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

Databases are organized collections of data that can be easily accessed, managed, and updated. They offer advantages such as efficient data storage, quick retrieval of information, data integrity, concurrent access by multiple users, and support for data security measures like encryption and access control. Additionally, databases facilitate data analysis, reporting, and scalability, making them essential for modern information management.

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

Data type	Definition
Integer	Used to store whole numbers without decimal points. It can be signed or unsigned, with different storage sizes depending on the range of values required.
VARCHAR	Variable-length character string data type used for storing alphanumeric characters. The length of the VARCHAR field can vary, up to a
Date	Stores date values in the format YYYY-MM-DD. It is used to represent dates without time information, suitable for storing birth dates, event dates, and other calendar-based information.

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

SQLite might be a better choice than MySQL in situations where simplicity, portability, and ease of setup are prioritized over scalability and concurrent access. It's suitable for smaller-scale projects or applications that don't require the robust features and performance optimizations provided by client-server databases like MySQL. Additionally, SQLite can be advantageous for embedded systems, mobile applications, or scenarios where a standalone database is sufficient and there's a need for minimal administration overhead.

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?

Seeing the differences in JS and Python have been very eye opening. It really expanded my concept of how to go about ‘thinking like a coder’ so to speak. I see advantages for both, and look forward to utilizing both.

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?

So far, from what I can tell the main limitations lie in its performance and memory consumption based on its interpreted nature and dynamic typing.