CECS 277 – Project 4 – Vending Machine –

Create a GUI program that simulates a vending machine. Your vending machine has:

1. At least three items to sell. An Item has a name, a price, a code, an image, and the number remaining in inventory.
2. The items are displayed on the screen along with their prices and codes displayed below them.
3. A way to receive money. Create buttons for inserting dollars, quarters, dimes and nickels. Display the amount entered so far. Create a coin return button to clear the amount entered.
4. Allow the user to select an item by a keyed in code. You should check to make sure that the code is valid, enough money has been inserted for the item, and that the item is in stock. Display an error to the user if anything is wrong. Create a clear button for the code so the user can retry an entry.
5. Display a message underneath the item if it is out of stock.
6. Display a success message of receipt when the user gets their item.
7. Calculate and display the change due.

Create a state transition diagram for your vending machine. You can use the Violet UML editor to create one http://horstmann.com/violet/ or you can use another program.

Use a state machine to implement your program. Possible states might be:

1. Receive Money State – Receives the coin events and updates the total entered.
2. Get Code State – Receives the key events and updates the code entered.
3. Check Code State – Checks the code, price, and number of items remaining in stock. (This could also be implemented inside of the Get Code State)
4. Vend Item State – Display a message to the user that they received their item.
5. Give Change State – Display the amount of change due to the user.

Hint: Your State class will most likely need to have an instance of your VendingMachine class in order to have access to its variables.

Your interface does not need to be exactly the same as the example below, but it should have most of the same features.