CS255 – Project 01 – Shopping Cart

Description and Overview

Write a program that simulates a shopping cart containing items to be purchased. The user will be asked to enter the shoppers name and date stamps the shopping cart.

The image below shows the initial entry and the menu options for the shopping cart.

```
**** Shopping Cart ****

Enter customer's name: John Smith

Customer Name: John Smith   Today's Date: 01/21/21

-- Online Shopping Menu --
     a - Add item to cart
     d - Remove item from cart
     c - Change item quantity
     p - Change item price
     o - Output shopping cart
     q - Quit
```

The user should then select an option from the menu. The program should verify that a correct menu option has been selected. Once this has been done, the program should process the selection.

Starter code has been provided for this project. Make sure you review this before starting to code.

The follow C++ files need to be created and/or modified.

- `ShoppingCartDriver.cpp`
  - File that contains the `main()` function
  - To Be Completed: Read comments in the starter code
- `Item.h`
  - Class declaration of items that are used in the shopping cart
  - Read comments included in this file to complete implementation of `Item.cpp`
  - Complete: Do not add any additional instance variables or member functions to this class
- `Item.cpp`
  - Class definition to be created based on `Item.h` class declaration
  - No starter code provided
- `ShoppingCart.h`
  - Class declaration of shopping cart
  - Read comments included in this file to complete implementation of `ShoppingCart.cpp`
  - Complete: Do not add any additional instance variables or member functions to this class
- `ShoppingCart.cpp`
  - Class definition to be completed based on `ShoppingCart.h` declaration
  - No starter code provided
- `DateUtility.h`
  - Complete – no changes needed
  - Use the `getDateString()` function to get the current date for the shopping cart

  See UML Class Diagrams (page 2)

Sample Runs: See "P01 Shopping Cart Sample Runs.docx"

Due Date: See Programming Projects on Course Blackboard Site.

UML Class Diagrams:

```
┌─────────────────────────────────────────────────────┐
│ ⊟                      Item                          │
├─────────────────────────────────────────────────────┤
│ - itemName: string                                   │
│ - itemPrice: double                                  │
│ - itemQuantity: int                                  │
├─────────────────────────────────────────────────────┤
│ + Item(string name, double price, int quantity)      │
│ + setItemName(string name): void                     │
│ + setItemPrice(double price): void                   │
│ + setItemQuantity(int quantity): void                │
│ + getItemName() const: string                        │
│ + getItemPrice() const: double                       │
│ + getItemQuantity() const: int                       │
│ + outputItemInfo(): void                             │
└─────────────────────────────────────────────────────┘
```

```
┌──────────────────────────────────────────────────────────┐
│ ⊟                   ShoppingCart                          │
├──────────────────────────────────────────────────────────┤
│ - customerName: string                                    │
│ - currentDate: string                                     │
│ - cart: vector<Item>                                      │
├──────────────────────────────────────────────────────────┤
│ + ShoppingCart(string name)                               │
│ + getCustomerName() const: string                         │
│ + getCurrentDate() const: string                          │
│ + getItemCount() const: int                               │
│ + findItemInCart(string name): int                        │
│ + addItemToCart(Item item): void                          │
│ + changeItemQuantity(string name, int quantity): void     │
│ + changeItemPrice(string name, double price): void        │
│ + removeItemFromCart(string name): void                   │
│ + outputCartInfo(): void                                  │
└──────────────────────────────────────────────────────────┘
```