

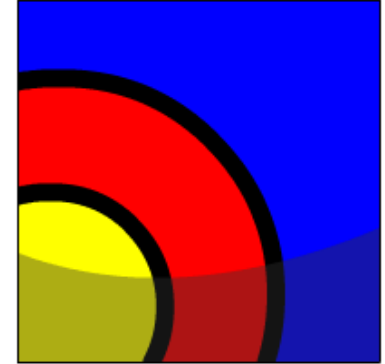
Number Functions



What Will I Learn?

In this lesson, you will learn to:

- Select and apply the single-row number functions ROUND, TRUNC, and MOD in a SQL query
- Distinguish between the results obtained when TRUNC is applied to a numeric value and ROUND is applied to a numeric value
- State the implications for business when applying TRUNC and ROUND to numeric values





Why Learn It?

One of the reasons we put our money in a bank is to take advantage of the interest it accumulates over time.

Banks adjust the interest rate with various economic indicators such as inflation and the stock market.

Typically, interest rates are expressed as a percent such as 3.45%.



Why Learn It?

What if a bank decided to round the percentage rate to 3.5%? Would it be to your advantage? What if they decided to just drop the decimal values and calculate the interest at 3%, would you be happy then?



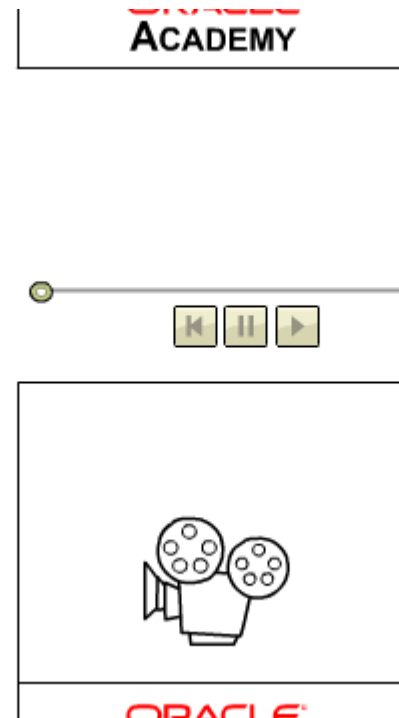
Rounding and truncating numbers play an important part in business and in turn with the databases that support these businesses as they store and access numeric data.

Tell Me / Show Me

Number Functions

The three number functions are:

- ROUND
- TRUNC
- MOD



Tell Me / Show Me

ROUND

ROUND can be used with both numbers and dates. It is mainly used to round numbers to a specified number of decimal places, but it can also be used to round numbers to the left of the decimal point.

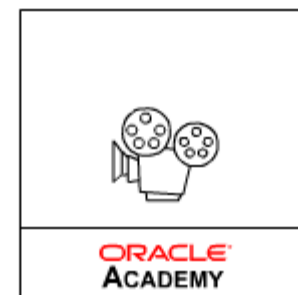
Syntax

`ROUND(column|expression, decimal places)`

Note that if the number of decimal places is not specified or is zero, the number will round to no decimal places.

`ROUND(45.926)` 46

`ROUND(45.926, 0)` 46





Tell Me / Show Me

ROUND (continued)

If the number of decimal places is a positive number, the number is rounded to that number of decimal places.



ROUND (45.926 , 2) 45.93

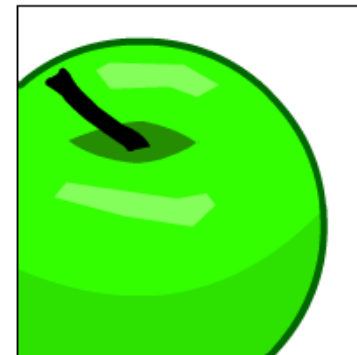
If the number of decimal places is a negative number, numbers to the left of the decimal are rounded.

ROUND (45.926 , -1) 50

Tell Me / Show Me

TRUNC

The TRUNC function can be used with both numbers and dates. It is mainly used to terminate the column, expression, or value to a specified number of decimal places. When TRUNC is used, if the number of decimal places is not specified, then the specified number defaults to zero.



