

IS NULL

SQL IS NULL is a logical operator that checks for NULL values in a column.

IS NULL Operator in SQL

IS NULL Operator in SQL is used to test for empty or missing values in a column. It checks if the specified expression evaluates to NULL, if it evaluates to NULL, it returns TRUE; otherwise, it returns FALSE.

It can be used with the **WHERE clause** to filter rows where a specified column has a NULL value.

Syntax

SQL IS NULL syntax is:

```
SELECT * FROM table_name
WHERE column_name IS NULL;
```

Note: A NULL value is different from a Zero Value and Blank Spaces. A field that has NULL value means the field was left blank.

SQL IS NULL Examples

Let's look at some examples of the IS NULL operator in SQL. These examples will help in understanding the working of IS NULL in SQL.

First, we will create a demo SQL database and table, on which we will use the IS NULL operator.

Demo SQL Database

We will use this demo table as an example.

user_id	name	problems_solved	coding_score	email
101	Vishu	20	100	example1@gamil.com
102	Sumit	19	99	
103	Neeraj	18	98	example2@gamil.com
104	Aayush	17	97	example2@gamil.com
105	Harsh	16		example3@gamil.com
106	Rahul	15		example4@gamil.com

To create this table on your system, write the following query:

```
CREATE TABLE coder(
  user_id int PRIMARY KEY,
  name varchar(100),
  problems_solved int,
  coding_score int,
  email varchar(100)
);
INSERT INTO coder (user_id, name, problems_solved,
coding_score, email)
VALUES
  (101, 'Vishu', 20, 100, 'example1@gamil.com'),
  (102, 'Sumit', 19, 99, NULL),
  (103, 'Neeraj', 18, 98, 'example2@gamil.com'),
  (104, 'Aayush', 17, 97, NULL),
  (105, 'Harsh', 16, NULL, 'example3@gamil.com'),
  (106, 'Rahul', 15, NULL, 'example4@gamil.com'),
  (107, 'Vivek', 14, 90, NULL);
SELECT * FROM coder;
```

IS NULL with WHERE clause Example

In this example, we use the IS NULL operator with WHERE clause to filter data from the table.

Query

```
SELECT * FROM geeksforgeeks
WHERE email IS NULL;
```

Output

#	user_id	name	problems_solved	coding_score	email
102		Sumit	19	99	NULL
104		Aayush	17	97	NULL
107		Vivek	14	90	NULL

IS NULL with WHERE clause

IS NULL Operator on Multiple Columns Example

In this example, we will use the SQL IS NULL operator on multiple fields using the **OR** operator.

Query

```
SELECT * FROM geeksforgeeks
WHERE email IS NULL or coding_score IS NULL;
```

Output

user_id	name	problems_solved	coding_score	email
102	Sumit	19	99	NULL
104	Aayush	17	97	NULL
105	Harsh	16	NULL	example3@gamil.com
106	Rahul	15	NULL	example4@gamil.com
107	Vivek	14	90	NULL

IS NULL Operator on Multiple Columns

IS NULL with COUNT() Function Example

In this example, we will use IS NULL with COUNT() function to get the total number of NULL values in a column.

```
SELECT COUNT(*) AS count_empty_coding_score
FROM geeksforgeeks
WHERE coding_score IS NULL;
```

Output

count_empty_coding_score
2

IS NULL with COUNT() Function

We can clearly see in our table that we have 2 rows that have NULL values in their coding score column i.e. user_id: 105,106.

IS NULL with UPDATE Statement Example

In this example, we will update NULL values with some default values using IS NULL operator and UPDATE statement.

Query

```
UPDATE geeksforgeeks
SET email = 'default@gmail.com'
WHERE email IS NULL;
```

Output

#	user_id	name	problems_solved	coding_score	email
101		Vishu	20	100	example1@gamil.com
102		Sumit	19	99	default@gmail.com
103		Neeraj	18	98	example2@gamil.com
104		Aayush	17	97	default@gmail.com
105		Harsh	16	NULL	example3@gamil.com
106		Rahul	15	NULL	example4@gamil.com
107		Vivek	14	90	default@gmail.com

IS NULL with UPDATE Statement

As we can see user_id's: 102, 104, and 107 previously contain NULL values in their emails column but now they have a default value i.e. "default@gmail.com".

IS NULL with DELETE Statement Example

In this example, we will delete all NULL values with the help of SQL's DELETE statement.

Query

```
DELETE FROM geeksforgeeks
WHERE coding_score IS NULL;
```

Output

#	user_id	name	problems_solved	coding_score	email
101		Vishu	20	100	example1@gamil.com
102		Sumit	19	99	default@gmail.com
103		Neeraj	18	98	example2@gamil.com
104		Aayush	17	97	default@gmail.com
107		Vivek	14	90	default@gmail.com

IS NULL with the DELETE Statement

We can notice clearly that all those rows deleted have a null value in their coding score column.

Important Points About SQL IS NULL

- SQL IS NULL is used to detect any rows that contain a NULL value in its column.

- IS NULL operator is mostly used with WHERE clause in SQL.
- We can use IS NULL operator on multiple columns using OR operator.
- Using COUNT function we can count total number of NULL values in SQL.
- We can UPDATE or DELETE the NULL values, after filtering them with IS NULL operator.