

Course Glossary: Introduction to SQL

- **Relational database:** A database stores and organizes data inside a computer. A relational database defines relationships between tables of data inside the database.
- **Table:** Database information is housed in objects called tables, with data organized into rows and columns.
- **Unique Identifier / Key:** A column or combination of columns used to uniquely identify each record in a table (e.g., customer ID).
- **Server:** The information we find in a database table is physically stored on the hard disk of a server. Servers are centralized computers that perform services. In our case, the service is data access, but we also use servers to access websites or files stored on the server. Any computer can be a server if it is set up to provide a service, even a laptop! However, servers are generally very powerful and large machines, because they are best equipped to handle a high volume of requests and data.
- **Records:** A record is a row in a table. It holds data on an individual observation.
- **Fields:** A field is a column in a table. It holds one piece of information about all observations in the table.
- **String:** Use the string data type to store text.
- **Integer:** Integer data types store whole numbers, such as 5 or 100.
- **Float:** Float data types store numbers that include a fractional part, such as 5.5 or 100.07.
- **Unique identifier:** A unique identifier, sometimes called a "key" is just what it sounds like: a unique value which identifies a record so that it can be distinguished from other records.
- **Schema:** Schemas are often referred to as "blueprints" of databases. A schema shows a database's design, such as what tables are included in the database and any relationships between its tables.
- **SQL:** S-Q-L, often pronounced "sequel," is short for Structured Query Language. SQL is the most widely used programming language for creating, querying, and updating relational databases.
- **Keyword:** SQL has many keywords, which are reserved words used to indicate what operation we'd like our code to perform. The most important keyword is SELECT, as every query starts with it.
- **View:** In SQL, a view refers to a table which is the result of a saved SQL SELECT statement. Views are considered virtual tables, which means that the data a view contains is not generally stored in the database. Rather, it is the query that is stored for future use.
- **SQL Flavor:** SQL has a few different versions, or flavors. Some are free, while some have customer support and are made to complement major databases such as Microsoft Access or Oracle Database, which are used by many companies. All SQL flavors are used with table-based relational databases like the ones we've seen, and the vast majority of keywords are shared between them! In fact, all SQL flavors must follow universal standards set by the International Organization for Standards and the American National Standards Institute. It's only additional features on top of these standards that result in different SQL flavors.
- **PostgreSQL:** PostgreSQL is a free and open source relational database system which was originally created at the University of California, Berkeley and was sponsored by America's famous Defense Advanced Research Projects Agency (DARPA), which also sponsored research leading to creating the internet, the computer mouse, and GPS!
- **SQL Server:** SQL Server is also a relational database system which comes in both free and enterprise versions. It was created by Microsoft, so it pairs well with other Microsoft products such as Microsoft Access. T-SQL is Microsoft's proprietary version of SQL, used with SQL Server databases.