Features:

- users can sign into the app with their email and password
- users can create recipes with ingredients and instructions
- recipes can be marked as public or private
- users can view other people’s recipes
- ingredients from recipes can be added to user’s grocery lists
- users can create their own occasions and assign recipes to occasions

Brainstorming:

- user id
- email
- password
- recipe id
- recipe name
- recipe ingredients
- recipe instructions
- private
- recipe occasions
- grocery id
- grocery name
- grocery ingredients
- occasion id
- occasion name
- occasion recipes

Table Ideas:

- users: information about users’ login
  - user id (PK)
  - email
  - password
- recipes: information about users’ recipes
  - recipe id (PK)
  - user id (FK)
  - list id (FK)
  - occasions id (FK)
  - recipe name
  - recipe ingredients
  - recipe instructions
  - private

    - recipe occasions
- grocery_lists: information about users’ grocery list items
    - list id (PK)
    - user id (FK)
    - recipe id (FK)
    - list name
    - list ingredients
- occasions: information about users’ occasions
    - occasion id (PK)
    - user id (FK)
    - recipe id (FK)
    - occasion name

Relationships:

- one-to-one
    - recipes to grocery lists: recipes can have one list; lists can have one recipe
- one-to-many
    - users to recipes: user can have multiple recipes; one user per recipe
    - users to grocery lists: user can have multiple grocery lists; one user per list
    - users to occasions: user can have multiple occasions; one user per occasion
- many-to-many
    - recipes to occasions: recipes can have multiple occasions; occasions can have multiple recipes
    - grocery lists to occasions: lists can have multiple occasions; occasions can have multiple lists

Columns:

- users
    - user_id (serial): keeps track of individual users. serial to auto increment.
    - email (varchar): unique to every user for login purposes. varchar to account for strings.
    - password (varchar): for user login purposes. varchar to account for strings.
- recipes
    - recipe_id (serial): keeps track of individual recipes. serial to auto increment.
    - user_id (int): foreign key to connect recipes to users. int to account for a number.
    - list_id (int): foreign key to connect recipes to grocery lists. int to account for a number. initial value will be NULL because it might not be attached to a list yet.
    - occasion_id (int): foreign key to connect recipes to occasions. int to account for a number. initial value will be NULL because it might not be attached to an occasion yet.

  - recipe_name (varchar): stores name of recipes. varchar to account for strings.
  - recipe_ingredients (varchar): stores ingredients of recipes. varchar to account for strings.
  - recipe_instructions (varchar): stores instructions of recipes. varchar to account for strings.
  - private (boolean): T/F depending on if the recipe is public or private.
- grocery_lists
  - list_id (serial): keeps track of individual grocery lists. serial to auto increment.
  - user_id (int): foreign key to connect grocery lists to users. int to account for a number.
  - recipe_id (int): foreign key to connect grocery lists to recipes. int to account for a number. initial value will be NULL because it might not be attached to a recipe yet.
  - list_name (varchar): stores name of grocery lists. varchar to account for strings.
  - list_ingredients (varchar): stores ingredients of grocery lists. varchar to account for strings.
- occasions
  - occasion_id (serial): keeps track of individual occasions. serial to auto increment.
  - user_id (int): foreign key to connect occasions to users. int to account for a number.
  - recipe_id (int): foreign key to connect occasions to recipes. int to account for a number. initial value will be NULL because it might not be attached to a recipe yet.
  - occasion_name (varchar): stores name of occasions. varchar to account for strings.

Part 3: Create Tables in SQL

```
CREATE TABLE users (
  user_id SERIAL PRIMARY KEY,
  email VARCHAR (255),
  password VARCHAR(255)
);


CREATE TABLE recipes (
  recipes_id SERIAL PRIMARY KEY,
  user_id INTEGER,
  list_id INTEGER,
  occasion_id INTEGER,
  recipe_name VARCHAR(255),
  recipe_ingredients VARCHAR(255),
  recipe_instructions VARCHAR(255),
  private BOOLEAN
);

CREATE TABLE grocery_lists (
  list_id SERIAL PRIMARY KEY,
  user_id INTEGER,
  recipe_id INTEGER,
  list_name VARCHAR(255),
  list_ingredients VARCHAR(255)
);


CREATE TABLE occasions (
  occasion_id SERIAL PRIMARY KEY,
  user_id INTEGER,
  recipe_id INTEGER,
  occasion_name VARCHAR(255)
);
```

Additional code (inserting data) in VSCode file, data_modeling.sql