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MERGING & APPENDING

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MERGING

Combines columns from two or more tables based on a common column (similar to SQL joins). It's useful when you need to combine related data from different tables

When to Use Merging:

Combine Related Data: **Use** merging when you have multiple tables with related information that you want to combine into a single dataset. For example, merging sales data with product data based on a common product ID.

Enrich Data: Merge queries when you need to enrich your data with additional attributes or details from another table. This is useful for creating comprehensive datasets for analysis or reporting.

Multiple Data Sources: When your data is spread across multiple sources (like databases or files), merging helps in integrating these diverse sources into a unified view.

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MERGING

Example:

Imagine you have two tables:

SALES TABLE:

OrderID	ProductID	Quantity	SalesAmount
1	P1	10	100
2	P2	5	50

PRODUCTS TABLE:

ProductID	ProductName	Category
P1	Product A	Category 1
P2	Product B	Category 2

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MERGING

Example:

Merge these tables on ProductID using a Left Outer Join:

The resulting table would include all columns from the Sales Table and matching columns from the Products Table.

MERGED TABLE:

OrderID	ProductID	Quantity	SalesAmount	ProductName	Category
1	P1	10	100	Product A	Category 1
2	P2	5	50	Product B	Category 2

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APPENDING

Stacks data from two or more tables on top of each other. It is useful when you have similar datasets, such as monthly sales data, and want to combine them into a single table.

When to Use Appending:

Combine Similar Data: Use appending when you have tables with identical structures (same columns) and you want to stack the rows vertically. For example, appending monthly sales data tables to create a consolidated yearly sales dataset.

Union Operations: When you need to consolidate data from multiple periods (like months or quarters) or sources into a single dataset without altering the structure or relationships, appending is the appropriate choice.

Incremental Loading: Appending is also useful in scenarios where you are incrementally loading data from similar sources into a single data model over time.

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APPENDING

Example:

Imagine you have two tables with the same structure:

SALES JAN TABLE:

OrderID	ProductID	Quantity	SalesAmount
1	P1	10	100
2	P2	5	50

SALES FEB TABLE:

OrderID	ProductID	Quantity	SalesAmount
3	P1	7	70
4	P3	3	30

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APPENDING

Example:

After Appending the resulting table will include all rows from both tables.

APPENDED TABLE:

OrderID	ProductID	Quantity	SalesAmount
1	P1	10	100
2	P2	5	50
3	P1	7	70
4	P3	3	30

Things to note:

Column Names: For a successful append, tables should have the same column names. If the columns don't match, Power BI will create new columns for mismatched names.

Data Types: Ensure the columns to be appended have the same data types to avoid errors and inconsistencies.

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CHOOSING BETWEEN MERGING & APPENDING

Data Structure: Choose merging when you need to combine different attributes (columns) from related tables. Choose appending when you need to combine rows from tables with identical structures.

Integration Needs: Merging is ideal for integrating related but different datasets. Appending is suitable for combining data from similar sources or periods.

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PRACTICAL USE CASES

Merging:

- Combining customer information from two different databases using customer IDs.
- Enriching sales data with product details from a product table.

Appending:

- Combining monthly or quarterly sales data into a single table for yearly analysis.
- Merging datasets from different regions or branches into a single comprehensive dataset.