

SQL Lesson 2

- WHERE clause
- Data extraction

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How to left comments for queries

- Comments let others understand better what is happening in the query
- To leave a comment you may use:

- - smth unimportant

OR

- /* smth unimportant

- on several rows */

Switch to practice

Lowercase and Uppercase

Key words

SELECT = sELEcT =
select

Column names

name = NaMe
hosts = HostS

Column values

'Mary' != 'mary'

Lowercase and Uppercase

Example 1

```
SELECT *  
FROM  
    hosts  
WHERE  
    name = 'Mary'
```

id	...	name	...
1491424	...	Mary	...
3663400	...	Mary	...
...

Lowercase and Uppercase

Example 2

```
SELECT *  
FROM  
    hosts  
WHERE  
    name = 'mary'
```

Lowercase and Uppercase

How to avoid such mistakes?

There are **functions** that allows us to convert a string from uppercase to lowercase and in reverse.

UPPER('hello') will result in 'HELLO'

LOWER('Hello') will result in 'hello'

* Remember, we work with strings

Switch to practice

WHERE clause

Operator LIKE (only for strings)

Let's learn how to use LIKE operator in a more subtle way

We look at several patterns that also called Regular Expressions

WHERE Name LIKE 'a%' Finds any values that start with "a"

Examples: "anthony", "almond", "Austria" ?

WHERE LOWER(Name) LIKE 'a%' — "Austria" -> "austria" -> "austria" LIKE 'a%' -> YES

WHERE Name LIKE 'a%' and Name LIKE 'A%' -> Name LIKE 'a%' OR Name LIKE 'A%'

WHERE Name LIKE '%a' Finds any values that end with "a"

Examples: "LisA", "BANANA"

WHERE Name LIKE '%or%' Finds any values that have "or" in any position

Examples: "sporT", "or"

Examples: '%FEYNMAN%' -> "__FEYNMAN__", "FEYNMAN"

WHERE clause

Operator LIKE (only for strings)

WHERE Name LIKE '_r%' Finds any values that have "r" in the second position

Examples: "price", ".rice"

WHERE Name LIKE 'a_%' Finds any values that start with "a" and are at least 2 characters in length

Examples: "artist", "a", "at"

WHERE Name LIKE 'a__%' Finds any values that start with "a" and are at least 3 characters in length

Examples: "aqua", "ago"

WHERE Name LIKE 'a%t' Finds any values that start with "a" and ends with "t"

Examples: "accentt", "at"

WHERE Name LIKE 'a____t' x3 _

WHERE Name LIKE 'a____%t' x3 _ + we may have 0+ letters before t

'a%____t'

'a_%__t'

Switch to practice

WHERE clause

Operator **IN()** (may be used for any data type)

Pattern

```
SELECT *  
FROM  
    table_name  
WHERE  
    column_name IN  
    (value_1, value_2,...)
```

Example

```
SELECT *  
FROM  
    listings  
WHERE  
    city IN ('Dublin',  
            'Churchtown')
```

Result

id	...	city	...
85156	...	Churchtown	...
159889	...	Dublin	...
...

WHERE clause

Operator NOT IN () (may be used for any data type)

Pattern

```
SELECT *  
FROM  
    table_name  
WHERE  
    column_name  
    NOT IN (value_1,  
            value_2,...)
```

Example

```
SELECT *  
FROM  
    listings  
WHERE  
    city NOT IN  
    ('Dublin',  
    'Churchtown')
```

Result

id	...	city	...
85148	...	Templeogue	...
200979	...	Dalkey	...
...

Switch to practice

WHERE clause

Operator AND (to combine several filters) — equals NOT IN()

Pattern

```
SELECT *  
FROM  
    table_name  
WHERE  
    condition_1  
    AND condition_2
```

Example

```
SELECT *  
FROM  
    hosts  
WHERE  
    name = 'Mary'  
    AND host_since > '2015-01-01'
```

WHERE clause

Operator OR (to combine several filters) — equals IN()

Pattern

```
SELECT *  
FROM  
    table_name  
WHERE  
    condition_1  
    OR condition_2
```

Example

```
SELECT *  
FROM  
    hosts  
WHERE  
    name = 'Mary'  
    OR name IS NULL
```


WHERE clause

Operators OR and AND in one query

Pattern

```
SELECT *  
FROM table_name  
WHERE  
    condition_1  
    AND  
    (condition_2 OR condition_3)
```

Example

```
SELECT *  
FROM hosts  
WHERE  
    name = 'Mary'  
    AND  
    (about LIKE '%travel%' OR about IS  
    NULL)
```

Switch to practice