DAX Row Context vs Filter Context — Developer Cheat Sheet

ROW CONTEXT FUNCTIONS

Row context evaluates an expression row by row in a table. It exists in calculated columns and iterator functions.

Function / Concept	Description	Example
Calculated Columns	Automatically evaluates expressions per row.	Profit = Sales[SalesAmount] - Sales[Cost]
SUMX / AVERAGEX / COUNTX / MINX / MAXX / RANKX	Iterators — evaluate expression per row, then aggregate.	SUMX(Sales, Sales[Qty]*Sales[Price])
EARLIER / EARLIEST	Access a value from an outer row context.	CALCULATE(SUM(Sales[Amount]), Customer[ID]=EARLIER(Customer[ID]))
ADDCOLUMNS / SELECTCOLUMNS	Add computed columns to virtual tables.	ADDCOLUMNS(Products, 'Revenue', Products[Price]*Products[Qty])
GENERATE / GENERATEALL	Creates nested row contexts.	GENERATE(Customers, FILTER(Sales, Sales[CustID]=Customers[CustID]))
RELATED / RELATEDTABLE	Access related table values using relationships.	RELATED(Customer[Region])

FILTER CONTEXT FUNCTIONS

Filter context defines which rows are visible for evaluation — created by slicers, visuals, or DAX filters.

Function / Concept	Description	Example
CALCULATE	Changes or adds filters; converts row to filter context.	CALCULATE(SUM(Sales[Amount]), Customer[Country]='India')
CALCULATETABLE	Same as CALCULATE but returns a table.	CALCULATETABLE(Sales, Customer[Country]='India')
FILTER	Creates a filtered table for CALCULATE.	FILTER(Sales, Sales[Quantity]>10)
ALL / ALLEXCEPT / REMOVEFILTERS / ALLSELECTED	Remove or control filters.	CALCULATE(SUM(Sales[Amount]), ALL(Sales))
KEEPFILTERS	Adds filter instead of replacing.	CALCULATE(SUM(Sales[Amount]), KEEPFILTERS(Customer[Country]='India'))
VALUES / DISTINCT / SELECTEDVALUE	Return visible or unique filtered values.	SELECTEDVALUE(Customer[Country])
HASONEVALUE / ISFILTERED / ISCROSSFILTERED	Check current filter state.	HASONEVALUE(Customer[Country])
USERELATIONSHIP	Activates an inactive relationship temporarily.	CALCULATE(SUM(Sales[Amount]), USERELATIONSHIP(Sales[Date], Calendar[Date]))
CROSSFILTER	Change relationship filter direction.	CROSSFILTER(Sales[CustID], Customer[CustID], BOTH)
TREATAS	Apply filters from one table to another.	TREATAS(VALUES(Regions[Country]), Customer[Country])

Summary

Row Context = 'Which row am I on?'
Filter Context = 'Which rows are visible?'
CALCULATE() is the bridge — it converts row context into filter context.

Understanding both is essential for writing correct, dynamic, and high-performance DAX.