Machine Problem 2

Comparable Interface

Listed next is the skeleton for a class named Student. Each student has a name, a unique ID number and a GPA:

private int studentID;

private String name;

private double gpa;

- Flesh out the class with appropriate constructors, accessors(getters), and mutators(setters). The studentIDs should be automatically generated every time when a student is constructed. (hint: use a static variable to track the current max studentID)
- Next, modify the class so that it implements the Comparable interface. The compareTo() method should compare the studentID's; e.g., the student with ID 5 is less than the student with ID 10.
- Review "how to sort an array" which was covered in CPS 161. Create a MySelectionSort class that contains a **generic** static method to sort an array.
- Test your class by creating an array of sample students and sort them using the sort method you defined from the last step.
- Comment out the compareTo method, re-write it to use student's name to compare instead.
- Don't use Collections.sort, yet. We will cover that in later modules.