DQL

Data Query Language

Structured Query Language (SQL)

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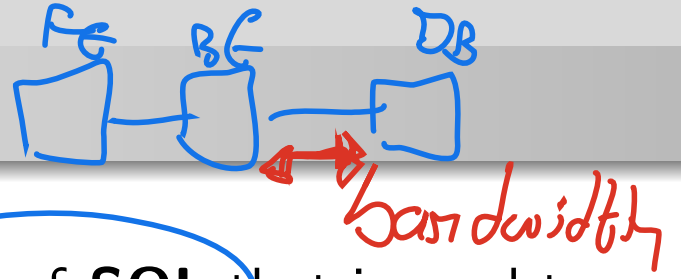
Data Query Language (DQL)



DQL (*Data Query Language*) is a subset of **SQL** that is used to query and retrieve data from a database.

what

all columns

PostgreSQL Example

```
SELECT * FROM myTable;
```

MySQL Example

```
SELECT * FROM myTable;
```

Extract

source

Kleene's Star

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DQL with Conditions

DQL statements are used to query and retrieve data from a database. In this case, we are using a condition using the WHERE clause.

PostgreSQL Example

```
SELECT * FROM myTable
WHERE name = 'John';
```

MySQL Example

```
SELECT * FROM myTable
WHERE name = 'John';
```

DQL with Conditions by Strings

DQL has a LIKE operator that is used to search for a specified pattern in a column.

text, var char, string

PostgreSQL Example

```
SELECT * FROM myTable
WHERE name LIKE 'J%';
```

Like 'J%' or 'JD%'

starts with J

MySQL Example

```
SELECT * FROM myTable
WHERE name LIKE 'J%';
```

'%s' → ends with s

'%s%' → any s

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DQL for Columns Projection

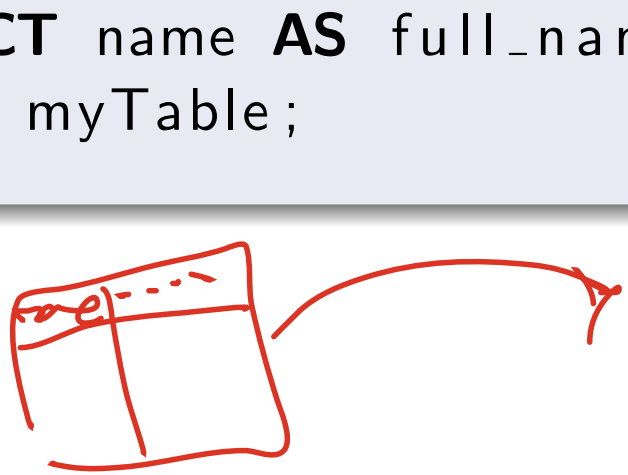
DQL could be used to project only the columns that are requiered.

PostgreSQL Example

```
SELECT name AS full_name
FROM myTable;
```

MySQL Example

```
SELECT name AS full_name
FROM myTable;
```




```
SELECT name
FROM students
WHERE age >= 18;
```

DQL for Counting Operation

DQL could be used to count the number of rows in a table.

PostgreSQL Example

```
SELECT COUNT(*)
FROM myTable;
```

MySQL Example

```
SELECT COUNT(*)
FROM myTable;
```

```
SELECT COUNT(1)
FROM students
WHERE career LIKE 'ing__de__sis';
```

DQL for Sum Operation

DQL could be used to sum the values of a column.

PostgreSQL Example

```
SELECT SUM(salary)
FROM myTable;
```

MySQL Example

```
SELECT SUM(salary)
FROM myTable;
```

DQL for Stats Operations

DQL could be used to calculate the average, maximum, and minimum values of a column.

PostgreSQL Example

```
SELECT AVG(salary), MAX(salary), MIN(salary)
FROM myTable;
```

MySQL Example

```
SELECT AVG(salary), MAX(salary), MIN(salary)
FROM myTable;
```

```
SELECT MAX(grade)
FROM student
WHERE name like 'Marbin';
```

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DQL to Limit the number of results

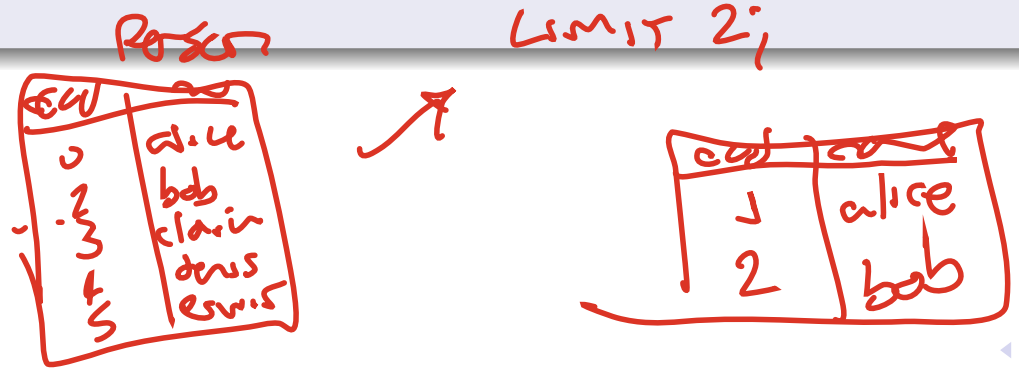
DQL could be used to limit the number of results.

