MEDIAN Function

Computes the median from all row values in a column or group. Input column can be of Integer or Decimal.

- If a row contains a missing or null value, it is not factored into the calculation. If the entire column contains no values, the function returns a null value.
- When used in a `pivot` transform, the function is computed for each instance of the value specified in the `group` parameter. See *Pivot Transform*.

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

```
median(myRating)
```

Output: Returns the median of the values in the `myRating` column.

Syntax and Arguments

```
median(function_col_ref) [group:group_col_ref] [limit:limit_count]
```

Argument	Required?	Data Type	Description
function_col_ref	Y	string	Name of column to which to apply the function

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

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

function_col_ref

Name of the column the values of which you want to calculate the median. Column must contain Integer or Decimal values.

- Literal values are not supported as inputs.
- Multiple columns and wildcards are not supported.

Usage Notes:

Required?	Data Type	Example Value
Yes	String (column reference)	`myValues`

Examples

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

Example - Percentile functions

This example illustrates how you can apply the following percentile-related functions to your transformations:

- `MEDIAN` - Calculate the median value from a column of values. See *MEDIAN Function*.
- `PERCENTILE` - Calculate a specified percentile for a column of values. See *PERCENTILE Function*.
- `QUARTILE` - Calculate a specified quartile for a column of values. See *QUARTILE Function*.

The following functions use an approximation technique for calculating median, percentile, and quartiles. In some cases, these calculations can be computed faster across large datasets.

- `APPROXIMATEMEDIAN` - Calculate a close approximation of the median value from a column of values. See *APPROXIMATEMEDIAN Function*.
- `APPROXIMATEPERCENTILE` - Calculate a close approximation of a specified percentile for a column of values. See *APPROXIMATEPERCENTILE Function*.
- `APPROXIMATEQUARTILE` - Calculate a close approximation of a specified quartile for a column of values. See *APPROXIMATEQUARTILE Function*.

Source:

The following table lists each student's height in inches:

Student	Height
1	64
2	65
3	63
4	64
5	62
6	66
7	66
8	65
9	69
10	66
11	73
12	69
13	69
14	61
15	64
16	61
17	71
18	67
19	73
20	66

Transformation:

Use the following transformations to calculate the median height in inches, a specified percentile and the first quartile.

- The first function uses a precise algorithm which can be slow to execute across large datasets.

- The second function uses an appropriate approximation algorithm, which is much faster to execute across large datasets.
    - These approximate functions can use an error boundary parameter, which is set to `0.4` (0.4%) across all functions.

Median: This transformation calculates the median value, which corresponds to the 50th percentile.

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`median(heightIn)`
Parameter: New column name	`'medianIn'`

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`approximatemedian(heightIn, 0.4)`
Parameter: New column name	`'approxMedianIn'`

Percentile: This transformation calculates the 68th percentile.

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`percentile(heightIn, 68, linear)`
Parameter: New column name	`'percentile68In'`

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`approximatepercentile(heightIn, 68, 0.4)`
Parameter: New column name	`'approxPercentile68In'`

Quartile: This transformation calculates the first quartile, which corresponds to the 25th percentile.

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`quartile(heightIn, 1, linear)`
Parameter: New column name	`'percentile25In'`

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`

Parameter: Formula	`approximatequartile(heightIn, 1, 0.4)`
Parameter: New column name	`'approxPercentile25In'`

Results:

studentId	heightIn	approxPercentile25In	percentile25In	approxPercentile68In	percentile68In	approxMedianIn	
1	64	64	64	67.1	66.92	66	6
2	65	64	64	67.1	66.92	66	6
3	63	64	64	67.1	66.92	66	6
4	64	64	64	67.1	66.92	66	6
5	62	64	64	67.1	66.92	66	6
6	66	64	64	67.1	66.92	66	6
7	66	64	64	67.1	66.92	66	6
8	65	64	64	67.1	66.92	66	6
9	69	64	64	67.1	66.92	66	6
10	66	64	64	67.1	66.92	66	6
11	73	64	64	67.1	66.92	66	6
12	69	64	64	67.1	66.92	66	6
13	69	64	64	67.1	66.92	66	6
14	61	64	64	67.1	66.92	66	6
15	64	64	64	67.1	66.92	66	6
16	61	64	64	67.1	66.92	66	6
17	71	64	64	67.1	66.92	66	6
18	67	64	64	67.1	66.92	66	6
19	73	64	64	67.1	66.92	66	6
20	66	64	64	67.1	66.92	66	6