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CS 172

Vending Machine Project Proposal:

A company is designing a new vending machine. The company wants you to develop an object-oriented software simulator so that they can see whether the machine that they are developing will meet the customer’s and service people’s needs.

The company’s vending machine has ten rows and eight columns of spring coils that can hold chips, candy, and other merchandise. Each spring coil can hold up to 10 items.

The machine operates in two modes, depending on whether or not the front door is open. When the door is shut it operates in vending mode. Customers may enter .5, .10, .25, 1.00, and 2.00 coins. They may also press buttons labeled A through J to select the row and 1 through 8 to select the column of the item they wish to purchase. They may also push the coin return button at any time.

In vending mode, the machine normally responds to coin entries by displaying the current total entered on a small display. When the machine’s customers push one of the buttons their choice is displayed instead. When a customer completes a choice one of three things happens. Either the machine dispenses the requested item and releases the customer’s change through the coin return; or it displays a message saying that the requested selection is not available; or it displays a message saying that the customer has not entered enough money to purchase the item. When a customer presses the coin return button any unspent money is returned through the coin return.

When the door is open, the machine operates in restock mode and none of the normal vending functions are available. In this mode it is possible:

* To set the price for each of the spring coils;
* To refill or partially refill each of the spring coils;
* To empty the cash box;
* To refill or partially refill the change box;
* And to close the door.

The coin-handling mechanism of the vending machine consists of a coin entry slot; a coin return slot; and a cash box.

Approach: We plan to partition each mechanism of the vending machine to each member of our group to work on. These mechanisms will be in the form of self-contained objects that take some form of input. The inputs will be defined before each group member begins working on their defined mechanism so that, when put together, there will be less confusion about how it will work.