

CSCI 135 Lab 6

Program 1

You have been hired by Liquid Planet to create an application that keeps track of their products for sale. Until now, they have only kept track of their products and sales by writing them down on paper. You have been asked to create a simple program that allows them to store all their products. You decide it would be best to create an Item class and then add some variables including:

1. itemName
2. producer
3. expirationDate
4. description
5. wholeSaleCost

You decide to create a couple of methods like itemOnSale() which generates a percentage between 10-25% and multiplies that by the retail cost of the item to determine what the cost would be if it were on sale. You should also have another method called suggestedRetailPrice() that generates a percentage between 50% and 80% and adds that to the wholesale cost.

Finally, you should have a method called toString that displays all the information about each item and calls the itemOnSale and suggestRetailPrice methods and displays that information as well.

You are to create at least three items using a for loop. All the information should be read in from user input and assigned to the variables. You should then display all the information about the item including the what the cost would be if the item were on sale and the suggested retail price.

- For the item on sale, make sure it returns something between 10-25 percent times the retail cost subtracted from the retail cost
- The suggested retail method method should have something between 50% and 80% times the wholesale cost plus the wholesale cost.
- Make sure they have three items and that you get all the input from the user.

Extra Credit: Make this is a graphical program that uses your class and enters the information using textfields instead of standard input (i.e. nothing in the console). (3pts)

Program 2

You are going to extend the simple Math game from Lab 4; that uses a separate class call MathGame. The MathGame class should contain at least the following attributes:

1. randomNumber1
2. randomNumber2

3. randomOperator
4. actualAnswer

It should also have some methods such as:

1. generateQuestion – this should return the question with the random numbers and a random operator
2. getActualAnswer – this should return the actual answer depending the random numbers and random operator
3. checkAnswer – this should return true or false based on if the user response matches the real answer.

Specifics:

- Get random operators either in the MathGame class or sent into the constructor.
- Get a random operand for the question and the actual calculation
- Display a question based on the random operand
- Gather input from the user
- Display the actual answer and display if they if entered the correct answer or not.
- The program should loop five times.

Extra credit: Create a graphical version of this program. (3pts)