Looping Over Data with Iterators

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Overview

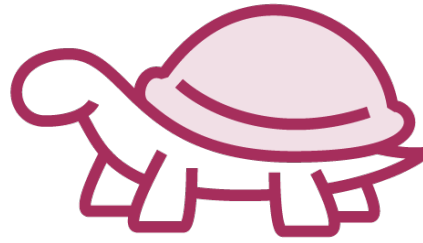**Iterators**

Evaluation Context
- Filter Context
- Row Context
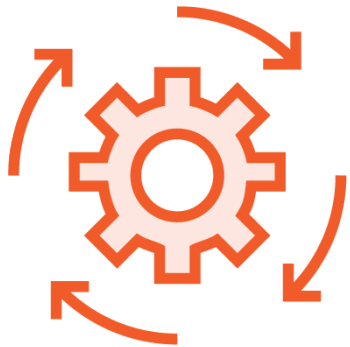
What Is an Iterator?

Row by row

Worse performance

Allow for multi-column expressions

Takes in a table parameter

Takes in an expression

FILTER is an iterator

Many end in an "X"

Using AVERAGEX

```
Average Gross Sales :=

AVERAGEX ( Category, [Quantity] * [Price] )
```
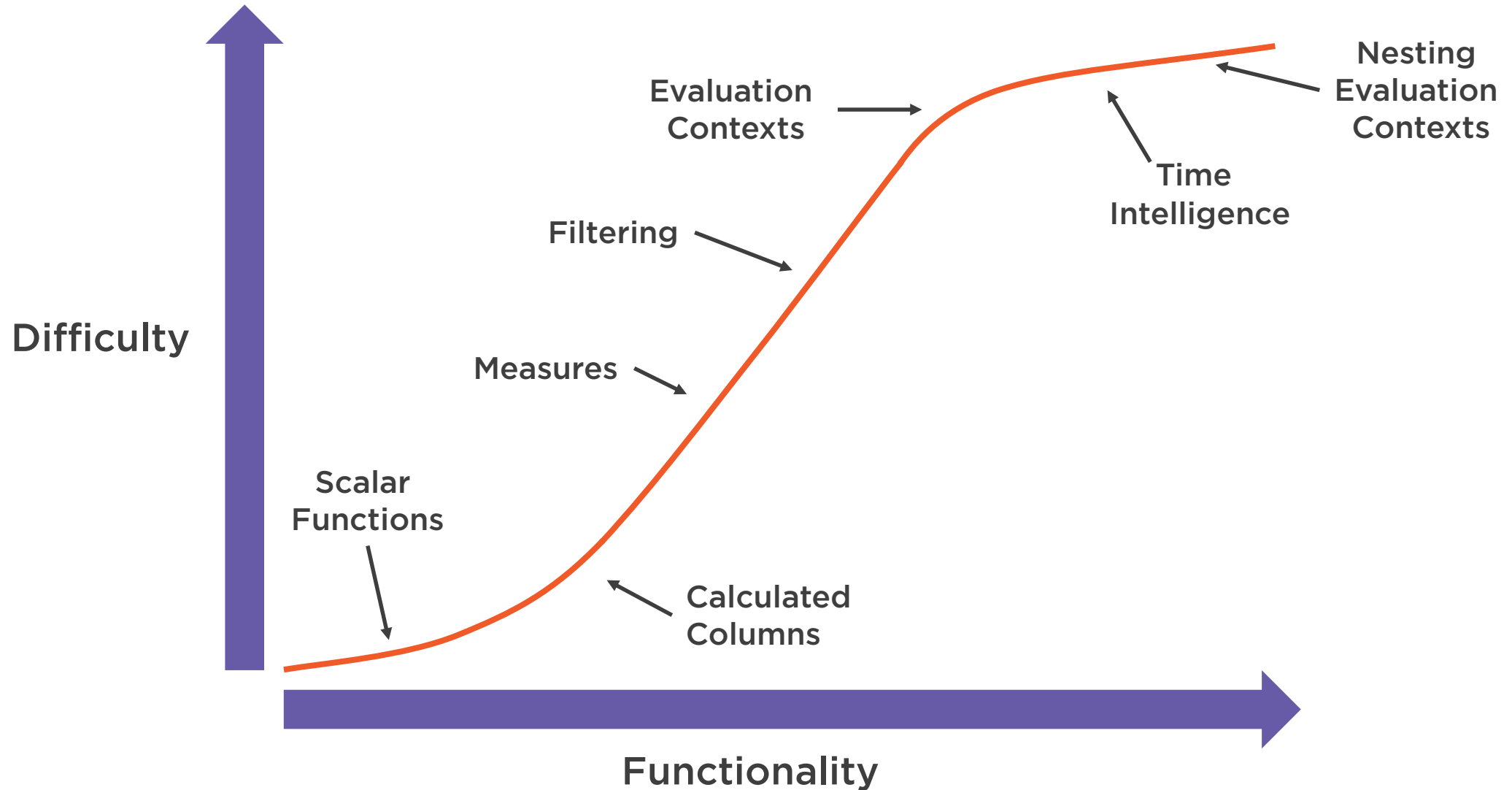
Demo

Using AVERAGEX

Using CONCATENATEX

Evaluation Contexts

The Problem with Learning DAX

Evaluation contexts define what values an expression can see

Filter Context vs. Row Context

Filter Context

Combination of visual filters and user filters

Can be changed with CALCULATE

Propagates filters to other tables

Row Context

Limits to the current row, when iterating

Used in calculated columns

Used in iterators

Does not propagate filters

Requires RELATED/RELATEDTABLE to use other tables

```
=

RANKX (

    ALL ( Products ),

    SUMX (

RELATEDTABLE ( InternetSales ),
'InternetSales'[SalesAmount] )

)
```

◄ Creates a row context

◄ Over all products

◄ Creates a new row context for each product

◄ Pulls sales based on the inner row context

Products

ID	Description	SUMX	RANKX
a	Tulip	13	1
b	Rose	4	3
c	Pansies	5	2

RELATEDTABLE

OrderID	ProductID	SalesAmount
8001	c	2
8003	c	3
8008	b	1
8009	a	2

InternetSales

OrderID	ProductID	SalesAmount
8001	c	2
8002	a	4
8003	c	3
8004	b	1
8005	b	2
8006	a	3
8007	a	2
8008	b	1
8009	a	2

Demo

Nesting Evaluation Contexts

Summary

What are iterators?

What do they look like?

What are evaluation contexts?