

— SQL

Agenda



What is SQL?



Database Design & ERD



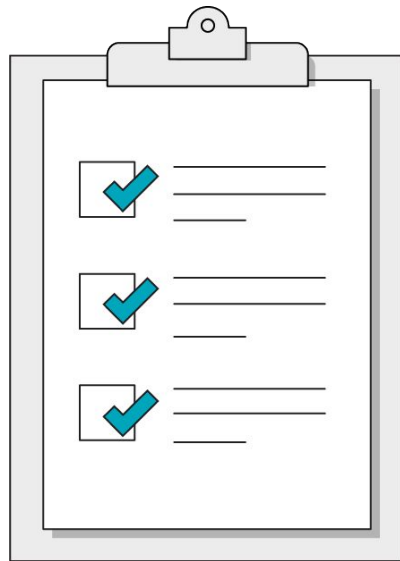
Basic SQL



Joins

Learning Objectives

- Describe relational databases
- Implement SQL commands
- Apply Group-bys, joins, and aggregations to SQL tables



SQL



What is SQL?



What is SQL?

SQL stands for Structured Query Language.

It is used to communicate questions to a database.

We will be using PostgreSQL today, but there are many other extensions.



SQL



Database Design & ERD





Databases

What is a database?



Databases

What is a database?

→ A database is an organized collection of data.



Database Management System (DBMS)

What is a Database Management System (DBMS)?

Database Management System (DBMS)

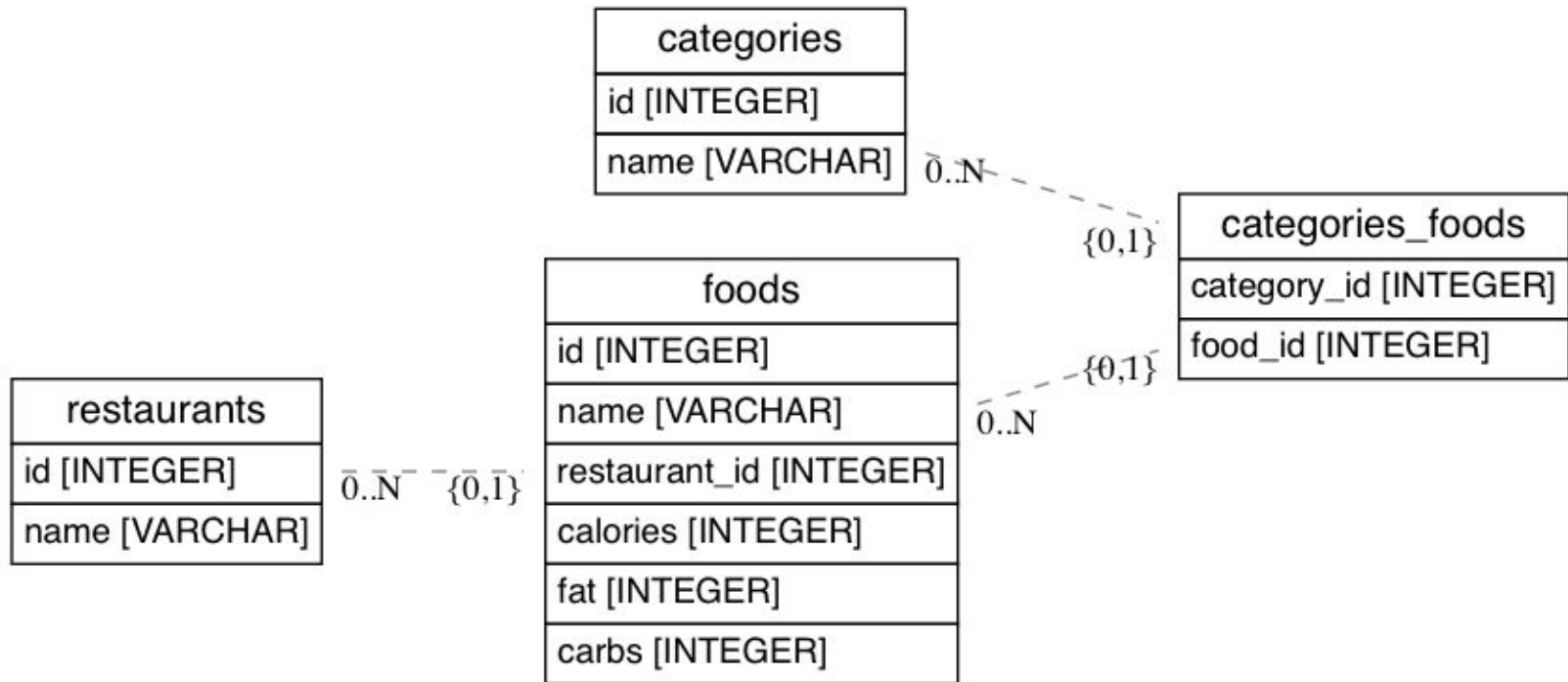
What is a Database Management System (DBMS)?

