PostgreSQL ROUND Function

The PostgreSQL `ROUND()` function rounds a numeric value to its nearest integer (https://www.postgresqltutorial.com/postgresql-tutorial/postgresql-integer/) or a number with the number of decimal places.

Syntax

The following illustrates the syntax of the `ROUND()` function:

```
ROUND (source [ , n ] )
```

Arguments

The `ROUND()` function accepts 2 arguments:

1) source

The `source` argument is a number or a numeric expression that is to be rounded.

2) n

The `n` argument is an integer that determines the number of decimal places after rounding.

The n argument is optional. If you omit the n argument, its default value is 0.

Return Value

The `ROUND()` function returns a result whose type is the same as the input if you omit the second argument.

In case if you use both arguments, the `ROUND()` function returns a numeric value.

Examples

A) Round to an integer example

The following example shows how to round a decimal using the `ROUND()` function:

```
SELECT
    ROUND( 10.4 );
```

Because the nearest integer of 10.4 is 10, the function returns 10 as expected:

```
10
```

The following example rounds 10.5:

```
SELECT
    ROUND( 10.5 );
```

The result is:

```
11
```

B) Round to 2 decimal places examples

The following example illustrates how to round to 2 decimal places:

```
SELECT
    ROUND( 10.812, 2 );
```

Result

```
10.81
```

And another example of rounding a decimal to 2 decimal places:

```
SELECT
    ROUND( 10.817, 2 );
```

Result

```
10.82
```

You can change the second argument to round a number to specific decimal places.

C) Rounding data from table examples

We will use the following `payment` and `customer` tables in the sample database (https://www.postgresqltutorial.com/postgresql-sample-database/) for the demonstration.

The following statement retrieves the average rental fee that each customer has paid.

```
SELECT
    first_name,
    last_name,
    ROUND( AVG( amount ), 2 ) avg_rental
FROM
    payment
INNER JOIN customer
```

```
        USING(customer_id)
GROUP BY
    customer_id
ORDER BY
    avg_rental DESC;
```

In this statement, we use the `ROUND()` function to round average rental fee to 2 decimal places.

The following picture illustrates the result:

The following statement calculates the average number of rentals per customer.

```
WITH rental(customer_id,rent) AS
(
    SELECT
        customer_id,
        COUNT( rental_id )
    FROM
        payment
    GROUP BY
        customer_id
)
SELECT
    ROUND(AVG(rent))
FROM
    rental;
```

In this example, we used the `ROUND()` function to round the result to an integer.

In this tutorial, you have learned how to use the PostgreSQL `ROUND()` function to round a number to its nearest integer or to a number of a specified decimal places.