



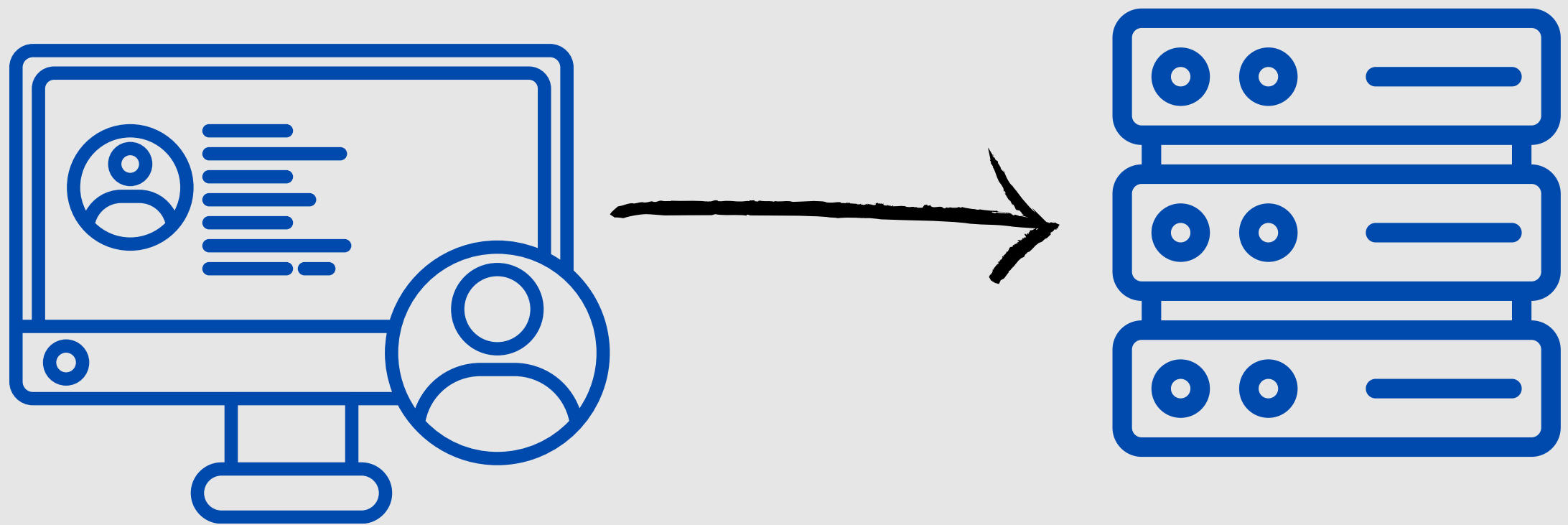
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# WHAT IS **SQL** ?



# INTRODUCTION:

Structured query language (SQL) is a programming language for storing and processing information in a relational database. A relational database stores information in tabular form, with rows and columns representing different data attributes and the various relationships between the data values.

