



Data Structure: Students and Their Courses

JS - Recap

The following exercise contains the following subjects:

- Everything we have learned
- JS

Questions

- **List All Students:** Create a function `listStudents()` that displays the names of all students.
- **Find Students by Course:** Create a function `studentsInCourse(courseCode)` that lists all students enrolled in a specific course.
- **Average Grade for a Student:** Create a function `averageGrade(studentId, courseCode)` that calculates the average grade of a specific student in a specific course.
- **Add a New Course for a Student:** Create a function `addCourse(studentId, courseCode, courseName)` that adds a new course (without grades) for a specific student.
- **Add a Grade to a Course:** Create a function `addGrade(studentId, courseCode, grade)` that adds a grade to a specific course of a specific student..
- **Remove a Student:** Create a function `removeStudent(studentId)` that removes a student using their ID.
- **Find All Students Older Than:** Create a function `studentsOlderThan(age)` that lists all students older than a specified age.

- **Students Taking More Than X Courses:** Create a function `studentsWithMoreCourses(courseCount)` that lists students taking more than a given number of courses.
- **Average Grade of All Students in a Specific Course:** Create a function `averageGradeInCourse(courseCode)` that calculates the average grade of all students in a specific course.
- **Find Students with No Failed Courses:** Create a function `studentsWithNoFails()` that lists students who have no grades below 70 in any of their courses.
- **Add a Grade to a Specific Course for Multiple Students:**
Create a function `addGradeToMultipleStudents(studentIds, courseCode, grade)` that adds the same grade to a specific course for multiple students.
- **Sort Students by Name:** Create a function `sortStudentsByName()` that displays all students sorted alphabetically by their name.
- **List Courses Taken by Less Than X Students:** Create a function `lessPopularCourses(studentCount)` that lists all courses taken by fewer than a given number of students.
- **Bonus Challenges:**
 - Find the student with the highest average across all their courses.
 - List all courses that have an average grade below 70.
 - Find students who are taking both "Introduction to Programming" and "Advanced Programming".
- **Tips:**
 - **Make use of array methods like `push()`, `find()`, `findIndex()`, `filter()`, `some()`, `reduce()`, `map()` .**