

INTRODUCTION TO POWER BI AND DAX CALCULATIONS

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OVERVIEW

- BI Overview
- Power BI Components
- Data Processing
- DAX
- Power BI Views
- Data Transformation
- Data Modeling
- Data Visualization

ABOUT ME

I am a Data Analyst & Power BI Enthusiast skilled in data visualization, business intelligence, and DAX calculations. Passionate about transforming data into insights using Power BI, Excel, and SQL, I specialize in data cleaning, modeling, and interactive reporting to support decision-making.

INTRODUCTION

Power BI is a powerful Business Intelligence (BI) and Data Visualization tool used for analyzing data and creating interactive reports. It enables users to collect, transform, model, and visualize data to make informed business decisions.

BUSINESS INTELLIGENCE OVERVIEW

OverView of Business Intelligence



1

Collect Data

Gathering raw data from various sources

2

Process Data

Cleaning and organizing data for analysis

3

Visualize Data

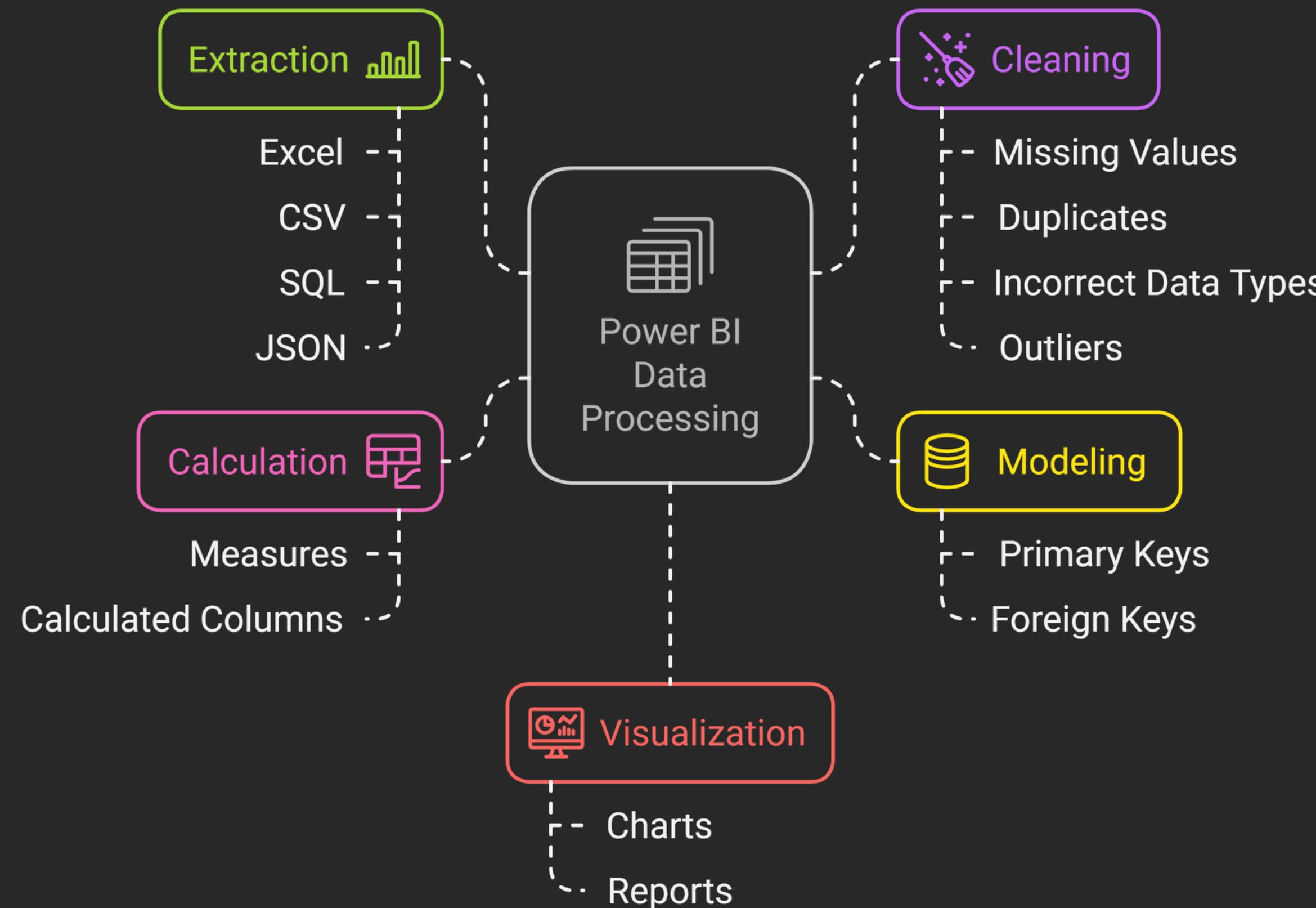
Creating visual representations of data

4

Support Decision-Making

Using insights to make informed decisions

Power BI Data Processing Steps



POWER BI COMPONENTS

Power BI Components



Desktop Version

Used for creating reports.



