

EXAMPLE - KTHLARGESTIF Function

This example illustrates how to use the conditional ranking functions.

Functions:

Item	Description
KTHLARGESTIF Function	Extracts the ranked value from the values in a column, where $k=1$ returns the maximum value, when a specified condition is met. The value for k must be between 1 and 1000, inclusive. Inputs can be Integer, Decimal, or Datetime.
KTHLARGESTUNIQUEIF Function	Extracts the ranked unique value from the values in a column, where $k=1$ returns the maximum value, when a specified condition is met. The value for k must be between 1 and 1000, inclusive. Inputs can be Integer, Decimal, or Datetime.

Source:

Here is some example weather data:

date	city	rain_cm	temp_C	wind_mph
1/23/17	Valleyville	0.00	12.8	8.8
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:

In this case, you want to find out the second-most measures for rain, temperature, and wind in Center Town for the week.

Transformation Name	Pivot columns
Parameter: Values	KTHLARGESTIF(rain_cm,2,city == 'Center Town')
Parameter: Max number of columns to create	1

You can see in the preview that the value is 1.32. Before adding it to your recipe, you change the step to the following:

Transformation Name	Pivot columns
Parameter: Values	KTHLARGESTIF(temp_C,2,city == 'Center Town')
Parameter: Max number of columns to create	1

The value is 20.

For wind, you modify it to be the following, capturing the third-ranked value:

Transformation Name	Pivot columns
Parameter: Values	KTHLARGESTIF(wind_mph,3,city == 'Center Town')
Parameter: Max number of columns to create	1

In the results, you notice that there are two values for 8.8. So you change the function to use the KTHLARGESTUNIQUEIF function instead:

Transformation Name	Pivot columns
Parameter: Values	KTHLARGESTUNIQUEIF(wind_mph,3,city == 'Center Town')
Parameter: Max number of columns to create	1

The result value is 7.6. Note that this value appears twice, so if you change the rank parameter in the above transformation to 4, the results would return a different unique ranked value (7.3).

Results:

You can choose to add any of these steps to generate an aggregated result. As an alternative, you can use a derive transform to insert these calculated results into new columns.