In this module's discussion board assignment, research “SQL Table Joins” and summarize your findings. In your writing be sure to discuss:

1. Inner joins
2. Outer joins
3. Left/right joins

Joining tables in a relational database is is the main thing that takes a bunch of piles of information and makes a neat, useful pile of information. The idea is simple you. You choose a “left” table and a “right” table and join them together if a column on the left matches a rule when comparing the same column in the right table.

I found a YouTube video that did a very good job of visually explaining how join operations work. <https://www.youtube.com/watch?v=9yeOJ0ZMUYw>

The video uses an imaginary scenario where there are bases on Mars in one table and Martians in another table. The base\_id column uniquely identifies each base in the bases table and identifies which base the Martian lives at in the Martian table. They make a good point to show that it’s possible there are Martians with no home base and home bases that have no Martians. That is where the four different types of join come into play. The most commonly used join is the INNER join. This will match a row in the left table (here, Martians) with a row in the right table where the base\_id matches. This way, you can get a list of Martians and the name of their base. But what happens when there is a Martian with no base? With an INNER join, that Martian will not be returned by the query because there is no match. A LEFT join would cause the Martian with no base to be returned, with a NULL for values from the right table. A RIGHT join would cause the base with no Martians living in it to be returned with NULL values for the Martian. Lastly, a FULL join would combine the LEFT and RIGHT and return what both of them would have returned if ran separately.

The video had some nice animation that made this easily click in my head, I’d suggest giving it a watch if you only read a text and were left a little confused.