SQL Projects

Data Warehousing

"Organize, Structure, Prepare"

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

Exploratory Data Analysis (EDA)

"Understand Data"

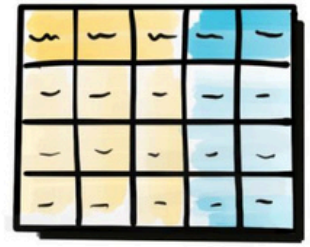
- Basic Queries
- Data Profiling
- Simple Aggregations
- Subquery

Advanced Data Analytics

"Answer Business Questions"

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

Dataset



Is it Numeric ?

& Does it make Sense to aggregate?

No

Yes

Dimension

Category

Products

Birthdate

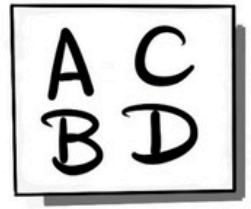
ID

Measure

Sales

Quantity

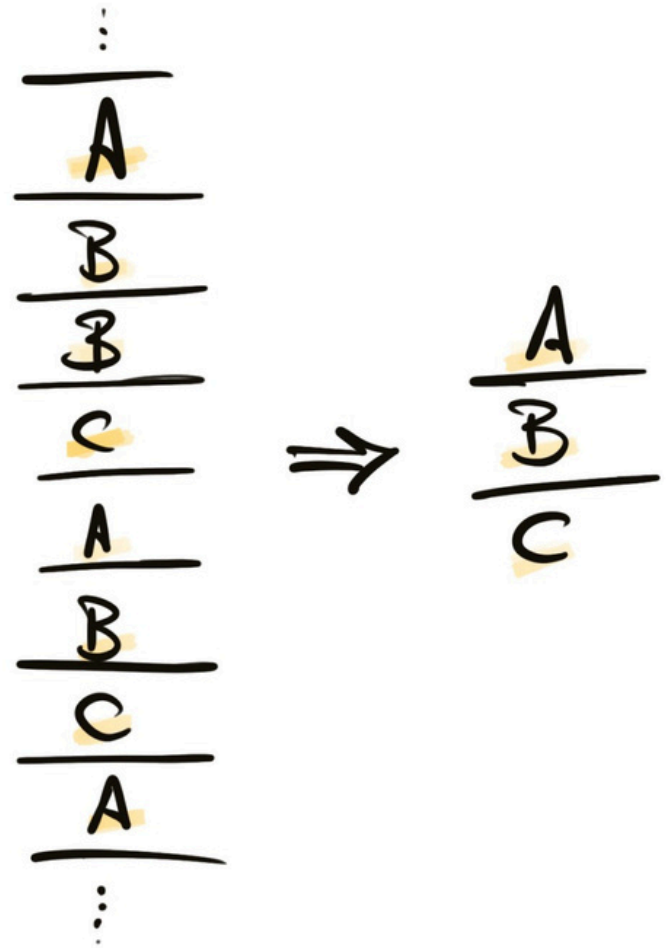
Age

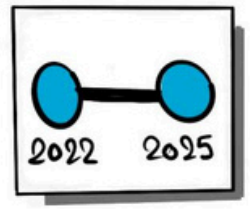


Dimensions Exploration

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

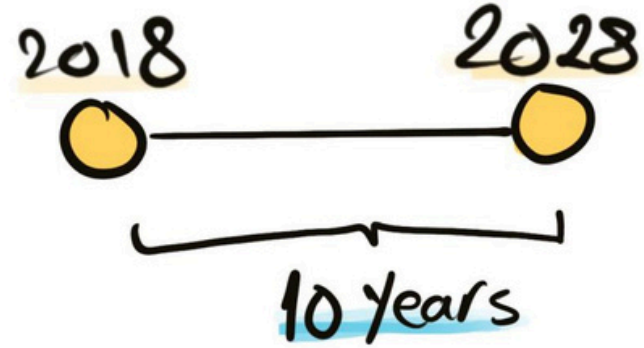
2022

2023

2023

2028

2022



DATEDIFF

999

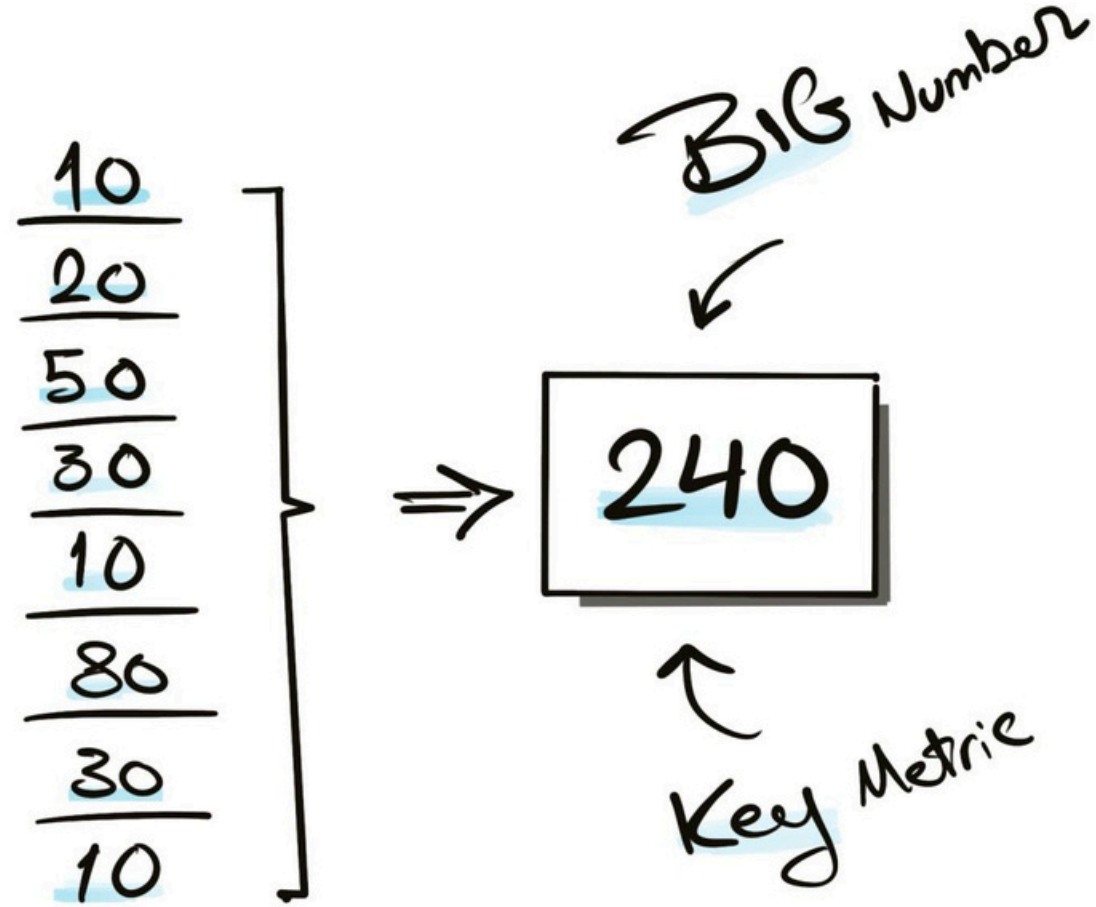
Measures Exploration

$\sum$ [Measure]

SUM (Sales)

AVG (Price)

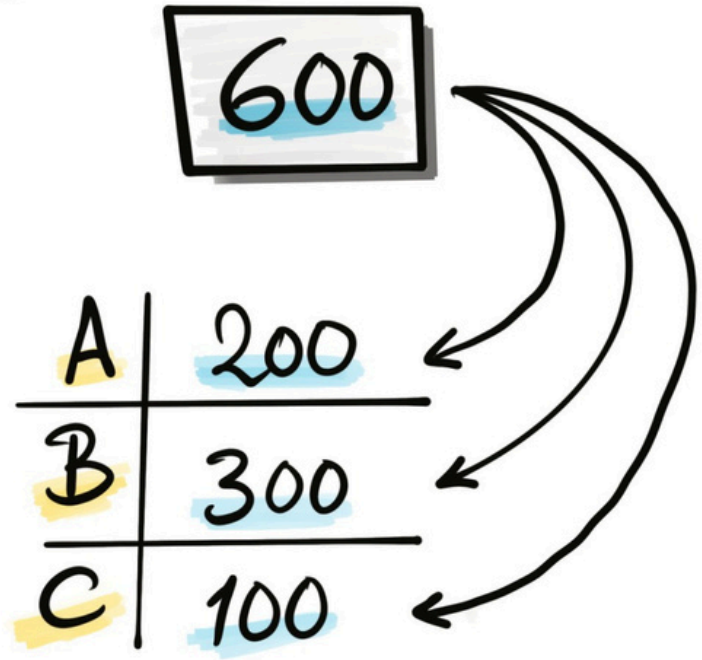
SUM (Quantity)