Service Version

A cloud-based platform for sharing reports.



Mobile Version

For viewing and sharing reports on mobile devices.

DATA PROCESSING WORKFLOW

Mastering Power BI Reporting

Data Extraction

Learn how to gather data from various sources efficiently.

Data Transformation

Understand the process of cleaning and preparing data for analysis.

Data Modeling

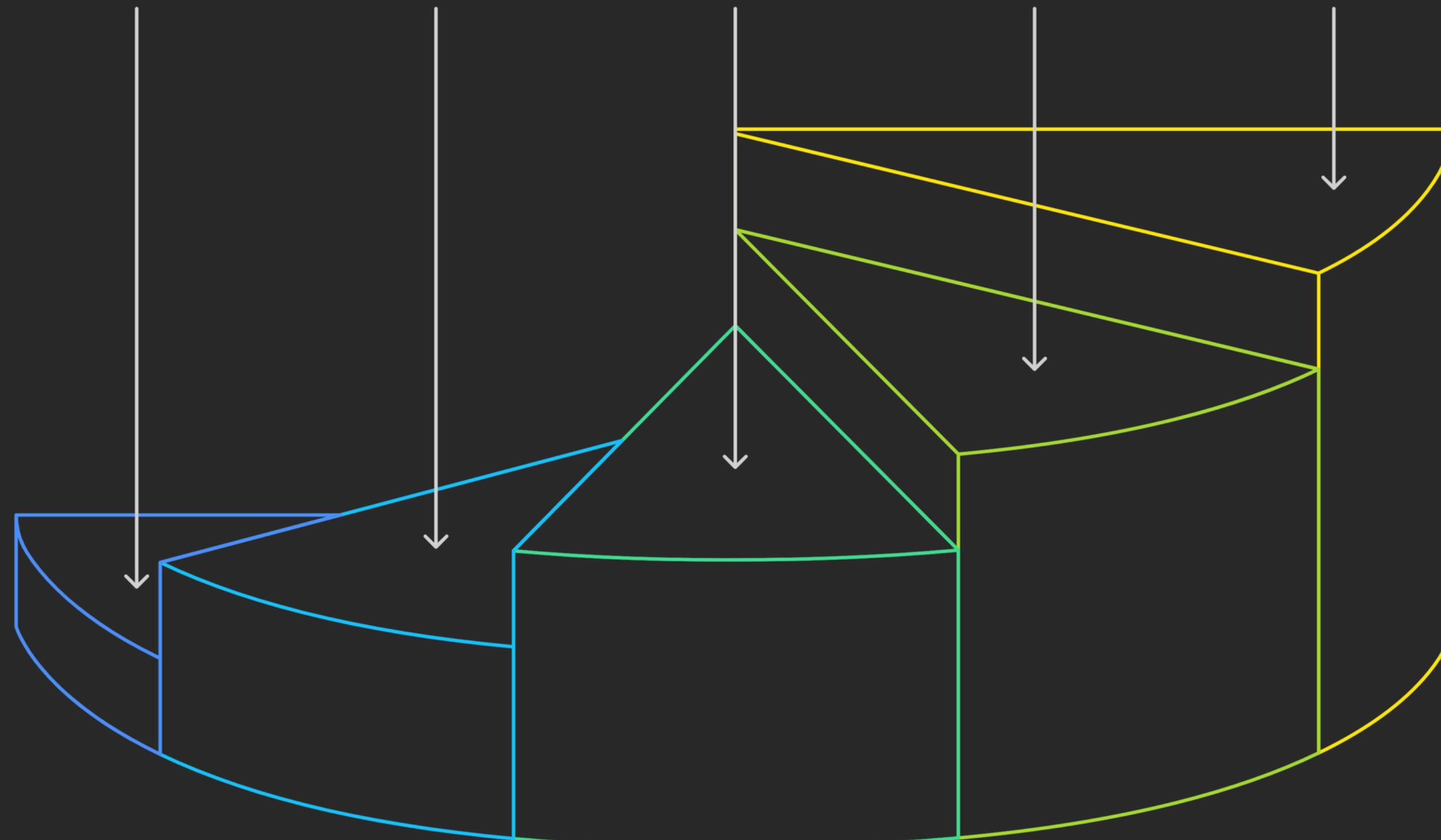
Develop skills in structuring data to support business insights.

