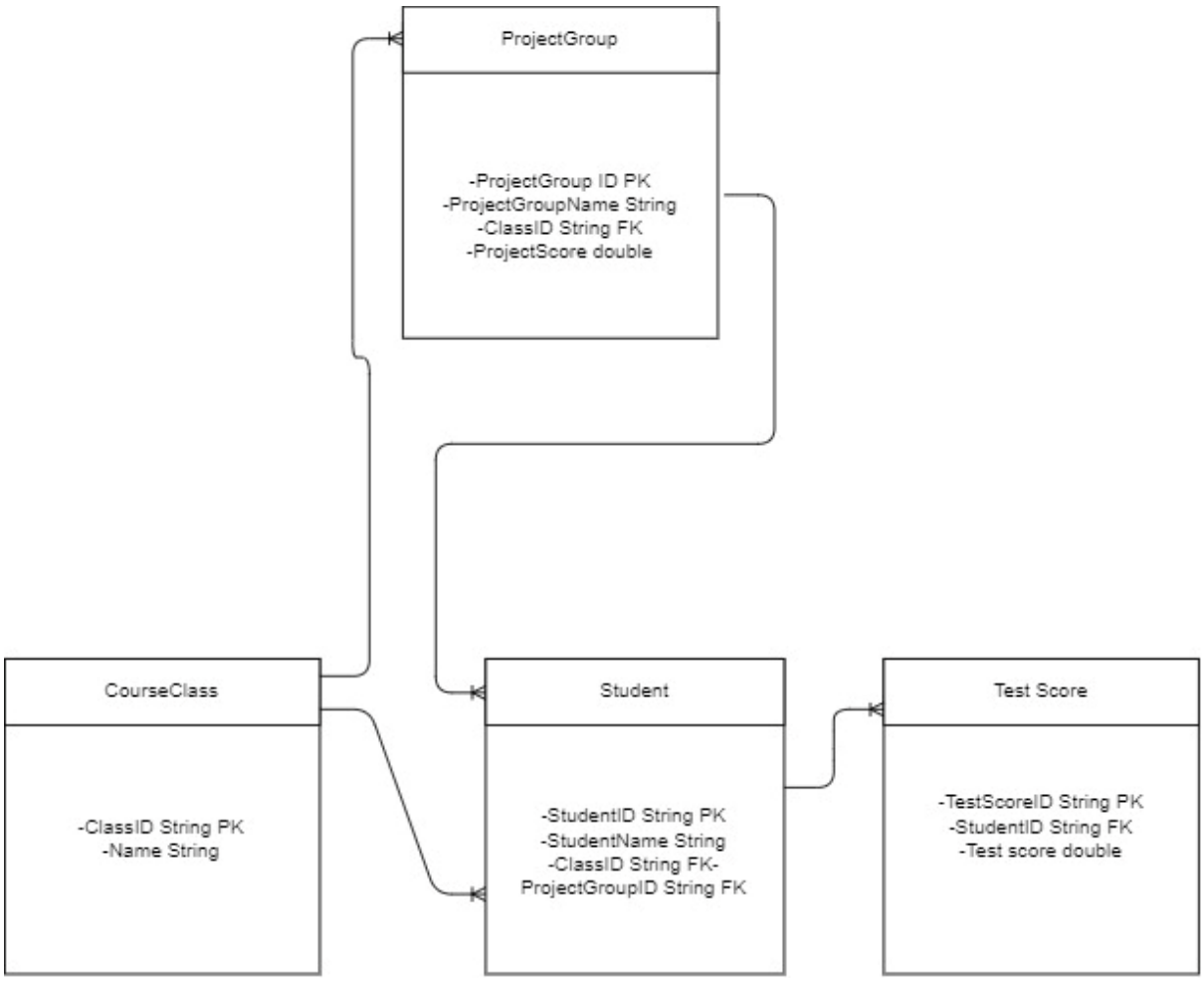
In my project I will develop a program which can be used as a grading system for a university course. It can be used for multiple classes (for example. on Analysis 1 we had that case, that we had the same course, the same teacher, in the same semester, but we were divided into different class groups). My project will be capable of handling the student's scores during the semester. In the semester students must write a little test in the beginning of every lab. The students in every class must form projectGroups from 2-3 people. During the semester they have to create a project and every project will have one final score (every student got the same amount of score for it). During the semester, Students will be able to list their scores by they unique ID. There will be another kind of user, the Teacher. He/she will be able to add/modify new Classes, new Students. Based on the feedback of the projectGroup demands of the students, he/she will be able to create/modify the projectGroups.

I will have 4 tables:



These are the following:
CourseClass: will have a name, like group 01_2022, And a unique ID

Student: will have a unique ID, a name, a CourseClass as a foreign key, and a ProjectGroup as a foreign key

TestScore: Unique ID, double score and a student as a foreign key

ProjectGroup: Unique ID, name, CourseClass as a foreign key, and ProjectScore.

The relations between them:

CourseClass – Student: Every class can have multiple students, but a student can only have one class -> 1-many

CourseClass – ProjectGroup: Every class can have multiple ProjectGroup, but a ProjectGroup only CourseClass 1 Class -> 1-many

ProjectGroup – Student: Every ProjectGroup can have multiple students, but a Student can only have one ProjectGroup -> 1-many

Student – TestScore : Every Student can have multiple TestScores, but a TestScore only belongs to 1 Student one -> 1-many

2 roles, student, teacher.

Student endpoints:

1. GET all his/her scores as json, and in pdf.
   GET students/{StudentID}
2. GET the score of his ProjectGroup.
   GET/projectgroups/{projectGroupId}

Teacher endpoints:

1. POST new class
   POST/class – (maybe won't be developed, due to time constraints)
   `{ "Name": "01_2022}`
2. POST new student
   POST/students – (maybe won't be developed, due to time constraints)
   `{ "Name": "John Doe", "ClassID": "01_2022," ProjectGroup ":"null" }`
3. POST new ProjectGroup
   POST/ projectgroups
   `{ "Name": "group222", "ClassID": "01_2022," ProjectScore ":"0" }`

4. PUT student (change its name, classID or projectGroup)
   PUT /students/{StudentID}
   `{ "Name": "John Doe", "ClassID": "01_2022," ProjectGroup ":" group222"}`

5. PUT ProjectGroup , rename it, change the classID, or the project score
   PUT/ projectgroups/11 (maybe wont be developed, due to time constraints)
   ```
   { "Name": "group222", "ClassID": "01_2022," ProjectScore ":"41" }
   ```

6. GET all the classes :
   GET/classes

7. GET all the students: with sort and and limit
   GET/students

8. POST new score for student
   POST/students/{studentID}/testscores/
   ```
   { "StudentID": "12", "TestScore": "10.0"}
   ```

9. PUT score for student (change the value of the score)
   PUT/students/{studentID}/testscores/{TestScoreID}
   ```
   { "StudentID": "12", TestScoreID ":"8" ,"TestScore": "10.0"}
   ```

10. DELETE a student
    DELETE/students/{studentID}