Syntax

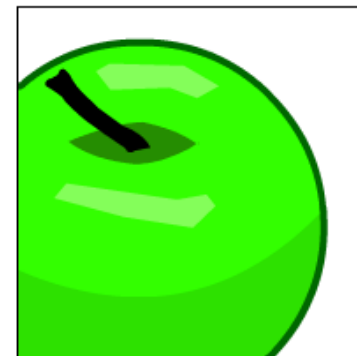
```
TRUNC(column|expression, decimal places)
```

```
TRUNC (45.926, 2)           45.92
```


Tell Me / Show Me

TRUNC (continued)

As with ROUND, if the TRUNC expression does not specify the number of decimal places or specifies a zero, the number is truncated to zero decimal places.



<code>TRUNC (45.926, 0)</code>	<code>45</code>
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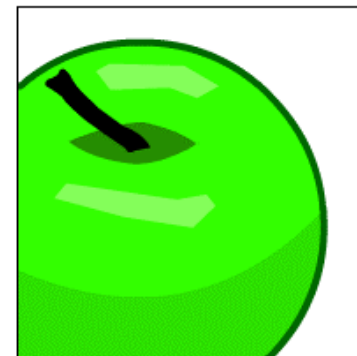
<code>TRUNC (45.926)</code>	<code>45</code>
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Remember that TRUNC does not round the number. It simply terminates the number at a given point.

Tell Me / Show Me

MOD

The MOD function finds the remainder of one value divided by another value.



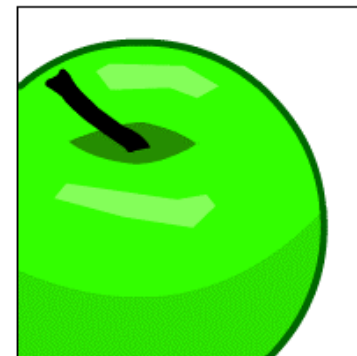
For example, the MOD of 5 divided by 2 = 1.

MOD can be used to determine whether a value is odd or even. If you divide a value by 2 and there is no remainder, the number must be an even number. Using the MOD function with 2, as in $12/2$ and there is no remainder, the number must have been an even number.

Tell Me / Show Me

MOD

```
SELECT MOD(1600,500) FROM DUAL;  
100    remainder
```



```
SELECT last_name, salary, MOD(salary, 2) As "Mod Demo"  
FROM f_staffs  
WHERE staff_type IN('Order Taker','Cook','Manager');
```

The "Mod Demo" column will show if the salary is an odd or even number.

Tell Me / Show Me

Terminology

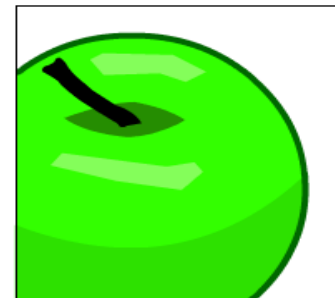
Key terms used in this lesson include:

Number functions

MOD

ROUND

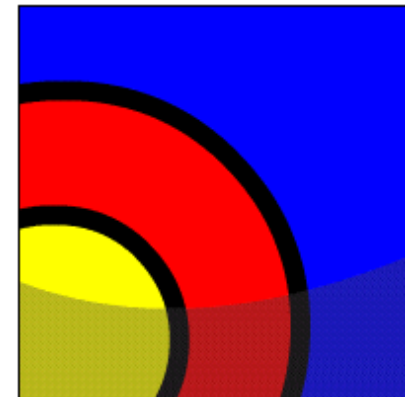
TRUNC



Summary

In this lesson you have learned to:

- Select and apply the single-row number functions ROUND, TRUNC, and MOD in a SQL query
- Distinguish between the results obtained when TRUNC is applied to a numeric value and ROUND is applied to a numeric value
- State the implications for business when applying TRUNC and ROUND to numeric values



Summary

Practice Guide

The link for the lesson practice guide can be found in the course resources in Section 0.

