PROGRAMMING EXERCISES

1. Create an application class named **BillDemo** that instantiates objects of two classes named `Bill` and `OverdueBill`, and that demonstrates all their methods. The `Bill` class includes auto-implemented properties for the name of the company or person to whom the bill is owed and for the amount due. Also, include a `ToString()` method that overrides the `Object` class's `ToString()` method and returns a string that contains the name of the class (using `GetType()`) and the `Bill`'s data field values. Create a child class named `OverdueBill` that includes an auto-implemented property that holds the number of days the bill is overdue.

2. a. Create an application named **BookDemo** that declares and demonstrates objects of the `Book` class and its descendents. The `Book` class includes auto-implemented properties for the International Standard Book Number (ISBN), title, author, and price. (An ISBN is a unique number assigned to each published book.) Create a child class named `TextBook` that includes a grade level and a `CoffeeTableBook` child class that contains no additional fields or properties. In the child classes, override the accessor that sets a `Book`'s price so that `TextBook`s must be priced between $20.00 and $80.00, inclusive, and `CoffeeTableBook`s must be priced between $35.00 and $100.00, inclusive. Be sure to use valid and invalid values when testing the child class properties.