Brainstorming

- Users
- Recipes
- Ingredients
- Username, password
- public/private setting
- prices

Table Ideas

Users
- User id
- Username
- Password
- Email

Recipes
- Recipe id
- Posted by: User id
- Ingredients id
- Total prep time
- Required equipment
- public/private setting

Ingredients
- Ingredients ID
- Price

Cart
- User id
- Ingredients id
- Price
- quantity

Orders
- Order id
- User id
- Cart id

- Total price
- Discounts
- Street address
- City
- State
- Country
- Phone number
- email

Recipe_ingredient
- Recipe_id
- Ingredient.id

Cart_ingredient
- Cart_id
- Ingredient.id

Relationships

One-to-one
- Cart.id to order.id - each order can take only one cart and each cart can go to only one order.

One-to-many
- Users.id to recipe.id - a user can post multiple recipes but a recipe can only have one user.
- Users.id to cart.id - a user can have multiple carts but a cart can only have one user.
- Users.id to order.id - a user can make multiple orders but only one user per order.

Many-to-many
- Recipe.id to ingredients.id - recipes can use multiple ingredients and ingredients can appear in multiple recipes.
- Cart.id to ingredients,id - carts can take many ingredients and ingredients can be found in many carts.

SQL

```sql
CREATE TABLE users (
 id SERIAL PRIMARY KEY,
 username VARCHAR(20) NOT NULL,
 password VARCHAR(20) NOT NULL,
 email VARCHAR(40) NOT NULL
 );

CREATE TABLE recipe (
id SERIAL PRIMARY KEY,
posted_by NOT NULL REFERENCES users(id),
posted_date TIMESTAMP NOT NULL,
prep_time FLOAT NOT NULL,
equipment TEXT NOT NULL,
public BOOLEAN NOT NULL
);

CREATE TABLE ingredients (
id SERIAL PRIMARY KEY,
name VARCHAR(40) NOT NULL,
price FLOAT NOT NULL
);

CREATE TABLE carts (
id SERIAL PRIMARY KEY,
user_id NOT NULL REFERENCES users(id),
quantity INTEGER NOT NULL
);

CREATE TABLE order (
id SERIAL PRIMARY KEY,
user_id NOT NULL REFERENCES users(id),
cart_id NOT NULL REFERENCES carts(id),
total_price FLOAT NOT NULL,
discounts FLOAT,
street_address VARCHAR(50) NOT NULL,
city VARCHAR(25) NOT NULL,
state VARCHAR(20) NOT NULL,
country VARCHAR(20) NOT NULL,
```

```
phone_number VARCHAR(10) NOT NULL,
email NOT NULL REFERENCES users(email)
);

CREATE TABLE recipe_ingredient (
recipe_id NOT NULL REFERENCES recipe(id),
ingredient_id NOT NULL REFERENCES ingredients(id)
);

CREATE TABLE cart_ingredient (
cart_id NOT NULL REFERENCES carts(id),
ingredient_id NOT NULL REFERENCES ingredients(id)
);
```