MINIF Function

Contents:

Generates the minimum value of rows in each group that meet a specific condition. Inputs can be Integer, Decimal, or Datetime.

> **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 calculate the minimum value of rows without conditionals, use the `MIN` function. See *MIN 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

```
minif(testScores, testCount >= 3)
```

Output: Returns the minimum of the `testScores` column when the `testCount` is greater than or equal to 3.

Syntax and Arguments

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

Argument	Required?	Data Type	Description
col_ref	Y	string	Reference to the column you wish to evaluate.
test_expression	Y	string	Expression that is evaluated. Must resolve to `true` or `false`

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

For more information on the `group` and `limit` parameters, see *Pivot Transform*.

col_ref

Name of the column whose values you wish to use in the calculation. Inputs must be Integer, Decimal, or Datetime values.

> **NOTE:** If the input is in Datetime type, the output is in unixtime format. You can wrap these outputs in the DATEFORMAT function to generate the results in the appropriate Datetime format. See *DATEFORMAT Function*.

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 `true` or `false`	`(LastName == 'Mouse' && FirstName == 'Mickey')`

Examples

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

Example - Conditional Calculation Functions

This example illustrates how to use the conditional calculation functions.

Functions:

Item	Description
AVERAGEIF Function	Generates the average value of rows in each group that meet a specific condition. Generated value is of Decimal type.
MINIF Function	Generates the minimum value of rows in each group that meet a specific condition. Inputs can be Integer, Decimal, or Datetime.
MAXIF Function	Generates the maximum value of rows in each group that meet a specific condition. Inputs can be Integer, Decimal, or Datetime.
VARIF Function	Generates the variance of values by group in a column that meet a specific condition.
STDEVIF Function	Generates the standard deviation of values by group in a column that meet a specific condition.

Source:

Here is some example weather data:

date	city	rain	temp	wind

1/23/17	Valleyville	0.00	12.8	6.7
1/23/17	Center Town	0.31	9.4	5.3
1/23/17	Magic Mountain	0.00	0.0	7.3
1/24/17	Valleyville	0.25	17.2	3.3
1/24/17	Center Town	0.54	1.1	7.6
1/24/17	Magic Mountain	0.32	5.0	8.8
1/25/17	Valleyville	0.02	3.3	6.8
1/25/17	Center Town	0.83	3.3	5.1
1/25/17	Magic Mountain	0.59	-1.7	6.4
1/26/17	Valleyville	1.08	15.0	4.2
1/26/17	Center Town	0.96	6.1	7.6
1/26/17	Magic Mountain	0.77	-3.9	3.0
1/27/17	Valleyville	1.00	7.2	2.8
1/27/17	Center Town	1.32	20.0	0.2
1/27/17	Magic Mountain	0.77	5.6	5.2
1/28/17	Valleyville	0.12	-6.1	5.1
1/28/17	Center Town	0.14	5.0	4.9
1/28/17	Magic Mountain	1.50	1.1	0.4
1/29/17	Valleyville	0.36	13.3	7.3
1/29/17	Center Town	0.75	6.1	9.0
1/29/17	Magic Mountain	0.60	3.3	6.0

Transformation:

The following computes average temperature for rainy days by city:

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`AVERAGEIF(temp, rain > 0)`
Parameter: Group rows by	`city`
Parameter: New column name	`'avgTempWRain'`

The following computes maximum wind for sub-zero days by city:

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`MAXIF(wind,temp < 0)`
Parameter: Group rows by	`city`
Parameter: New column name	`'maxWindSubZero'`

This step calculates the minimum temp when the wind is less than 5 mph by city:

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`MINIF(temp,wind<5)`
Parameter: Group rows by	`city`
Parameter: New column name	`'minTempWind5'`

This step computes the variance in temperature for rainy days by city:

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`VARIF(temp,rain >0)`
Parameter: Group rows by	`city`
Parameter: New column name	`'varTempWRain'`

The following computes the standard deviation in rainfall for Center Town:

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`STDEVIF(rain,city=='Center Town')`
Parameter: Group rows by	`city`
Parameter: New column name	`'stDevRainCT'`

You can use the following transforms to format the generated output. Note the `$col` placeholder value for the multi-column transforms:

Transformation Name	`Edit column with formula`
Parameter: Columns	`stDevRainCenterTown,maxWindSubZero`
Parameter: Formula	`numformat($col,'##.##')`

Since the following rely on data that has only one significant digit, you should format them differently:

Transformation Name	`Edit column with formula`
Parameter: Columns	`varTempWRain,avgTempWRain,minTempWind5`
Parameter: Formula	`numformat($col,'##.#')`

Results:

date	city	rain	temp	wind	avgTempWRain	maxWindSubZero	minTempWind5	varTempWRain	stDevRain
1/23/17	Valleyville	0.00	12.8	6.7	8.3	5.1	7.2	63.8	0.37
1/23/17	Center Town	0.31	9.4	5.3	7.3		5	32.6	0.37
1/23/17	Magic Mountain	0.00	0.0	7.3	1.6	6.43	-3.9	12	0.37
1/24/17	Valleyville	0.25	17.2	3.3	8.3	5.1	7.2	63.8	0.37
1/24/17	Center Town	0.54	1.1	7.6	7.3		5	32.6	0.37
1/24/17	Magic Mountain	0.32	5.0	8.8	1.6	6.43	-3.9	12	0.37
1/25/17	Valleyville	0.02	3.3	6.8	8.3	5.1	7.2	63.8	0.37
1/25/17	Center Town	0.83	3.3	5.1	7.3		5	32.6	0.37
1/25/17	Magic Mountain	0.59	-1.7	6.4	1.6	6.43	-3.9	12	0.37
1/26/17	Valleyville	1.08	15.0	4.2	8.3	5.1	7.2	63.8	0.37
1/26/17	Center Town	0.96	6.1	7.6	7.3		5	32.6	0.37
1/26/17	Magic Mountain	0.77	-3.9	3.0	1.6	6.43	-3.9	12	0.37
1/27/17	Valleyville	1.00	7.2	2.8	8.3	5.1	7.2	63.8	0.37
1/27/17	Center Town	1.32	20.0	0.2	7.3		5	32.6	0.37
1/27/17	Magic Mountain	0.77	5.6	5.2	1.6	6.43	-3.9	12	0.37
1/28/17	Valleyville	0.12	-6.1	5.1	8.3	5.1	7.2	63.8	0.37
1/28/17	Center Town	0.14	5.0	4.9	7.3		5	32.6	0.37
1/28/17	Magic Mountain	1.50	1.1	0.4	1.6	6.43	-3.9	12	0.37
1/29/17	Valleyville	0.36	13.3	7.3	8.3	5.1	7.2	63.8	0.37
1/29/17	Center Town	0.75	6.1	9.0	7.3		5	32.6	0.37
1/29/17	Magic Mountain	0.60	3.3	6.0	1.6	6.43	-3.9	12	0.37