PostgreSQL Example

```
SELECT * FROM myTable
LIMIT 10;
```

MySQL Example

```
SELECT * FROM myTable
LIMIT 10;
```



DQL for Sorting Results

DQL could be used to sort the results by any `column` or `columns`.

PostgreSQL Example

```
SELECT * FROM myTable
ORDER BY name ASC;
```

MySQL Example

```
SELECT * FROM myTable
ORDER BY name ASC;
```

DQL for Grouping Results

DQL could be used to group the results by any column.

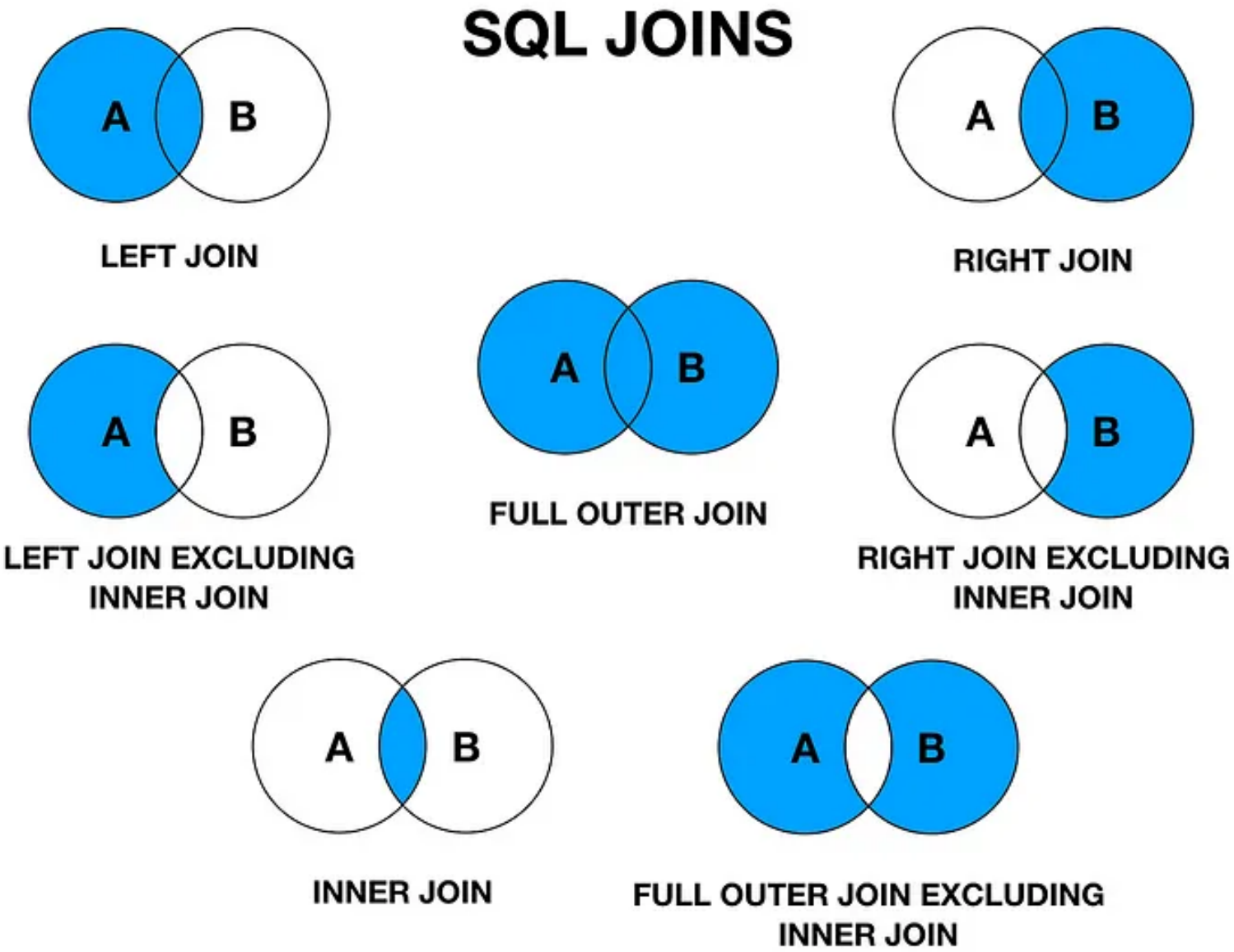
PostgreSQL Example

```
SELECT country, COUNT(*)
FROM myTable GROUP BY country;
```

MySQL Example

```
SELECT country, COUNT(*)
FROM myTable GROUP BY country;
```

Table Joins


SQL JOINS
A
B
LEFT JOIN
A
B
RIGHT JOIN
A
B
LEFT JOIN EXCLUDING
INNER JOIN
A
B
FULL OUTER JOIN
A
B
RIGHT JOIN EXCLUDING
INNER JOIN
A
B
INNER JOIN
A
B
FULL OUTER JOIN EXCLUDING
INNER JOIN

DQL for Joins

PostgreSQL Example

```
SELECT myTable.name, myOtherTable.email
FROM myTable
JOIN myOtherTable ON myTable.pk = myOtherTable.fk;
```

MySQL Example

```
SELECT myTable.name, myOtherTable.email
FROM myTable
JOIN myOtherTable ON myTable.pk = myOtherTable.fk;
```

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SELECT id,name, location
FROM users
WHERE email='en@mail.co'
AND password='pw1';

Cache
session
mobile (SQLite)
params

Thanks!

Questions?

Repo: *https://github.com/EngAndres/ud-public/tree/main/courses/databases-foundations*

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