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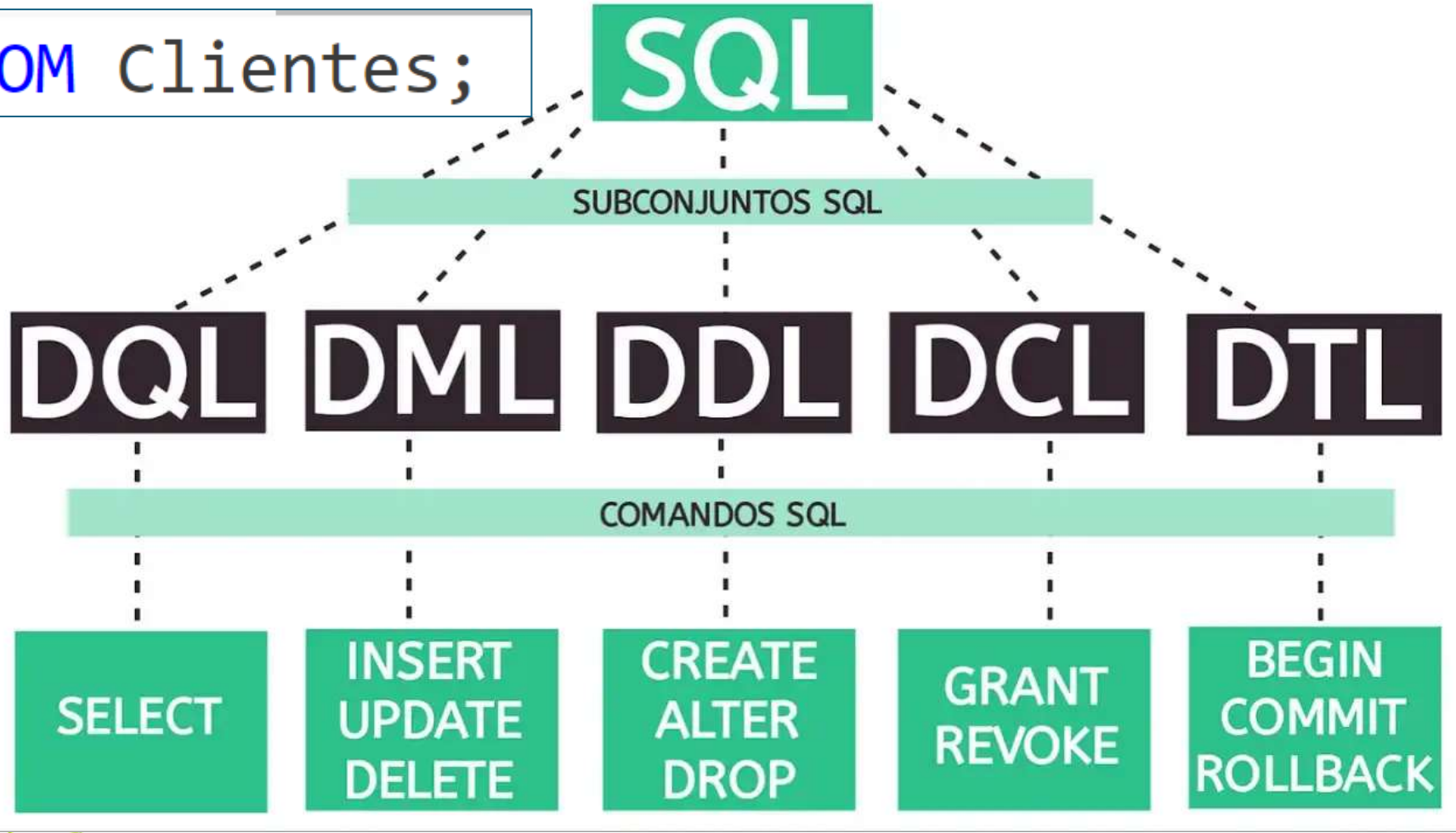
SQL

