

DRAFT* Final Project: Kitchen Ingredient Organizer *DRAFT

Purpose:

To demonstrate your skills in the following areas:

- Java syntax: Coding in Java
- OOP: Designing and implementing an object-oriented program
- Group project: Planning and executing a group coding project
- User-friendliness: Writing a program that is easy for a human to use
- Readability: Writing readable and maintainable code
- Comments: Documenting code using comments
- Recursion: Implementing a recursive algorithm in a real application
- Communication: Presenting your programming solution to others

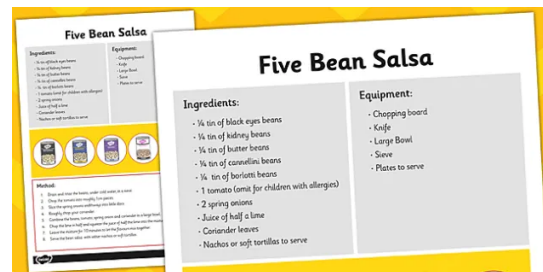
Goal:

You must write a program in Java that is able to:

- 1) Store information that represents which ingredients are in the kitchen, with quantities.



- 2) Store information that represents the ingredients and quantities needed to make different meals.



- 3) Give the human the option to:
 - a) Sort the kitchen ingredients by name. The program will display the sorted ingredient list, along with their quantities.
 - b) Sort the kitchen ingredients by quantity. The program will display the sorted ingredient list, along with their quantities.
 - c) Select a meal from a list of available meals to compare with the ingredients available in the kitchen. The program will display a list of ingredients that are lacking from the kitchen, including how much more is needed.

Your program should never crash when it receives invalid input. Instead, the human should be prompted with a warning and should be given an option to try again.

Design suggestions:

- Consider what objects need to be represented in the program:
 - Kitchen ingredients inventory
 - Meals
 - Ingredients
 - Quantities?
 - Other things?
- For each object, consider what data and methods it should be responsible for
 - hint: try to make each object responsible for only its own information (let other objects manage their own data)
- Consider what objects are similar but not quite the same. Could you use inheritance here?
- Consider dividing the responsibility of creating different classes among group members.

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Rubric:

Category	1-2	3-4	5-6	7-8
The program completely satisfies the requirements, without bugs				
The basic syntax of Java is followed correctly				
The code is organized into multiple classes that each represent a single concept				
Each object is responsible for its own instance variables				
The code is easy to read				
The program is easy to use				
Code is documented using comments				
A recursive algorithm is implemented correctly				