

Assignment on Inheritance

Inheritance

Exercise-1:

Create a class Dog, that has 3 properties (class fields) breed, age and colour with behaviours (class method) bark and sleep.

Exercise-2:

There is a car, which has attributes model and price, and the car has functionalities start, stop and move. Also, there is a driver, having attributes name and age, and the behaviour drive.

Model the classes Car and Driver. You need to take care of the accessibility of the attributes from outside the class for the best design.

Exercise-3:

A class called circle is designed as shown in the following class diagram. It contains:

- Two private instance variables: radius (of type double) and color (of type String), with default value of 1.0 and "red", respectively.
- Two overloaded constructors;
- Two public methods: getRadius() and getArea().

| Circle |
|---|
| <pre>-radius:double = 1.0 -color:String = "red"</pre> |
| <pre>+Circle() +Circle(radius:double) +getRadius():double +getArea():double</pre> |

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Exercise-4:

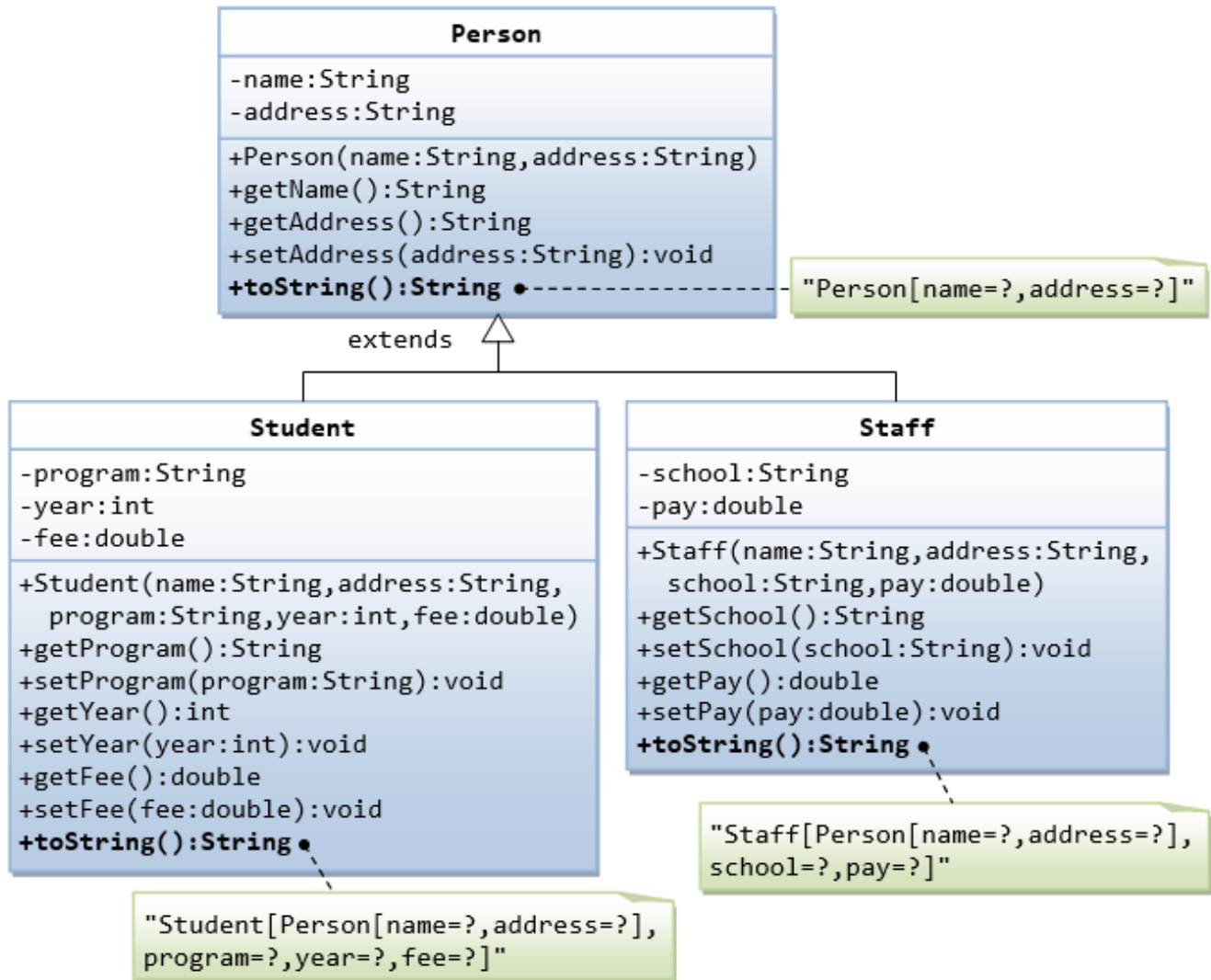
Create class Account to provide a method called debit() that withdraws money from an Account. Ensure that the debit amount does not exceed the Account's balance. If it does, the balance should be left unchanged and the method should print a message indicating —Debit amount exceeded account balance. Modify class AccountTest (in the example) to test method debit.

