

EXAMPLE - Date Functions - Min Max and Mode

This example shows how you can apply statistical functions on Datetime columns.

Functions:

| Item | Description |
|-------------------|---|
| MINDATE Function | Computes the minimum value found in all row values in a Datetime column. |
| MAXDATE Function | Computes the maximum value found in all row values in a Datetime column. |
| MODEDATE Function | Computes the most frequent (mode) value found in all row values in a Datetime column. |

Source:

The following dataset contains a set of three available dates for a set of classes:

| classId | Date1 | Date2 | Date3 |
|---------|------------|------------|------------|
| c001 | 2020-03-09 | 2020-03-13 | 2020-03-17 |
| c002 | 2020-03-09 | 2020-03-06 | 2020-03-21 |
| c003 | 2020-03-09 | 2020-03-16 | 2020-03-23 |
| c004 | 2020-03-09 | 2020-03-23 | 2020-04-06 |
| c005 | 2020-03-09 | 2020-04-09 | 2020-05-09 |
| c006 | 2020-03-09 | 2020-08-09 | 2021-01-09 |

Transformation:

To compare dates across multiple columns, you must consolidate the values into a single column. You can use the following transformation to do so:

| | |
|------------------------------|---------------------|
| Transformation Name | Unpivot columns |
| Parameter: Columns | Date1, Date2, Date3 |
| Parameter: Group size | 1 |

The dataset is now contained in three columns, with descriptions listed below:

| classId | key | value |
|-------------------|-------------------------|--|
| Same as previous. | DateX column identifier | Corresponding value from the DateX column. |

You can use the following to rename the `value` column to `eventDates`:

| | |
|-----------------------------------|----------------|
| Transformation Name | Rename columns |
| Parameter: Option | Manual rename |
| Parameter: Column | value |
| Parameter: New column name | eventDates |

Using the following transformations, you can create new columns containing the min, max, and mode values for the Datetime values in `eventDates`:

| | |
|-----------------------------------|---------------------|
| Transformation Name | New formula |
| Parameter: Formula type | Single row formula |
| Parameter: Formula | MINDATE(eventDates) |
| Parameter: New column name | earliestDate |

| | |
|-----------------------------------|---------------------|
| Transformation Name | New formula |
| Parameter: Formula type | Single row formula |
| Parameter: Formula | MAXDATE(eventDates) |
| Parameter: New column name | latestDate |

| | |
|-----------------------------------|----------------------|
| Transformation Name | New formula |
| Parameter: Formula type | Single row formula |
| Parameter: Formula | MODEDATE(eventDates) |
| Parameter: New column name | mostFrequentDate |

Results:

| classId | key | eventDates | mostFrequentDate | latestDate | earliestDate |
|---------|-------|------------|------------------|------------|--------------|
| c001 | Date1 | 2020-03-09 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c001 | Date2 | 2020-03-13 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c001 | Date3 | 2020-03-17 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c002 | Date1 | 2020-03-09 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c002 | Date2 | 2020-03-06 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c002 | Date3 | 2020-03-21 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c003 | Date1 | 2020-03-09 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c003 | Date2 | 2020-03-16 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c003 | Date3 | 2020-03-23 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c004 | Date1 | 2020-03-09 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c004 | Date2 | 2020-03-23 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c004 | Date3 | 2020-04-06 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c005 | Date1 | 2020-03-09 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c005 | Date2 | 2020-04-09 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c005 | Date3 | 2020-05-09 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c006 | Date1 | 2020-03-09 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c006 | Date2 | 2020-08-09 | 2020-03-09 | 2021-01-09 | 2020-03-06 |
| c006 | Date3 | 2021-01-09 | 2020-03-09 | 2021-01-09 | 2020-03-06 |