Over the span of this course, I have learned quite a bit. Coming into the course, I had zero experience with databases. In my mind, I envisioned them essentially as large Excel spreadsheets. Now I know that that is not only not the case, but that databases come in multiple varieties, and that there is more than one language to work with them in. These realizations have led to several thoughts on my part.

One of the first things I had to realize was that SQL is not the only database management language. It was the only one I had heard of before this class, and I gather that that is because it is still the most popular, but not always the best for a given database. NoSQL is different from SQL in one major way, and a few lesser ways. So, what’s the biggest difference? NoSQL databases are not built in the in the same way as an SQL database. They are not based on rows and columns, but rather on records made up of multiple documents containing many different forms of data. This allows for much more flexibility in the way the database is first built, and greater scalability horizontally, adding servers or nodes to handle increased load. The lack of the row-and-column structure leads to four main types of NoSQL databases. These are column-oriented, key-value stores, document stores, and graph databases.

Alternatively, SQL databases are straightforward affairs, storing data in rows and columns. This data has to be the same type in each column. This works fine for collections of related data, which is where the term relational database comes from. Much more forethought and careful planning has to go into designing this kind of database, and they grow vertically, which means more memory has to be added to increase their size.

Although the syntax for SQL is much more similar to spoken English, I found the NoSQL to be easier to understand for the purposes of writing the actual code. This made it my favorite of the two types. While the syntax of SQL statements is closer to English, it is also every bit as picky, and NoSQL is written largely in Python, which I found to be easier to understand.

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