DAX Calculations

Master the use of DAX for advanced data calculations.

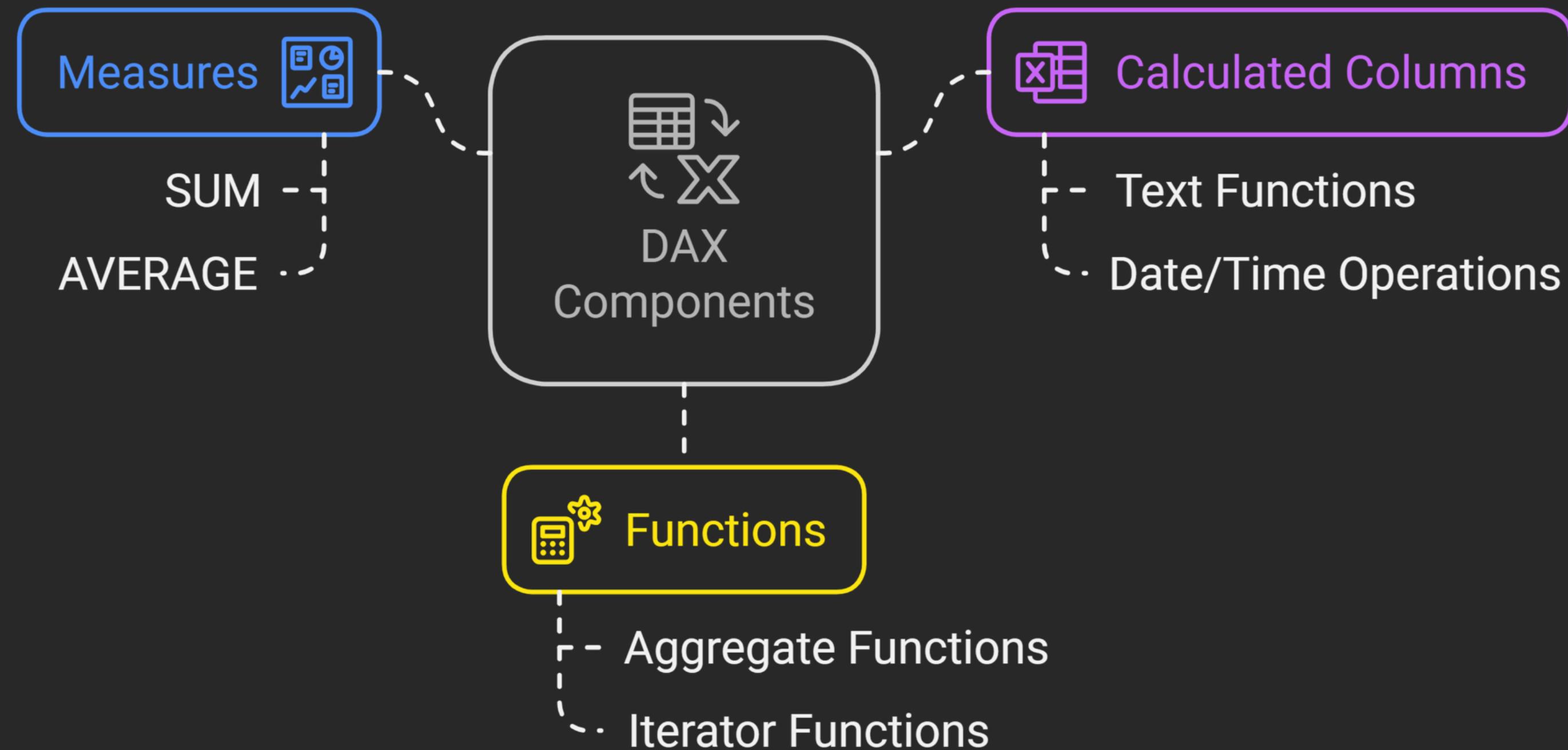
Report Visualization

Create compelling visual reports to communicate data insights.



DAX (DATA ANALYSIS EXPRESSIONS)

