

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 organized collections of data and have various advantages over regular local storage. Databases keep data in standardized formats that can be stored and accessed more easily, and they can be made more secure through password access. Additionally, because of their standardized formats, they can be accessed by applications other than Python.
2. List 3 data types that can be used in MySQL and describe them briefly:

Data type	Definition
DATE	Used to represent dates and stores them as values in the format YYYY-MM-DD.
INT	Integer that represents whole numbers without any fractional component or decimal.
ENUM	A string object whose value is chosen from a list of permitted values defined at the time of the column creation.

3. In what situations would SQLite be a better choice than MySQL?
 - SQLite would be better suited for times when you are working with a very simple database like a web page for a shop that stores customers' email addresses. It is also useful for testing a database without setting up an entire database engine.

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?
 - In general, JavaScript is primarily used for front-end development and the more dominant language for web development, as it runs natively in web browsers. Though it can be used for back-end development, it is a great language for developing websites and web applications.
 - Python, on the other hand, is known more for its general use and is widely used for back-end development, data analysis, machine learning, AI, automation, and scripting. Python is often used on servers, in local applications, or in environments for data science.
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?
 - Python is known to have slower performance speed than compiled languages like C, C++, or Java. Because of this, it is not suitable for some higher-performance computing tasks like a real-time system. In large-scale database applications Python may experience bottlenecks from this limitation as well.
 - Additionally, Python is not commonly used for mobile app and web development, as it is used primarily for back-end development and more suited for tasks like data analysis and machine learning.