COMP1161 – Introduction to Object-Oriented Programming
Lab 9 – Static Variables and Methods

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1. Create an abstract class – "Student" with instance variables: student name, id, average grade and GPA. It should define:
    a. the Constructor that takes in as parameter data for all attributes except GPA which is set to 0.0.
    b. the toString method
    c. a class method called "getHighestGrade" that uses the class variable "highestGrade"
    d. a mutator method for average grade. NB: This can also affect the highest grade.

    It has an abstract method called "calculateGPA" returns the GPA equivalent of the student's grade.

2. Create a class called "UniversityStudent" that extends Student class with instance variable: faculty.
    a. Write an appropriate constructor to set up the instance variables.
    b. Define calculateGPA method based on the following criteria:

Letter Grade	Grade Point	Percentage
A	4.0	94 - 100%
A-	3.7	90 - 93%
B+	3.3	87 - 89%
B	3.0	83 - 86%
B-	2.7	80 - 83%
C+	2.3	77 - 79%
C	2.0	73 - 76%
C-	1.7	70 - 72%
D+	1.3	67 - 79%
D	1.0	60 - 66%
F	0.0	0 - 59%

    c. Override the toString() of the parent class.

3. Create a driver class "Application" to:
    a. Declare ArrayList of university students.
    b. Add 4 students to the list and update the highest grade upon creation of each student.
    c. Change one student's grade.
    d. Output all students information as well as the highest grade overall.