



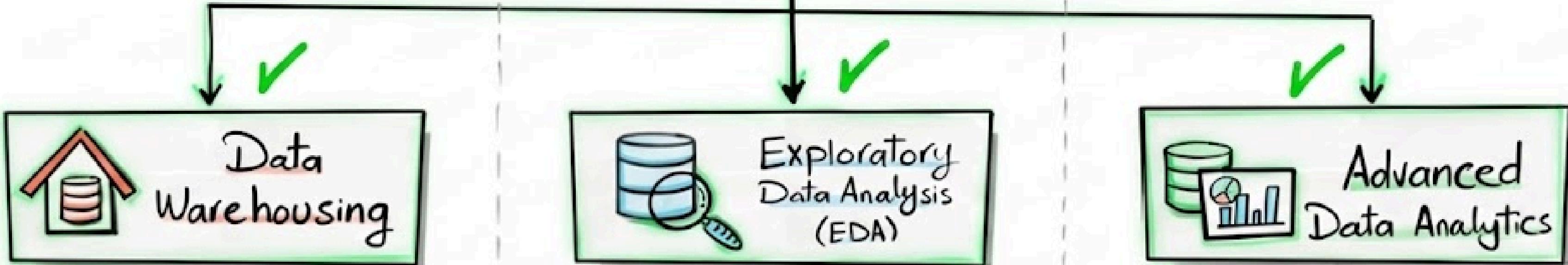
SQL DATA Analytics

Project





SQL Projects



"Organize, Structure, Prepare."

- ETL/ELT Processing
- Data Architecture
- Data Integration
- Data Cleansing
- Data Load
- Data Modeling

"Understand Data,"

- Basic Queries
- Data Profiling
- Simple Aggregations
- Subquery

"Answer Business Questions."

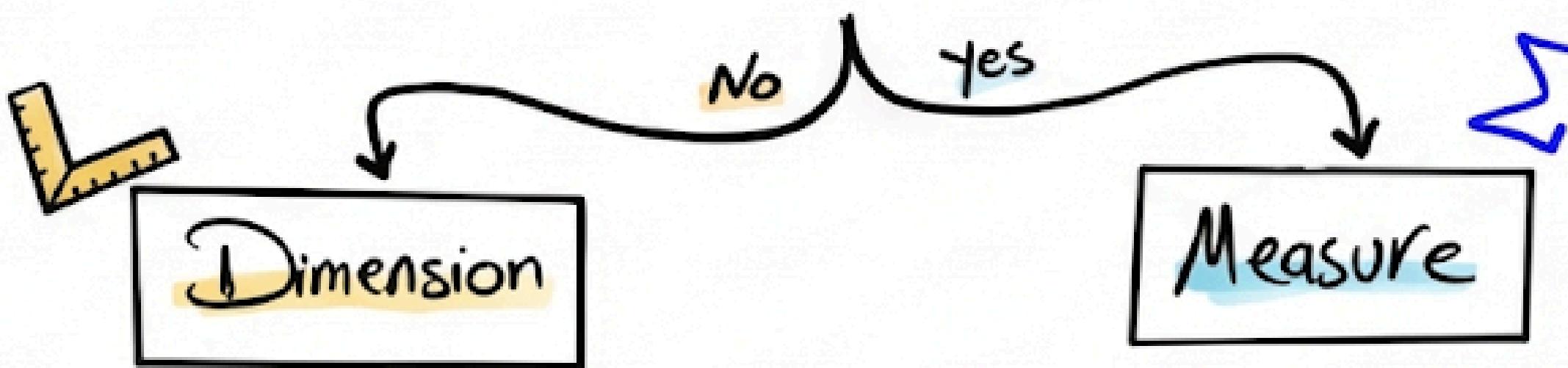
- Complex Queries
- Window Functions
- CTE
- Subqueries
- Reports

Dataset

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Is it Numeric ?

& Does it make Sense to aggregate?



