EXAMPLE - NOW and TODAY Functions

This example illustrates how the `NOW` and `TODAY` functions operate. Both functions generate outputs of Datetime data type.

- `NOW` - Generates valid Datetime values for the current timestamp in the specified time zone. See *NOW Function*.
- `TODAY` - Generates valid Datetime for the current date in the specified time zone. See *TODAY Function*.
- `DATEDIF` - Calculates the difference between two Datetime values based on a specific unit of measure. See *DATEDIF Function*.

Source:

The following table includes flight arrival information for Los Angeles International airport.

FlightNumber	Gate	Arrival
1234	1	2/15/17 11:35
212	2	2/15/17 11:58
510	3	2/15/17 11:21
8401	4	2/15/17 12:08
99	5	2/16/17 12:12
116	6	2/16/17 13:32
876	7	2/15/17 16:43
9494	8	2/15/17 21:00
102	9	2/14/17 19:21
77	10	2/16/17 12:31

Transformation:

You are interested in generating a status report on today's flights. To assist, you must generate columns with the current date and time values:

> **Tip:** You should create separate columns containing static values for `NOW` and `TODAY` functions. Avoid creating multiple instances of each function in your dataset, as the values calculated in them can vary at execution time.

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`NOW('America\/Los_Angeles')`
Parameter: New column name	`'currentTime'`

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`TODAY('America\/Los_Angeles')`

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Parameter: New column name	`'currentDate'`

Next, you want to identify the flights that are landing today. In this case, you can use the `DATEDIF` function to determine if the `Arrival` value matches the `currentTime` value within one day:

> **NOTE:** The `DATEDIF` function computes difference based on the difference from the first date to the second date based on the unit of measure. So, a timestamp that is 23 hours difference from the base timestamp can be within the same unit of day, even though the dates may be different (`2/15/2017` vs. `2/14/2017`).

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`DATEDIF(currentDate, Arrival, day)`
Parameter: New column name	`'today'`

Since you are focusing on today only, you can remove all of the rows that do not apply to today:

Transformation Name	`Filter rows`
Parameter: Condition	`Custom formula`
Parameter: Type of formula	`Custom single`
Parameter: Condition	`today <> 0`
Parameter: Action	`Delete matching rows`

Now focusing on today's dates, you can calculate the difference between the current time and the arrival time by the minute:

Transformation Name	`New formula`
Parameter: Formula type	`Single row formula`
Parameter: Formula	`DATEDIF(currentTime, Arrival, minute)`
Parameter: New column name	`'status'`

Using the numeric values in the `status` column, you can compose the following transform, which identifies status of each flight:

Transformation Name	`Edit column with formula`
Parameter: Columns	`status`
Parameter: Formula	`if(status < -20, 'arrived', if(status > 20, 'scheduled', if (status <= 0, 'landed', 'arriving')))`

Results:

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You now have a daily flight status report:

currentDate	currentTime	FlightNumber	Gate	Arrival	status	today
2017-02-15	2017-02-15·11:46:12	1234	1	2/15/17 11:35	landed	0
2017-02-15	2017-02-15·11:46:12	212	2	2/15/17 11:58	arriving	0
2017-02-15	2017-02-15·11:46:12	510	3	2/15/17 11:21	arrived	0
2017-02-15	2017-02-15·11:46:12	8401	4	2/15/17 12:08	scheduled	0
2017-02-15	2017-02-15·11:46:12	876	7	2/15/17 16:43	scheduled	0
2017-02-15	2017-02-15·11:46:12	9494	8	2/15/17 21:00	scheduled	0
2017-02-15	2017-02-15·11:46:12	102	9	2/14/17 19:21	arrived	0

The `currentDate`, `currentTime`, and `today` columns can be deleted.

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