Understanding DAX Components in Power BI



Aggregate Functions in Data Summarization

DISTINCTCOUNT

Counts unique entries in a dataset

COUNT

Tallies the number of entries in a dataset

MAX

Finds the largest value in a dataset

SUM

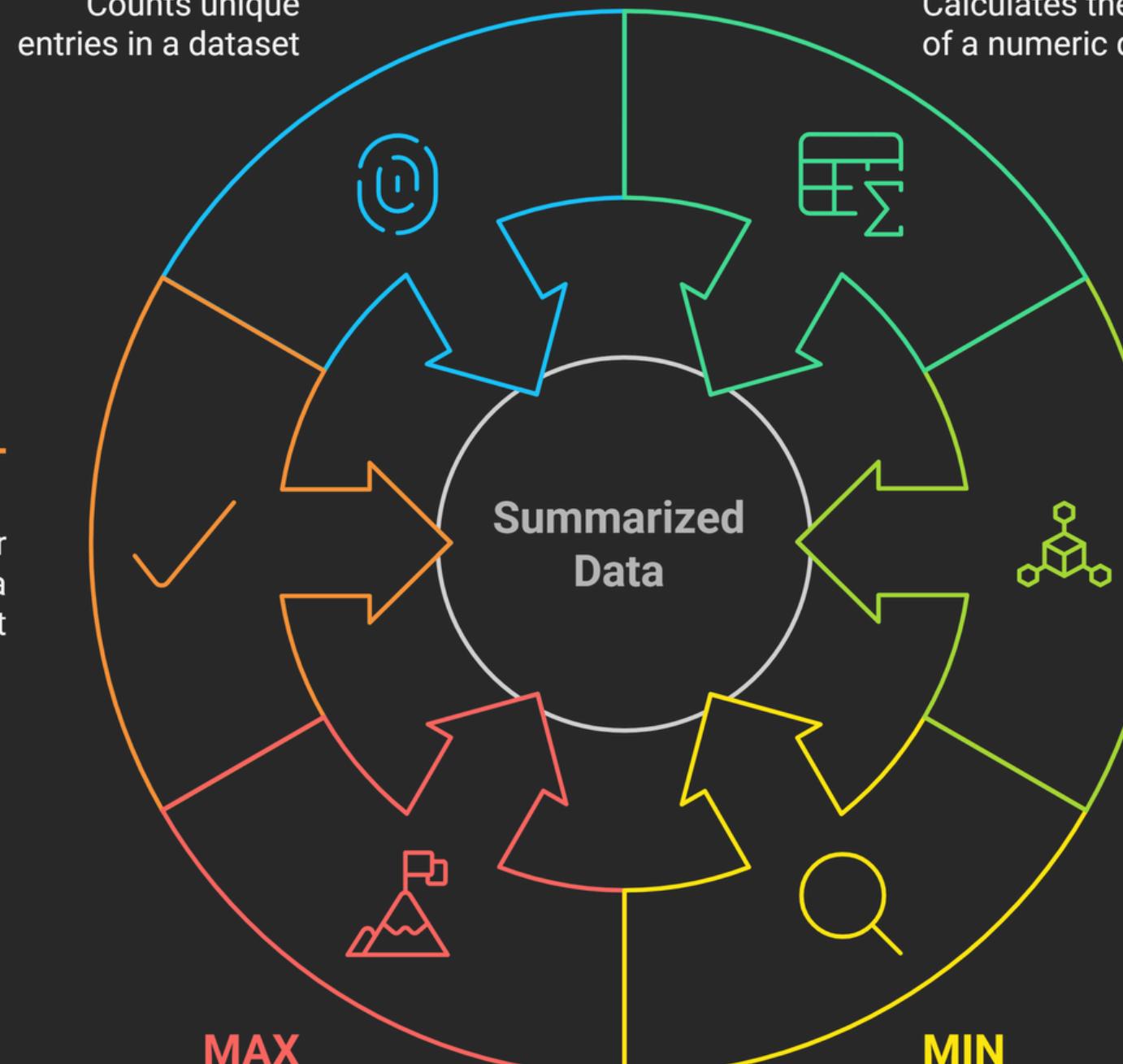
Calculates the total of a numeric dataset

