Problem Statement Formation: In the economic situation we find ourselves today, many people are looking for ways to save money. This means cutting back on things when possible. But, it also means finding ways to spend less on necessities. Popular ways to save on groceries include using coupons and specific store special pricing. However, it takes a lot of time to go to each store to see prices. Even when we can look online for deals and coupons, it still takes a lot of time to go through all of the deals available at each store. It would become a much easier task if data were manipulated so that the end-user could choose a recipe and with the click of a button, easily see how to get the necessary ingredients the most economically.

Context: The website: https://spoonacular.com/food-api/ provides apis that give random recipes, based on something like a social media type format. Grocery stores now post their weekly ads and possibly regular prices (although a login might be required for this, so I'm not sure if that part would work?). The weekly specials and coupons would need to be scraped on each grocery store website.

Criteria for success: With a successful version of this project, the users will be able to select a recipe and get data showing where to get the ingredients in the most economical way.

Scope of solution space: The spoonacular API will already somewhat limit the scope because it requires payment for some tiers. The free tier should allow at least 1 response of 100 random recipes per week. However, I believe it would also allow that amount per day. The scope of the grocery stores would be limited to the major grocery stores. Kroger (under different names in different states) would be a major place to start, then add in a few other majors as the scope allows.

Data source(s):
Spoonacular (https://spoonacular.com/food-api/)

There is a Kroger API, but while I see products and add to cart, I don't see anything (yet) about specials/coupons/etc. However, this might be able to help with daily prices at any Kroger stores (https://developer.kroger.com/reference/)

Walmart has an API, but it appears to be for 3rd-party sellers to sell and not for their own products. So, as far as I can tell so far, their prices might have to be scraped.
http://grocery.walmart.com

Ideas for others:

Safeway

Maijer

Publix

InstaCart (does have an API but I don't know how useful it would be for economically, more about convenience)

Proposed architecture for the solution and rationale behind it:

I will be adding to the proposed architecture as I progress through the lessons that cover this.

Choice of technology for the solution and rationale:
I will be adding to the technology choice as I progress through the lessons that cover this.