Brainstorming:

USER

- User email
- User password
- User grocery list

- User recipes

Recipes

- Ingredients
- User who submitted the recipe

Occasions

- User who created the occasion
- Recipes to use for the occasion
-

TABLES:

User

- User_id SERIAL PRIMARY KEY
- User_email VARCHAR
- User_password VARCHAR
- User_grocery_list INT NOT NULL REFERENCE Grocery_list(grocery_list_id)

Ingredients_recipes --This is an association table

- Ingredient_recipes_id SERIAL PRIMARY KEY
- Ingredient_id INT NOT NULL REFERENCES ingredients(ingredient_id)
- Recipe_id INT NOT NULL REFERENCES recipes(recipe_id)

ingredients

- Ingredient_id SERIAL PRIMARY KEY
- Ingredient_name VARCHAR
- Description VARCHAR

Recipes

- Recipe_id SERIAL PRIMARY KEY

- Recipe_name VARCHAR
- Creator_id INT NOT NULL REFERENCES users(user_id)
- Instructions TEXT

Occasions
- Occasion_id SERIAL PRIMARY KEY
- Occasion_name VARCHAR
- Occasion_location VARCHAR
- Occasion_date DATE
- User_id INT NOT NULL REFERENCES users(user_id)

Occasion_recipes --This is an association table
- Occasion_recipe_id SERIAL PRIMARY KEY
- Occasion_id INT NOT NULL REFERENCES occasions(occasion_id)
- Recipe_id INT NOT NULL REFERENCES recipes(recipe_id)

Grocery_list
- Grocery_list_id SERIAL PRIMARY KEY
- User_id NOT NULL REFERENCES UNIQUE users(user_id)
- List INT NOT NULL REFERENCES ingredients(ingredient_id)

Grocery_ingredients
- grocery_ingredient_id SERIAL PRIMARY KEY
- grocery_list_id INT NOT NULL REFERENCES grocery_list(grocery_list_id)
- grocery_ingredient_name INT NOT NULL REFERENCES ingredients(ingredient_id)

RELATIONSHIPS:

One to one
- User to grocery list (each user has one and only one grocery list and each grocery list only belongs to a single user)

Many to many
- Ingredients to recipes (many ingredients, many recipes)
- Recipes to occasions (many occasions, many recipes)

One to many
- User to recipes (one user, many recipes)
- User to occasions (one user, many occasions)
- ingredients to grocery list (one grocery list, many ingredients)

COLUMNS:

User

- User_id SERIAL PRIMARY KEY
- User_name VARCHAR(15)
- User_email VARCHAR(30)(I selected VARCHAR here to limit the length of the string to save memory)
- User_password VARCHAR(20) (I selected VARCHAR here to limit the length of the string to save memory)
- User_grocery_list INT NOT NULL REFERENCE Grocery_list(grocery_list_id)

Ingredients_recipes --This is an association table. This table allows for multiple recipes to be linked to multiple ingredients, and multiple ingredients to be linked to multiple recipes.

- Ingredient_recipes_id SERIAL PRIMARY KEY
- Ingredient_id INT NOT NULL REFERENCES ingredients(ingredient_id)
- Recipe_id INT NOT NULL REFERENCES recipes(recipe_id)

ingredients

- Ingredient_id SERIAL PRIMARY KEY
- Ingredient_name VARCHAR (I selected VARCHAR here to limit the length of the string to save memory)
- Description VARCHAR (I selected VARCHAR here to limit the length of the string to save memory)(I included this column so that if a user comes across an ingredient they've never heard of before, they can learn a little bit about it.)

Recipes

- Recipe_id SERIAL PRIMARY KEY
- Recipe_name VARCHAR (I selected VARCHAR here to limit the length of the string to save memory)
- Creator_id INT NOT NULL REFERENCES users(user_id)
- Instructions TEXT (I selected TEXT so that users would be able to describe the cooking process in detail.)

