Lab #3 Advanced Program
Soft Drink Machine

Your program will simulate the operation of a soft drink machine. The machine will dispense, upon receipt of the correct amount of change of 55 cents, a choice of Coke, Sprite, Dr. Pepper, or Coke Zero. Your software will perform the following:

1. Display a welcome message and instructions.
2. Accept money inputs of nickels (N), dimes (D), quarters (Q), and one-dollar bills (B).
3. Reject any invalid money inputs.
4. Set the initial inventory of drinks to two of each kind.
5. Once the money input is 55 cents or greater prompt the user on what soft drink they want. (C) Coke, (S) Sprite, (P) Dr. Pepper, or (Z) Coke Zero
6. Verify with the user what drink they selected and allow them to cancel that selection and be prompted for another drink selection.
7. Reject any invalid soft drink selections.
8. There should also be an option to cancel the transaction and return any money deposited by the user.
9. If the user selects an out of inventory drink prompt them to make another selection.
10. Dispense the selected drink and any change due.
11. Drink machine will shut down when the entire inventory reaches zero.
12. Assume there is no limit on the amount of change the drink machine contains.
13. Make provisions for a secret code that when entered will display the current inventory of drinks. For grading purposes identify the secret code and when it can be entered in the welcome message.

Sample Processing

Welcome to Mr. Zippy's soft drink vending machine.
Cost of Coke, Sprite, Dr. Pepper, and Coke Zero is 55 cents.

Enter money nickel (N), dime (D), quarter (Q), and one dollar bill (B).
Q
Total is 25 cents.

Enter money nickel (N), dime (D), quarter (Q), and one dollar bill (B).
Q
Total is 50 cents.

Enter money nickel (N), dime (D), quarter (Q), and one dollar bill (B).
N
Total is 55 cents.

Make selection:
(C) Coke, (S) Sprite, (P) Dr. Pepper, or (Z) Coke Zero (X) to cancel and return all money.
C

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Selection is Coke. It this OK? (Y or N).
A Coke has been dispensed with 0 cents change.

Students should retain a copy of this program to use for Lab 4 and 5.

This lab was assigned:
Spring 2021
Fall 2019
Spring 2019
Fall 2017
Spring 2017
Fall 2016

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Student _____ Lab Instructor: _____

Total Score: _____ Late Penalty? No _____ Yes: _____

Feature	Points off
Code Comments/Documentation • Class, Term, Author, Date. • Purpose of software • Documentation for the start of each loop and function (subroutine) • Documentation for error checking • In-line comments that explain why the following code exists.	
Welcome and instruction messages are displayed and clear.	
Enter secret code and verify the initial inventory is two drinks of each type.	
Enter a Dollar Bill and select a Coke. Verify Coke is dispensed. Verify 45 cents in change is returned.	
Enter a Dollar Bill and select to cancel the transaction. Verify that no drink was dispensed and 100 cents was returned.	
Check for invalid input rejection for money input. Enter the following for money inputs and verify they are rejected. A b 1 2021	
Enter the following money inputs: N (5 cents) N (10 cents) D (20 cents) D (30 cents) D (40 cents) Q (65 cents) Check for invalid input rejection for drink selection. Enter the following for drink selection and verify they are rejected. N d 2020 z Select a Coke. Verify Coke is dispensed. Verify 10 cents in change is returned.	
Enter secret code and verify the following inventory: Coke - 0 Sprite - 2 Dr Pepper - 2 Coke Zero -2	
Enter the following money inputs:	

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Q (25 cents) Q (50 cents) N (55 cents) Select a Sprite. Verify Sprite is dispensed Verify 0 cents change is returned	
Enter the following money inputs: Q (25 cents) Q (50 cents) D (60 cents) Select a Dr Pepper. Verify Dr Pepper is dispensed Verify 5 cents change is returned	
Enter the following money inputs: Q (25 cents) Q (50 cents) Q (75 cents) Select a Coke Zero. Verify Coke Zero is dispensed Verify 20 cents change is returned	
Enter secret code and verify the following inventory: Coke - 0 Sprite - 1 Dr Pepper - 1 Coke Zero -1	
Enter a dollar bill and select a Coke. Verify the response is there is no remaining of that type and to make another selection Select a Sprite Verify Sprite is dispensed Verify 45 cents change is returned	
Enter a dollar bill and select a Sprite. Verify the response is there is no remaining of that type and to make another selection Select a Coke Verify the response is there is no remaining of that type and to make another selection Select a Dr Pepper Verify Dr Pepper is dispensed Verify 45 cents change is returned	
Enter secret code and verify the following inventory: Coke - 0 Sprite - 0 Dr Pepper - 0 Coke Zero -1	
Enter the following money inputs: N (5 cents) N (10 cents) D (20 cents)	

D (30 cents) D (40 cents) D (50 cents) B (150 cents) Select a Coke Verify the response is there is no remaining of that type and to make another selection Select a Sprite Verify the response is there is no remaining of that type and to make another selection Select a Dr Pepper Verify the response is there is no remaining of that type and to make another selection Select a Coke Zero Verify Coke Zero is dispensed Verify 95 cents change is returned Verify the machine is shut down due to having zero inventory	