

JAVA REVIEW QUESTION 1 -- Specification to Coding

Design a Java class that simulates a simple online shopping cart. The class should follow best principles of object-oriented design, including encapsulation and separation of concerns.

Instance Variables:

- The shopping cart should contain a list of items that the user has added to their cart. Each item should have attributes such as name, price, and quantity.

Constructor:

- The constructor should initialize an empty list of items when the shopping cart is created.

Instance Methods:

- **addItem**: This method should allow the user to add an item to the shopping cart. It should take parameters such as the name of the item, its price, and the quantity.

IF THE ITEM EXISTS IN THE CART ALREADY, JUST UPDATE THE QUANTITY.
removeItem: This method should allow the user to remove an item from the shopping cart based on its name. **IF THE ITEM EXISTS IN THE CART, JUST UPDATE THE QUANTITY, UNLESS THE QUANTITY FALLS BELOW 1, THEN REMOVE THE ITEM FROM THE CART**
- **calculateTotal**: This method should calculate the total cost of all items in the shopping cart.
- **checkout**: This method should simulate the checkout process by displaying the list of items in the cart with their prices and quantities, as well as the total cost.

Other Notes:

- The shopping cart class should throw an EXCEPTION if adding items with negative prices or quantities.
- Ensure that the quantity of each item in the cart is updated correctly when adding or removing items. The item name should only ever occur ONCE in the cart. It's quantity is reflected by the quantity variable.
- Throw an exception for scenarios such as attempting to remove an item that does not exist in the cart.