Dimension

Category

Products

Birthdate

ID

Measure

Sales

Quantity

Age

A C
B D

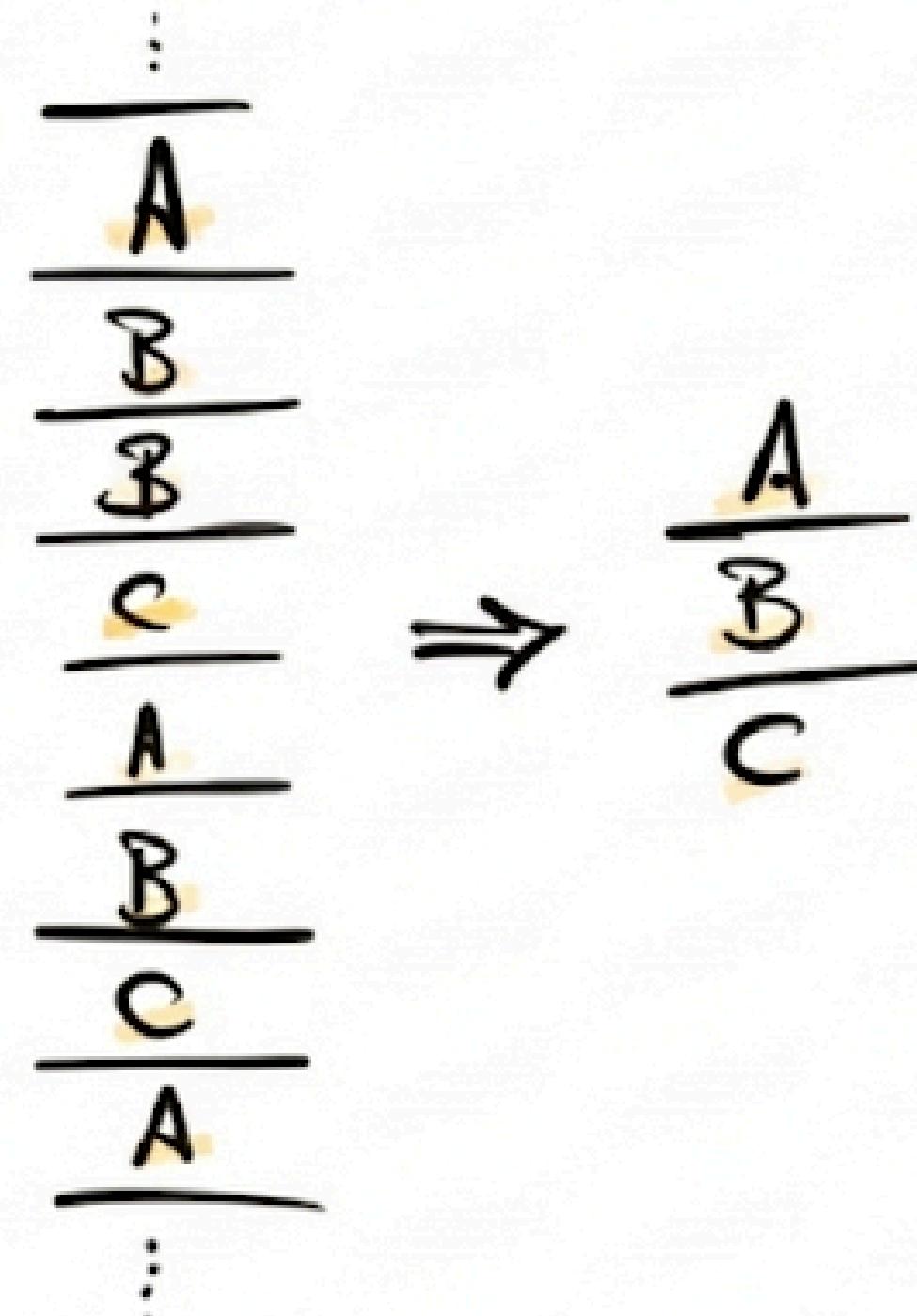
Dimensions Exploration

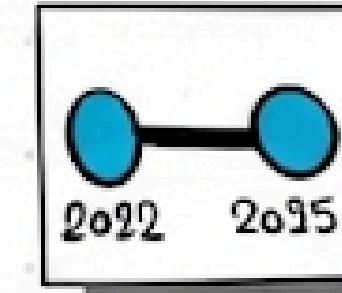
DISTINCT [Dimension]

