Exercise 1.6: Connecting to Databases in Python

Learning Goals

- Create a MySQL database for your Recipe app

Reflection Questions

1. What are databases and what are the advantages of using them?

   Databases are collections of data that are stored and organized in different structures, depending on what kind of database used. For example, a Relational DBMS like MySQL stores data inside tables that use columns and rows. Advantages to using databases to store data include efficient storage/retrieval of data, data integrity, and security.

2. List 3 data types that can be used in MySQL and describe them briefly:

Data type	Definition
VARCHAR	This data type is a variable length string, meaning it is not padded to fit the max number specified unlike CHAR. Takes a parameter that defines the maximum length that the string can be.
INT	Represents an integer, or a whole number, for numerical data where decimal values are not needed.
DATETIME	Represents a date and time combination that is stored in the formatted of: YYYY-MM-DD HH:MM:SS

3. In what situations would SQLite be a better choice than MySQL?

   SQLite is a portable version of MySQL, meaning it doesn't require an installation or set up process to use it. This comes in handy in situations where you want to test a database without having to set up an entire database engine or you only need a very small scale, simple database.

4. Think back to what you learned in the Immersion course. What do you think about the differences between JavaScript and Python as programming languages?

   There are differences that I have to make a conscience effort to remember while writing Python scripts. Python seems a lot more user friendly and like it would be good as a first language to learn but it's also a little stricter than JavaScript when it comes to things like how arrays are handled and comparing value.

5. Now that you're nearly at the end of Achievement 1, consider what you know about Python so far. What would you say are the limitations of Python as a programming language?

   Although I haven't run into any limitations so far with the tasks we've done, a quick search shows that a big limitation of Python is speed. It is an interpreted language, so it's translated line by line as the program runs. Not only that, but its memory consumption is so high that it is not recommended to use Python for any memory intensive tasks.