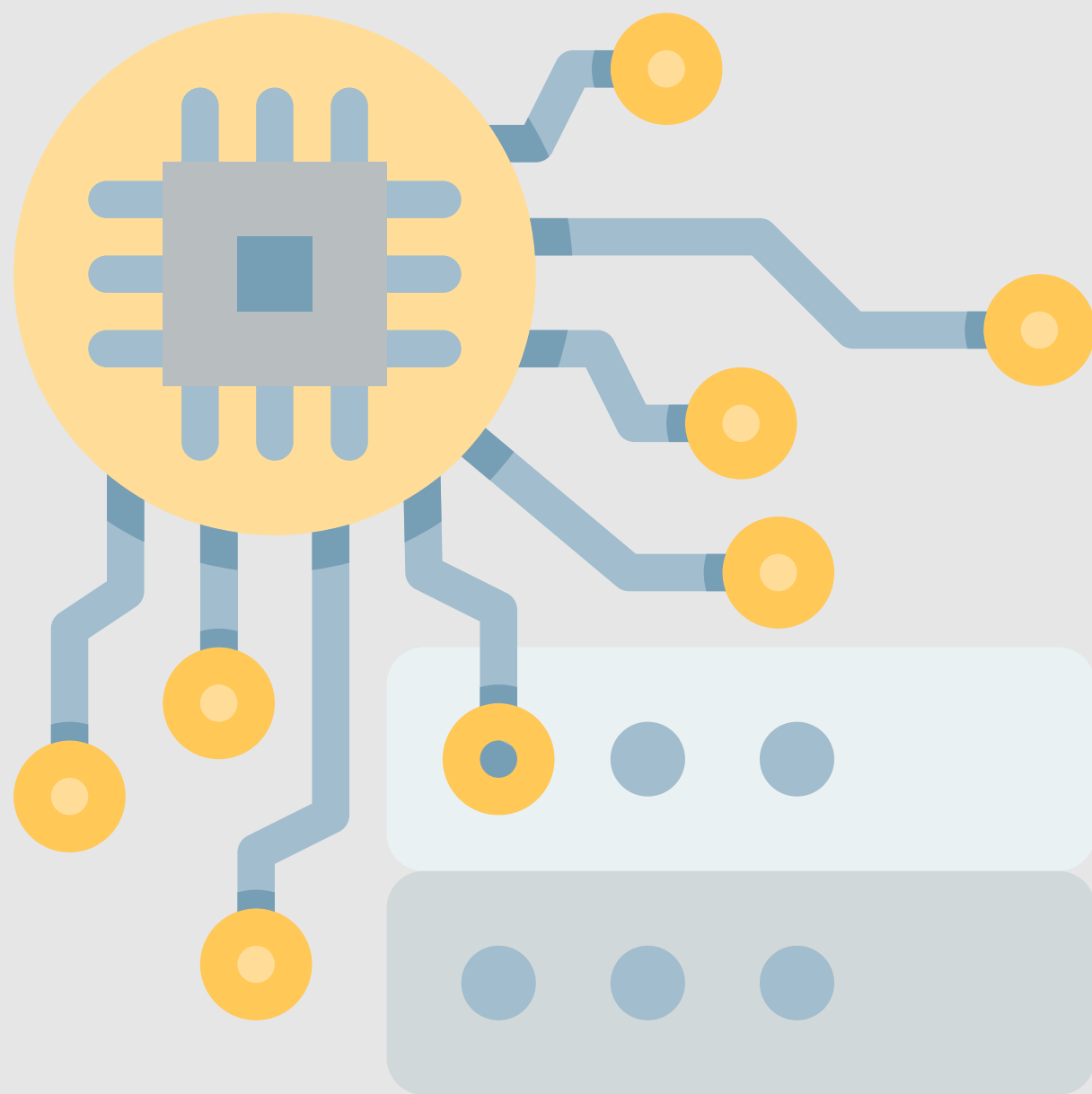


**client**

**Database**



You can use SQL statements to store, update, remove, search, and retrieve information from the database.



You can also use SQL to maintain and optimize database performance.