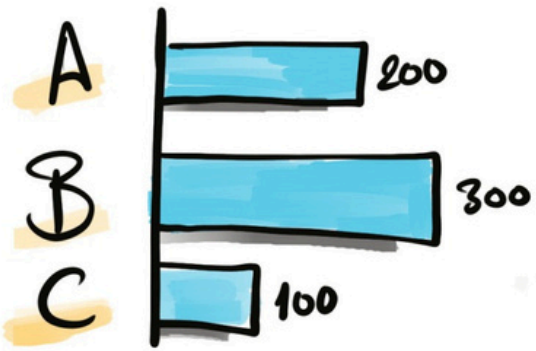


Magnitude

$\sum$ [Measure] By [Dimension]

- Total Sales By Country
- Total Quantity By Category
- Average Price By Product
- Total Orders By Customer





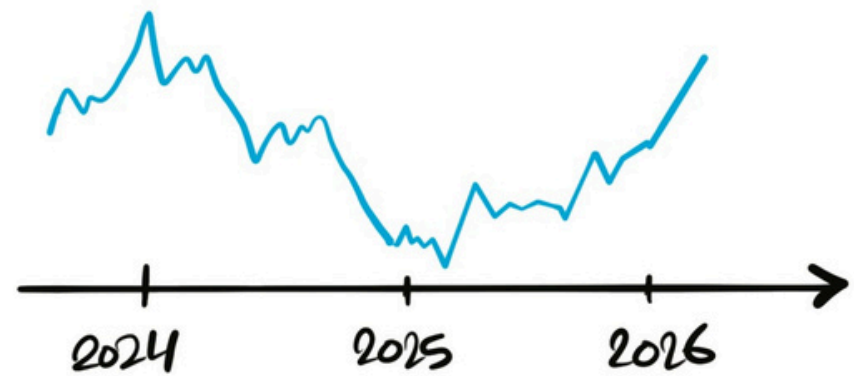
Change-Over-Time Trends

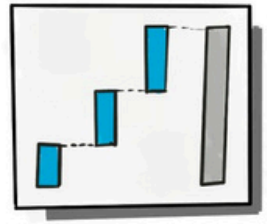
$\sum$ [Measure] By [Date Dimension]

Total Sales By Year

Average Cost By Month

2024	300
2025	100
2026	200





Cumulative Analysis

Cumulative

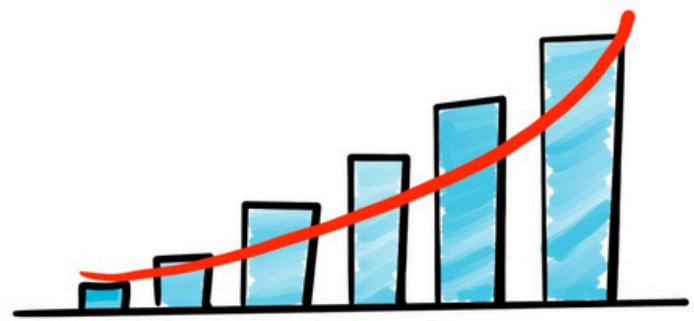
$\sum$ [Cumulative Measure] By [Date Dimension]

Running Total Sales By Year

Moving Average of Sales By Month

2024	300	300
2025	100	400
2026	200	600

WINDOW FUNCTIONS



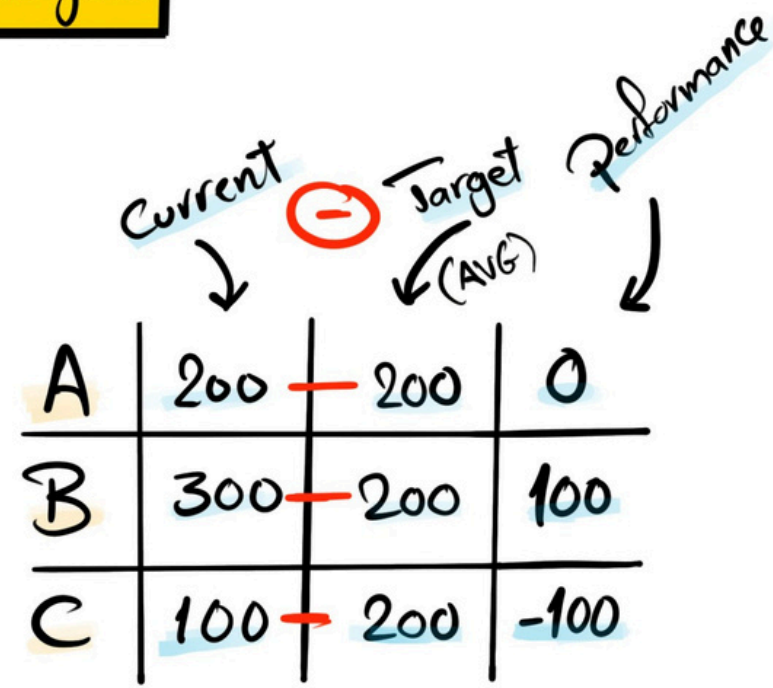
Performance Analysis

Current [Measure] – Target [Measure]

