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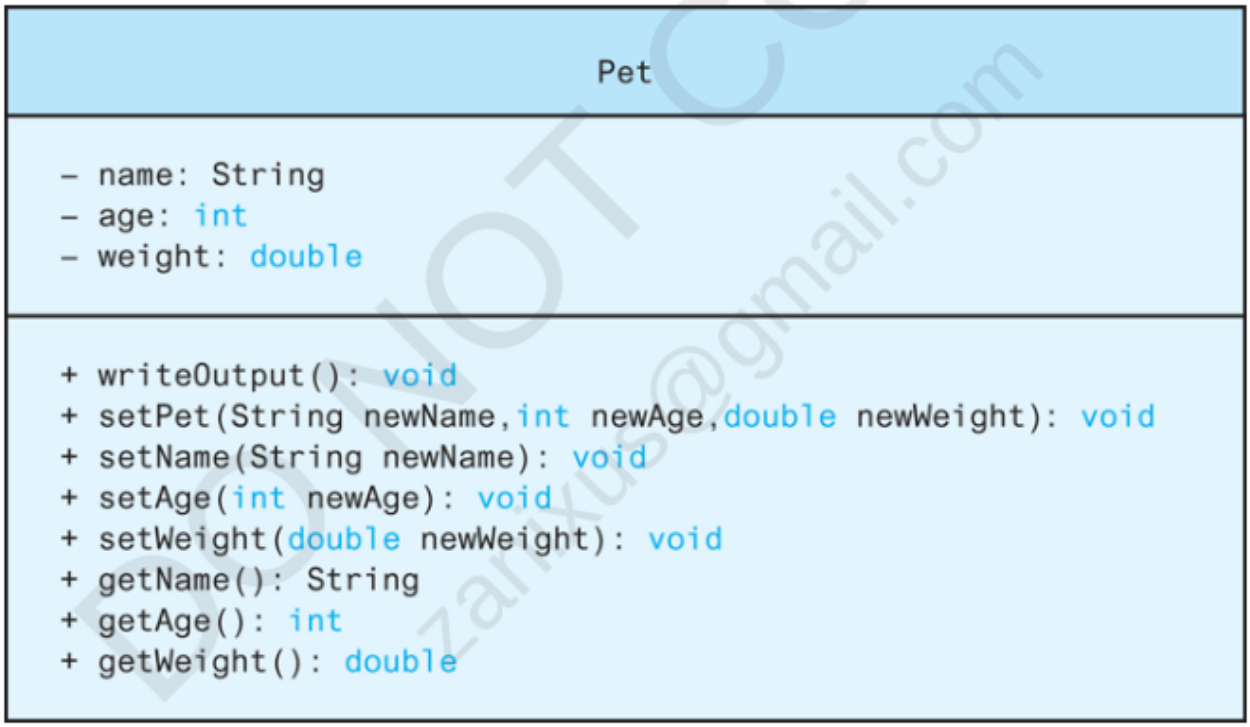
Let's consider a simple class to represent our pets. Suppose that we describe a pet by its name, its age, and its weight. We could give basic behaviors to a pet object that simply set or get these three attributes. Now imagine that we draw a class diagram like the one in **Figure 6.1** for a class named `Pet`. Notice the four methods that set different instance variables. One sets all three of the instance variables `name, age`, and `weight`. The other three methods set only one instance variable each. This class diagram does not include constructors, as is typical.

> A class diagram does not include constructors

Figure 6.1 Class Diagram for a Class Pet



One property of constructors that may seem strange at first is that each constructor has the same name as its class. So if the class is named `Species`, its constructors are named `Species`. If the class is named `Pet`, the constructors are named `Pet`.

Constructors often have multiple definitions, each with different numbers or types of parameters, and they sometimes parallel a class's set methods. As an example, **Listing 6.1** contains a definition of our class `Pet` that includes several constructors. Note that the headings of these constructors do not have the word `void`. When you define a constructor, you do not specify any return type, not even `void`.

These constructors look very much like our set methods, which are overloaded.

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fact, we have grouped each constructor with its similar set method, just for this example. Unlike some of the set methods, however, the constructors give values to *all* the instance variables, even though they might not have a parameter for each instance variable. If you do not initialize a particular instance variable, Java will do so by giving it a default value. However, it is normal programming practice to explicitly give values to all the instance variables when defining a constructor.

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