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Assignment 05

Intro to DB

**Assignment 5 Joins**

**Introduction**

In SQL joins are a common practice to refer to information across different tables. More specifically Joins are used to combine rows from two or more tables, based on a related column between them (External Link, w3schools.com 1). This means that the join must be connected across the tables using some kind of unique identifier. The first step to understanding joins is knowing where to use them, and then what kinds of joins exist.

**When to use a Join**

The easiest way to explain when to use a join would be when data needs to be accessed across multiple tables. Not all data is pulled from a single table, and the primary use of a relational database is to store data in different places and link them logically through ID’s. Then when the data is queried, it can be pulled easily from across the database with ease.

**Different types of Joins**

There are about 3 different main types of joins, all used in varying situations. Inner join, outer join, and cross join. And within these joins there are also smaller variations such as left join, right join, full outer join, and self join. First an inner join returns records that have matching values in both tables (External Link, W3schools.com 1). This means that it will only display information when rows in the right table and left table match up. This is also the default join and unless otherwise specified will be used with the term JOIN. Second is the outer join, this clause can be broken down into multiple parts that return matching rows in either the left table, right table, or both tables. This is useful when there is a need for more information from tables, but not necessarily a need to have all data line up with a matching row from another table. The last join is called a cross join, this clause multiplies all rows from both tables displaying all possible information whether it has a matching row or not (External Link, w3resource.com 1).

**Self join**

There is a very specific type of inner join called a self join in which a join clause is used, not to join with another table, but with itself. So if there is a need to compare a column with another column within its own table.This doesn't happen very often, but in some cases a column may reference another column within its own table. And when that reference needs to be made in a query, a self join is used.

**Conclusion**

Joins are a very useful part of SQL and are used very frequently in relational databases. And the terms that are used along with them are inner, outer, and cross join clauses.

**References**

External link 1 - <https://www.w3schools.com/sql/sql_join.asp>

External link 2 - <https://www.w3resource.com/sql/joins/cross-join.php>