Implement a vending machine that sells three products and has the interface presented below:

- the three products are listed along with their prices,
- a textfield helps collect a new coin
- and a Proceed button is used for actually entering the coin in the machine.

The picture below shows the vending machine after 75 cents have been entered and before a new dime is to be sent in.

The credit is updated each time a valid coin is sent in, and the descriptions for the products with a price below the current credit are replaced with an active link through which you can order the product.

If instead of sending the dime we click the link for the crackers the interface will change, by showing a new credit of 0 (zero) and all three products will be disabled without links, just with their prices.

The return screen in that case will post this message:

Enjoy your crackers. Your change is: 20 cents.

The prices for the items are: $1.25 for the cookies, $0.70 for the soda and $0.55 for the crackers. You are supposed to write a program in the same style as we have practiced throughout the semester thus far: so please start by identifying your state variables,
input variables, output variables and constants. Then describe how your program retrieves state, determines if the retrieved state is empty, initializes an empty state, updates an existing state based on input, stores the state, reports the state and how it gets ready for more input.

Write all of that very clearly in the blue book (in pseudocode or in Python or PHP). Choose one specific implementation (the one you’re most comfortable with) for this written, closed-book exam. Turn the blue book to Adrian at the end of the 75 minutes.

Tomorrow in lab you will receive the blue book back. Without making any change to the contents of the blue book the exam tomorrow will be completely open-book, open-Internet and you will have to implement what you wrote in the blue book exactly as you wrote it. If you see mistakes you can fix them, but you also need to explain why you made that mistake, how you fixed it and why now it’s working. At the end of the day tomorrow you will return the blue book and have three links posted on your website: one to the working program, one to the source code (in protected) and one to a short document that explains what mistakes you had in what you wrote in the blue book (if any) and why, also what you did to fix them and why now they’re working well.

By next Friday you need to finish implementing the program in the other three implementations so on the website you will have four versions posted: two client-side state and two server-side state, two in PHP and two in Pyhton/CGI.

Good luck! Let me know if you have any questions or need any clarifications.