

## SQL-02 - Filtering & Subqueries

Agenda:

- Work with strings
- WHERE clause for filtering
- BETWEEN, IN,
- IF, CASE & WHEN

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Q: Concatenate first name & last name to give a full-name column in the output.

'\_\_\_\_' + '\_\_\_\_'

→ CONCAT('\_\_\_\_', '\_\_\_\_') ⇒ '\_\_\_\_\_'

⇒

customerid	c_firstname	c_lastname	full-name
	'____'	'____'	

Tom Cruise → TomCruise  
Tom\_Cruise

UPPER ( ' \_ ' ) → Uppercase ' \_ '

① tarun	→	<u>Tarun</u>

't', 'arun'

→ UPPER ('t'), 'arun'

→ Concat (UPPER ('t'), 'arun')

→ Tarun

→ SUBSTR  
[ ① ]

SUBSTR ( ' \_ ', 1, 1 ) ← first char

Jane  
↑  
② →

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Q. Extract all the product names that are not in product category id 1.

part 8

p_id	pc_id	p_name

Filter → WHERE

Syntax:

SELECT \_\_\_\_\_  
FROM table name  
→ WHERE Conditional  
ORDER BY \_\_\_\_\_  
LIMIT \_\_\_\_\_

① → made on '2019-04-03'

Q: Extract all the transactions  $\wedge$  that are above \$5 (total amt)

AND  
① date = '2019-04-03' ←  
② (quantity \* cost) > 5 ←

[ OR ]  
AND

( AND )

Q: Get all product info for products with id between 3 and 8 (not inclusive) and of product with id 10.

①  $3 < \text{product\_id} < 8$   $\leftarrow$   
OR  
②  $\text{product\_id} = 10$

$\left( \begin{array}{l} \text{product\_id} = 10 \checkmark \\ \text{OR } \text{product\_id} > 3 \end{array} \right) \wedge \text{p\_id} < 8$

⑤  
 $\checkmark$

( F OR T ) AND T

( T ) AND T  $\Rightarrow$  T

10 ( T OR T ) AND F

T AND F  
 (F) ✓

Q: Find the booth assignments for vendor\_id 7  
 for all market dates that were between  
'2019-04-03' & '2019-05-16'

WHERE vendor\_id = 7

AND  
 → [market\_date] \_\_\_\_\_  
 AND  
 [ ] < \_\_\_\_\_

BETWEEN

WHERE vendor\_id = 7

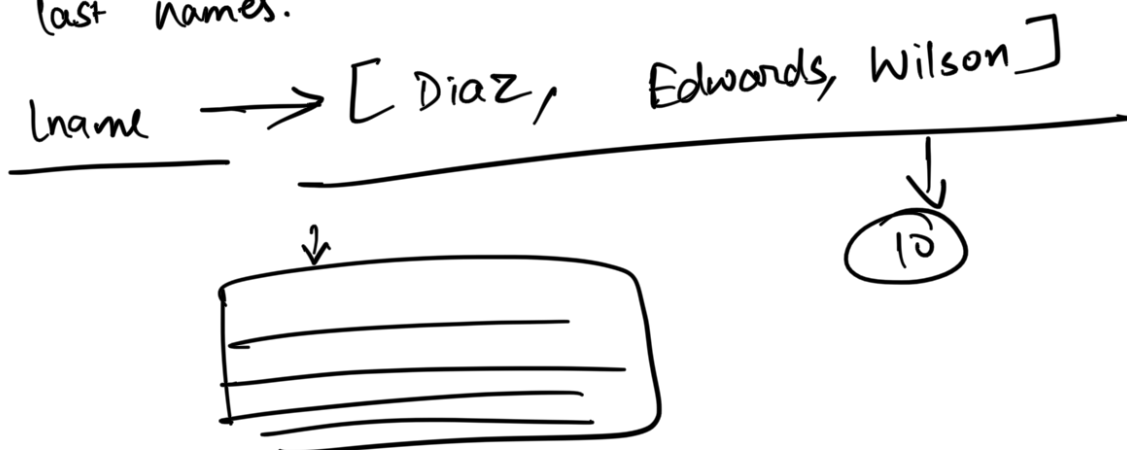
AND market\_date

BETWEEN

'2019-04-03' AND  
 '2019-05-16'

... customers with these selected

Q: Return list of customers with last names.



IN

WHERE customer\_name IN  
( 'Diaz', 'Wilson', 'Edwards' )

Q: Extract data about a customer you knew as 'Jerry' but you aren't sure.  
You are looking for <sup>all</sup> customers whose name starts with 'Jer'

WHERE

LIKE

→ 'tom %'

'tom \_'

Wildcard

% → stand-in for (zero) or more

① % → characters.

② \_ (underscore) → Stand-in for one & only one character.

→ (a) ✓  
↓

WHERE frame LIKE 'a%' → starts with 'a'

'%a' → Ends with a

'%or%' → Contains 'or'

← 'r%' → r at second position  
↑

'a\_\_%' → starts with a & is at least 3 char long.

Q.

find all the products which are captured without product sizes.

Missing Value

↗  
NULL ✓

↓  
Absence of value

... → (IS) NULL ✓

'%' ✓

< Col name

✓

Col name = NULL

Nulls can't be compared to anything.

NULL = NULL ✓

NULL → 0, 'NA' Avg

COALESCE (product\_size, 0)

Q Analyze purchases that were made on dates when it rained.

① Find dates when it rained.

✓ ② For those dates, extract purchases.