Soda Machine User Stories

**Out of 75 points**

Using the concepts of OOP by creating classes and using objects (instances of those classes) to interact with each other, create a console application representing a Soda Machine that takes in payment and dispenses sodas. 

**User stories:**

**(5 points)**: As a developer, I want to make good, consistent commits.

**(5 points)**: As a developer, I want to account for and handle bad user input, ensuring that any user input is validated and reobtained if necessary.   
  
**(25 points)**: As a Customer, I want the following results to occur when attempting to purchase a soda:

* If enough money is not passed in, don’t complete transaction and give the money back.
* If exact change is passed in, accept payment and dispense a soda instance that gets saved in my Backpack.
* If too much money is passed in, accept the payment, return change as a list of coins from internal, limited register, and dispense a soda instance that gets saved to my Backpack.
* If too much money is passed in but there isn’t sufficient change in the machine’s internal register, don’t complete transaction: give the money back.
* If exact or too much money is passed in but there isn’t sufficient inventory for that soda, don’t complete the transaction: give the money back.

**(5 points)**: As a developer, I want my soda machine to start with the following inventory:

* Coins: 20 quarters, 10 dimes, 20 nickels, 50 pennies
* Cans (you pick how many of each the machine starts with): Root Beer (60 cents per can), Cola (35 cents per can), and Orange (6 cents per can)

**(5 points):** As a developer, I want my Coin classes to have a read-only property for double value (public property & protected field for member variable double value).

**(10 points):** As a Customer, I want to keep track of my Coins in a Wallet class and my Cans in a Backpack class. Backpack should start empty; Wallet should start with at least $5 in mixed change.

**(10 points)**: As a Customer, I want to select the coins I’m entering as payment and have them added to a List.

**(5 points)**: As a Customer, I want to choose which soda to be dispensed from the current inventory of the machine.

**(5 points):** As a developer, I want to use C# best practices, SOLID design principles, and good naming conventions on the project. This includes proper usage of Public/Private variables and methods.

**BONUS:**

**(5 points):** As a Customer, I want to use Method Overloads to allow for payment with a Credit Card in addition to coins.