

Winter 2019 School of Technology Studies

Course Title: Computer Programming
C# Programming

Cash Register System

You are programming a cash register for a small donut shop. The menu is as follows:

Coffee \$ 1.25

Tea \$ 1.10

Donut 65¢

Muffin 95¢

Offer your cashier a menu of the 4 items, plus an option for the total. The cashier chooses an item, then enters the quantity when prompted. Check that the user has chosen a valid item, and that a valid integer quantity has been entered. A quantity of zero (0), will cancel the selection.

Calculate the cost of the item chosen (quantity x price) and keep a running total (total += cost). Use the following rules to apply a 13% Harmonized Sales Tax (HST) to items ordered:

- Each coffee and tea ordered is taxable.
- Exactly one dozen (12) donuts or muffins are tax-free; all other quantities of donuts are taxable. (To keep things simple, if the user orders 11 donuts or muffins then orders another one later, tax all 12 anyway).

The cashier can continue to enter other items and quantities, or can choose to end the order by selecting the Total menu choice. The running total for the entire order should be displayed after each choice.

After the user selects Total, the amount of money due should be displayed.

For example, 11 donuts @ 65¢ is \$7.15 + 93¢ HST, two coffees @ \$1.25 is \$2.50 + 33¢ HST, one tea @ \$1.10 is \$1.10 + 14¢ HST, 3 donuts @ 65¢ is \$1.95 + 25 HST, 12 muffins @ 95¢ is \$11.40 (no HST) equals a total bill of \$25.75.

Write and call three methods in your program:

1. **GetItemPrice**: given an item number, determine and return the unit price.
2. **CalcItemTax**: given an item number and quantity, compute and return the HST amount.
3. **DisplayMenu**: display a menu of available items plus the total choice, get a valid choice, and return an integer representing an item number, or zero to quit (for Total).

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Your program should provide at a minimum the following:

- Menu and checking for valid selection
- Input of valid quantity
- Display of running total and amount due

Solution: Donuts

Submitted by:

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