

# ISMISMATCHED Function

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Tests whether a set of values is not valid for a specified data type.

- For a tested value, this function returns `true` or `false`.
- Inputs can be literal values or column references.

You can define a conditional test in a single step for valid values. See *IFMISMATCHED Function*.

**NOTE:** This function is similar to the `ISVALID` function, which tests for validity against a specified data type. However, unlike the `ISVALID` function, the `ISMISMATCHED` function also matches against missing values. See *VALID 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

### Column reference example:

```
ismismatched(Qty, 'Integer') || (Qty < 0)
```

**Output:** Returns `true` when the value in the `Qty` column does not contain a valid Integer and the value is less than zero.

### Numeric literal example:

```
ismismatched('ZZ', 'State')
```

**Output:** Returns `true`, since the value `ZZ` is not a valid U.S. State code.

## Syntax and Arguments

```
ismismatched(column_string,datatype_literal)
```

Argument	Required?	Data Type	Description
<code>column_string</code>	Y	string	Name of column or string literal to be applied to the function
<code>datatype_literal</code>	Y	string	String literal that identifies the data type against which to validate the source values

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

## column\_string

Name of the column or string literal to be evaluated for mismatches against the specified type.

- Missing literals or column values generate missing string results.
  - Constants must be quoted ('Hello, World').
- Multiple columns and wildcards are not supported.

### Usage Notes:

Required?	Data Type	Example Value
Yes	String literal or column reference	myColumn

## datatype\_literal

Literal value for data type to which to validate the source column or string.

- Column references are not supported.

### Usage Notes:

Required?	Data Type	Example Value
Yes	String literal	'Integer'

## Valid data type strings:

When referencing a data type within a transform, you can use the following strings to identify each type:

**NOTE:** In Wrangle transforms, these values are case-sensitive.

**NOTE:** When specifying a data type by name, you must use the String value listed below. The Data Type value is the display name for the type.

Data Type	String
String	'String'
Integer	'Integer'
Decimal	'Float'
Boolean	'Bool'
Social Security Number	'SSN'
Phone Number	'Phone'
Email Address	'Emailaddress'
Credit Card	'Creditcard'
Gender	'Gender'
Object	'Map'

Array	'Array'
IP Address	'Ipaddress'
URL	'Url'
HTTP Code	'Httpcodes'
Zip Code	'Zipcode'
State	'State'
Date / Time	'Datetime'

For custom types, you should reference the name of the type in the string value. For more information, see *Create Custom Data Types*.

## Examples

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

### Example - Type check functions

This example illustrates how various type checking functions can be applied to your data.

- **ISVALID** - Returns `true` if the input matches the specified data type. See *VALID Function*.
- **ISMISMATCHED** - Returns `true` if the input does not match the specified data type. See *ISMISMATCHED Function*.
- **ISMISSING** - Returns `true` if the input value is missing. See *ISMISSING Function*.
- **ISNULL** - Returns `true` if the input value is null. See *ISNULL Function*.
- **NULL** - Generates a null value. See *NULL Function*.

### Source:

Some source values that should match the State and Integer data types:

State	Qty
CA	10
OR	-10
WA	2.5
ZZ	15
ID	
	4

### Transformation:

**Invalid State values:** You can test for invalid values for State using the following:

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	ISMISMATCHED (State, 'State')

The above transform flags rows 4 and 6 as mismatched.

**NOTE:** A missing value is not valid for a type, including String type.

**Invalid Integer values:** You can test for valid matches for Qty using the following:

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	(ISVALID (Qty, 'Integer') && (Qty > 0))
<b>Parameter: New column name</b>	'valid_Qty'

The above transform flags as valid all rows where the Qty column is a valid integer that is greater than zero.

**Missing values:** The following transform tests for the presence of missing values in either column:

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	(ISMISSING(State)    ISMISSING(Qty))
<b>Parameter: New column name</b>	'missing_State_Qty'

After re-organizing the columns using the move transform, the dataset should now look like the following:

State	Qty	mismatched_State	valid_Qty	missing_State_Qty
CA	10	false	true	false
OR	-10	false	false	false
WA	2.5	false	false	false
ZZ	15	true	true	false
ID		false	false	true
	4	false	true	true

Since the data does not contain null values, the following transform generates null values based on the preceding criteria:

<b>Transformation Name</b>	New formula
<b>Parameter: Formula type</b>	Single row formula
<b>Parameter: Formula</b>	((mismatched_State == 'true')    (valid_Qty == 'false')    (missing_State_Qty == 'true')) ? NULL() : 'ok'
<b>Parameter: New column name</b>	'status'

You can then use the ISNULL check to remove the rows that fail the above test:

<b>Transformation Name</b>	Filter rows
<b>Parameter: Condition</b>	Custom formula
<b>Parameter: Type of formula</b>	Custom single
<b>Parameter: Condition</b>	ISNULL('status')
<b>Parameter: Action</b>	Delete matching rows

**Results:**

Based on the above tests, the output dataset contains one row:

State	Qty	mismatched_State	valid_Qty	missing_State_Qty	status
CA	10	false	true	false	ok