



CS213: Programming II

Assignment 1

Objectives

1. Learning and practicing basics of OOP
2. Problem solving and teamwork

Description

It is required to build a vending machine simulator for soft drinks and snacks. Customer inserts coins in the machine and chooses a product. Machine returns change to the customer if exists. Machine starts by printing all available products with prices. Machine is initialized by n different products with 10 items for each product. Users can insert coins of type 0.25, 0.5, 1, 5, 10, 20 L.E. Machine contains initially 10 coins of each type. User press on product number and inserts coins, if amount is less than price it prompts user, if it is equal or more than then it gives the user the item and the change.

You are required to implement **VendingMachine** class, **FoodItem** class and **MoneyDrawer** class. **FoodItem** class represents each type of available food defined by its name, amount and price. **MoneyDrawer** class is responsible for handling any operations on money, it accepts and returns change for the user. It also contains all money available in the machine. Finally, **VendingMachine** class is the main class dealing with customer and performing his/her requests. Number of products is a static variable in FoodItem class to track number of available products.

Welcome to Vending Machine

List of Available Item:

Item	No Available	Price
1- Bisco Misr Chocolate	8	1.00 L.E.
2- Samba Chocolate	7	2.00 L.E.
...		
10- Coconut Chocolate	9	1.50 L.E.

Please deposit a coin or a bill in L.E. ($\frac{1}{4}$, $\frac{1}{2}$, 1, 5 or 10, 20, E to end or 0 to cancel) ==> 0.3

Invalid coin or bill !!

Please deposit a coin or a bill in L.E. ($\frac{1}{4}$, $\frac{1}{2}$, 1, 5 or 10, 20, E to end or 0 to cancel) ==> 1

Your credit is 1.0 L.E.

Please deposit a coin or a bill in L.E. ($\frac{1}{4}$, $\frac{1}{2}$, 1, 5 or 10, 20, E to end or 0 to cancel) ==> 1

Your credit is 2.0 L.E.



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Please deposit a coin or a bill in L.E. ($\frac{1}{4}$, $\frac{1}{2}$, 1, 5 or 10, 20, E to end or 0 to cancel) =====> E

List of Available Item:

Item	No Available	Price
1- Bisco Misr Chocolate	15	1.00 L.E.
2- Samba Chocolate	14	2.00 L.E.
...		
10- Coconut Chocolate	15	1.50 L.E.

Please Enter Your Choice or E to end: =====> 10

Here is one Coconut Chocolate and 0.50 L.E. in change.

Welcome to Vending Machine

List of Available Item:

Item	No Available	Price
1- Bisco Misr Chocolate	8	1.00 L.E.
2- Samba Chocolate	7	2.00 L.E.
...		
10- Coconut Chocolate	8	1.50 L.E.

Please deposit a coin or a bill in L.E. ($\frac{1}{4}$, $\frac{1}{2}$, 1, 5 or 10, 20, E to end or 0 to cancel) =====> ...

Deliverables

1. ID1_ID2__Ass#1.rar Compressed file contains all the assignment files
2. VendingMachine.cpp
VendingMachine.h
FoodItem.cpp
FoodItem.h
MoneyDrawer.cpp
MoneyDrawer.h
main.cpp
3. TestCases.pdf File contains the testcases input and output

Deadline

Assignment will be delivered by teams of two by 18/10/2017 until 11:55 pm on Acadox.
Both students in a team should be in the same lab group.



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Important Note:

Cheaters will be given **“negative the grade”** of the assignment. A cheating tool will be run on all submitted assignments to find cheaters.