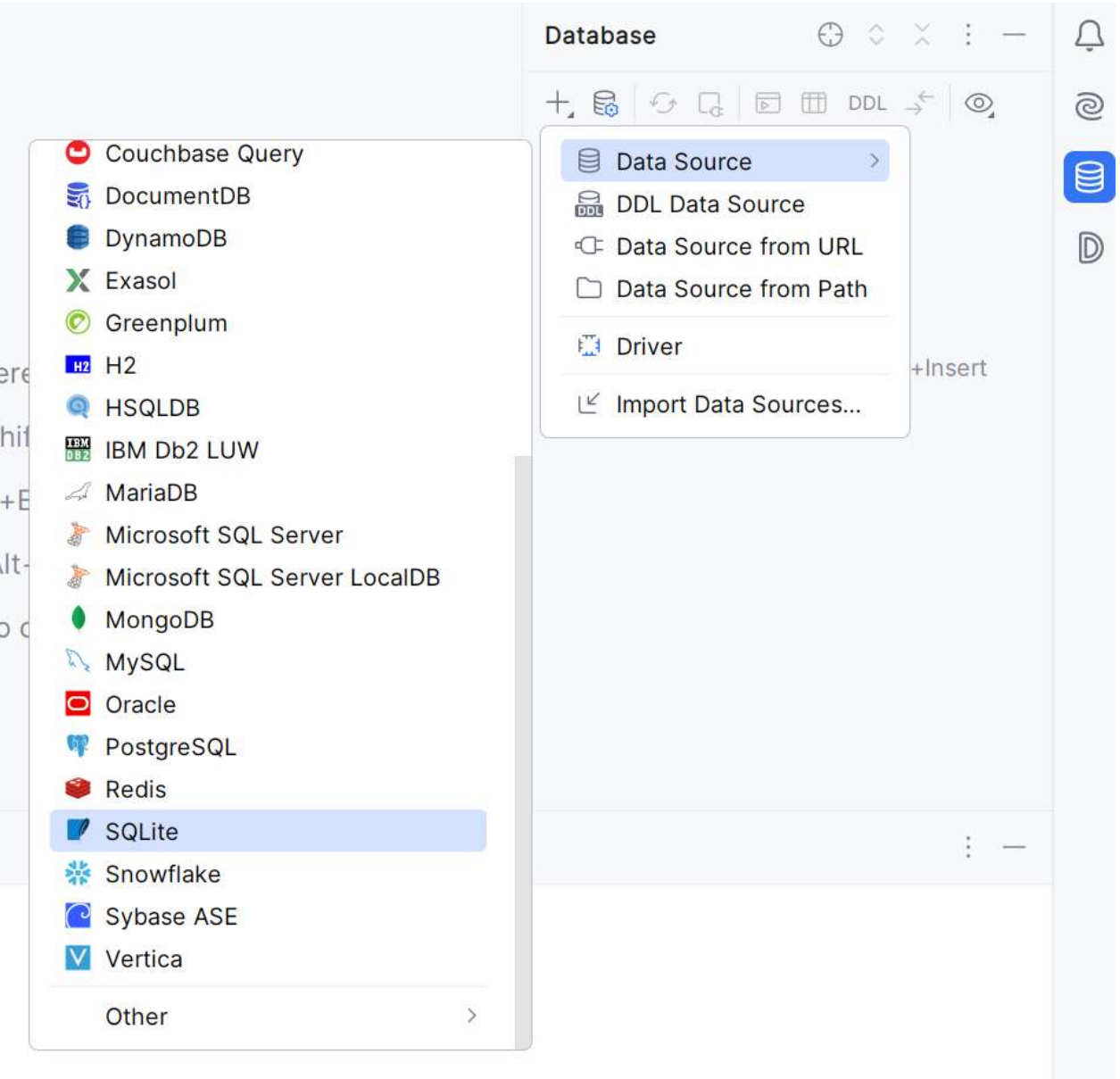
A Linguagem de consulta estruturada (SQL) é uma linguagem padrão para criação e manipulação de bancos de dados.

```
1    SELECT * FROM Clientes;
```