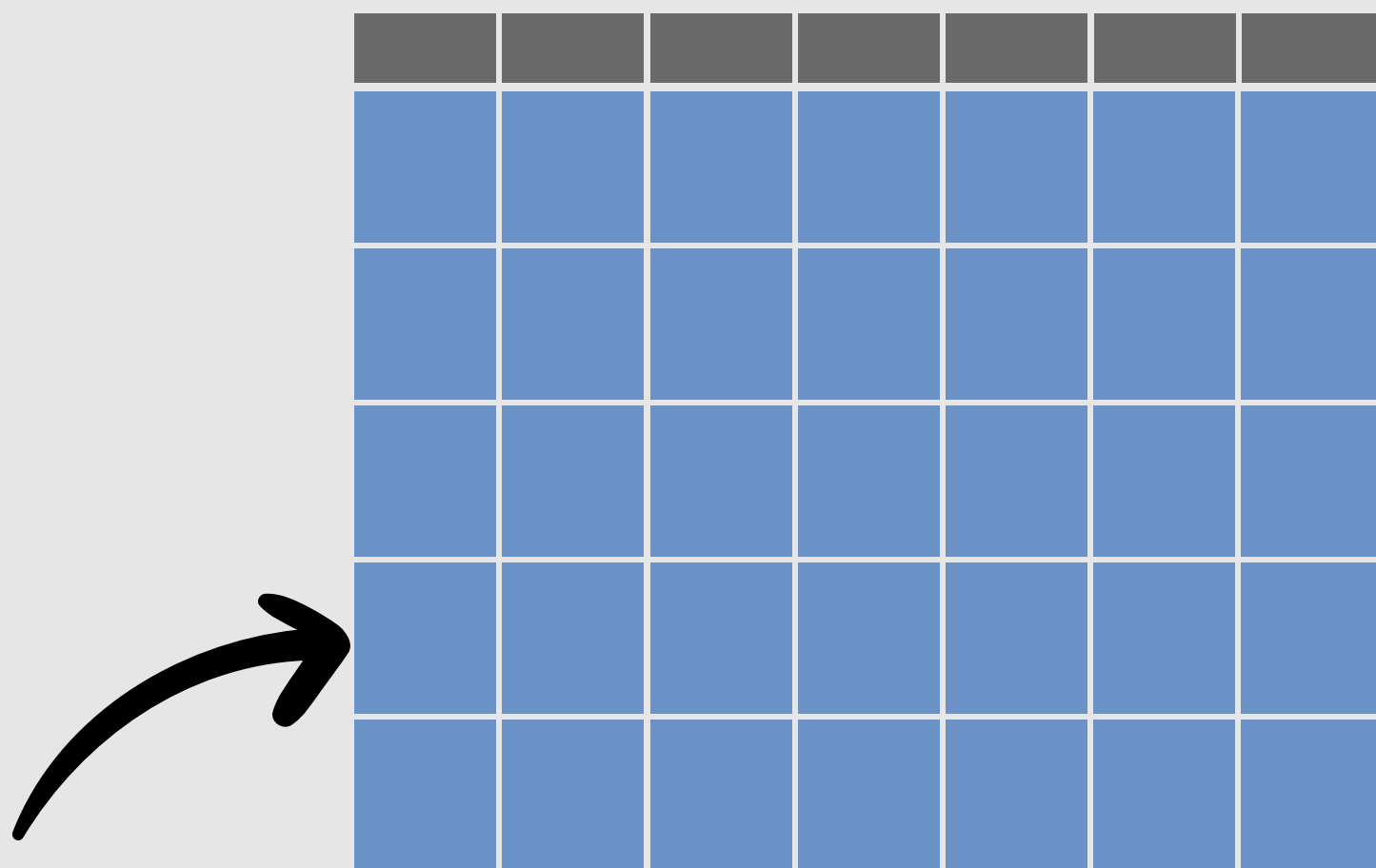


# RDBMS

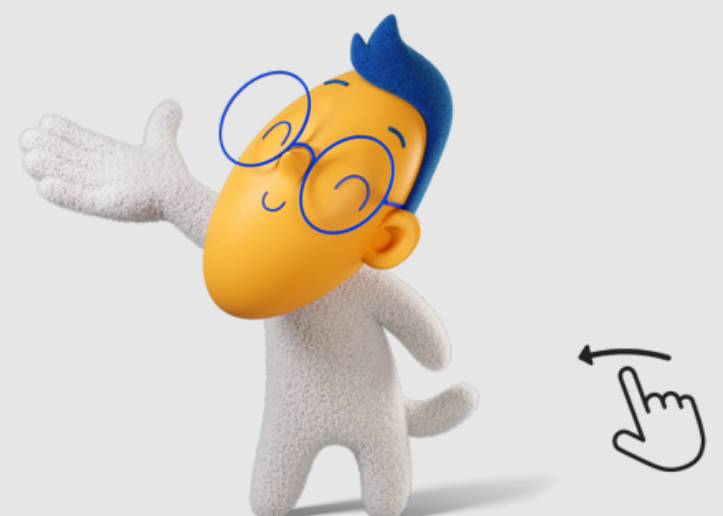
RDBM stands for Relational Database Management System.

