

# SQL avanzado



# SQL

## Buenas prácticas:

- Indentar hace que la consulta sea más legible.
- Select \* no es una buena práctica. Es mejor seleccionar los campos que deseamos y en el orden deseado.
- Es conveniente usar alias para tablas y que estos sean relevantes.
- No usar JOINS implícitos.
- Modularizar usando CTE.
- Poner en mayúsculas las palabras reservadas del lenguaje.
- Evitar la cláusula WHERE IN/NOT IN (SUBQUERY) en su lugar usar JOINS.

# SQL

## Consulta SELECT

```
SELECT id
| | | , COUNT(1) AS recuento
| FROM keepcoding.billing_account
| WHERE id IS NOT NULL
| AND id BETWEEN 1 AND 1000
| GROUP BY id
| HAVING recuento > 4
| ORDER BY recuento DESC
```

# SQL

## Subquery (subconsulta)

Es una consulta que está anidada dentro de otra consulta, o subconsulta. Normalmente dentro de la cláusula FROM.

```
SELECT *  
FROM (SELECT *  
      FROM facturas  
      WHERE month = "ENERO")
```

# SQL

## CTE (Common Table Expressions)

Es un conjunto de resultados temporales con nombre que derivan de una query.

```
WITH facturas_enero
  AS (SELECT *
      FROM keep.facturas
      WHERE month = "ENERO")

SELECT *
  FROM facturas_enero
```

# SQL

## JOINS

- **INNER JOIN**

Combina los registros de dos tablas si hay valores coincidentes en un campo en común.

- **LEFT JOIN**

Combina todos los registros de la tabla en la cláusula FROM con los que tengan valores coincidentes en la cláusula LEFT JOIN.

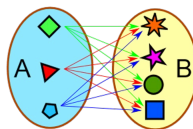
- **RIGHT JOIN**

Combina todos los registros de la tabla en la cláusula RIGHT JOIN con los que tengan valores coincidentes en la cláusula FROM.

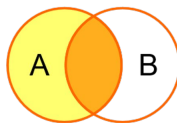
Select (campos)  
From A InnerJoin B  
On A.Clave = B.Clave



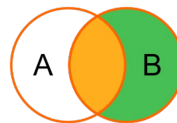
Select (campos)  
From A Cross Join B



Select (campos)  
From A Left Join B  
On A.Clave = B.Clave

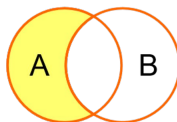


Select (campos)  
From A Right Join B  
On A.Clave = B.Clave

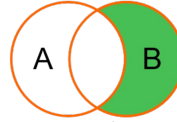


# Joins del SQL

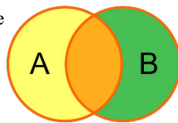
Select (campos)  
From A Left Join B  
On A.Clave = B.Clave  
Where B.Clave is Null



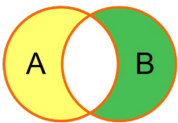
Select (campos)  
From A Right Join B  
On A.Clave = B.Clave  
Where A.Clave is Null



Select (campos)  
From A Full Outer Join B  
On A.Clave = B.Clave



Select (campos)  
From A Full Outer Join B  
On A.Clave = B.Clave  
Where (A.Clave is Null) Or (B.Clave is Null)



# SQL

## EXPRESIONES CONDICIONALES

[https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#conditional\\_expressions](https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#conditional_expressions)

- CASE WHEN
- COALESCE
- IF
- IFNULL
- NULLIF



# SQL

## FUNCIONES DE AGREGACIÓN

[https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#aggregate\\_functions](https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#aggregate_functions)

- ARRAY\_AGG
- AVG
- COUNT
- COUNTIF
- MAX
- MIN
- STRING\_AGG
- SUM

# SQL

## FUNCIONES DE NUMERACIÓN

[https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#numbering\\_functions](https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#numbering_functions)

- RANK
- DENSE\_RANK
- ROW\_NUMBER

# SQL

## FUNCIONES DE CONVERSIÓN

[https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#conversion\\_functions](https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#conversion_functions)

- CAST
- SAFE\_CAST

# SQL

## TIPOS DE DATO

<https://cloud.google.com/bigquery/docs/reference/standard-sql/data-types?hl=es>

- ARRAY
- BIGNUMERIC
- BOOL
- BYTES
- DATE
- DATETIME
- FLOAT64
- GEOGRAPHY
- INT64
- INTERVAL
- JSON

- NUMERIC

# SQL

## FUNCIONES MATEMÁTICAS

[https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#mathematical\\_functions](https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#mathematical_functions)

- ABS
- IEEE\_DIVIDE, DIV, /
- RAND
- SQRT
- POW
- EXP
- GREATEST, LEAST
- SAFE\_MULTIPLY, SAFE\_DIVIDE, SAFE\_ADD, SAFE\_NEGATE, SAFE\_SUBTRACT
- MOD
- ROUND
- TRUNC
- CEIL



# SQL

## FUNCIONES DE NAVEGACIÓN

[https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#navigation\\_functions](https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#navigation_functions)

- LEAD
- LAG
- FIRST\_VALUE, LAST\_VALUE



# SQL

## FUNCIONES DE STRING

[https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#string\\_functions](https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#string_functions)

- CHR
- CONCAT
- CONTAIN\_SUBSTR
- ENDS\_WITH, STARTS\_WITH
- LEFT, RIGTH
- LENGTH
- LPAD, RPAD



# SQL

## FUNCIONES DE STRING

[https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#string\\_functions](https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#string_functions)

- LTRIM, RTRIM, TRIM
- REPLACE
- REVERSE
- SPLIT
- STRPOS
- SUBSTR
- EXPRESIONES REGULARES



# SQL

## FUNCIONES DE FECHA

[https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#date\\_functions](https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#date_functions)

- CURRENT\_DATETIME
- EXTRACT
- DATETIME
- DATE\_ADD
- DATETIME\_DIFF
- DATETIME\_TRUNC
- FORMAT\_DATE
- LAST\_DAY



# SQL

## FUNCIONES DE JSON

[https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#json\\_functions](https://cloud.google.com/bigquery/docs/reference/standard-sql/functions-and-operators?hl=es-419#json_functions)

- JSON\_VALUE
- JSON\_EXTRACT\_ARRAY
- JSON\_VALUE\_ARRAY
- JSON\_EXTRACT



# KEEPCODING

Tech School

Madrid | Barcelona | Bogotá

**Datos de contacto**