DISTINCT Country

DISTINCT Category

DISTINCT Product





Date Exploration

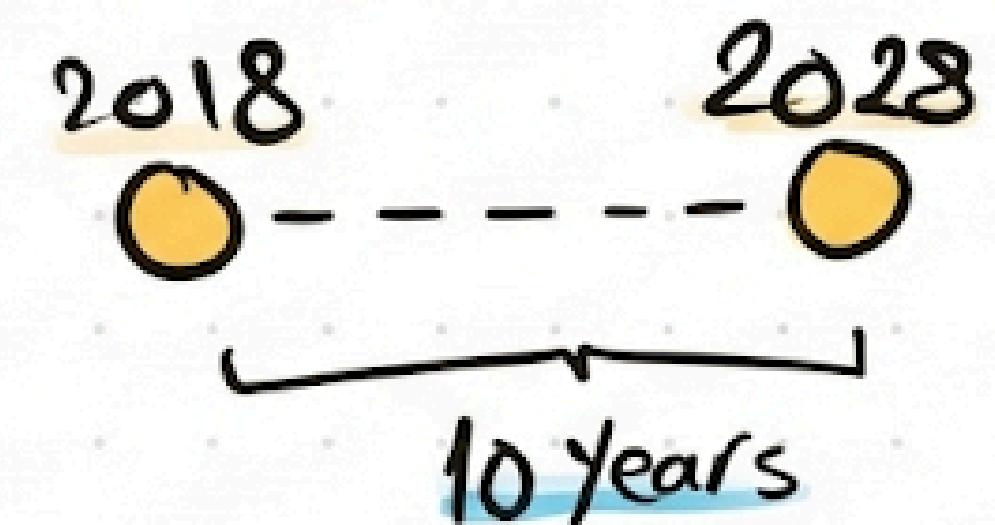
MIN/MAX [Date Dimension]

MIN Order_date

MAX Create_date

MIN Birthdate

2019
—
2020
—
2018
—
2018
—
2022
—
2023
—
2023
—
2028
—
2022



DATEDIFF

999

Measures Exploration

\sum [Measure]

SUM (Sales)

AVG (Price)

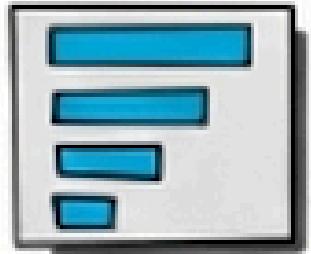
SUM (Quantity)

$$\left[\begin{array}{r} \frac{10}{20} \\ \frac{50}{30} \\ \frac{80}{30} \\ \hline 10 \end{array} \right] \Rightarrow$$

