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.

PostgreSQL Example

```
SELECT * FROM myTable;
```

MySQL Example

```
SELECT * FROM myTable;
```

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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';
```

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DQL with Conditions by Strings

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

PostgreSQL Example

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

MySQL Example

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

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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;
```

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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;
```

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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;
```

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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;
```

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DQL for Grouping Results

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

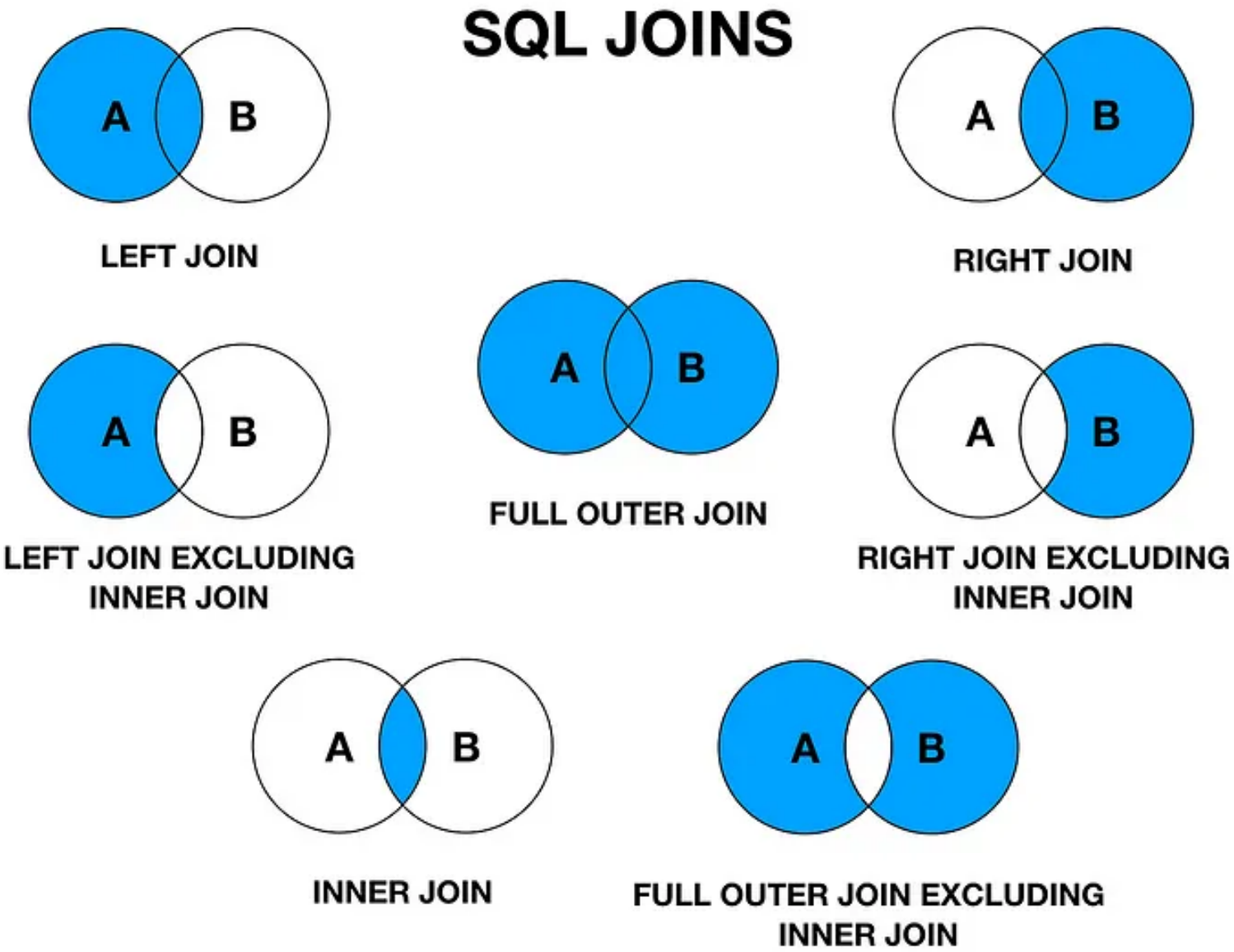
PostgreSQL Example

```
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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Thanks!

Questions?

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

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