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EE422C

Assignment 3: Shopping Cart

Analysis

Implement a shopping cart mechanise for an online vendor. This program should take user input and using arraylist, it should either insert, search, delete, update, and print items accordingly. The items should be categorized into three different groups: groceries, electronics, and clothing. Each of these types have different tax rates, shipping costs, and different attributes. This program should also check for errors in the input and output accordingly.

Design

IPO

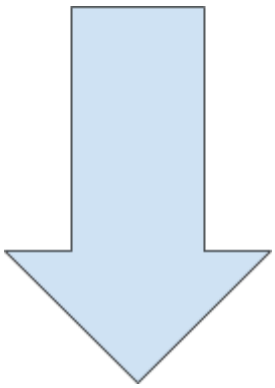
Input file contains series of transactions.
Each transaction must follow following format:
<operation> <category> <name> <price> <quantity> <weight> <optional field1> <optional field2>

- Valid **<operation>**s are **insert, search, delete, update**, and **print**
- Valid **<category>**s are **groceries, electronics,** and **clothing**. Only **insert** will have this.
- All operations except **print** will have **<name>** and it can be anything.
- Only **insert** will use **<price>** and it can be an int or a double
- **update** and **insert** will make use of the **<quantity>**
- only **insert** will require **<weight>**
- the **<operational field1>** and/or **<operational field2>** will be used only when inserting **groceries** or **electronics**. These properties will be used to judge the shipping costs.

Therefore, by further simplification, input lines must follow one of following formats:

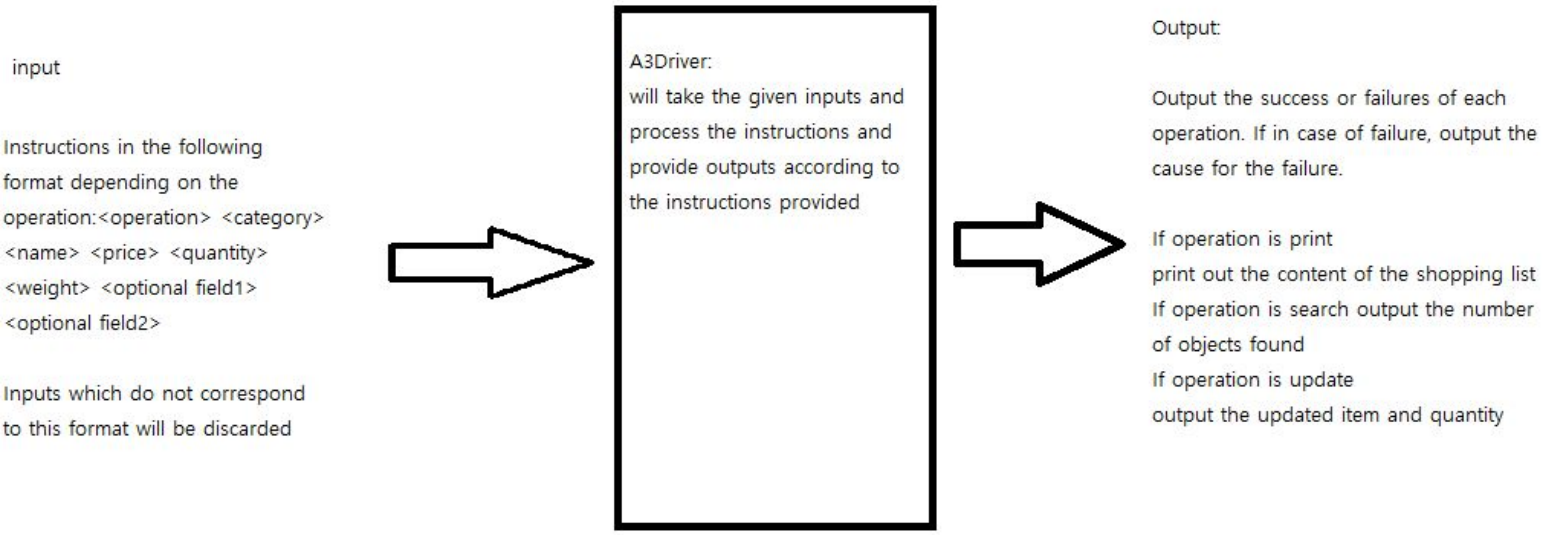
- insert <category> <name> <price> <quantity> <weight> <optional field1> <optional field2>
- delete <name>
- search <name>
- update <name> <quantity>

- print

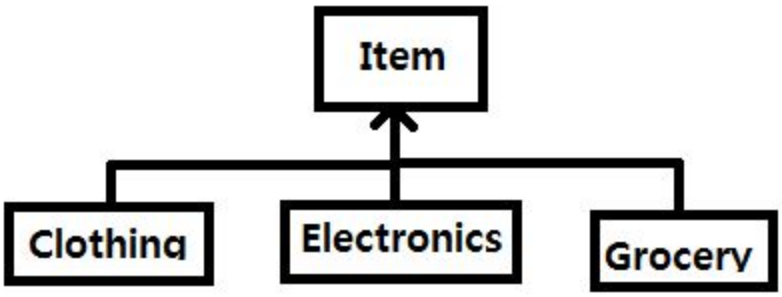


This program should output simple messages regarding the success or failure of the operation. It will only output significant amount of information when the operation ,**print**, is inputted.

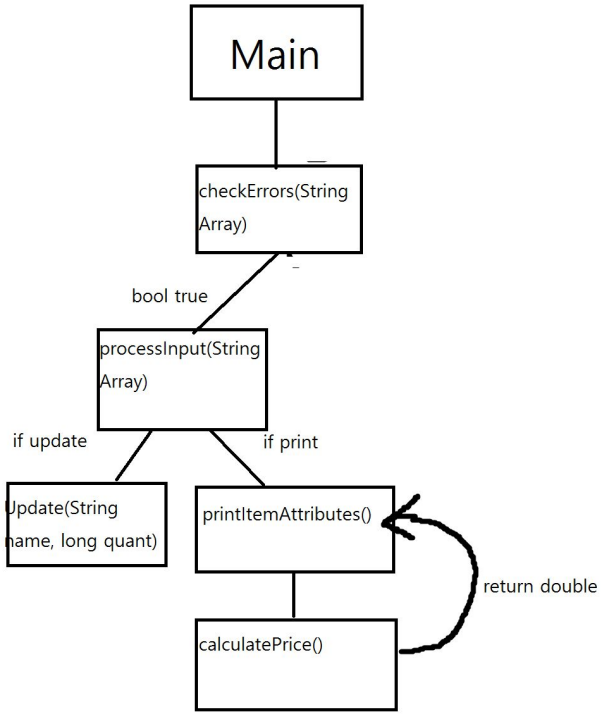
- When **<operation>** doesn't match the format, program will inform the user that such operation doesn't exist.
- For **delete, search,** and **update**, program will inform the user that item doesn't exist, when there is no such item with inputted name. If it does exist, **delete** will confirm the success of its deletion of all objects with the given name, **search** will return the number of objects with the given name, and **update** will output the object name and updated quantity of object of first occurrence.



UML



Block Diagram



checkFormat - returns true if format's correct else false, prints out error

processInput - takes string[] and process input and print out appropriate output

printItemAttributes - in each class, print each attribute and call calculatePrice to print out the price

calculateprice - in each class, calculate price

Pseudo Code

1.take inputs

2. divide inputs

3. process input

    a. check for errors and if yes, go to 4

    b. if no, error process

        i. Process and 4 accordingly

4. give output

5. repeat from part 3 until no more input