

Computer Programming Lab, Spring 2018
Lab Assignment 4

This lab assignment aims at modifying the work of the previous labs, by introducing the concept of custom exceptions.

Whenever a customer buys a grocery product, we need to check that it fits with his/her preferable fat and sugar levels. If not, an exception should be thrown.

Exercise 4-1

Exception classes

The general exception that occurs whenever a customer should not buy the grocery product is called a `CannotBuyException`. There are two specific types of `CannotBuyException`: `IncorrectFatTypeException` and `IncorrectSugarLevelException`. You are required to implement the exception classes with the correct hierarchy.

The Exception classes are placed in the package: `guc.supermarket.exceptions`.

Exercise 4-2

Customer class

You should modify the provided `Customer` class such that:

- There should be a `Fat preferableFatLevel` attribute that represents the preferred Fat level of the customer. This property is read-only.
- There should be a `SugarLevel preferableSugarLevel` attribute that represents the preferred sugar level of the customer. This property is read-only.
- Appropriate constructor should be added in order to allow creating a new customer given their name, shopping cart, preferable fat level, and preferable sugar level.
- Whenever a customer tries to buy a dairy product having a fat level that is different than his/her preferable fat level, an `IncorrectFatTypeException` should be thrown.
- Whenever a customer tries to buy a beverage product having a sugar level that is different than his/her preferable sugar level, an `IncorrectSugarLevelException` should be thrown.

Exercises 4-1 and 4-2 are tested in the provided "Lab4PublicTests.java" test file.