AVERAGE

Determines the mean value of a dataset

MIN

Identifies the smallest value in a dataset



Exploring DAX Iterator Functions

COUNTX

Counts the number of rows that meet an expression over a table

MAXX

Finds the maximum value of an expression over a table

SUMX

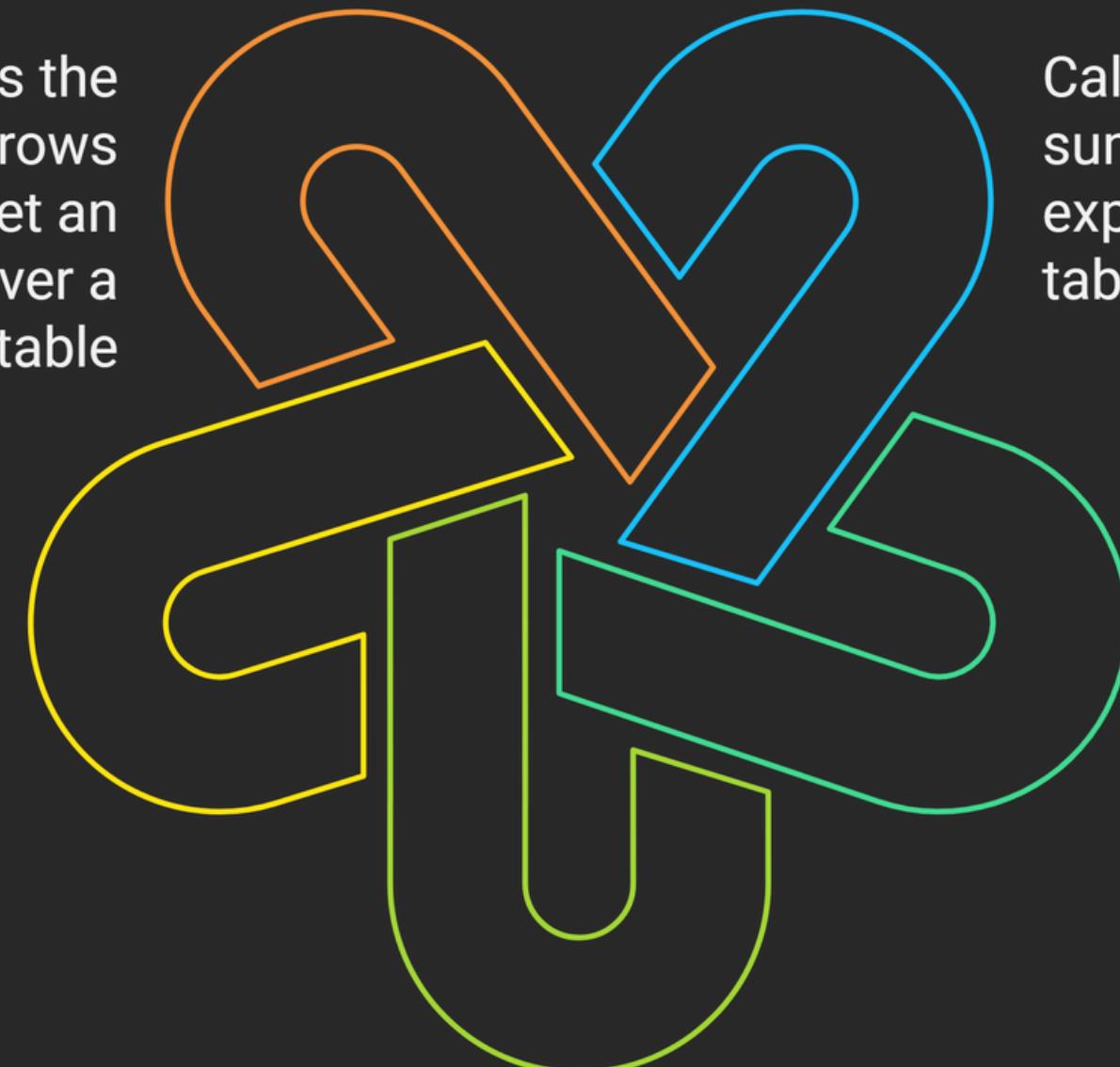
Calculates the sum of an expression over a table