Exercise-5:

Create a class called Employee that includes three pieces of information as instance variables—a first name (type String), a last name (type String) and a monthly salary (double). Your class should have a constructor that initializes the three instance variables. Provide a set and a get method for each instance variable. If the monthly salary is not positive, set it to 0.0. Write a test application named EmployeeTest that demonstrates class Employee's capabilities. Create two Employee objects and display each object's yearly salary. Then give each Employee a 10% raise and display each Employee's yearly salary again.

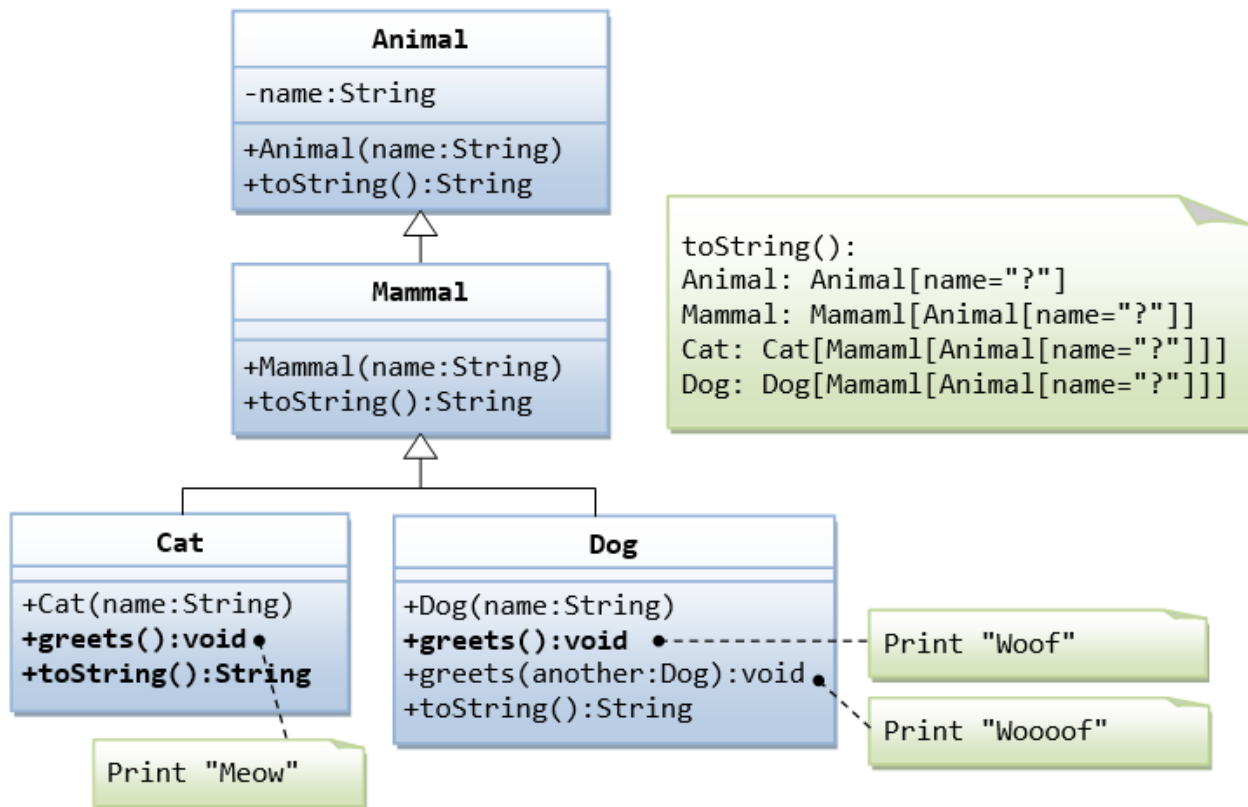
Exercise-6:

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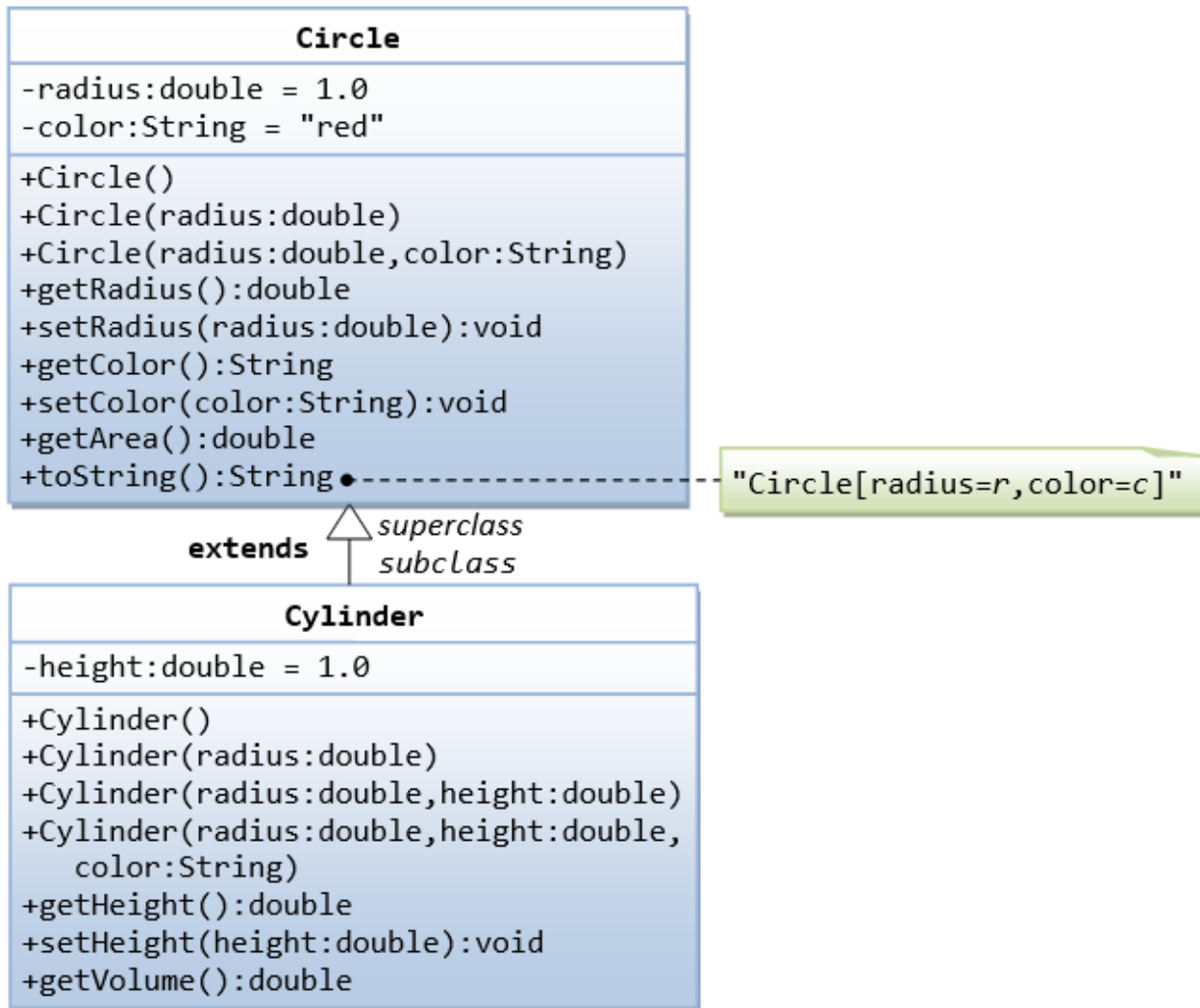
Exercise-7:

