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Rochester Institute of Technology
Golisano College of Computing and Information Sciences
Department of Information Sciences & Technology
ISTE-200 Java for Programmers

Name: _____

Practice Exercise 03a

Accessors / Mutators & ArrayList

Accessors/Mutators:

Create a simple **Student** class. This class will contain information about a student as private attributes. Keep the following information for each student: Name, Major, GPA, Student ID.

Your class should have a constructor that will set each of the attributes based on values passed over as arguments.

Provide accessors for each attribute. Provide mutators for major and GPA. (Why do you not want mutators for name or student number?

Because they are unique identifiers and should not ordinary change

In the Student class, create a toString() method that returns a String of all the student information formatted and ready for printing by TestStudent.

Now, create a **TestStudent** class. This class will create four **Student** objects with the following values. You may hard-code the constructor values to create the objects, vs. using Scanner input.

Name	Major	GPA	Student Number
Jay Can	CS	4.00	1123
Ed Holdum	SE	3.45	3256
Mike Floatsman	IST	3.53	7765
<your name>	<your major>	<any gpa>	<any id number>

Now try to directly change an attribute by referencing it by name:
Student student1 = new Student(…..);
student1.gpa = 3.66;

Why did you get this error?

Because they are private attributes and thus need setters

Remove the code in TestStudent that caused the error.
As part of TestStudent, make the following changes using mutators and accessors:
- Change Jay Can's major to be IST.
- Add 0.1 to Ed Holdum's GPA. Using the mutator alone is incorrect.

Place each object into an ArrayList.
Using the for-each loop, print all the object's information **implicitly** using toString. What happened to the GPA?   Multiple decimal places -- unformatted

Print GPA to 2 decimal places.

Instructor/TA: _____