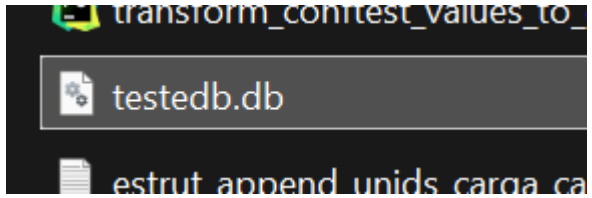


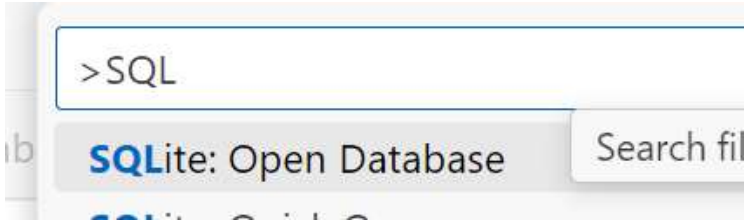
Conectar banco de dados SQLite

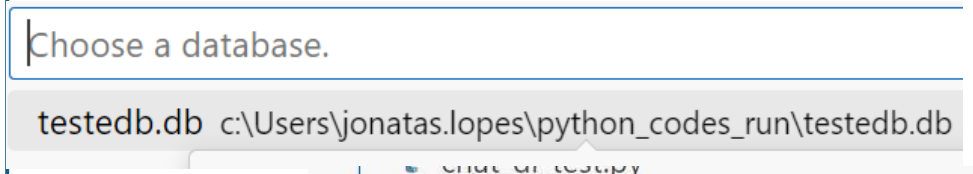
Pycharm

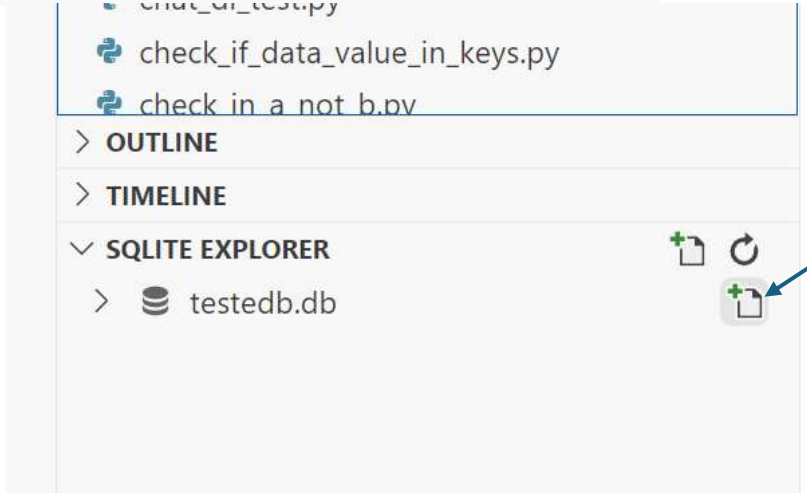


VScode

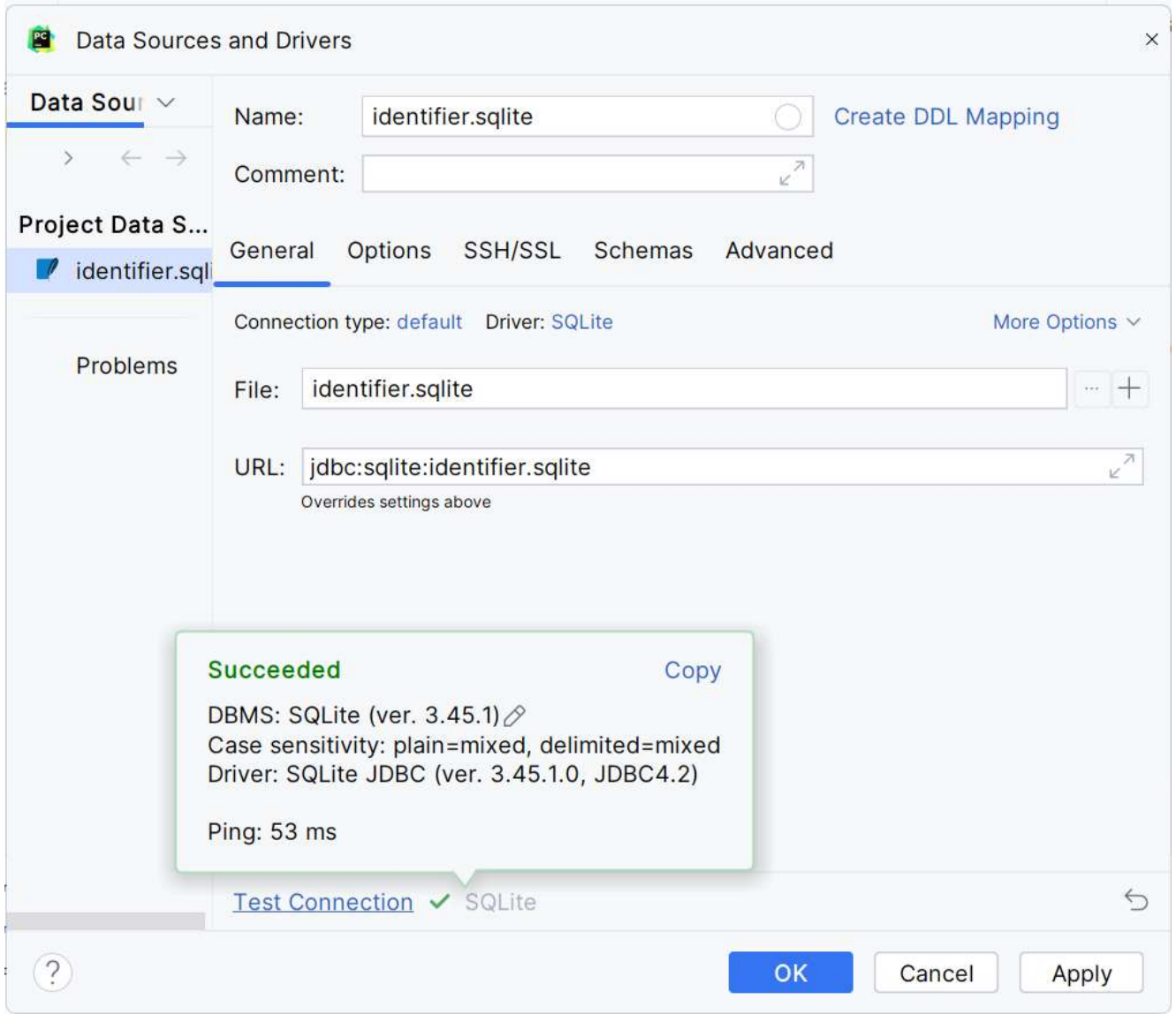








Conectar banco de dados SQLite



Senão... Precisa instalar:

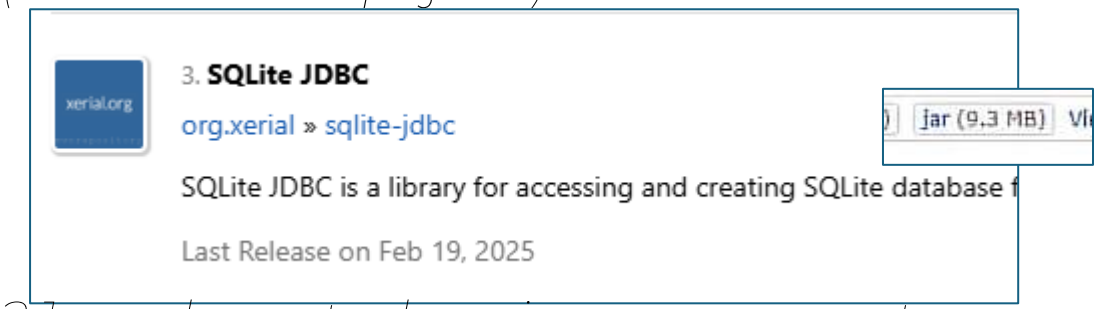
1 – sqlite download

Precompiled Binaries for Windows

sqlite-dll-win-x86-3490100.zip (1.02 MiB)	32-bit DLL (x86) for SQLite version 3.49.1. (SHA3-256: 1dac243f154828327d6a250b74cf115e4f6a4cbfe83dbc488d45510b59e7a157)
sqlite-dll-win-x64-3490100.zip (1.28 MiB)	64-bit DLL (x64) for SQLite version 3.49.1. (SHA3-256: ec8fb7976d9c4bc495c4a142da05e97c4d6dc6c1205877adcce0bd5b191026e2)
sqlite-tools-win-x64-3490100.zip (6.12 MiB)	A bundle of command-line tools for managing SQLite database files, includin (SHA3-256: f80860a651026229c8d6ba76cd8c3af74e114cecf71ad9fc5bf938adcd4ca0b9)