AVERAGEX

Computes the average of an expression over a table

MINX

Determines the minimum value of an expression over a table





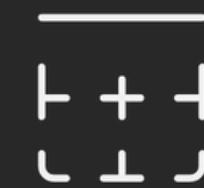
Ideal for aggregations



Runtime calculations



No storage impact



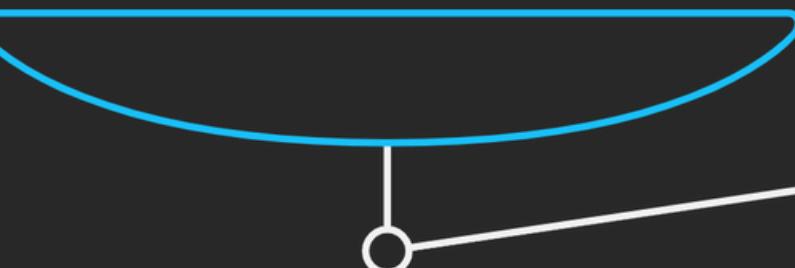
Precomputed value use



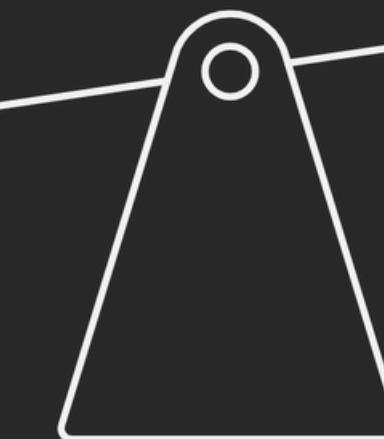
Row-by-row calculations



Increases storage size



Measures



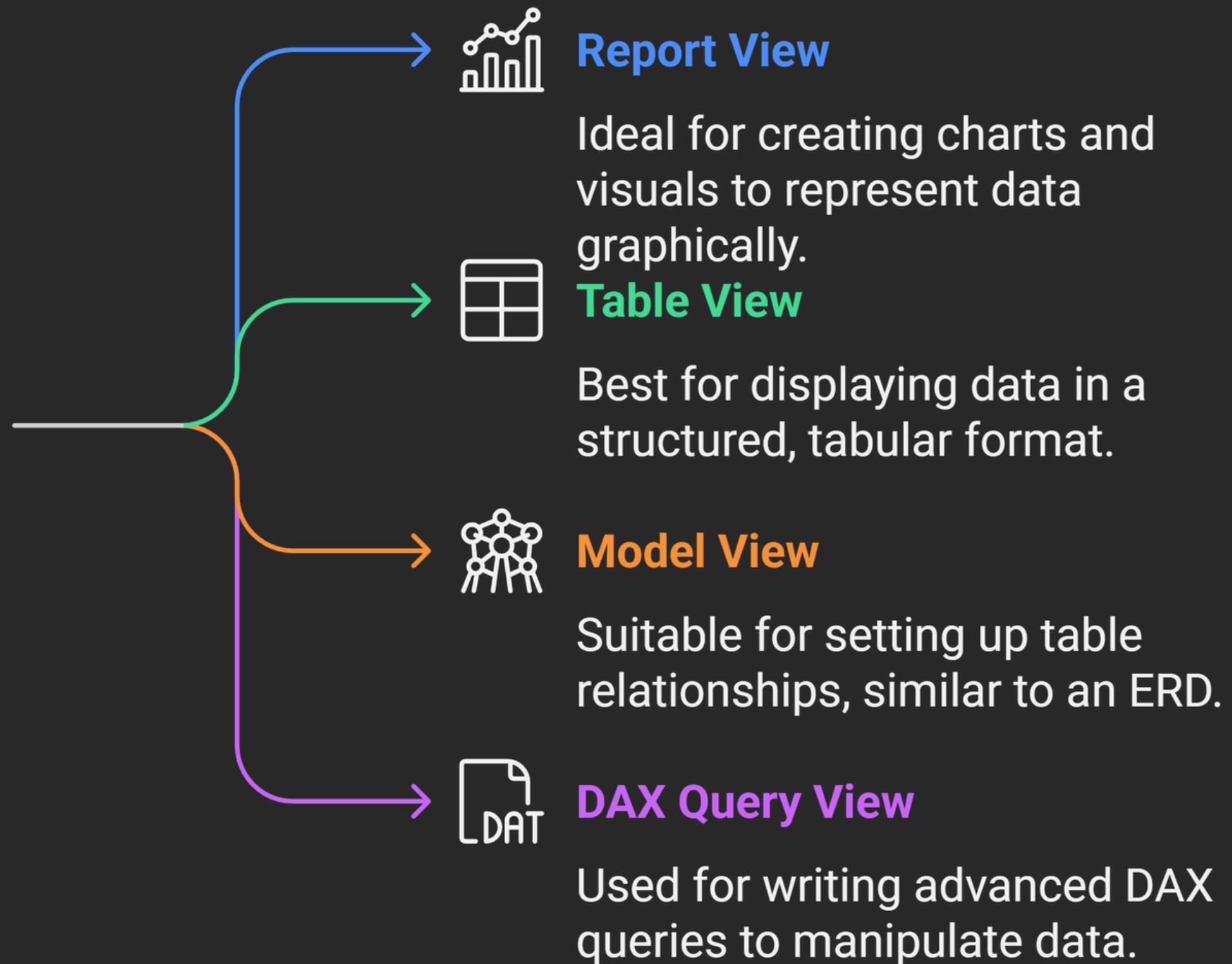
Calculated Columns

Choose based on storage and calculation needs.

