In-Class lab

The goal of this lab is to practise internal and external method calls. In this lab you will re-use class **RetailItem.** Add the following methods to the class:

Provide an accessor method for each instance variable in class RetailItem

Create a new class called **CashRegister** to simulate the sale of a retail item. Declare this symbolicconstant at the top of your class

public static final double TAX\_RATE = 0.06;

Here are the relevant attributes of class CashRegister:

RetailItem item

int quantitySold

Provide a constructor. The constructor uses the appropriate mutator (set) methods to initialize the fields. The constructor takes two parameters to initialize the instance variables.

Provide an accessor and mutator for each instance variable. The mutator for the quantity sold validates the passed parameter and uses it only if it is positive and less or equal to the value of numberOfUnitsInStock field of the RetailItem object, otherwise the value of the field will remain unchanged.

The mutator for the RetailItem field validates the passed parameter. If the passed parameter was null a new RetailItem object will be created using the no-args constructor of the RetailItem class. If the passed parameter was not null it will be assigned to the instance variable.

Provide a method called calculateSubtotal(). This method calculates **and returns** the subtotal cost which is the quantity sold multiplied by the retail price of the item. This method gets the retail price from the retail Item.

Provide a method called calculateTax(). This method calculates **and returns** the tax amount of the sale. Tax is calculated by multiplying the subtotal by the tax rate. This method will invoke method calculateSubtotal() to calculate the tax

Provide a method called calculateTotal(). This method calculates **and returns** the total price which is the subtotal plus the sales tax.

Provide a method called printSalesReceipt(). This method calls the appropriate methods and displays the sales receipt which is printed in the following format:

**Item Description: Book**

**Unit price: $5.00**

**Quantity: 2**

**Subtotal: $10.00**

**Tax amount: 0.60**

**Total: $10.60**

Demonstrate your completed project to your instructor or TA before leaving the lab and be sure we have checked it off before you leave. A suggested solution will be given during the next class and labs that have not been checked off will not receive any points.