2 – Maven repository > SQLite JDBC

(baixar o arq. "jar")



2.1. – colocar tudo acima numa pasta e colocar a pasta no path, (talvez precise reiniciar)

3 – Testar no Terminal "sqlite3"

Prática SQL

```sql
CREATE TABLE Alunos (
    ID INT PRIMARY KEY,
    Nome VARCHAR(100),
    Idade INT,
    Email VARCHAR(100)
);
```

<- *Autoincrement*

Não precisa mais passar o id aqui ->

```sql
INSERT INTO Alunos (ID, Nome, Idade, Email)
VALUES
(1, 'João Silva', 20, 'joao.silva@email.com'),
(2, 'Maria Oliveira', 22, 'maria.oliveira@email.com'),
(3, 'Carlos Souza', 19, 'carlos.souza@email.com');
```

Prática SQL

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```sql
UPDATE Alunos
SET Nome = 'João Pedro Silva', Idade = 21
WHERE ID = 1;
```

```sql
DELETE FROM Alunos
WHERE ID = 1;
```

```sql
ALTER TABLE Alunos
ADD COLUMN Genero VARCHAR(10);
```

Prática SQL

```sql
UPDATE Alunos
SET Genero = 'Feminino'
WHERE ID = 2;
```

Ou... ->

WHERE ID IN [2,5,6...]

```sql
UPDATE Alunos
SET Genero = 'Masculino'
WHERE ID = 3;
```

```sql
SELECT * FROM Alunos;
```

```sql
SELECT DISTINCT nome FROM Alunos;
```

```sql
SELECT * FROM Alunos ORDER BY nome;
```

```sql
SELECT * FROM Alunos WHERE idade=20;
```

```sql
SELECT * FROM Alunos WHERE idade > 20;
```

Prática SQL

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```sql
SELECT * FROM Alunos WHERE Idade > 20 AND Nome = 'Maria Oliveira';
```

```sql
SELECT * FROM Alunos WHERE Idade > 20 OR Nome = 'Maria Oliveira';
```

```sql
SELECT * FROM Alunos WHERE NOT Idade = 20;
```

```sql
SELECT * FROM Alunos WHERE (Idade > 20 AND Nome = 'Maria Oliveira') OR Idade = 19;
```

Agregações

```sql
SELECT COUNT(*) FROM Alunos;
```

```sql
SELECT SUM(idade) FROM Alunos;
```

```sql
SELECT AVG(idade) FROM Alunos;
```

```sql
SELECT MAX(idade) FROM Alunos;
```

```sql
SELECT MIN(idade) FROM Alunos;
```

GroupBy

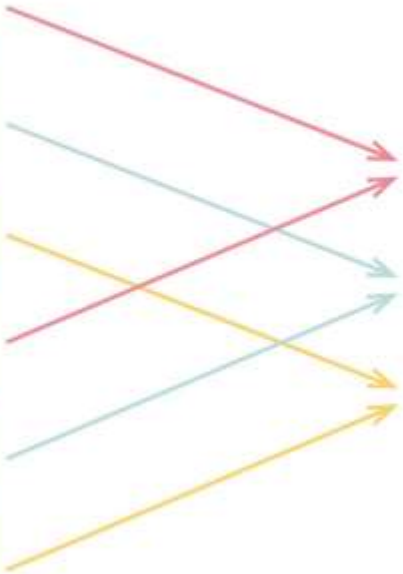
Employee ID	Name	Department
1001	Kundan	Sales
1002	Virat	Marketing
1003	Santosh	Education
1004	Veer	Marketing
1005	Shivani	Sales
1006	Yogesh	Education

