

# CSE 230 Problem Set 11

## Problem 27.1: Grocery List Use Case

Consider a grocery list mobile application that has an “in-store” feature:

The “in-store” feature facilitates the user to check items off their grocery list as they put things in their cart. It presents a list of all the times in the list and puts a checkbox next to each item. The user can touch the checkbox with her finger and the item is marked as “done.” Note that the user can sort the list alphabetically, by category (produce, meats, etc.), or by status (done, not in the store, or yet to be retrieved).

Based on this problem description, create 3-5 use cases (Step 1 of the noun-elicitation process).

Users can check items off their list as “done”

Displays information in list format with boxes that either have a checkmark or not

User can sort list by category (produce, meats, etc.), or status (done, not in the store, or yet to be retrieved)

## Problem 27.2: Grocery List Requirements

Select a use-case from Problem 27.1 and generate 3-5 requirements (Step 2 and 3 of the noun-identification process). For each requirement, make sure to intentionally use common nouns, proper nouns, adjectives, action verbs, having verbs, and being verbs to minimize ambiguity.

Use case (copied from 27.1):

User can sort list by category (produce, meats, etc.), or status (done, not in the store, or yet to be retrieved)

Requirements:

List has a sort command  
Sort command should bring up a sort dialog  
Sort dialog should present user with the opportunity to choose category of sorting  
Sort button will sort the current list by the selected category and display the new list  
List items will have attributes of category and status

## Problem 27.3: Grocery List Entities

Select a requirement from Problem 27.2:

List has items that will have attributes of category and status

Identify the parts of speech:

Word or Phrase	Part of Speech	Program Entity
List	Proper noun	Object
List items	Common noun	Data type
have attributes	Adjective for list items	Attribute or value
List HAS items	Having verb	membership
Items HAVE attributes	Having Verb	membership

Convert this requirement into program entities (class diagrams for nouns, function names for verbs, etc.):

List
– Items: array of Items
+ Get items + Sort Items + Sort by Category (value: int) + Sort by Status(value: int) + Update Status(value: int) + Add item (Item) + Delete item(index: int)

Item
– Name : string – Amount : int – Category : tuple – Status : tuple
+ Display item + Check Category(value: int) : boolean + Check Status(value: int) : boolean + Update Status(value: int)