German University in Cairo
Media Engineering and Technology
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Computer Programming Lab, Spring 2018
Lab Assignment 3

This lab assignment aims at modifying the work of the previous labs, by introducing the concepts of Interfaces and Exception Handling.

Interfaces

Exercise 3-1

Interfaces

Modify your `Beverage` class such that it implements the `Drinkable Interface` and make sure to implement the methods of the `Drinkable Interface` in the `Beverage` class. A drink is considered unhealthy if it has a sugar level of `ADDED_SUGAR`. It is considered healthy otherwise. The `Drinkable Interface` is defined as follows:

```
package guc.supermarket.products;

public interface Drinkable {
    String unitOfMeasurement = "ml";
    boolean isHealthy();
}
```

Exception Handling

Exercise 3-2

Supermarket class

The provided `Supermarket` contains two instance variables; `ArrayList<GroceryProduct> products` as well as `ArrayList<Customer> customers` representing the products and customers currently in our supermarket. It also contains the method `simulate()` that simulates some buy transactions that are done by the customers. The transactions are found in the provided "Transactions.csv" file. In the `simulate()` method, the transactions are read from the "Transactions.csv" file and executed. Whenever we have code that reads from a file, we could face some problems related to IO operations that are out of our control.

You are required to work on the `Simulator` class to handle the following exceptions accordingly:

- `FileNotFoundException`: If the file "Transactions.csv" is not present, a `FileNotFoundException` will be thrown. You should handle this case such that your program should not terminate and instead keeps asking the user to enter the correct name of the csv file until the file is found.
- `ArrayIndexOutOfBoundsException`: Each line in the input csv file contains 6 values that represent the transaction. If any of these values are missing, the `executeTransaction(String transactionRow)` method will throw an `ArrayIndexOutOfBoundsException`. You should handle this case such that your program should not terminate and instead you should skip the faulty line and proceed to the next one.