GROUP BY Department

Department
Sales
Marketing
Education

```
SELECT COUNT(*) FROM Alunos GROUP BY Genero
```

title	genre	qty
book 1	adventure	4
book 2	fantasy	5
book 3	romance	2
book 4	adventure	3
book 5	fantasy	3
book 6	romance	1



genre	total
adventure	7
fantasy	8
romance	3

GroupBy

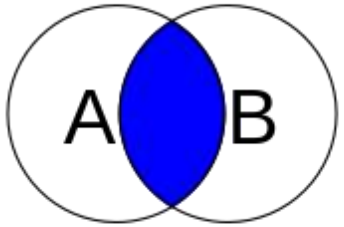
```sql
CREATE TABLE Materias (
    ID INT PRIMARY KEY,
    Aluno_ID INT,
    Nome VARCHAR(50),
    FOREIGN KEY (Aluno_ID) REFERENCES Alunos(ID)
);
```

https://justpaste.it/hlija

Rodar o INSERT de Alunos, depois o de Materias

Joins (junção de tabelas)

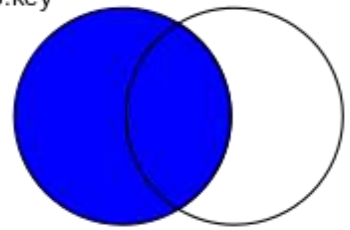
SELECT <fields>
FROM TableA A
INNER JOIN TableB B
ON A.key = B.key



inner

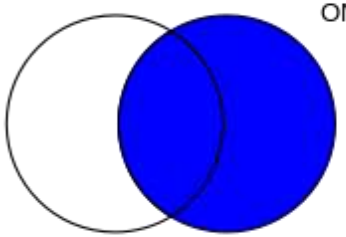
Left

SELECT <fields>
FROM TableA A
LEFT JOIN TableB B
ON A.key = B.key



right

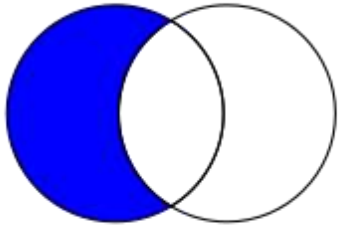
SELECT <fields>
FROM TableA A
RIGHT JOIN TableB B
ON A.key = B.key

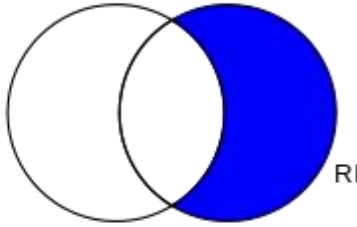


SQL JOINS

Left where

SELECT <fields>
FROM TableA A
LEFT JOIN TableB B
ON A.key = B.key
WHERE B.key IS NULL

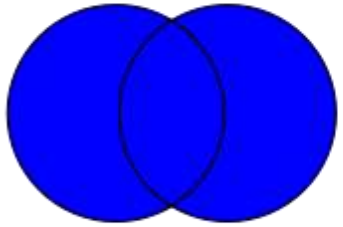




right where

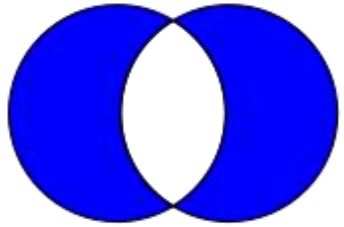
SELECT <fields>
FROM TableA A
RIGHT JOIN TableB B
ON A.key = B.key
WHERE a.key IS NULL

outter



SELECT <fields>
FROM TableA A
FULL OUTER JOIN TableB B
ON A.key = B.key

Full outter where



SELECT <fields>
FROM TableA A
FULL OUTER JOIN TableB B
ON A.key = B.key
WHERE A.key IS NULL
OR B.key iIS NULL

Joins (junção de tabelas)

```
SELECT * FROM Alunos INNER JOIN Materias M on Alunos.ID = M.Aluno_ID
```

Apenas onde há uma correspondência em ambas as tabelas envolvidas.

```
SELECT * FROM Alunos LEFT JOIN Materias M on Alunos.ID = M.Aluno_ID
```

As linhas da tabela à esquerda (a tabela principal) e as linhas correspondentes da tabela à direita (a tabela secundária). Se não houver correspondência, o resultado ainda inclui todas as linhas da tabela à esquerda, mas com valores NULL para as colunas da tabela à direita.

SQL Mystery

https://mystery.knightlab.com/

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Obrigado!

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