

# Final Project Proposal: Deli Simulator

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# Introduction

Do you suffer from menu anxiety when it comes to Deli ordering?

Are you confused and overwhelmed by the many choices there are?

Do you wish there was a way to practice ordering so you won't embarrass yourself?

Well the Deli Simulator is here to relieve this stress.

It all starts with the user/customer, ordering from the options on the menu. "I will have the number 2 meal, Grilled Cheese sandwich".

After going through the (**List**) of menus, The ticket/sandwich is placed in line (**queue**), where first come first served is practiced. Yes and no questions are formed with the decision (**tree**). Ingredient s are grabbed from the labeled container, (**Hash Table**). The ingredients are put on top of one another (**Stack**) to make the sandwich. In the case of items being out, a substitution using (**Graph**) can be made.

# Strategy & Implementation of Data Structures

## Data Structures:

- Queues: The Sandwiches ordered.
- Lists: of sandwiches with ingredients already in them
- Trees: Yes/No questions from Deli Clerk turned into decision tree.
- Hash Table: ingredient containers, grab what they need form the container.
- Stacks: for ingredients stacked on top of each other to form the sandwiches.
- Graph: relationship between Ingredients, used for item substitution.