CSE 142 - Su 02
Homework 5
Assigned: Wednesday, July 31
Due: Wednesday, August 7, BEFORE MIDNIGHT

** General Comments about the Homework **

All homework is turned in electronically. Go to the class web site and use the link on the homework page to do the turnin. Don't be late! Late homeworks will not be accepted.

This file describes the Homework 5 Practice Problems. There are other files that describe the graded problems and the programming project.

** Homework 5 Practice Problems **

1. In questions 4 and 5 of the graded section, we described an interface called GeometricFigure and wrote a class called MyCircle that implements that interface.

Using the same GeometricFigure interface, write a class called MyRectangle that implements GeometricFigure.

Include the following in your implementation:

Write a MyRectangle constructor that takes 2 arguments, both doubles, that sets the width and height of the rectangle to those values.

Write the methods required by the GeometricFigure interface. The area of the rectangle is width * height.

Write one additional public method:

getPerimeter, which takes no arguments and returns a double, which is the total length around the rectangle. Remember that the perimeter of a rectangle is 2*width + 2*height.

Be sure to include appropriate javadoc comments in your code.

2. Since every square is just a rectangle whose width and height are equal, you've decided to implement the class MySquare as a subclass of MyRectangle. You don't need to implement any additional methods, but you need to define a constructor that takes one argument--a double representing the length of each side of the square. Use "super" to call the constructor for MyRectangle, supplying it with the proper values.

Be sure to include appropriate javadoc comments in your code.

3. Consider the output generated by the Metro program. It prints out the Vehicle ID number for each bus, and that's it. The reason is that the only one of TransitBus, Located Vehicle, and Vehicle that defines a toString() method is Vehicle. Vehicle doesn't know much, and so it can't supply much information.

a. Implement a toString() method in LocatedVehicle that adds a little information about the Location. Note that there is a toString() method for Location that you can access with something like location.toString ().

b. Implement a toString() method in TransitBus that adds a little information about the route.

In both of the above toString() methods, you can use super.toString() to get the String  that the parent class knows how to construct if you would like to include that in the String value returned from your toString method.