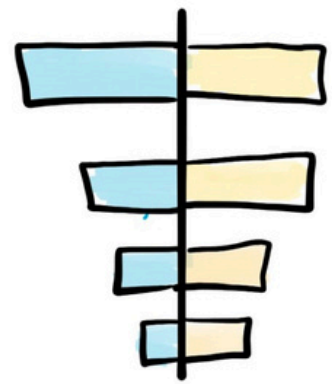
Current Sales – Average Sales

Current Year Sales – Previous Year Sales

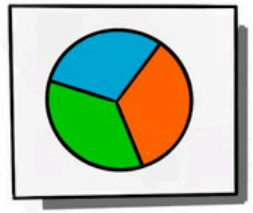
Current Sales – lowest Sales



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



WINDOW FUNCTIONS



Part-to-Whole

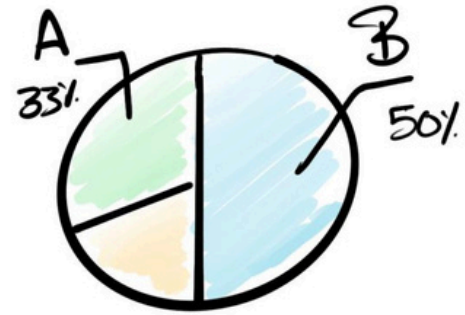
Proportional Analysis

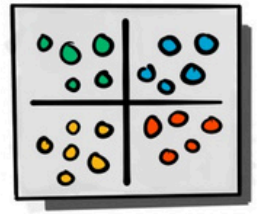
([Measure] / Total [Measure]) * 100 By [Dimension]

(Sales / Total Sales) * 100 By Category

(Quantity / Total Quantity) * 100 By Country

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

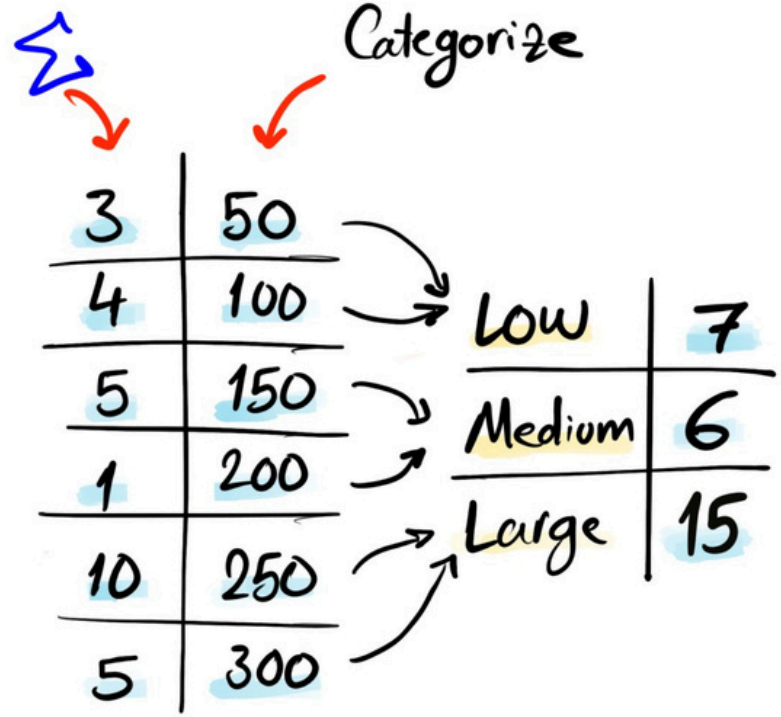
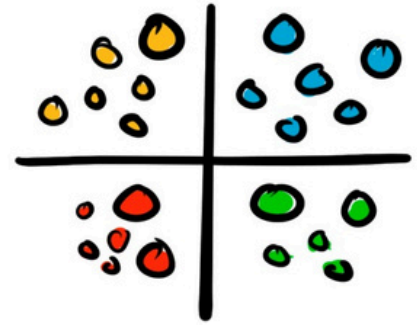




Data Segmentation

[Measure] By [Measure]

Total Products By Sales Range

Total Customers By Age

CASE WHEN STATEMENT