SQL BOOTCAMP: LEARNING THE LANGUAGE

TAKEAWAYS

‣ SQL stands for Structured Query Language.
‣ SQL is implemented through several management tools, including SQLite, PostgreSQL, MySQL, MS SQL, and Oracle, all of which have slightly different syntax as well as pros and cons.
‣ A query is a bit of code run in SQL that alters or searches for information in a database.

SYNTAX

SQL COMMAND	FUNCTION
`SELECT content FROM table`	*Returns information from a particular table. Content may include the names of one or more columns, the wildcard * to select all columns, or an aggregate function (SUM(col), MIN(col), MAX(col), COUNT(col), AVG(col)) if a GROUP BY appears in the statement.*
`CAST(field AS type)`	*Changes the content of the given column to the new datatype.*
`WHERE conditions`	*Filters SELECT statement according to the given conditions. Statements are defined using operators (=, !=, <, <=, >, >=, IN, LIKE, BETWEEN), which can be grouped using AND and OR statements.*

`(SELECT statement 1)`
`UNION`
`(SELECT statement 2)`
	Merges data from two SELECT statements into one column. Data can include one or more columns from one or more tables. This removes duplicates; using UNION ALL will include them.

`SELECT table1.col1, table2.col2 FROM table1 JOIN table2 ON table1.id_col = table2.id_col`	*Uses fields from two different tables in the final results. Tables can also be called using aliases by adding the alias name after the table name in the FROM clause.*
`GROUP BY column`	*Sorts data into subgroups of categories within the given column.*
`HAVING condition`	*Filters data based on conditions of aggregate measures (e.g., SUM(col) > 10).*
`ORDER BY column`	*Sorts results according to specified column. Defaults ascending; add DESC to return descending results.*
`LIMIT number`	*Returns only the first n results.*
`JOIN`	`SELECT content FROM primary_table JOIN TYPE secondary_table ON primary_table.ID_column = secondary_table.ID_column` *(EXCEPTION and CROSS JOIN statements do not include the ON clause)*

RESOURCES

‣ Joins vs Unions: http://www.essentialsql.com/what-is-the-difference-between-a-join-and-a-union/
‣ Inner and Outer Joins: https://learn.co/lessons/sql-complex-joins-readme
‣ AND/OR: https://www.techonthenet.com/sql/and_or.php
‣ Cast and Convert Functions: https://msdn.microsoft.com/en-us/library/ms187928.aspx
‣ Guide to SQL Queries: http://sqlguides.com/sql_basic.php
‣ Another guide to SQL commands: http://www.dofactory.com/sql/tutorial