Worksheet: Writing Classes and Inheritance 1

1. Respond to the following in complete sentences.

   a) Define *encapsulation.*

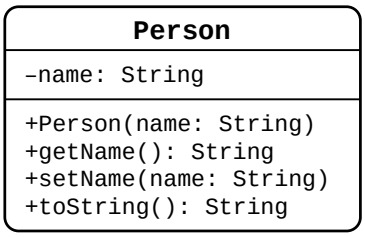
   b) What is the purpose of a *constructor*?

   c) What is the purpose of making fields private?

   d) What is the purpose of *accessor* methods?

   e) What is the purpose of *mutator* methods?

2. Consider the UML diagram to the right.



   a) Implement the Person class according to the diagram.

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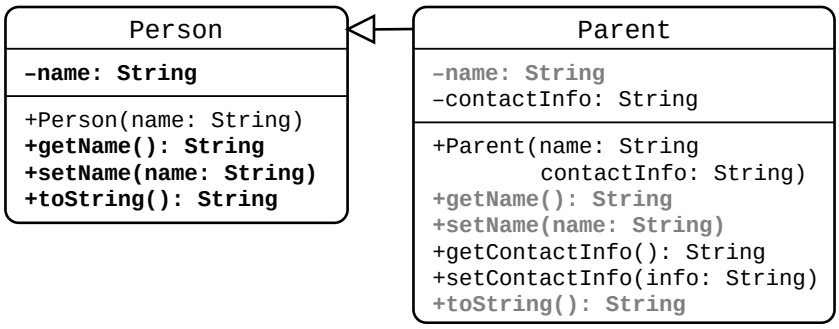
b) Write a Java statement that will declare a variable of type `Person`, and initialize that variable to reference an instance of `Person` with the value for `name` set to your English name.

c) Write a Java statement that will print to the console a `String` representation of the object you defined in part (b).

3. Implement code in this question according to the UML diagram to the right.



The grey font in the `Parent` class shows the fields and methods that are inherited by the `Parent` class. This means the code for these will be in the `Person` class, and NOT in the `Parent` class.

a) Write the code that declares all the fields that should be declared in the `Parent` class.

b) Write the constructor for the `Parent` class. Ensure all fields are initialized.
Hint: there is no zero-parameter constructor in the `Person` class.

c) Write a Java statement that will declare a variable of type `Person`, and initialize that variable to reference an instance of the `Parent` class, with the value for `name` set to your English name and the value of `contactInfo` to a `String` formatted as a valid email address.

d) Write a Java statement that will print to the console a `String` representation of the object you defined in part (b).