SESSION WILL BE DIVIDED INTO

1. What is meant by DAX?
2. Why is DAX important?
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    3. Calculated Tables
5. Staring with Functions (Statistical)
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SECTION 1

What Is Meant By DAX

DAX

- **Full Form**: Data Analysis Expressions (DAX).
- **Purpose**: DAX is a collection of functions, operators, and constants that can be used in Power BI to create formulas and expressions for calculating and analyzing data.
- **Definition**: DAX is a formula language designed specifically for data modeling and reporting in Power BI, Power Pivot, and Analysis Services
- It is used to perform calculations on data, add calculated columns, create custom measures, and analyze data in a way that is not possible with the raw data alone.

SECTION 2

Why Is DAX Important?

Importance of DAX

- **Powerful Calculations**: DAX allows users to perform complex calculations beyond the default aggregations (like sum or count) available in Power BI.
- **Data Modeling**: You can create relationships between tables and perform advanced calculations on them.
- **Custom Measures**: DAX helps create custom measures to evaluate business metrics, KPIs, and other performance indicators dynamically.
- **Complex Calculations**: DAX allows you to perform complex and advanced calculations that go beyond basic aggregations (like SUM, AVERAGE, etc.). This makes DAX a powerful tool for deriving insights from data that wouldn't be possible with regular calculations.
- **Time Intelligence Functions**: DAX provides a wide range of **time intelligence functions** that make it easy to perform date-related calculations. This is essential for businesses to track trends, compare periods, and analyze performance over time. Example, "**SAMEPERIODLASTYEAR**".

SECTION 3

Syntax Of DAX

Syntax of DAX

- A DAX formula is a combination of functions, operators, and references to columns or tables.
- **Example Syntax:**
- **Measure = SUM('Sales'[Amount])**
- **Explanation**: The above formula creates a measure that sums the values in the 'Amount' column of the 'Sales' table.

SECTION 4

Understanding Calculated Columns, Measures & Tables

Understanding Table

Aspect	Calculated Column	Calculated Measure	Calculated Table
Definition	A column added to a table with a row-by-row calculation.	A dynamic calculation that changes based on filters.	A new table created based on a DAX formula.
Row vs Filter Context	Row Context (calculated for each row individually).	Filter Context (calculation based on filters applied).	Static, created at the time of data refresh.
Storage	Stored in the data model, increases dataset size.	Not stored, calculated dynamically in reports.	Stored in the data model, increases dataset size.
When to use	To create new columns derived from existing ones.	To perform dynamic calculations in reports.	To create new tables based on existing data.

SECTION 5

DAX FUNCTIONS

Maths & Statistical Functions

	Function Name	Function Job	Calculated Column	Calculated Measure
11	MIN(<column>)	Returns a minimum value of a column.	**Yes**	**Yes**
12	MAX(<column>)	Returns a maximum value of a column.	**Yes**	**Yes**
13	COUNTROWS([<table>])	Counts the number of rows in a table.	**Yes**	**Yes**
14	RANKX(<table>, <expression>[, <value>[, <order>[, <ties>]]])	Returns the ranking of a number in a list of numbers for each row in the table argument.	**Yes**	**Yes**

SECTION 6

Best Practices Of Dax

Syntax of DAX

- **Use Measures, Not Calculated Columns**: Whenever possible, use measures instead of calculated columns for efficiency and performance.
- **Minimize Filter Complexity**: Simplify filter context as much as possible to ensure that your DAX formulas are clear and efficient.
- **Time Intelligence**: Make use of time intelligence functions for year-over-year, quarter-to-date, or month-to-date comparisons.
- **Create a MEASURE TABLE to display all the measures at one place.**