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 structured collections of data that allow for efficient storage, retrieval, and management of information. They support various operations such as querying, updating, and administration.

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

Data type	Definition
INT	Stores integer values. Suitable for storing numerical data without decimal points.
VARCHAR	Stores variable-length strings. Used for text entries where the length can vary, such as names or addresses.
TEXT	Stores large text strings. Used for storing large amounts of textual data such as articles, descriptions, or comments. It has a maximum length of 65,535 characters.

3. In what situations would SQLite be a better choice than MySQL?
   - SQLite is better suited for apps that need lightweight database solutions such as mobile apps or small desktop applications. It is more useful for quick development and testing without the need for a separate database server.

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?
   - Syntax and Readability: Python is often praised for its readability and simplicity, whereas JavaScript has a more complex syntax due to its origins and use cases.
   - Use Cases: Python is a general-purpose language, while JavaScript is predominantly used for web development.
   - Execution Environment: JavaScript runs in the browser, while Python typically runs on the server or in standalone applications.

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?
   - Performance: Python is an interpreted language and can be slower than compiled languages like C++ or Java, especially in performance-critical applications.

- Mobile Development: Python is not commonly used for mobile application development, where languages like Swift (iOS) and Kotlin (Android) are preferred.
- Dynamic Typing: While dynamic typing provides flexibility, it can lead to runtime errors that are harder to catch during development compared to statically-typed languages.