BIG Number
↓

240

↑
Key Metric



Magnitude

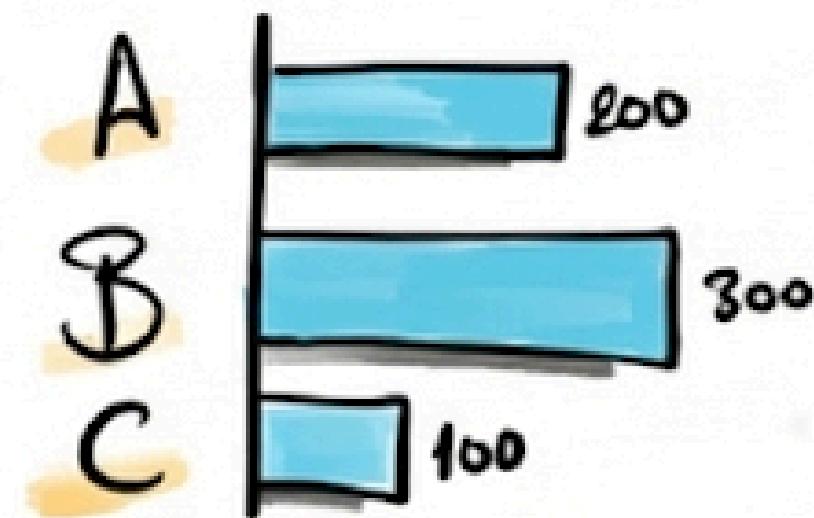
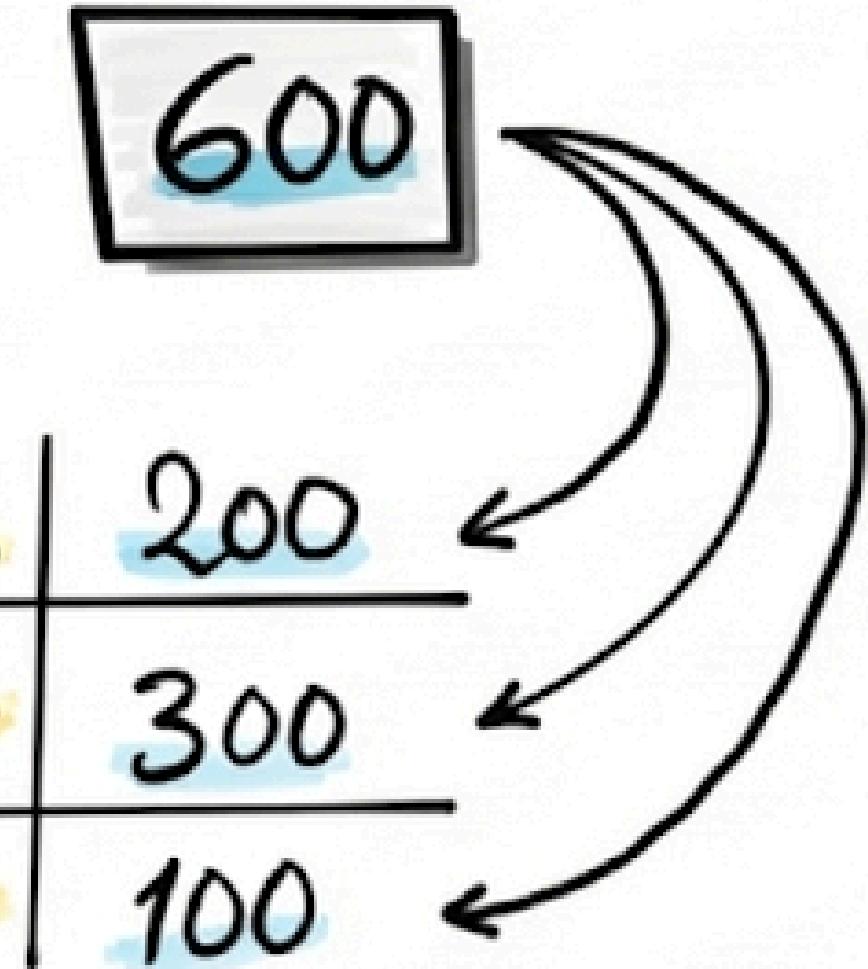
\sum [Measure] By [Dimension]

Total Sales By Country

Total Quantity By Category

Average Price By Product

Total Orders By Customer





Data Segmentation

[Measure] By [Measure]

