## SQL FUNDAMENTALS

## IN Operator

### Introduction

The IN operator is used to determine whether a value matches any value in a list. We use IN operator with WHERE clause. Following is the syntax of the IN operator:

WHERE column\_name IN (value\_list)

Suppose that you are building a team in your company. The team is comprised of Data Scientist and Business Analyst. You need to search the employee table to find the right candidates for your team. You may come up with this query:  
  
query :

SELECT \*

FROM employees

WHERE job\_title = 'Data Scientist'

OR

job\_title = 'Business Analyst';

That's a correct query which returns this:  
  
output :

emp\_id first\_name last\_name salary job\_title gender

    hire\_date

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30840 David Barrow 85000 Data Scientist Male 2019

    -12-02

51821 Linda Foster 95000 Data Scientist Female 2019

    -04-29

67323 Lisa Wiener 75000 Business Analyst Female 2018

    -08-09

Three people meet your criteria.

However, there is a better operator in case you try to match a value in a specified list. We may rewrite the query as follows:

SELECT \*

FROM employees

WHERE job\_title IN ('Data Scientist', 'Business Analyst');

The query retrieves the employees whose job title is Data Scientist or Business Analyst. Herein the value list is ('Data Scientist', 'Business Analyst'). When any value in the job title column matches one of the values in the list, the related row is returned.

### An Extended Value List

Suppose that you have decided to add teammates to your existing team. In addition to data scientist and business analyst, you are in need of a project manager and web developer. You modified the old query in which you used the OR operator.

Here is the new query:

query :

SELECT \*

FROM employees

WHERE job\_title = 'Data Scientist'

OR

job\_title = 'Business Analyst'

OR

job\_title = 'Project Manager'

OR

job\_title = 'Web Developer';

Below is the output:

output :

emp\_id first\_name last\_name salary job\_title gender

    hire\_date

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30840 David Barrow 85000 Data Scientist Male 2019

    -12-02

51821 Linda Foster 95000 Data Scientist Female 2019

    -04-29

67323 Lisa Wiener 75000 Business Analyst Female 2018

    -08-09

70950 Rodney Weaver 87000 Project Manager Male 2018

    -12-20

76589 Jason Christian 99000 Project Manager Male 2019

    -01-21

97927 Billie Lanning 67000 Web Developer Female 2018

    -06-25

Then you thought that it's a better idea to use IN operator and revised the query using IN operator as below:

SELECT \*

FROM employees

WHERE job\_title IN ('Data Scientist', 'Business Analyst', 'Project Manager', 'Web

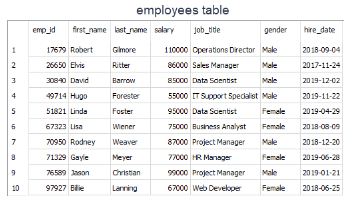
    Developer');

This query also returns the same result table. Six people meet your criteria.  
As you can see that using the IN operator makes your code shorter.

**💡 Tip:** If you have a query in which you use many OR operators, consider using the IN operator instead. This will make your query more readable.

### NOT IN Operator

In this part, we are going to add the keyword NOT to our IN operator.  You're building a team again. This time you decided to select the right candidates in a different way. You don't want to include Operations Director, HR Manager, and Sales Manager in the team.



If we know which values we don't want to include in a list, we can use NOTkeyword with IN. NOT gives you the opposite results, anything that doesn't match the list. Use NOT just before IN operator.  
Let's write the query:  
  
 query :

SELECT \*

FROM employees

WHERE job\_title

NOT IN ('Operations Director', 'HR Manager', 'Sales Manager');

The following is the output:  
  
output :

emp\_id first\_name last\_name salary job\_title gender

    hire\_date

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30840 David Barrow 85000 Data Scientist Male

    2019-12-02

49714 Hugo Forester 55000 IT Support Specialist Male

    2019-11-22

51821 Linda Foster 95000 Data Scientist Female

    2019-04-29

67323 Lisa Wiener 75000 Business Analyst Female

    2018-08-09

70950 Rodney Weaver 87000 Project Manager Male

    2018-12-20

76589 Jason Christian 99000 Project Manager Male

    2019-01-21

97927 Billie Lanning 67000 Web Developer Female

    2018-06-25

There are seven employees whose job title is not in the Operations Director, HR Manager, Sales Manager list. Alright, we completed the IN operator.