

# COUNTAIF Function

## Contents:

- *Basic Usage*
- *Syntax and Arguments*
  - *col\_ref*
  - *test\_expression*
- *Examples*
  - *Example - COUNTIF Functions*

Generates the count of non-null values for rows in each group that meet a specific condition.

**NOTE:** When added to a transformation, this function is applied to the current sample. If you change your sample or run the job, the computed values for this function are updated. Transformations that change the number of rows in subsequent recipe steps do not affect the values computed for this step.

To perform a simple counting of non-nulls without conditionals, use the `COUNTA` function. See *COUNTA Function*.

**Wrangle vs. SQL:** This function is part of Wrangle , a proprietary data transformation language. Wrangle is not SQL. For more information, see *Wrangle Language*.

## Basic Usage

```
countaif(entries, entryValidation == 'Ok')
```

**Output:** Returns the count of non-null values in the `entries` column when the `entryValidation` value is 'Ok'

## Syntax and Arguments

```
countaif(col_ref, test_expression) [group:group_col_ref] [limit:limit_count]
```

| Argument                     | Required? | Data Type | Description   |
|------------------------------|-----------|-----------|---|
| <code>col_ref</code>         | Y         | string    | Reference to the column you wish to evaluate.   |
| <code>test_expression</code> | Y         | string    | Expression that is evaluated. Must resolve to <code>true</code> or <code>false</code> |

For more information on syntax standards, see *Language Documentation Syntax Notes*.

For more information on the `group` parameter, see *Pivot Transform*.

## `col_ref`

Name of the column whose values you wish to use in the calculation. Column must be a numeric (Integer or Decimal) type.

## Usage Notes:

| Required? | Data Type   | Example Value |
|-----------|---|---------------|
| Yes       | String that corresponds to the name of the column | myValues      |

### test\_expression

This parameter contains the expression to evaluate. This expression must resolve to a Boolean (`true` or `false`) value.

### Usage Notes:

| Required? | Data Type   | Example Value   |
|-----------|---|---|
| Yes       | String expression that evaluates to <code>true</code> or <code>false</code> | <code>(LastName == 'Mouse' &amp;&amp; FirstName == 'Mickey')</code> |

### Examples

**Tip:** For additional examples, see *Common Tasks*.

### Example - COUNTIF Functions

This example demonstrates how to count the number of values within a group, based on a specified conditional test.

### Functions:

| Item              | Description   |
|-------------------|---|
| COUNTIF Function  | Generates the count of rows in each group that meet a specific condition. Generated value is of Integer type. |
| COUNTAIF Function | Generates the count of non-null values for rows in each group that meet a specific condition.                 |

### Source:

The following data identifies sales figures by salespeople for a week:

| EmployeeId | Date    | Sales |
|------------|---------|-------|
| S001       | 1/23/17 | 25    |
| S002       | 1/23/17 | 40    |
| S003       | 1/23/17 | 48    |
| S001       | 1/24/17 | 81    |
| S002       | 1/24/17 | 11    |
| S003       | 1/24/17 | 25    |
| S001       | 1/25/17 | 9     |
| S002       | 1/25/17 | 40    |
| S003       | 1/25/17 |       |

|      |         |    |
|------|---------|----|
| S001 | 1/26/17 | 77 |
| S002 | 1/26/17 | 83 |
| S003 | 1/26/17 |    |
| S001 | 1/27/17 | 17 |
| S002 | 1/27/17 | 71 |
| S003 | 1/27/17 | 29 |
| S001 | 1/28/17 |    |
| S002 | 1/28/17 |    |
| S003 | 1/28/17 | 14 |
| S001 | 1/29/17 | 2  |
| S002 | 1/29/17 | 7  |
| S003 | 1/29/17 | 99 |

**Transformation:**

You are interested in the count of dates during the week when each salesperson sold less than 50 units, not factoring the weekend. First, you try the following:

|   |                     |
|---|---------------------|
| <b>Transformation Name</b>              | Pivot columns       |
| <b>Parameter: Row labels</b>            | EmployeeId          |
| <b>Parameter: Values</b>                | COUNTIF(Sales < 50) |
| <b>Parameter: Max columns to create</b> | 1                   |

You notice, however, that the blank values, when employees were sick or had vacation, are being counted. Additionally, this step does not filter out the weekend. You must identify the weekend days using the WEEKDAY function:

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Transformation Name</b>        | New formula        |
| <b>Parameter: Formula type</b>    | Single row formula |
| <b>Parameter: Formula</b>         | WEEKDAY(Date)      |
| <b>Parameter: New column name</b> | 'DayOfWeek'        |

If DayOfWeek > 5, then it is a weekend date. For further precision, you can use the COUNTAIF function to remove the nulls:

|   |                              |
|---|------------------------------|
| <b>Transformation Name</b>              | Pivot columns                |
| <b>Parameter: Row labels</b>            | EmployeeId                   |
| <b>Parameter: Values</b>                | COUNTAIF(Sales, DayOfWeek<6) |
| <b>Parameter: Max columns to create</b> | 1                            |

The above counts the non-null values in Sales when the day of the week is not a weekend day, as grouped by individual employee.

**Results:**

| EmployeeId | countaif_Sales |
|------------|----------------|
| S001       | 5              |
| S002       | 4              |
| S003       | 4              |