

Analyzing History with Time Intelligence



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Time Intelligence is just
syntactic sugar



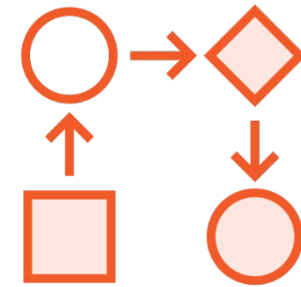
Types of Time Intelligence Functions



Single date functions



Date table functions



Date aggregate functions

What Is a Date Table?



Date			
DateKey	Day	Month	Year
1/21/2020	21	04	2020
1/22/2020	22	04	2020
1/23/2020	23	04	2020

Sales Table		
Order ID	Sales Date	Sales Amount
101	1/21/2020	3
102	1/21/2020	1
103	1/21/2020	2
104	1/21/2020	2
105	1/22/2020	1
106	1/22/2020	1
107	1/22/2020	3
108	1/23/2020	4
109	1/23/2020	2



Current Sales	Previous Day Sales
5	8
=SUM(Sales[LineTotal])	=CALCULATE(SUM(Sales[LineTotal]), PREVIOUSDAY('Date'[DateKey]))





Allows Time Intelligence functionality to work
Implicitly applies `ALL()` to your date table
Only needed for non-date keys
Not available in Power BI



Demo



Creating a date table

- In Excel
- In M
- In DAX

Relating a date table to other tables

Marking a table as date table



How Do You Use Time Intelligence?



Year to Date by Hand

```
YTD Sales :=  
CALCULATE (  
    SUM ( SalesOrderDetail[LineTotal] ),  
    FILTER (  
        ALL ( 'Date'[DateKey] ),  
        'Date'[DateKey] <= MAX ( 'Date'[DateKey] ) &&  
        YEAR ( 'Date'[DateKey] ) =  
        YEAR ( MAX ( 'Date'[DateKey] ) )  
    )  
)
```



Year to Date with Time Intelligence

YTD Sales :=

```
CALCULATE (  
    SUM ( SalesOrderDetail[LineTotal] ),  
    DATESYTD ( 'Date'[DateKey] )  
)
```



Demo



Year over year analysis

Year to date



Concept Recap

Calculated Column

Expands a table horizontally

Measure

Aggregates data vertically

Filter context

Filters applied by the user and visuals

CALCULATE

Function to override the filter context

Iterators

Functions that evaluate row by row

Time Intelligence

Date-based convenience functions



Summary



You

