#### Problem Statement

Write a Java program to perform the following tasks:

# 1. Input Student Records:

- Input the number of students, n.
- For each student, input the following details:
  - id (an integer): Unique identifier for the student.
  - name (a string): Name of the student.
  - cgpa (a floating-point number): CGPA (Cumulative Grade Point Average) of the student.

### 2. Sort Students:

- Sort the students based on the following criteria:
  - **First**, by CGPA in descending order.
  - **Second**, if CGPA is the same, by name in alphabetical order.

## 3. Output Sorted Records:

• Display the sorted list of students on the console.

#### 4. Save Records to a File:

 Write the sorted student records to a text file named students.txt, where each line contains the id, name, and cgpa of a student, separated by commas.

## 5. Read Records from the File:

• Read the student records back from the file students.txt and store them in a new list.

## 6. Display Records from the File:

• Display the records read from the file on the console.

# **Example Input**

Enter the number of students: 3 Enter student details (id name cgpa): 1 Alice 3.85 2 Bob 3.90 3 Carol 3.85

#### **Example Output**

Sorted Students: 2,Bob,3.9 1,Alice,3.85 3,Carol,3.85

Students read from file:

2,Bob,3.9 1,Alice,3.85 3,Carol,3.85

# Functional Requirements

- 1. Use a class Student with appropriate attributes and a compareTo method for sorting.
- 2. Save and retrieve student records using file I/O.
- 3. Handle input and output gracefully, ensuring proper formatting and error handling.

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