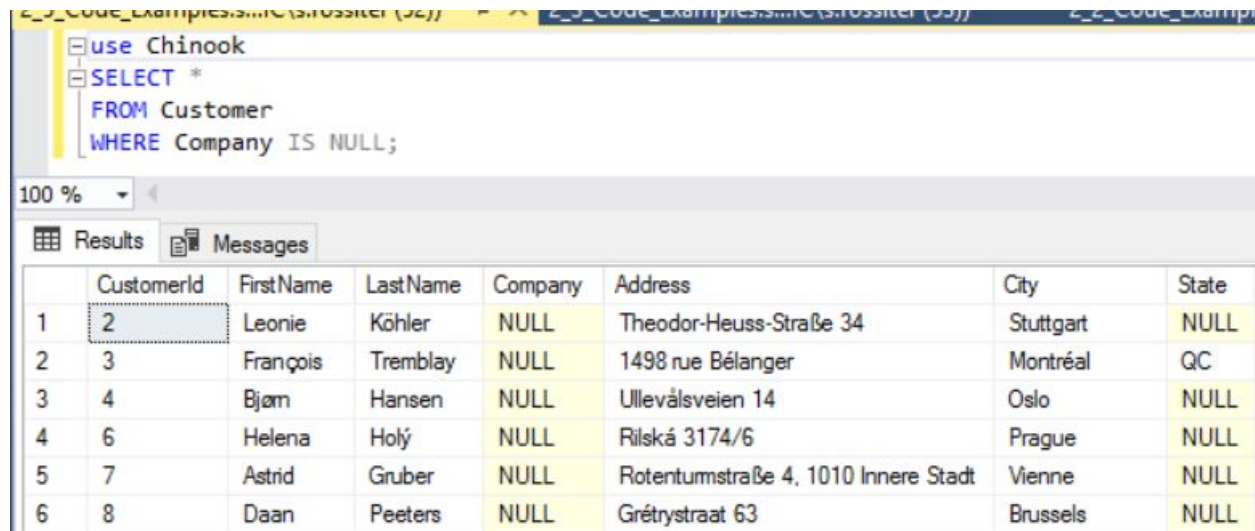# IS NULL, NOT

Lesson Time: 60 Minutes

IS NULL

If you recall from your previous class, we learned about null values in Javascript. A Null value is a "nothing" value. It's not zero and it's not "blank", it means there is absolutely nothing there. Just like a Javascript variable can hold a null value, a field in a database can hold a null value. For example, this could happen if a customer record is created, but not all of the information about the customer is collected and entered right away. That "piece of data" is missing and would be null.

We can find null values in a query with the IS NULL operator.

In our sample Chinook database, there is a table called Customer that represents customer information. One of the fields of data is the company the customer works for. Not every customer might enter this information, so the Company field for that record is null.

Alternatively, if we want to exclude our NULL company records, we can use IS NOT NULL, to get the opposite results.

```sql
use Chinook
SELECT *
FROM Customer
WHERE Company IS NOT NULL;
```

100 %

Results | Messages

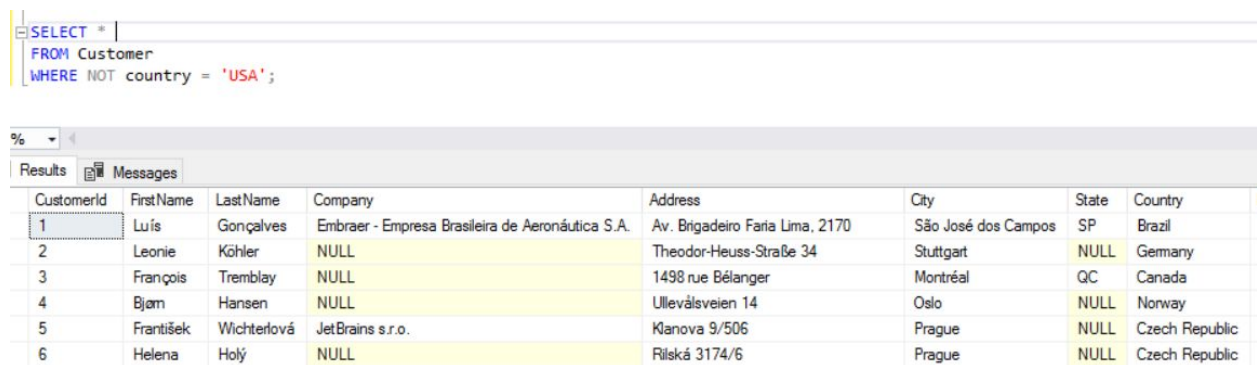|	CustomerId	First Name	Last Name	Company	Ad
1	1	Luís	Gonçalves	Embraer - Empresa Brasileira de Aeronáutica S.A.	Av
2	5	František	Wichterlová	Jet Brains s.r.o.	Kl
3	10	Eduardo	Martins	Woodstock Discos	Ru
4	11	Alexandre	Rocha	Banco do Brasil S.A.	Av
5	12	Roberto	Almeida	Riotur	Pr
6	14	Mark	Philips	Telus	82
7	15	Jennifer	Peterson	Rogers Canada	70
8	16	Frank	Harris	Google Inc.	16
9	17	Jack	Smith	Microsoft Corporation	1
10	19	Tim	Goyer	Apple Inc.	1

This brings us to the NOT keyword.

The NOT keyword

By default, WHERE statements return only records that match the condition. We can reverse this by using WHERE NOT.

```
SELECT *
FROM tablename
WHERE NOT condition1;
```

Gets all results where condition1 is *not* true.


```
SELECT *
 FROM Customer
 WHERE NOT country = 'USA';
```

CustomerId	FirstName	LastName	Company	Address	City	State	Country
1	Luís	Gonçalves	Embraer - Empresa Brasileira de Aeronáutica S.A.	Av. Brigadeiro Faria Lima, 2170	São José dos Campos	SP	Brazil
2	Leonie	Köhler	NULL	Theodor-Heuss-Straße 34	Stuttgart	NULL	Germany
3	François	Tremblay	NULL	1498 rue Bélanger	Montréal	QC	Canada
4	Bjørn	Hansen	NULL	Ullevålsveien 14	Oslo	NULL	Norway
5	František	Wichterlová	JetBrains s.r.o.	Klanova 9/506	Prague	NULL	Czech Republic
6	Helena	Holý	NULL	Rilská 3174/6	Prague	NULL	Czech Republic

This query returns all records where the country not equal to 'USA'.

However, there is something about our brains that makes it harder for us to understand what we are looking at when we frame it as a negative. For this reason, we recommend avoiding this approach normally. The same results can often be achieved with the not equals operator. It can get confusing to mentally sort out what's going on when you are having to reverse the results in your mind while reading the code.

Open 2_5 Code Examples and review more examples of using NOT, IS NULL, and IS NOT NULL.

Key Terms	IS NULL, IS NOT NULL, NOT
Lesson Files	2_5 Code Examples
Additional Resources	https://www.w3schools.com/sql/sql_null_values.asp
Further Learning	None