

## Week 3 Hands On Labs

These ungraded hands-on-lab will help you build your skills working with combining information from multiple tables. I've provided a reasonable solution; your solution may reasonably look somewhat different.

In our Week 2 meet up, we designed four tables for a recipes database. ***The information on the next page summarizes our design work.*** Your task is to create the recipes database, create four tables, populate the database with sample data, and write two join statements to combine data from a one-to-many and a many-to-many table.

You are welcome to use your own sample recipes, but please generally follow the guidelines below.

There are a number of ways to write the code. Because the sample solution provided implements referential integrity, tables need to be dropped, created, and populated following certain rules.

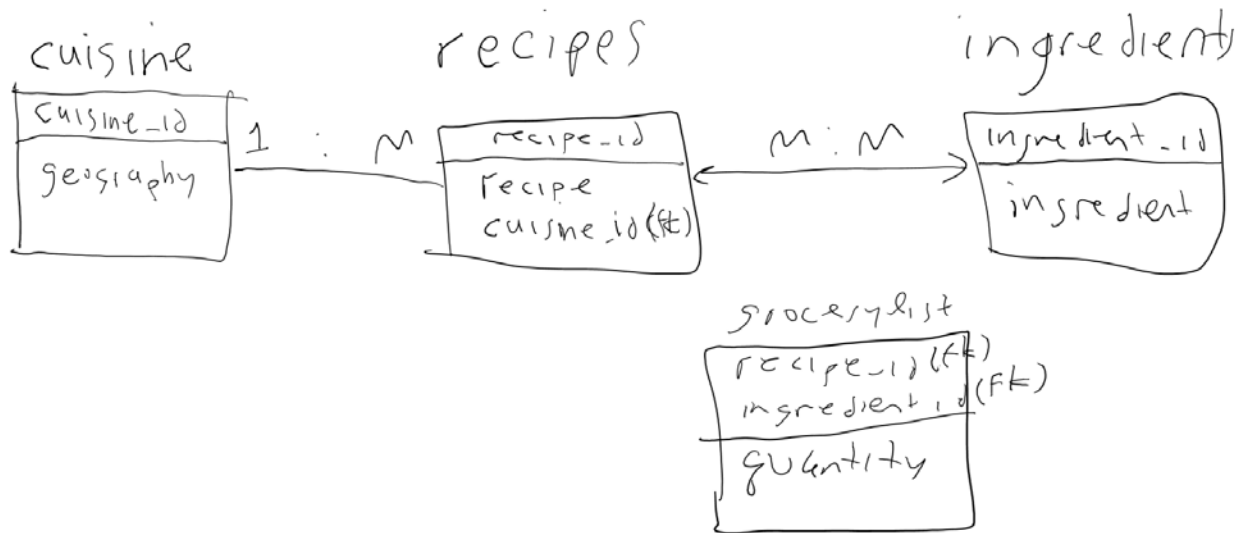
1. Using pgadmin's graphical user interface, or psql, create a new database called `recipes`. All of the work below should be completed in the `recipes` database.
2. You should first create two tables, `tblCuisine` and `tblRecipes`. Each type of cuisine can have many recipes. Populate the two tables with a few records.
3. Write a JOIN statement that shows the types of cuisines and associated recipes that you entered. *It is good practice to check your work as you go by writing statements like this!*

	geography character varying	recipe character varying
1	French	Cassoulet
2	French	Escargot
3	Italian	Penne a la vodka
4	Korean	Bulgogi
5	Korean	Kimchi

4. You should add a table called `tblIngredients`. There should be a many-to-many relationship between `tblIngredients` and `tblRecipes`. To create a many-to-many relationship in SQL, you'll need a link table, which you should call `tblGroceryList`. Populate the tables with some appropriate sample information.
5. Write a JOIN statement that shows the information from the recipes, ingredients, and grocery list tables.

	recipe character varying	ingredient character varying	quantity integer
1	Bulgogi	Beef	1
2	Bulgogi	Onions	2
3	Cassoulet	Duck	2
4	Cassoulet	Onions	2
5	Cassoulet	White beans	100
6	Kimchi	Cabbage	3
7	Kimchi	Onions	1
8	Pizza	Flour	1
9	Pizza	Tomato	7

Here is the information from the recipes database, as we collaboratively designed in the week 2 meetup:



**tblCuisine**

cuisine_id	geography
1	Korean
2	French
3	Italian
5	Moroccan

**tblIngredients**

ingredient_id	ingredient
1	Beef
2	Tomato Sauce
3	Snails
4	Cabbage
5	Penne
6	Onions
7	White beans
8	Duck
9	Tomato
10	Flour

**tblRecipes**

recipe_id	recipe	cuisine_id
1	Penne a la vodka	3
2	Pizza	NULL
3	Cassoulet	2
4	Bulgogi	1
5	Kimchi	1
7	Escargot	2

**tblGroceryList**

recipe_id	ingredient_id	quantity
4	6	2
4	1	1
5	6	1
5	4	3
3	6	2
3	7	100
3	8	2
2	9	7
2	10	1