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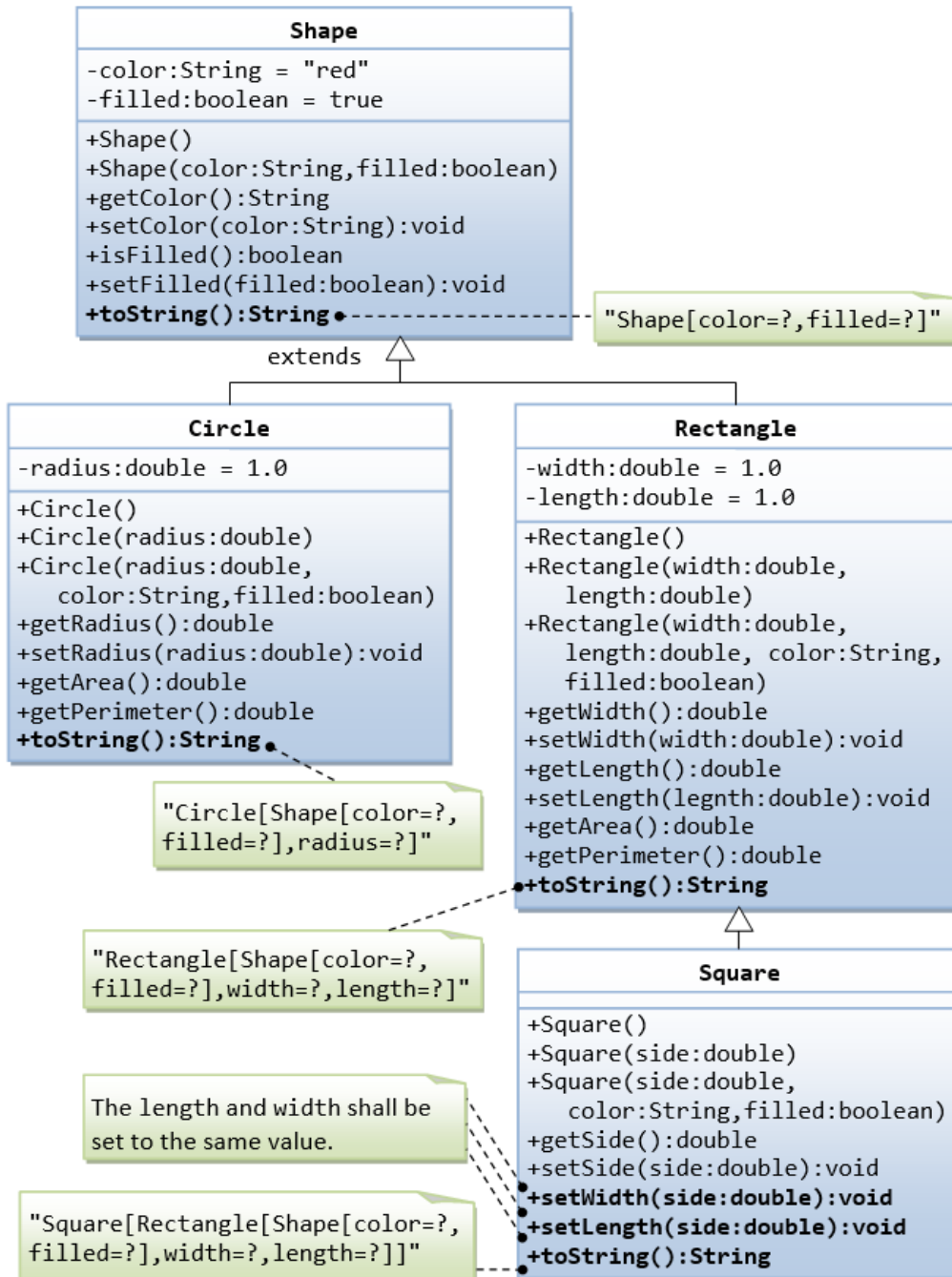
Exercise-8:

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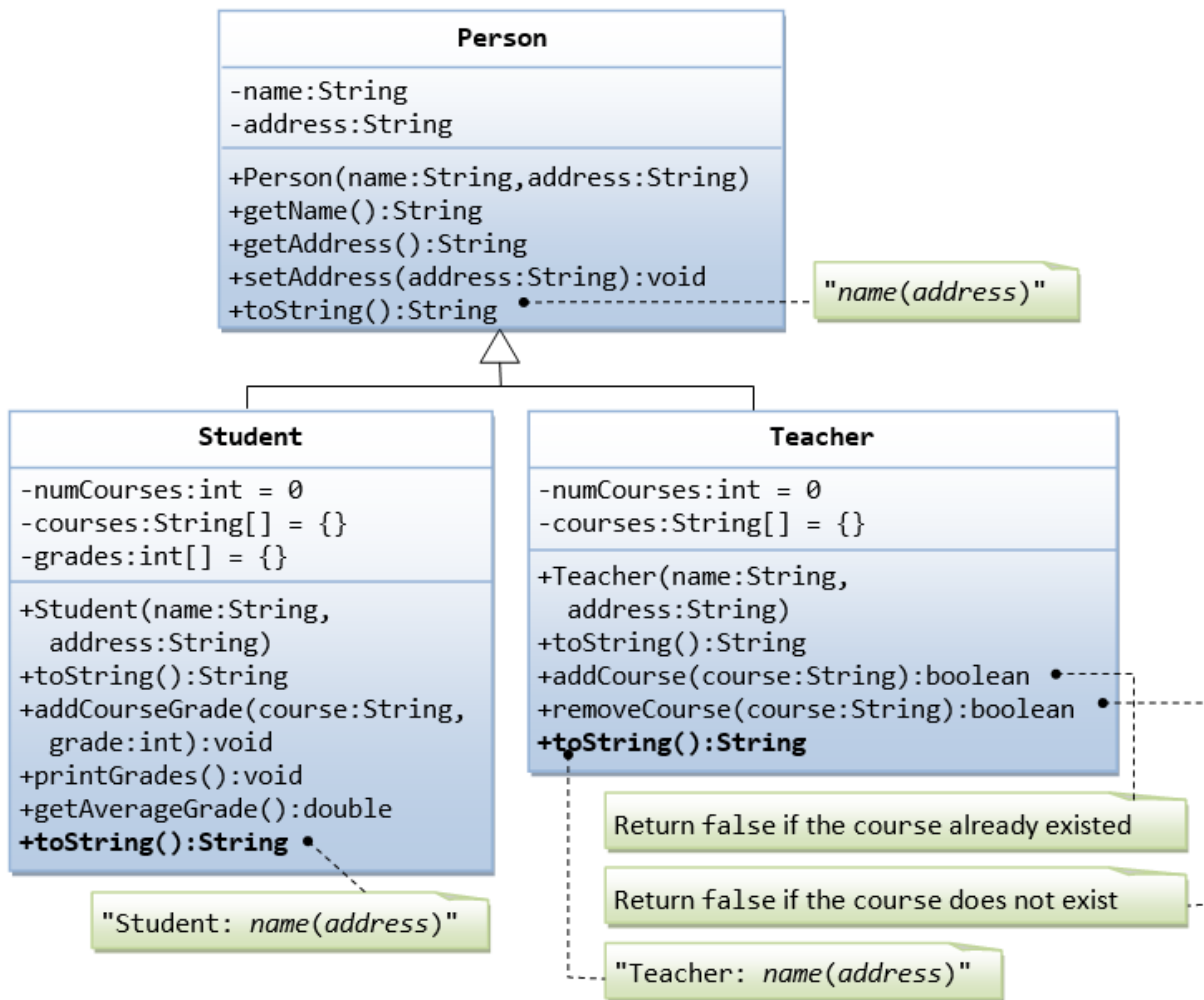
Exercise-9:

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Exercise-10:

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