POWER BI VIEWS

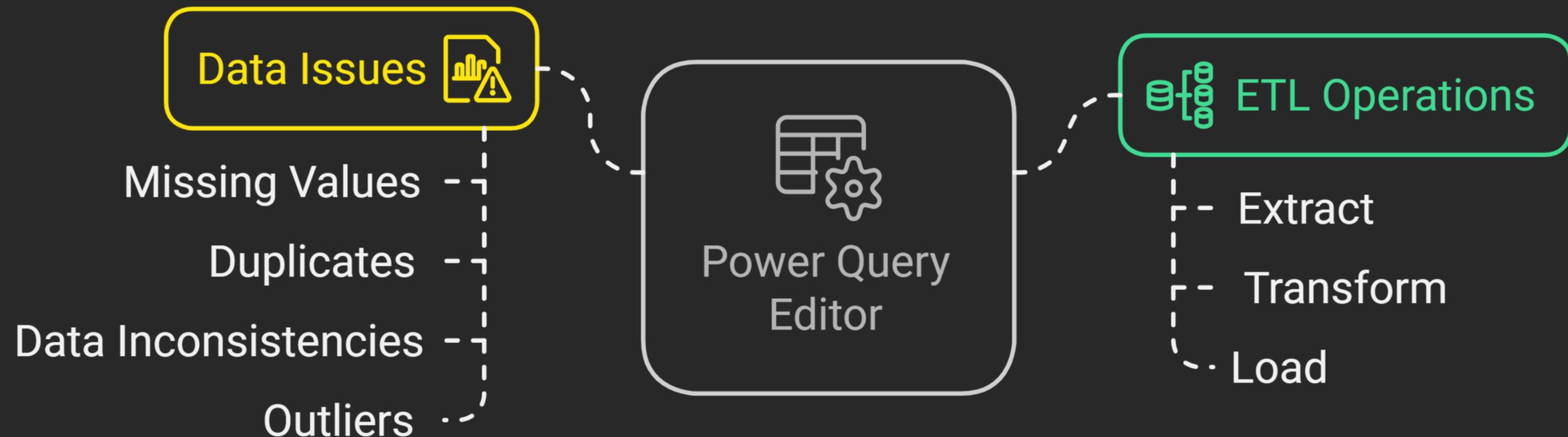


Which Power BI view should I use for my task?



DATA TRANSFORMATION USING POWER QUERY EDITOR

Data Preparation in Power BI



DATA MODELING

RELATIONSHIPS BETWEEN TABLES USING PRIMARY AND FOREIGN KEYS.

