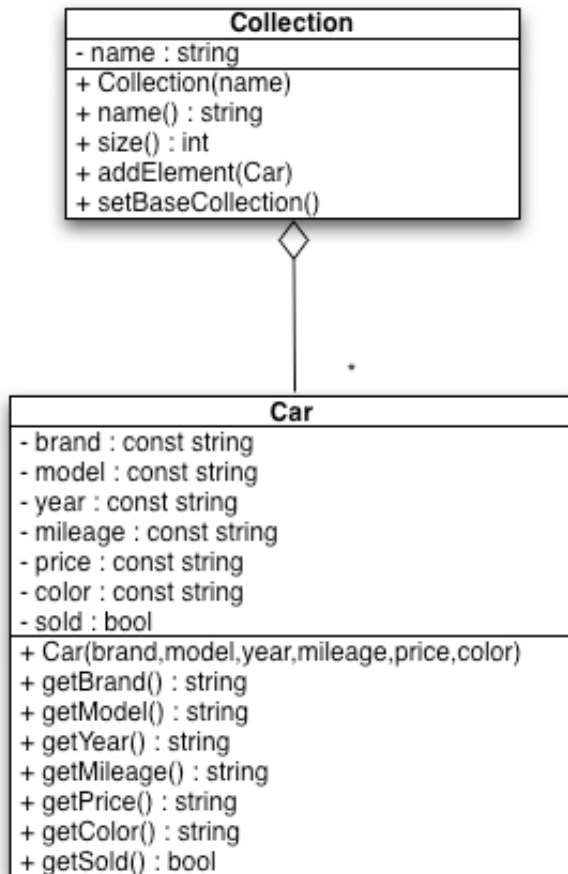


Question #3

Part A

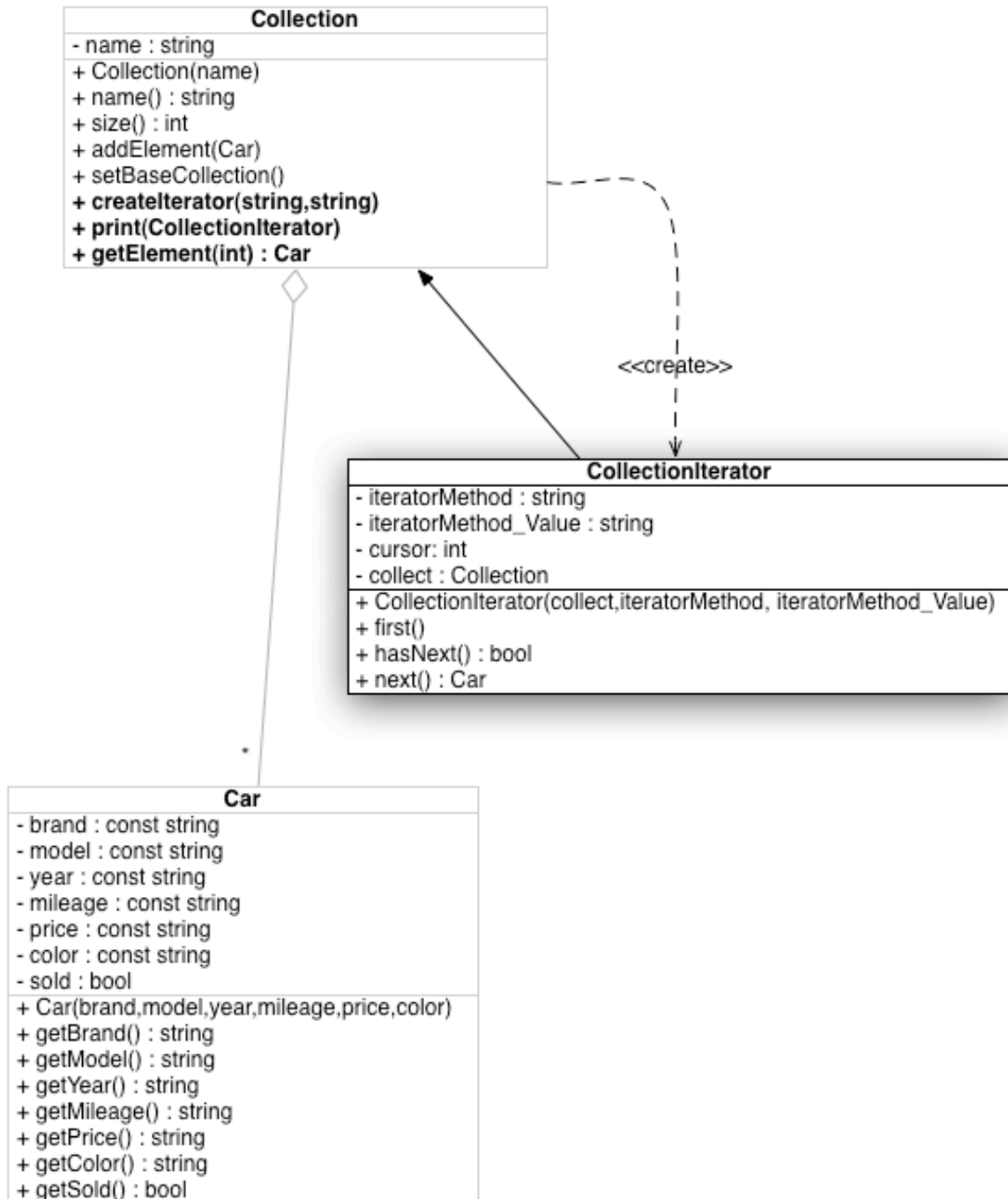
For this question, our problem is related to a car collection. The situation is simple: we want to be able to iterate through our collection of cars. The implemented collection can simply add some cars for the moment, that is it. The program already implements a basic collection for demonstration. The collection

keeps track of the brand, model, color, year, mileage, price and availability of each car. We would like to be able to iterate through the collection in terms of: brand, mileage, price, year and the whole collection. We will therefore use the **iterator pattern** to solve our problem. Here is the UML diagram of the current situation.



Part B

The following is the UML with the added iterator pattern. Please note that the new elements are in bold/shadow, and the old ones have less borders and no shadow.



So we will be passing to the iterator what we specifically want to iterate over. The collection will be responsible for creating the iterator. Some of the options will be for example, iterate over the whole collection, iterate over only a brand and many more.