**SQL Basics Part 4**

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== 16 Comparison Operator ==

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- used to compare two things

- syntax

[expression] [operator] [expression]

= Equal to

> Greater than

< Less than

>= Greater than or equal to

<= Less than or equal to

<> Not equal to

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use MyDatabase;

-- retrieve all customers from germany

SELECT \*

FROM customers

WHERE country = 'Germany';

-- retrieve all customers who are not from Germay

SELECT \*

FROM customers

WHERE country != 'Germany';

-- retrieve all customers who are not from Germay

SELECT \*

FROM customers

WHERE country <> 'Germany';

-- retrieve all customers with score greater than 500

SELECT \*

FROM customers

WHERE score > 500;

-- retrieve all customers with score smaller than 350

SELECT \*

FROM customers

WHERE score < 350

ORDER BY score ASC;

-- retrieve all customers with score greater than or equal 300

SELECT \*

FROM customers

WHERE score >= 300;

-- retrieve all customers with score smaller than or equal 300

SELECT \*

FROM customers

WHERE score <= 300;

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== 17 Logical Operator ==

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- logical operator are used in WHERE, HAVING and sometimes with JOIN conditions to combine, filter, or

manipulate conditions when retrieving, updating, or deleting data from a database

- they help whether a condition if TRUE or FALSE

AND TRUE if all the conditions separated by AND is TRUE

OR TRUE if any of the conditions separated by OR is TRUE

NOT Displays a record if the condition(s) is NOT TRUE, reverse the condition

ANY TRUE if any of the subquery values meet the condition

ALL TRUE if all of the subquery values meet the condition

BETWEEN TRUE if the operand is within the range of comparisons

EXISTS TRUE if the subquery returns one or more records

IN TRUE if the operand is equal to one of a list of expressions

LIKE TRUE if the operand matches a pattern

SOME TRUE if any of the subquery values meet the condition

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USE MyDataBase;

-- retrieve all customers with ID smaller than or equal 10, "AND" from USA

SELECT \*

FROM customers

WHERE id <= 10 AND country = 'USA';

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- retrieve all customers with ID smaller than or equal 10, "OR" from USA

- will return the two conditions

- will return first 10 customers

- will return all customers from USA

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SELECT \*

FROM customers

WHERE id <= 10 OR country = 'USA';

-- retrieve all customers who are either from USA or have a score greater than 500

SELECT \*

FROM customers

WHERE score > 500 OR country = 'USA';

-- retrieve all customers with a score not less than 500

SELECT \*

FROM customers

WHERE NOT score < 500

ORDER BY score ASC;

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-- Range Operator --

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-- BETWEEN: check if a value is within a range

-- retrieve all customers between 1 and 10 [1-10]

SELECT \*

FROM customers

WHERE id BETWEEN 1 AND 10;

-- retrieve customers that have score between 650 and 850

SELECT \*

FROM customers

WHERE score BETWEEN 650 AND 850

ORDER BY score ASC;

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== 18 Membership Operator ==

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- IN: check if the value exists in a list

- NOT IN: check if the value doex not exists in a list

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USE MyDatabase;

-- retrieve all customers from either Germany or USA

SELECT \*

FROM customers

WHERE country = 'Germany' OR country = 'USA';

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-- Other Solution --

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SELECT \*

FROM customers

WHERE country in ('Germany', 'USA');

-- retrieve all countires that does not exist on the list

SELECT \*

FROM customers

WHERE country NOT IN ('USA', 'Egypt', 'Germany');

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== 19 Search operator ==

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- LIKE: used to search about substring, number, ... on the field

- There are two wildcards often used in conjunction with the LIKE operator:

1- The percent sign % represents zero, one, or multiple characters

2- The underscore sign \_ represents one, single character

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USE MyDatabase;

-- search about customers from egypt or Egypt

SELECT \*

FROM customers

WHERE country LIKE 'egypt';

-- search about counties that start with G

SELECT \*

FROM customers

WHERE country LIKE 'G%';

-- Find customers whose names start with "A":

SELECT first\_name, country, score

FROM customers

WHERE first\_name LIKE 'A%';

-- Find customers whose names contain the letter "o"

SELECT first\_name, country, score

FROM customers

WHERE first\_name LIKE '%o%';

-- Find customers whose names end with "a"

SELECT first\_name, country, score

FROM customers

WHERE first\_name LIKE '%a';

-- Find customers whose names have exactly 4 characters

SELECT first\_name, country, score

FROM customers

WHERE first\_name LIKE '\_\_\_\_'; -- Four underscores represent four characters

-- Find customers from countries whose name starts with "E"

SELECT first\_name, country, score

FROM customers

WHERE country LIKE 'E%';

-- Find customers whose names have "a" as the second lette

SELECT first\_name, country, score

FROM customers

WHERE first\_name LIKE '\_a%';

-- Find customers whose names have "a" as the second-to-last letter:

SELECT first\_name, country, score

FROM customers

WHERE first\_name LIKE '%a\_';

-- Find customers whose names start with any letter between "A" and "D"

SELECT first\_name, country, score

FROM customers

WHERE first\_name LIKE '[A-D]%';

-- Find customers whose names contain either "a" or "e" and are from a country starting with "E":

SELECT first\_name, country, score

FROM customers

WHERE (first\_name LIKE '%a%' OR first\_name LIKE '%e%')

AND country LIKE 'E%';

-- Find customers whose names start with "A" or "B" and their score is greater than 750

SELECT first\_name, country, score

FROM customers

WHERE (first\_name LIKE 'A%' OR first\_name LIKE 'B%')

AND score > 750;

-- Find customers whose names start with "S" or "N" and their country ends with "a" or "e":

SELECT first\_name, country, score

FROM customers

WHERE (first\_name LIKE 'S%' OR first\_name LIKE 'N%')

AND (country LIKE '%a' OR country LIKE '%e');

-- Find customers whose name contains "i" or "o" and their score is between 700 and 900:

SELECT first\_name, country, score

FROM customers

WHERE (first\_name LIKE '%i%' OR first\_name LIKE '%o%')

AND score BETWEEN 700 AND 900;

-- Find customers from "Egypt" or "USA" whose names contain the letter "a" at any position:

SELECT first\_name, country, score

FROM customers

WHERE (country LIKE 'Egypt' OR country LIKE 'USA')

AND first\_name LIKE '%a%';

-- Find customers whose names start with "E", "F", or "G" and score is greater than 750

SELECT first\_name, country, score

FROM customers

WHERE (first\_name LIKE 'E%' OR first\_name LIKE 'F%' OR first\_name LIKE 'G%')

AND score > 750;

-- Find customers whose names start with a vowel ("A", "E", "I", "O", or "U") and are from the USA or Canada:

SELECT first\_name, country, score

FROM customers

WHERE (first\_name LIKE 'A%' OR first\_name LIKE 'E%' OR first\_name LIKE 'I%'

OR first\_name LIKE 'O%' OR first\_name LIKE 'U%')

AND (country LIKE 'USA' OR country LIKE 'Canada');

-- Find customers whose names contain "a" or "o", their country contains "a", and their score is between 700 and 900:

SELECT first\_name, country, score

FROM customers

WHERE (first\_name LIKE '%a%' OR first\_name LIKE '%o%')

AND country LIKE '%a%'

AND score BETWEEN 700 AND 900;

-- Find customers whose names contain "o" in the second or second-to-last position:

SELECT first\_name, country, score

FROM customers

WHERE first\_name LIKE '\_o%' OR first\_name LIKE '%o\_';