Lesson 8 : **Topic:** Introduction to DAX Basics & Calculated Columns vs. Measures

1. What does DAX stand for?

DAX (Data Analysis Expression) is a powerful formula language in PowerBI to create custom calculations, add logic and enhance analysis within reports and semantic models.

2. What is the difference between a calculated column and a measure?

Calculated column will be added as a new column and it takes extra space.
Fixed until refresh → Once created, its values **don't change** when you click slicers or filters. They only recalculate when the dataset refreshes.

Measure (like a live calculator)

- **Filter context / Dynamic** → A measure **doesn't store values**. Instead, it calculates **right when you look at a visual**, based on whatever filters or slicers are active.
- **Changes instantly** → If you filter to show only 2024 sales, the measure recalculates automatically.

5. What does COUNTROWS() do in DAX?

It counts the rows of table, even if it has blank values, because it counts rows, not values.

9. What is a circular dependency error in a calculated column?

A **circular dependency error** happens when **two or more calculated columns depend on each other's results**, creating a loop that Power BI can't resolve.

10. Explain row context vs. filter context.

- **Row context** means DAX works **one row at a time**. It's like going through each row in a table and calculating values for that specific row. You'll see this in **calculated columns** or when using iterating functions like SUMX. For example, if you create a column Profit = SalesAmount - Cost, DAX calculates the profit separately for every row.
- **Filter context** means DAX looks at the **filters currently applied**—from slicers, visuals, or the CALCULATE function—to decide **which rows** to include before doing the math. For example, a measure Total Sales = SUM(SalesAmount) will only add up the rows that match the selected filters (like a chosen region or date range).