Key Elements of Data Modeling

Foreign Key

Links tables together
to maintain data
integrity



Table Relationships

Establishes
connections
between data tables
for coherence

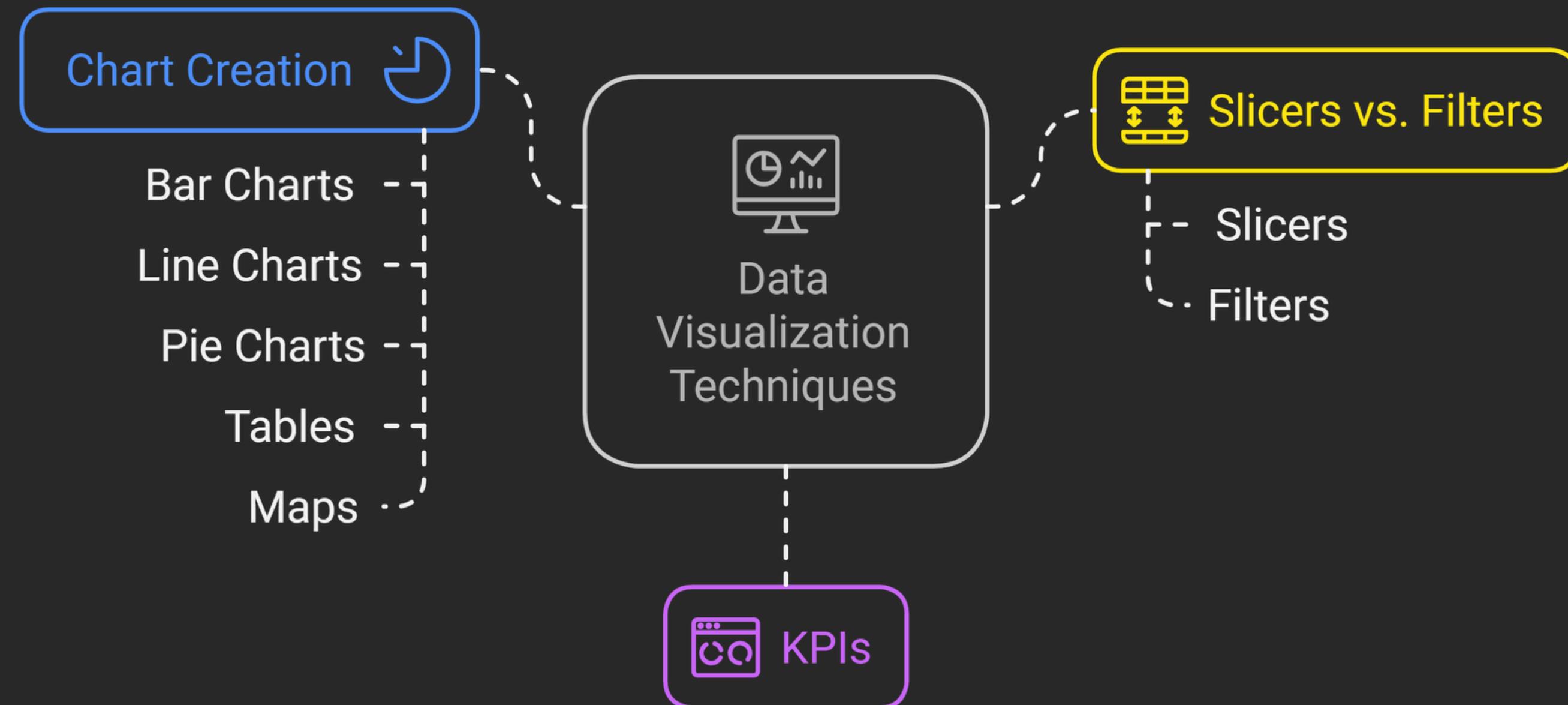
Primary Key

Serves as a unique
identifier for table
records

DATA VISUALIZATION

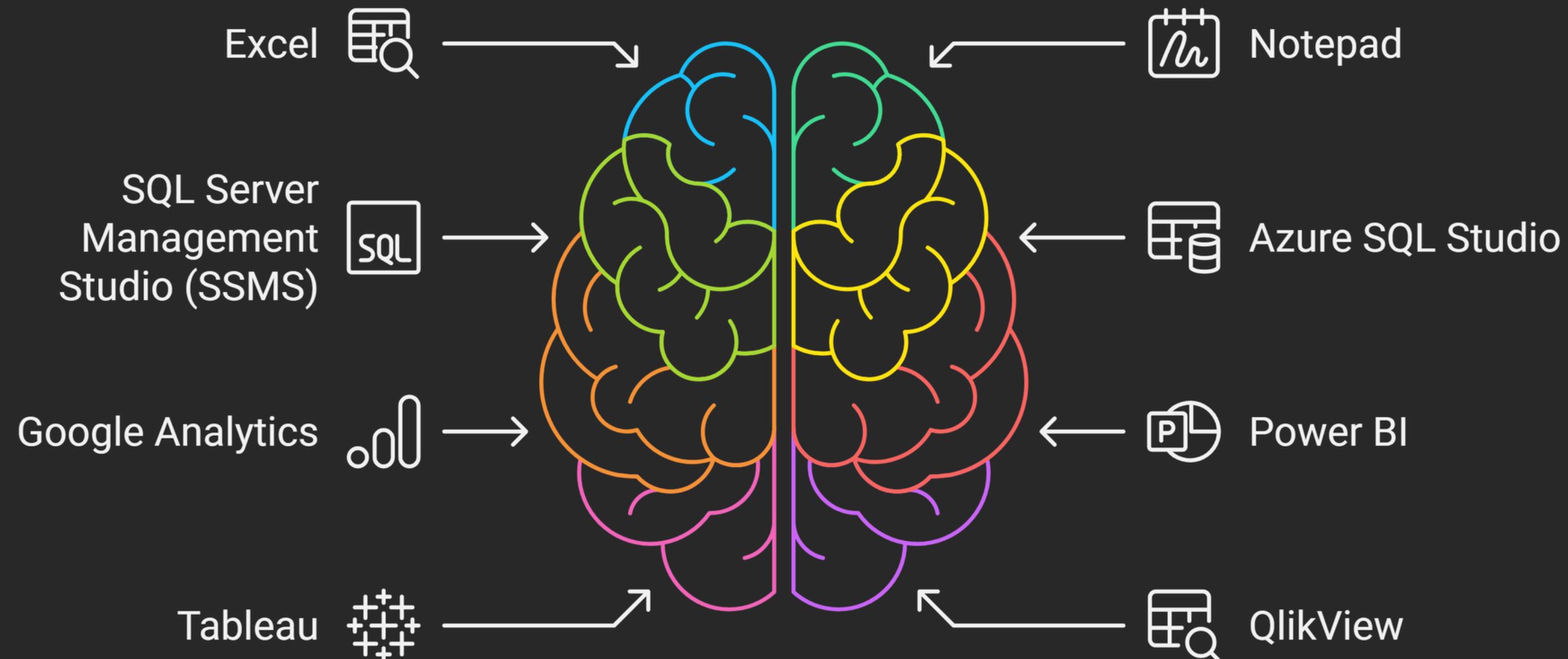
CREATING CHARTS, KPIS, SLICERS, AND FILTERS FOR BETTER ANALYSIS.

Power BI Data Visualization Techniques



TOOLS FOR BUSINESS INTELLIGENCE

Tools for Business Intelligence



Thank You

For your attention