Occasions

- Occasion_id SERIAL PRIMARY KEY
- Occasion_name VARCHAR (I selected VARCHAR here to limit the length of the string to save memory)
- Occasion_location VARCHAR (I selected VARCHAR here to limit the length of the string to save memory)
- Occasion_date DATE (I selected DATE because SQL allows that datatype)
- Occasion_time TIME (I selected TIME because SQL allows that datatype)
- User_id INT NOT NULL REFERENCES users(user_id)

Occasion_recipes --This is an association table. This table allows for recipes to be linked to multiple occasions, and occasions to be linked to multiple recipes.

- Occasion_recipe_id SERIAL PRIMARY KEY
- Occasion_id INT NOT NULL REFERENCES occasions(occasion_id)
- Recipe_id INT NOT NULL REFERENCES recipes(recipe_id)

Grocery_list

- Grocery_list_id SERIAL PRIMARY KEY
- User_id NOT NULL REFERENCES UNIQUE users(user_id)
- List INT NOT NULL REFERENCES ingredients(ingredient_id)

Grocery_ingredients

- grocery_ingredient_id SERIAL PRIMARY KEY
- grocery_list_id INT NOT NULL REFERENCES grocery_list(grocery_list_id)
- grocery_ingredient_name INT NOT NULL REFERENCES ingredients(ingredient_id)

SQL code:

```
CREATE TABLE users(
    user_id SERIAL PRIMARY KEY,
    user_name VARCHAR(15),
    user_email VARCHAR(30),
    user_password VARCHAR(20)
);

CREATE TABLE recipes(
    recipe_id SERIAL PRIMARY KEY,
    recipe_name VARCHAR(30),
    creator_id INT NOT NULL REFERENCES users(user_id),
    instructions TEXT
);

CREATE TABLE ingredients(
    ingredient_id SERIAL PRIMARY KEY,
    ingredient_name VARCHAR(20),
    ingredient_description VARCHAR(100)
);
```

```sql
CREATE TABLE ingredients_recipes(
    ingredient_recipe_id SERIAL PRIMARY KEY,
    ingredient_id INT NOT NULL REFERENCES ingredients(ingredient_id),
    recipe_id INT NOT NULL REFERENCES recipes(recipe_id)
);

CREATE TABLE occasions(
    occasion_id SERIAL PRIMARY KEY,
    occasion_name VARCHAR(30),
    occasion_location VARCHAR(40),
    occasion_date DATE,
    occasion_time TIME,
    occasion_creator_id INT NOT NULL REFERENCES users(user_id)
);

CREATE TABLE recipes_occasions(
    recipe_occasion_id SERIAL PRIMARY KEY,
    recipe_id INT NOT NULL REFERENCES recipes(recipe_id),
    occasion_id INT NOT NULL REFERENCES occasions(occasion_id)
);

CREATE TABLE grocery_lists(
    grocery_list_id SERIAL PRIMARY KEY,
    user_id INT NOT NULL UNIQUE REFERENCES users(user_id)
);

CREATE TABLE grocery_ingredients(
    grocery_ingredient_id SERIAL PRIMARY KEY,
    grocery_list_id INT NOT NULL REFERENCES
grocery_lists(grocery_list_id),
    ingredient_id INT NOT NULL REFERENCES ingredients(ingredient_id)
);

INSERT INTO users(user_name,user_email,user_password)
VALUES
    ('Carston Work', 'carston.work@gmail.com','killerdolphins'),
    ('Jack Erekson', 'jackknowsbest@yahoo.com','monkeysarecool');
```

```
INSERT INTO recipes(recipe_name,creator_id,instructions)
VALUES
    ('Chicken fajitas',1,'Take some chickens and kill them. Pluck ALL
their feathers off and then chop up their meat. Cook until no longer pink.
Go find a wheat field and harvest the grain without the farmer seeing you.
Mash grain into flour and then mix with water to make a tortilla. Wrap the
chicken meat in the tortilla and then stuff into your face. The end.');
```