Assignment 3 Analysis

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1. Problem

1.1 Defined Problem

Design and implement a “shopping-cart” mechanism for an online vendor that sells groceries, electronics and clothing.

1.2 Input

Read text from a text file and process each request for the shopping-cart line by line.

1.3 Processing command

Every line of input should be in the following format: <operation> <category> <name> <price> <quantity> <weight> <operational field1> <operational field2>
There are 5 different operations: Insert, search, delete, print, and update. Each operation has a different format but follows the requirements stated above. Valid categories for items in the shopping cart include: clothing, electronics, and groceries.

1.4 Result

The program should output an error message to the screen if an input is invalid. The program should output a summary whenever the print function is called.

2. Assumptions

2.1 Input Assumptions

Input can contain valid entries, if so, output to the screen an error message without crashing and move on to the next line of instructions. We will get our input from a text file. Operations, item category, item name, perishable status, and fragile status will be processed as strings by the program. Weight, and quantity will be handled as integers by the program. Price will be handled as a double by the program.

2.2 Output Assumptions

Print an error message after an invalid command line, with the exception of empty command lines(simply ignore them and move on to other instructions). In the print function, display a summary about every items' attributes in alphabetical order, and display the base price of one item of that item category, and display the total price of that item. At the end of the summary, display the total price of the entire shopping cart.

3. Questions

Can items share the same name if they are of different categories?
Are the item names case sensitive?
Should we delete duplicate items if the delete function is requested?