EXERCISE 1.6: CONNECTING TO DATABASES IN PYTHON

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

Databases are external storage systems with the benefit of being able to store data permanently and securely and reading or modifying them easily without risk of losing data once a file stream is closed.

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

Data type	Definition
INT	A whole number, either positive, negative, or zero.
DATE	A date value, represented in the format YYYY-MM-DD.
VARCHAR	A string of characters with a variable length, up to a maximum length specified by the user.

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

SQLite is better suited for:

- Small to medium-sized applications
- Self-contained databases
- Single-user or small group access
- Embedded databases

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?

JavaScript and Python are both high-level programming languages, but the biggest difference is the simplicity in Python's syntax and structure. JavaScript is primarily used for client-side scripting in web browsers, while Python is a general-purpose language that can be used for web development, data analysis, machine learning, and more. Python is known for its simplicity, readability, and large standard library.

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?*

Based on my brief experience with Python, I've noticed that it has some limitations. In paticular, Python has slow performance, database access can be cumbersome, and it's not typically used for mobile and web application development, despite its simplicity and versatility.