Hand on Lab: SQL Data Definition Language

These ungraded hands-on-lab will help you build your skills working with creating tables and inserting rows. I've provided a reasonable solution; your solution may reasonably look somewhat different.

The information on the next page summarizes requirements for a database for information related to recipes. Your task is to create the recipes database, create four tables, and populate the database with sample data. You are asked to write two join statements to combine data from a one-to-many and a many-to-many table. We will cover joins in detail in Weeks 5 and 6; they are included here so you can type them in and check your data entry work.

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 the MySQL SQL Workbench graphical user interface, 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. Please just type in the JOIN from the provided solution if you have not worked with JOINs before. *It is good practice to check your work as you go by writing statements like this!*

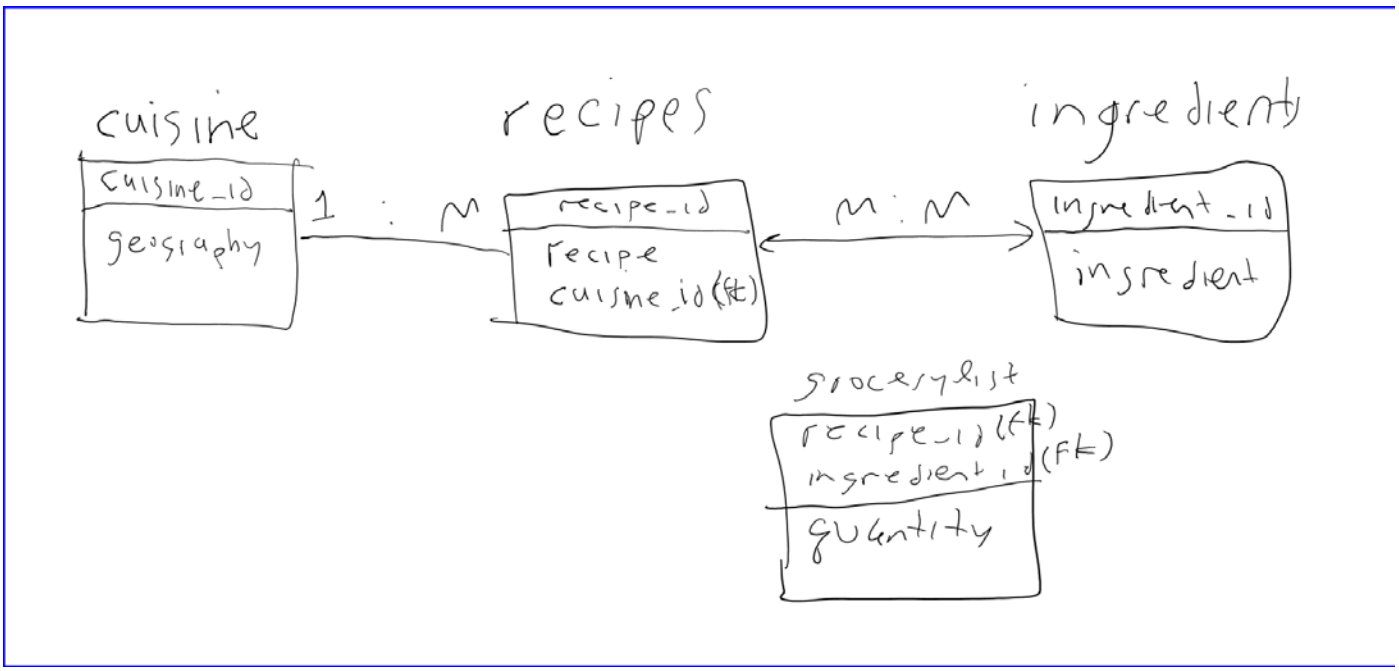
	geography character varying	recipe character varying
1	French	Cassoulet
2	French	Escargot
3	Italian	Penne a la vodka
4	Korean	Bulgogi
5	Korean	Kimchi

4. You should add a table called `tblngredients`. 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. Again, please just type in the JOIN from the provided solution if you have not worked with JOINs before.

	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 a whiteboard sketch for a conceptual data model for our recipes database



This shows the column names and sample data for the rows that you'll need to insert in your four tables.

tblCuisine

cusine_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	cusine_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