→ A software system that allows users to access, manipulate, organize, and maintain databases.

Entity Relationship Diagram (ERD)

An ERD allows us to visually see the relationships between the objects stored in our database.

Entity Relationship Diagram (ERD)



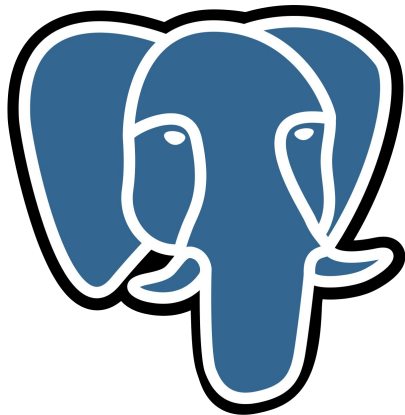
SQL



Basic SQL



Let's try it out!



SQL

Joins



Joins

It's very common to want to combine information from multiple tables into one query.

There are several types of joins:

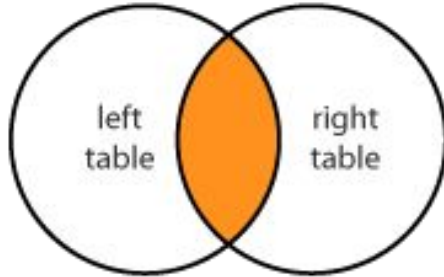
- Inner join
- Left join
- Right join
- Full (outer) join

NOTE: The most common join is the inner join.

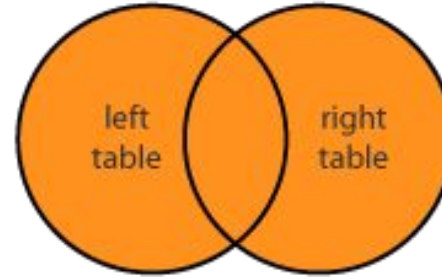


Joins

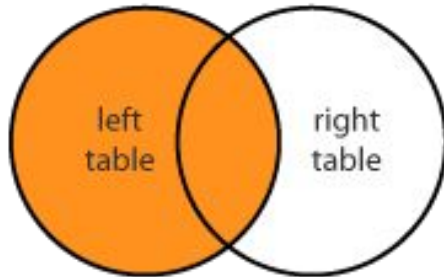
INNER JOIN



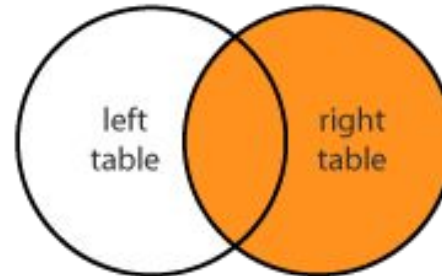
FULL JOIN



LEFT JOIN



RIGHT JOIN



Let's try it out!

