

Project Task: Student Grading System

Project Description:

You are tasked to create a **Student Grading System** for a school. The system should be able to store student information, calculate their average grades, and save the data to a file.

Additionally, the program should handle exceptions gracefully and use inheritance to represent different types of students.

Requirements

1. Class Structure (Inheritance)

- **Base Class:** Student
 - Attributes: name, studentID, grades (array or list of integers)
 - Methods:
 - calculateAverage() – calculates the average grade
 - displayInfo() – displays student info and average grade
- **Derived Classes:**
 - HighSchoolStudent – may include extra attributes like yearLevel
 - CollegeStudent – may include extra attributes like course
- The derived classes should **inherit** from the Student class and override displayInfo() to include their specific details.

2. Exception Handling

- Handle the following exceptions:
 - **InvalidGradeException** – If a grade entered is not within 0–100.
 - **FileNotFoundException** – When trying to read/write the student data file.
 - **NumberFormatException** – If non-numeric input is entered where a number is expected.
- The program should **prompt the user again** in case of invalid input instead of crashing.

3. File Handling

- The program should **save student data** to a text file (students.txt) including:
 - Student name, ID, type (High School/College), and grades
- It should also **load student data** from the file at startup.
- Use FileReader/FileWriter or BufferedReader/BufferedWriter.

4. Program Functionalities

- Menu-driven interface with options:
 1. Add new student (High School or College)
 2. View all students
 3. Search student by ID
 4. Save data to file
 5. Load data from file
 6. Exit
- When adding grades, the program should **validate input** using exception handling.

5. Bonus Features (Optional)

- Sort students by average grade.
- Save a **report file** with top 3 students.
- Allow editing student info or grades.

6. Submit you Project Folder to : FINAL 3rd QTR SAVEPOINT.zip