 



Database Programming with SQL 4-2: Number Functions

Practice Activities

# Objectives

* 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

# Vocabulary

Identify the vocabulary word for each definition below.

|  |  |
| --- | --- |
| **TRUNC** | Used to terminate the column, expression, or value to a specified number of decimal places |
| **number functions** | These functions accept numeric input and return numeric values. |
| **MOD** | Returns the remainder of a division. |
| **ROUND** | Rounds the column, expression, or value to a set number of decimal places. |

# Try It / Solve It

1. Display Oracle database employee last\_name and salary for employee\_ids between 100 and 102. Include a third column that divides each salary by 1.55 and rounds the result to two decimal places.

SELECT last\_name, salary, ROUND(salary/1.55,2) "Calculated Salary"

FROM employees

WHERE employee\_id BETWEEN 100 AND 102;

1. Display employee last\_name and salary for those employees who work in department 80. Give each of them a raise of 5.333% and truncate the result to two decimal places.

SELECT last\_name, salary, TRUNC(salary\*1.0533,2) "Raised Salary"

FROM employees

WHERE department\_id = 80;

1. Use a MOD number function to determine whether 38873 is an even number or an odd number.

SELECT CASE WHEN MOD(38873 , 2) = 1 THEN 'odd' ELSE 'even' END as "Odd or Even?"

FROM dual;

1. Use the DUAL table to process the following numbers:

845.553 - round to one decimal place

SELECT ROUND( 845.553 , 1)

FROM dual;

30695.348 - round to two decimal places

SELECT ROUND( 30695.348  , 2)

FROM dual;

30695.348 - round to -2 decimal places

SELECT ROUND( 30695.348  , -2)

FROM dual;

2.3454 - truncate the 454 from the decimal place

SELECT TRUNC( 2.3454   , 1)

FROM dual;

1. Divide each employee’s salary by 3. Display only those employees’ last names and salaries who earn a salary that is a multiple of 3.

SELECT last\_name, salary

FROM employees

WHERE MOD(salary, 3) = 0;

1. Divide 34 by 8. Show only the remainder of the division. Name the output as EXAMPLE.

SELECT MOD(34, 8) as example

FROM dual;

1. How would you like your paycheck – rounded or truncated? What if your paycheck was calculated to be $565.784 for the week, but you noticed that it was issued for $565.78. The loss of .004 cent would probably make very little difference to you. However, what if this was done to one thousand people, one hundred thousand people, or one million people! Would it make a difference then? How much of a difference?

С одной тысячи человек -4 доллара, с 1 миллиона человек уже 4000 долларов

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