RDBMS is the basis for SQL, and for all modern database systems such as MS SQL Server, IBM DB2, Oracle, MySQL, and Microsoft Access.

The data in RDBMS is stored in database objects called tables. A table is a collection of related data entries and it consists of columns and rows.



enter data into table



# SQL STATEMENTS

CustomerID	CustomerName	ContactName	Address	City
1	Alfreds Futterkiste	Maria Anders	Obere Str. 57	Berlin
2	Ana Trujillo Emparedados y helados	Ana Trujillo	Avda. de la Constitución 2222	México D.F.
3	Antonio Moreno Taquería	Antonio Moreno	Mataderos 2312	México D.F.
4	Around the Horn	Thomas Hardy	120 Hanover Sq.	London
5	Berglunds snabbköp	Christina Berglund	Berguvsvägen 8	Luleå

```
SELECT * FROM Customers;
```

Most of the actions you need to perform on a database are done with SQL statements.

The following SQL statement selects all the records in the "Customers" table:



# SOME MOST IMPORTANT SQL COMMANDS

- SELECT - extracts data from a database
- UPDATE - updates data in a database
- DELETE - deletes data from a database
- INSERT INTO - inserts new data into a database
- CREATE DATABASE - creates a new database
- ALTER DATABASE - modifies a database
- CREATE TABLE - creates a new table
- ALTER TABLE - modifies a table
- DROP TABLE - deletes a table
- CREATE INDEX - creates an index (search key)
- DROP INDEX - deletes an index





# WHAT ARE SQL COMMANDS ?

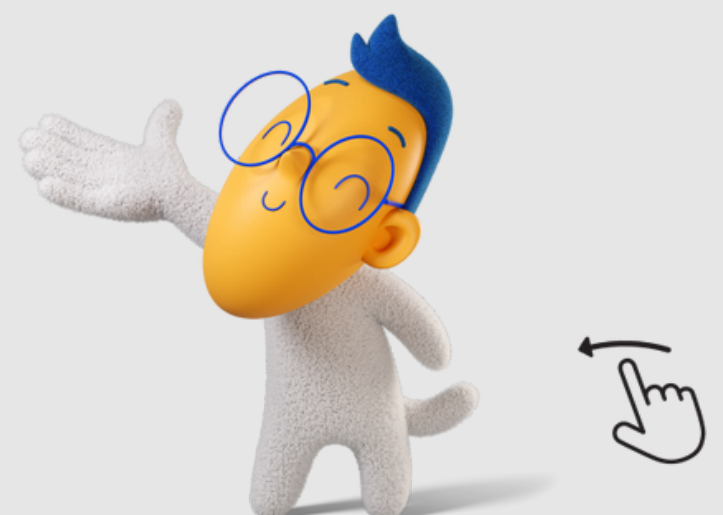
You can categorize SQL commands as follows.

## **Data definition language :**

Data definition language (DDL) refers to SQL commands that design the database structure. Database engineers use DDL to create and modify database objects based on the business requirements.

## **Data query language:**

Data query language (DQL) consists of instructions for retrieving data stored in relational databases. Software applications use the SELECT command to filter and return specific results from a SQL table.



## **Data manipulation language:**

Data manipulation language (DML) statements write new information or modify existing records in a relational database. For example, an application uses the INSERT command to store a new record in the database.

## **Data control language:**

Database administrators use data control language (DCL) to manage or authorize database access for other users.

## **Transaction control language:**

The relational engine uses transaction control language (TCL) to automatically make database changes. For example, the database uses the ROLLBACK command to undo an erroneous transaction.





# SQL vs MySQL

Structured query language (SQL) is a standard language for database creation and manipulation. MySQL is a relational database program that uses SQL queries. While SQL commands are defined by international standards, the MySQL software undergoes continual upgrades and improvements.



References:

[https://aws.amazon.com/what-is/sql/#:~:text=Structured%20query%20language%20\(SQL\)%20is,relationships%20between%20the%20data%20values.](https://aws.amazon.com/what-is/sql/#:~:text=Structured%20query%20language%20(SQL)%20is,relationships%20between%20the%20data%20values.)

<https://www.w3schools.com/sql/>