



## Chapter 2 - Retrieving Information from Database Tables

Oracle Database 11g SQL

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### Null Values

How does a database represent a value that is unknown? It uses a special value called a *null value*. A null value is not a blank string—it is a distinct value. A null value means the value for the column is unknown.

When you retrieve a column that contains a null value, you see nothing in the output for that column. You saw this (or rather, didn't see it!) in the earlier examples that retrieved rows from the `customers` table: customer #4 has a null value in the `dob` column, and customer #5 has a null value in the `phone` column. In case you missed it, here's the query again:

```
SELECT *
FROM customers;
```

CUSTOMER_ID	FIRST_NAME	LAST_NAME	DOB	PHONE
1	John	Brown	01-JAN-65	800-555-1211
2	Cynthia	Green	05-FEB-68	800-555-1212
3	Steve	White	16-MAR-71	800-555-1213
4	Gail	Black		800-555-1214
5	Doreen	Blue	20-MAY-70	

You can also check for null values using `IS NULL` in a query. In the following example, customer #4 is retrieved because its `dob` value is null:

```
SELECT customer_id, first_name, last_name, dob
FROM customers
WHERE dob IS NULL;
```

CUSTOMER_ID	FIRST_NAME	LAST_NAME	DOB
4	Gail	Black	

In the next example, customer #5 is retrieved because its `phone` value is null:

```
SELECT customer_id, first_name, last_name, phone
FROM customers
WHERE phone IS NULL;
```

CUSTOMER_ID	FIRST_NAME	LAST_NAME	PHONE
5	Doreen	Blue	

Since null values don't display anything, how do you tell the difference between a null value and a blank string? The answer is to use the Oracle `NVL()` built-in function. `NVL()` returns another value in place of a null. `NVL()` accepts two parameters: a column (or, more generally, any expression that results in a value) and the value to be returned if the first parameter is null. In the following query, `NVL()` returns string 'Unknown phone number' when the `phone` column contains a null value:

```
SELECT customer_id, first_name, last_name,
```

```
NVL(phone, 'Unknown phone number') AS PHONE_NUMBER
FROM customers;
```

CUSTOMER_ID	FIRST_NAME	LAST_NAME	PHONE_NUMBER
1	John	Brown	800-555-1211
2	Cynthia	Green	800-555-1212
3	Steve	White	800-555-1213
4	Gail	Black	800-555-1214
5	Doreen	Blue	Unknown phone number

You can also use NVL () to convert null numbers and dates. In the following query, NVL () returns the date 01-JAN-2000 when the dob column contains a null value:

```
SELECT customer_id, first_name, last_name, NVL(dob, '01-JAN-2000') AS DOB
FROM customers;
```

CUSTOMER_ID	FIRST_NAME	LAST_NAME	DOB
1	John	Brown	01-JAN-65
2	Cynthia	Green	05-FEB-68
3	Steve	White	16-MAR-71
4	Gail	Black	01-JAN-00
5	Doreen	Blue	20-MAY-70

Notice that customer #4's dob is now displayed as 01-JAN-00.

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