Part 1: Conceptual Planning

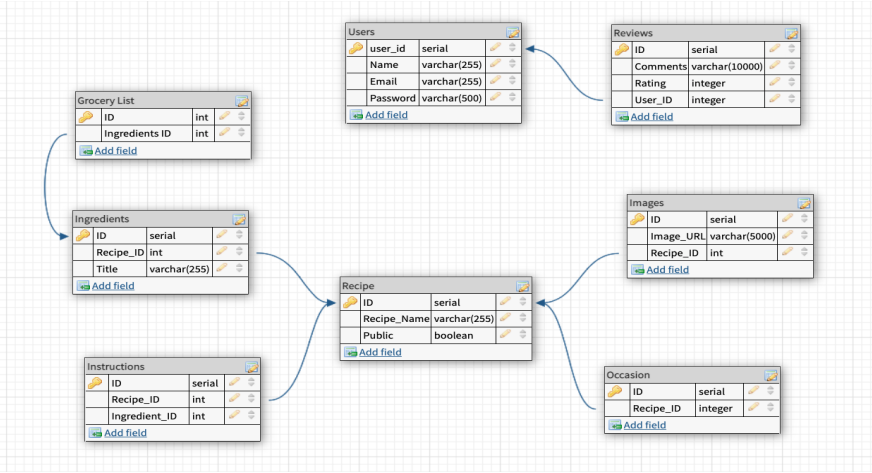
- Step 1: Brainstorming
    - Users
        - ID (Serial Primary Key)
        - Name
        - Email
        - Password
    - Recipe
        - ID (Serial Primary Key)
        - Recipe Name
        - Public or Private
    - Instructions
        - ID (Serial Primary Key)
        - Recipe ID (Foreign Key references Recipe(ID)
        - Ingredient_id (Foreign Key references Ingredients(id)
    - Ingredients
        - ID (Serial Primary Key)
            - ex. Tomato ID
            - ex. Carrot ID
        - Recipe ID (Foreign Key references Recipe(ID)
        - Title
    - Reviews
        - ID (Serial Primary Key)
        - Comments
        - Rating
        - user_ID (Foreign Key references User(id)
    - Occasion
        - ID (Serial Primary Key)
        - Recipe ID (Foreign Key references Recipe(id)
        - Title
    - Grocery Lists
        - ID (Serial Primary Key)
        - Ingredients ID (Foreign Key references Ingredients(id)
    - Images
        - ID (Serial Primary Key)
        - Image_url
            - Image_url
        - Recipe ID (foreign key references Recipe(ID)

Step 2: Table Ideas

- Users
    - This table will house the information for each user.
- Recipe
    - This table will have information about each specific recipe.
- Instructions
    - This table will hold the information on how to cook the meal.
- Ingredients
    - Will contain all ingredients needed for each recipe.
- Reviews
    - This will hold the user comments as well as a rating.
- Occasion
    - Will list different occasions the user will need to prepare for.
- Grocery Lists
    - This will list the ingredients that are called for in the recipe.
- Images
    - Images related to each recipe.

Step 3: Relationships

- One to One
    - User to Image
    - User to Grocery List
    -
- One to Many
    - Recipe to Ingredients
    - Recipe to Reviews
    - User to Reviews
- Many to Many
    - Recipes to Occasions



Columns:

- Users
    - ID (Serial Primary Key) INTEGER
        - So each recipe can be uniquely identified.
    - Name VARCHAR
        - So each user can input their name. Name will take in varying characters.
    - Email VARCHAR
        - So each user can input their email. Email will take in varying characters.
    - Password VARCHAR
        - So each user can create a password. Passwords can be alphanumeric.
- GroceryList
    - ID (Serial Primary Key) INTEGER
        - So each recipe can be uniquely identified.
    - Ingredients ID (Foreign Key) INTEGER
        - So the list can access the ingredients. Its ID will be a number.
- Ingredients
    - ID (Serial Primary Key) INTEGER
        - So each recipe can be uniquely identified.
    - Recipe ID (Foreign Key) INTEGER
        - So the recipe list can be accessed. Recipe ID is a number.
    - Title TEXT
        - This will be the name of each ingredient and it only needs letters.
- Instructions
    - ID (Serial Primary Key) INTEGER
        - So each recipe can be uniquely identified.
    - Recipe ID (Foreign Key) INTEGER
        - Each set of instructions needs to reference a specific Recipe ID of type integer to know which set of instructions to render.
    - Ingredient ID (Foreign Key) INTEGER
        - Every set of instructions needs to access specific Ingredient IDs
- Recipe
    - ID (Serial Primary Key) INTEGER
        - So each recipe can be uniquely identified.
    - Recipe Name VARCHAR
        - Every recipe needs a name that can contain letters or numbers.
    - Public or Private BOOLEAN
        - Each recipe needs to specify whether or not it can be seen by other users. If public is false, it will be set to private.
- Occasion
    - ID (Serial Primary Key)
        - So each recipe can be uniquely identified.
    - Recipe ID INTEGER (Foreign Key)

