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Idea: A website that allows users to check if they are allergic to a product. Our website consist of a large database that contains over 230,000 food items that we are currently scraping from a website using a Python script (if our IPs do not get blocked before then!). The website will contain user's profile (allergy record) and a list of food product with their ingredients. Further features such as food recommendation to users based on their profile, fun facts about allergy (teaching users knowledge that most people don't know about), calorie/nutrient tracker, and more will be implemented.

Database contains: "Product_Name", "Ingredients", "Brand", etc. Check below for more information.

A table will be created to store the User information:

- This will be created by the user who will specify their User_ID, the food allergy/allergies that they have, and the food item they would like to see if they are able to eat.
    - For example ("John Doe" with the User_ID of "abc123" inputs that he is allergic to "peanuts" and he would like to know if he can eat "Oreos"
- The primary key will be User_ID

User_ID (PK)	**Name**	**Allergy**	**Food_Request (FK)**
abc123	John Doe	peanuts	Oreos
...	...	...	…

A table named Products_Ingredients will store the ingredient of the food item

- We will use Food_Request from the User table as a foreign key for this table.
- The primary key will be the Product_Name

Product_Name (PK)	**Product_ID (FK)**	**Ingredients**	**Brand ...**

Oreos	food123	Sugar, unblended flour	Nabisco
...	...	...	…

A table named Nutritional_Facts will store the Product_ID and the nutritional facts

- We will use Product_ID from the Products_Ingredients table as a foreign key for this table.
- The primary key will be Product_ID

Product_ID (FK)	**Calories**	**Protein**	**Fat**	**Carbohydrate**	**Fiber**	**Sugar**
food123	90	0g	5g	15g	2g	30g
...	...	…	...	...	...	...

234,434 food items will be scraped from: https://ndb.nal.usda.gov/ndb/search/list

- In order to do this we will have to write a script with the specifications that we would like to get for each product
- We will then need to place the information into each respective table (Product_Ingredients table and Nutritional_Facts table).

Keywords: SAFE = can eat UNSAFE = cannot eat

Functionalities:

1. Be prompted to enter your allergies.
2. Search by “Brand” or “Product_Name” to view ingredient lists.
3. View all possible food items that are SAFE.

Queries:

1. Is “Product_Name” SAFE?
2. What foods are SAFE from “Brand”?
3. What foods are UNSAFE?
4. What are the ingredients in “Product_Name”?
5. What are all possible food items that are safe?
6. How much sugar is in xxx? ”

Possible functionality to be implemented

if all above are complete

- If “Product_Name” is UNSAFE, what are some similar food that are SAFE?

    - Ex. “X” cake brand is deemed UNSAFE;
      Suggest “Y” cake brand which is SAFE.
        - Idea how to implement: search the database for the top 3 most similar and SAFE ingredient lists compared to the queried “Product_Name”; if no matches, display “No Matches Found”.

- Can also add “Calorie” other nutrient column and add a functionality for the user to add foods to count calories or other nutrients.
- Food recommendation to users based on their medical record
- Fun facts about allergy