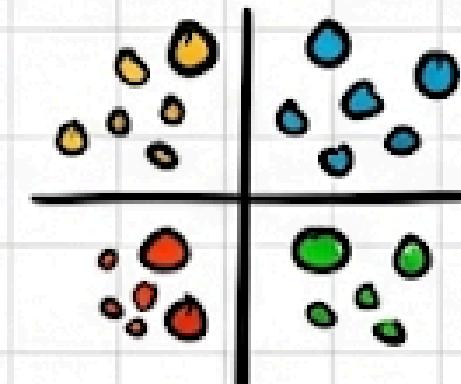
Total Products By Sales Range

Total Customers By Age

Σ ↗ Categorize ↘

3	50	Low	7
4	100		
5	150	Medium	6
1	200		
10	250	Large	15
5	300		

CASE WHEN STATEMENT



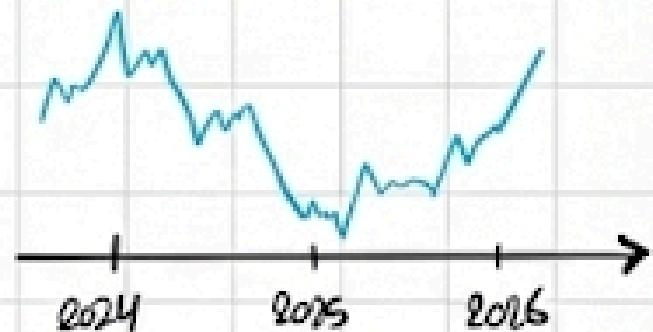
Change - Over Time Trends

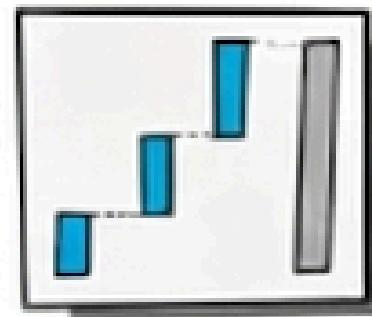
Σ [Measure] By [Date Dimension]