        - Each occasion needs a recipe ID associated with it and that will be a number.
    - Title VARCHAR
        - Each occasion will need a title and that title could have letters or numbers.
- Images
    - ID (Serial Primary Key)
        - So each image can be uniquely identified.
    - Image_URL VARCHAR (Serial Primary Key)
        - Each image needs a URL that will contain characters/numbers.
    - Recipe_ID INTEGER (Foreign Key)
        - Each image needs to be linked to a Recipe_ID which will be a number.
- Reviews
    - ID (Serial Primary Key)
        - So each recipe can be uniquely identified.
    - Comments VARCHAR
        - The user needs to be able to leave comments in character/number form.
    - Rating INTEGER
        - Each user can leave a number rating.
    - User_ID INTEGER (Foreign Key)
        - We need to know which user posted each review which will be of type integer.

Part 3: Create Tables in SQL

- Users

```
CREATE TABLE users(
   user_id SERIAL PRIMARY KEY,
   name VARCHAR(255),
   email VARCHAR(255),
   password VARCHAR(500)
);
```

- Recipe

```
CREATE TABLE recipe (
  recipe_id SERIAL PRIMARY KEY,
  recipe_name VARCHAR(255),
  recipe_privacy BOOLEAN
 );
```

- Instructions

```
CREATE TABLE instructions (
  instructions_id SERIAL PRIMARY KEY,
  recipe_id INTEGER NOT NULL REFERENCES recipe(recipe_id),
  recipe_title VARCHAR(255)
);
```

- Ingredients

```
CREATE TABLE ingredients (
  ingredient_id SERIAL PRIMARY KEY,
  recipe_id INTEGER NOT NULL REFERENCES recipe(recipe_id),
  title VARCHAR(255)
);
```

- Reviews

```
CREATE TABLE reviews (
  review_id SERIAL PRIMARY KEY,
  comments VARCHAR(10000),
  rating INTEGER,
  user_id INTEGER NOT NULL REFERENCES users(user_id)
);
```

- Occasion

```
CREATE TABLE occasion (
  occasion_id SERIAL PRIMARY KEY,
  recipe_id INTEGER NOT NULL REFERENCES recipe(recipe_id),
  title VARCHAR(255)
);
```

- Grocery Lists

```
CREATE TABLE groceryList (
  grocery_list_id SERIAL PRIMARY KEY,
  ingredients_id INTEGER NOT NULL REFERENCES ingredients(ingredient_id)
);
```

- Images

```
CREATE TABLE images (
  image_id SERIAL PRIMARY KEY,
  image_url VARCHAR (500),
  recipe_id INTEGER NOT NULL REFERENCES recipe(recipe_id)
);
```

Part 4: Inserting in to tables

Users:

```
INSERT INTO users (name, email, password)
        VALUES ('Jane', '123@gmail.com', 123456);

INSERT INTO users (name, email, password)
        VALUES ('John', '456@gmail.com', 105978654568);
```

Recipes:

```
INSERT INTO recipe (recipe_name, recipe_privacy)
        VALUES ('Chicken Noodle Soup', True);
```

Reviews:

```
INSERT INTO reviews (comments, rating, user_id)
        VALUES ('It was bad', 3, 2);

INSERT INTO reviews (comments, rating, user_id)
        VALUES ('It was good’, 6, 1);
```