CALCULATE

Evaluates a given expression or formula under a set of defined filters. If we Know that in many visualizations, we want to show only a sub set of data instead of creating visualizations and filtering we will filter the measure value using **CALCULATE** Function.

Syntax

CALCULATE(<expression>, <filter1>, <filter2>…)

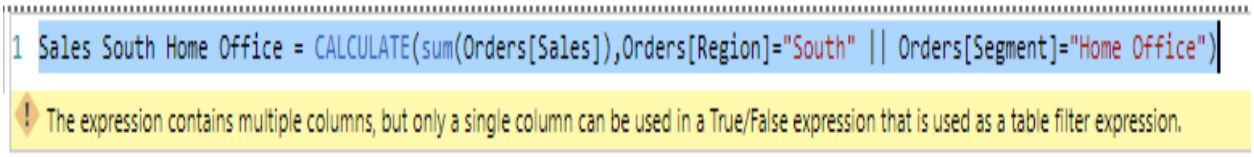
Examples

Visualize category sales for the Year 2014.

- Sales 2014 = CALCULATE(SUM(Orders[Sales]), Orders[Year]=2014)
- April Sales = CALCULATE(SUM(Orders[Sales]), Orders[Month]="April")
- Sales 2014 First Class = CALCULATE ([Total Sales], Orders[Year]=2014, Orders [Ship Mode] ="First Class")

Between each filter condition it will use AND operation.

Task: Calculate **Sum of Sales** for **Region** is equal to **"South"** or **Segment** is equal to **"Home Office".**
Sales South Home Office = CALCULATE(sum(Orders[Sales]), Orders[Region]="South" || Orders[Segment]="Home Office") – Throws error as shown below



FILTER

The FILTER function is used to return a subset of a table or expression

In many cases you can use the CALCULATE function instead of the FILTER function to produce the same results (the resulting formula is usually easier to understand, too).

Filter = CALCULATE(SUM(Orders[Sales]), FILTER (orders, Orders[Region]="South" || Orders[Segment]="Home Office"))

ALL

Returns all the rows in a table, or all the values in a column, ignoring any filters that might have been applied. This function is useful for clearing filters and creating calculations on all the rows in a table.

Syntax

ALL({**<table>** | **<column>** [, <column> [, <column> […]]]})

<table> | <column>

The table or column that you want to clear filter on. If it column you can add multiple columns to clear filter.

Examples

Calculate Category and Sub Category Wise Sales Percentage

% Sales = [Total Sales]/CALCULATE ([Total Sales], ALL(Orders))

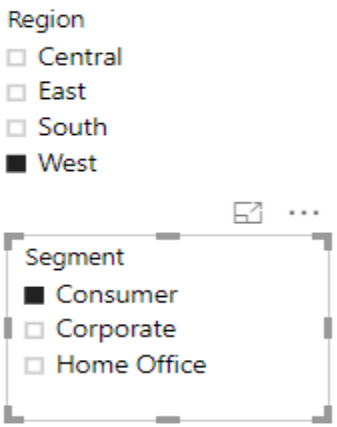
% Sales Cat and Sub Cat = [Total Sales]/CALCULATE ([Total Sales], ALL(Orders[Category], Orders[Sub-Category]))

ALLEXCEPT

Removes all context filters in the table except filters that have been applied to the specified columns.

1. Calculate Category wise %Sales
2. Calculate Category wise %Sales for each Region
3. Calculate Category wise %Sales for each Region and Segment

Category	SumOfSales	SumOfSalesforALL	%Sales
Furniture	119,808.09	362,880.77	33.02%
Office Supplies	110,080.94	362,880.77	30.34%
Technology	132,991.75	362,880.77	36.65%
Total	**362,880.77**	**362,880.77**	**100.00%**



RELATED

Returns a related value from another table.

The RELATED function requires that a relationship exists between the current table and the table with related information. You specify the column that contains the data that you want, and the function follows an existing **many-to-one** relationship to fetch the value from the specified column in the related table. If a relationship does not exist, you must create a relationship.

Syntax

RELATED (<column>)

Example

Person = RELATED(People[Person])

***USERELATIONSHIP

Specifies the relationship to be used in a specific calculation as the one that exists between columnName1 and columnName2.

Sum of Sales Ship Date = CALCULATE(SUM(Orders[Sales]),
USERELATIONSHIP(Dim_Date[Date], Orders [Ship Date]))