Total Sales By Year

Average Cost By Month

2024	300
2025	100
2026	200



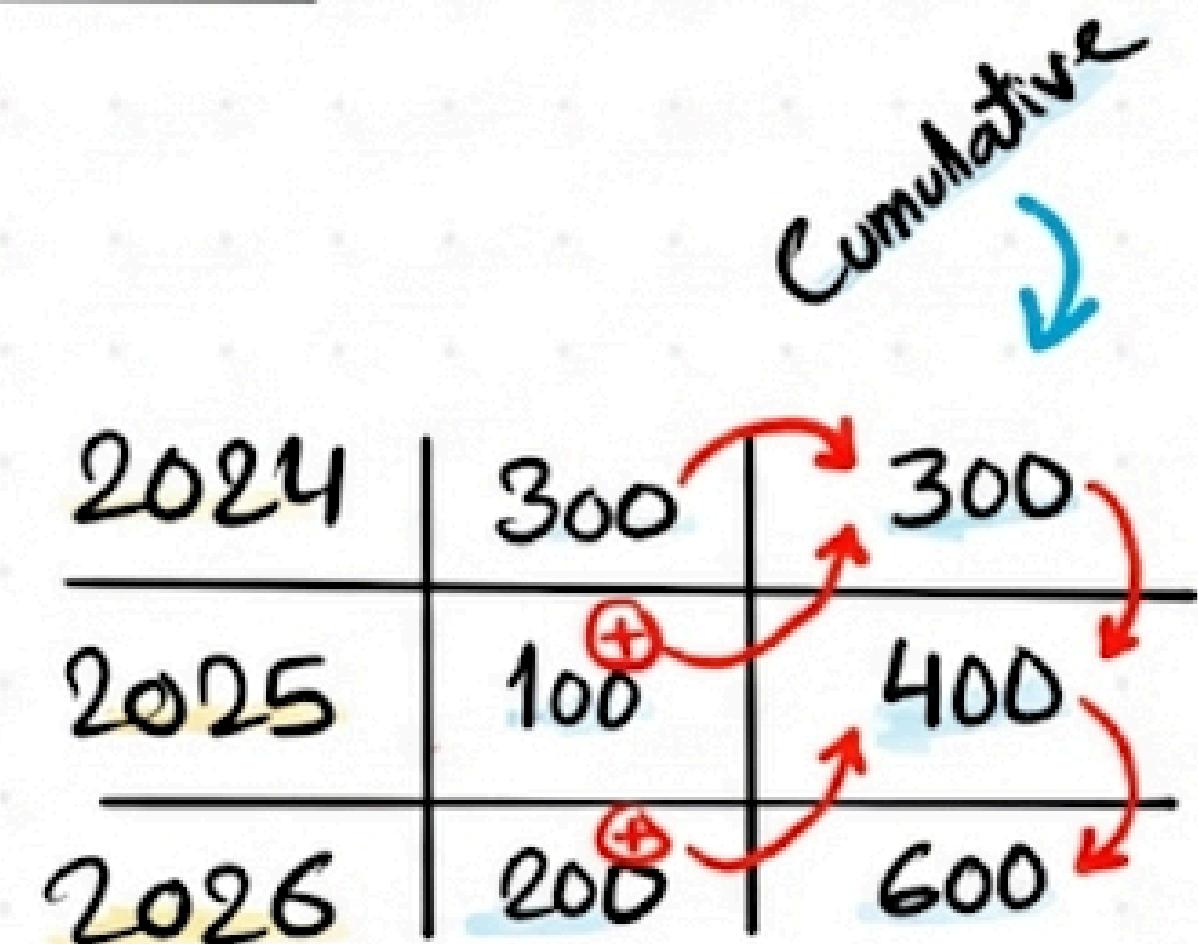


Cumulative Analysis

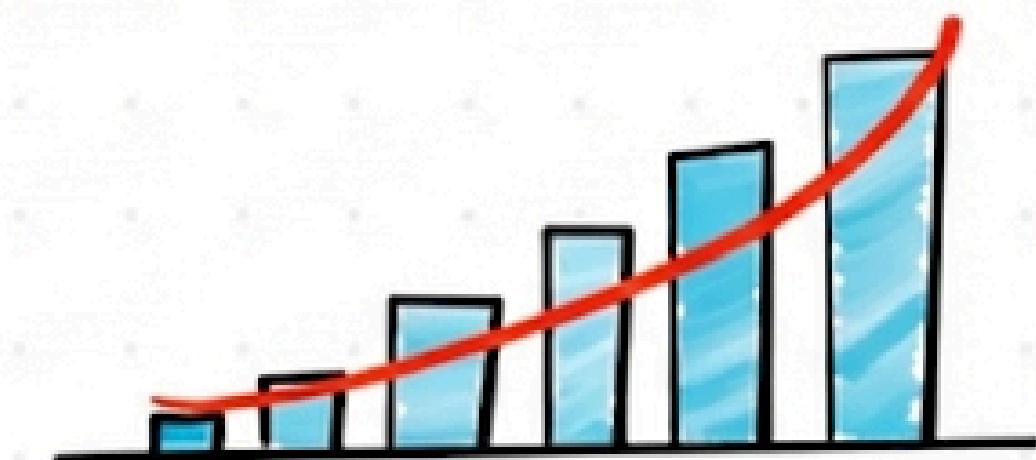
\sum [Cumulative Measure] By [Date Dimension]

Running Total Sales By Year

Moving Average of Sales By Month



WINDOW FUNCTIONS





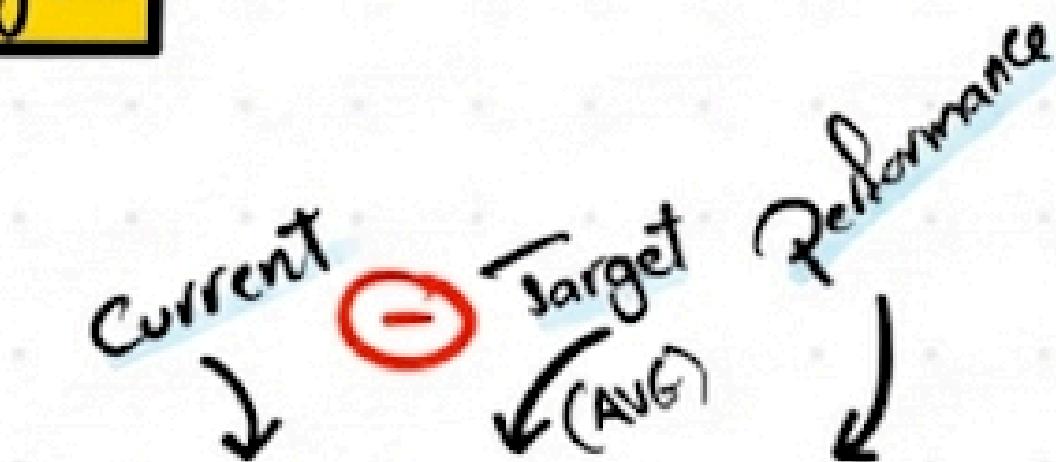
Performance Analysis

Current [Measure] - Target [Measure]

