Homework Assignment: Grocery Recommendation App

Deadline: 27th August, Show in class.

We have to simulate a user experience in a store where the user buys an item and based on that a recommendation is suggested.

Following is a transcript of the output:

```
----------------Cart Addition App-----------------
PRESS EXIT TO LEAVE
Items which can be bought: ['Diapers', 'Milk', 'Cola', 'Bread', 'Beer',
'Eggs']
Enter first item:
Milk
Available suggestions: ['Beer', 'Bread']
Remaining items in store ['Cola', 'Eggs', 'Diapers']

Beer
****************************
Your cart is ['Milk', 'Beer']
****************************
Available suggestions: []
Remaining items in store ['Cola', 'Eggs', 'Diapers', 'Bread']

Bread
****************************
Your cart is ['Milk', 'Beer', 'Bread']
****************************
Available suggestions: []
Remaining items in store ['Cola', 'Eggs', 'Diapers']

Cola
****************************
Your cart is ['Milk', 'Beer', 'Bread', 'Cola']
****************************
Available suggestions: []
Remaining items in store ['Eggs', 'Diapers']

exit
****************************
Your Final cart is ['Milk', 'Beer', 'Bread', 'Cola']
****************************
```

Following is another transcript:

```
-----------------Cart Addition App------------------
PRESS EXIT TO LEAVE
Items which can be bought: ['Eggs', 'Milk', 'Beer', 'Bread', 'Cola',
'Diapers']
Enter first item:
Cola
Available suggestions: []
Remaining items in store ['Eggs', 'Milk', 'Beer', 'Bread', 'Diapers']

Milk
*****************************
Your cart is ['Cola', 'Milk']
*****************************
Available suggestions: ['Bread', 'Beer']
Remaining items in store ['Eggs', 'Diapers']

Beer
*****************************
Your cart is ['Cola', 'Milk', 'Beer']
*****************************
Available suggestions: []
Remaining items in store ['Eggs', 'Bread', 'Diapers']

Bread
*****************************
Your cart is ['Cola', 'Milk', 'Beer', 'Bread']
*****************************
Available suggestions: []
Remaining items in store ['Eggs', 'Diapers']

Diapers
*****************************
Your cart is ['Cola', 'Milk', 'Beer', 'Bread', 'Diapers']
*****************************
Available suggestions: []
Remaining items in store ['Eggs']

Eggs
*****************************
Your cart is ['Cola', 'Milk', 'Beer', 'Bread', 'Diapers', 'Eggs']
 *****************************
All items taken! Leaving..
*****************************
Your Final cart is ['Cola', 'Milk', 'Beer', 'Bread', 'Diapers', 'Eggs']
*****************************
```

The two transcripts above give the entire working of the app.

The dataset to be used is

```
dataset = [["Bread", "Milk", "Beer"],
           ["Bread", "Diapers", "Eggs"],
           ["Milk", "Diapers", "Beer", "Cola"],
           ["Bread", "Milk", "Diapers", "Beer"],
           ["Bread", "Milk", "Cola"]]
```

Show which items can be bought. Cart of user is empty at this point.
Take the first item, and show its Suggestions & remaining items. Keep on taking the next item till user wants to exit or has taken all the items.

- There should be **no overlap between suggestions** and remaining items.
- The **suggestions and remaining items should exclude the items already in cart**.
- The suggestions should be loaded from the rules table you create, **only for a single item entered by the user, not the entire cart,** after performing association analysis over the dataset. *Use rules with good confidence values*!
- The code for removing consequents for a given item has been discussed in class. You have to add some additional logic here to remove unique consequents from frozen sets, which can be done using for loops.

Few Hints:

1. You may to use the remove method of list datatype to update your remaining items
2. The inputs can be made case insensitive using good logic in your code, example. User may enter BREAD instead of Bread, or bread instead of Bread.
3. You may use sets for easy working of app!
4. Your rules will remain constant always, don't update them when user purchases anything new.