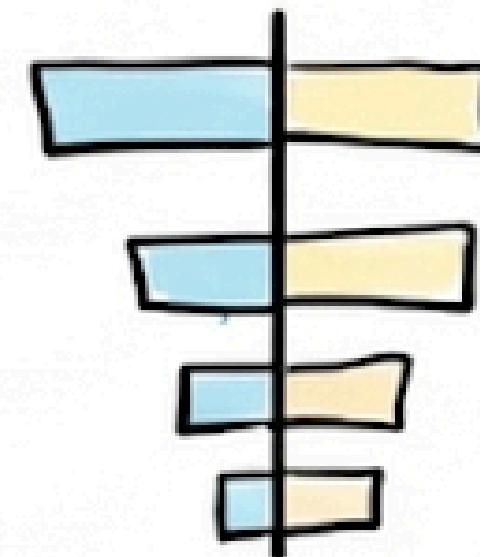
Current Sales - Average Sales

Current Year Sales - Previous Year Sales

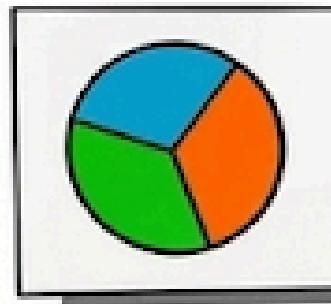
Current Sales - lowest Sales



A	200	- 200	0
B	300	- 200	100
C	100	- 200	-100



WINDOW FUNCTIONS



Part-to-Whole

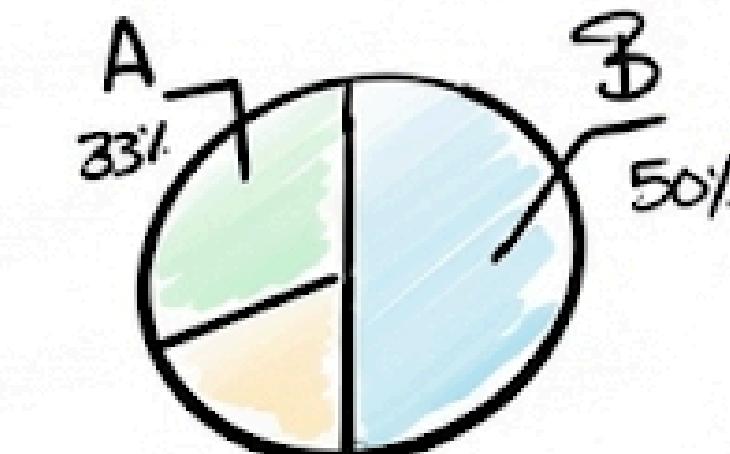
Proportional Analysis

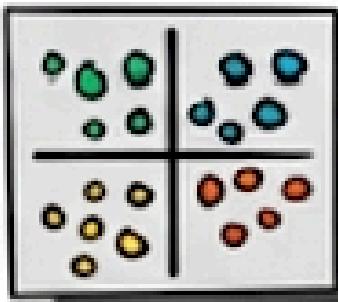
([Measure] / Total [Measure]) * 100 By [Dimension]

(Sales / Total Sales) * 100 By Category

(Quantity / Total Quantity) * 100 By Country

A	200	33%
B	300	50%
C	100	17%





Data Segmentation

[Measure] By [Measure]

Total Products By Sales Range

Total Customers By Age

Σ ↘ ↗ Categorize

3	50	Low	7
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1	200		
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5	300		

CASE WHEN STATEMENT

