25 commonly asked DAX

(Data Analysis Expressions)

Interview Questions

Power BI

With concise answers

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Basic Level

1. **What is DAX?**

   - DAX (Data Analysis Expressions) is a formula language used in Power BI, Power Pivot, and Analysis Services to create calculated columns, measures, and custom tables.

2. **What are the key data types supported in DAX?**

   - Numeric, Boolean, Text, DateTime, and Blank.

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

   - Calculated Column: Computed row-by-row and stored in the data model.

   - Measure: Computed at query time, optimized for performance, and used in visualizations.

4. **What is a measure in DAX?**

   - A dynamic calculation performed on aggregations, defined using DAX.

7. **What is the syntax of a DAX function?**

   - FunctionName(arguments) Example: SUM(Sales[Amount])

8. **What is the difference between SUM and SUMX?**

   - SUM: Aggregates a column.
   - SUMX: Iterates row by row over a table and evaluates an expression.

9. **What is a row context in DAX?**

   - A row-by-row evaluation used for calculated columns and iterators like SUMX.

10. **What is a filter context in DAX?**

    - Filters applied to data before performing calculations in measures or visualizations.

11. **Explain the difference between ALL and ALLEXCEPT.**

    - ALL: Removes all filters on a table or column.
    - ALLEXCEPT: Removes all filters except the specified columns.

12. **What is the purpose of the RELATED function?**

- o Fetches a value from a related table using an established relationship.

Intermediate Level

11. **What is the difference between CALCULATE and CALCULATETABLE?**

- o CALCULATE: Modifies filter context for an expression.

- o CALCULATETABLE: Returns a filtered table based on an expression.

12. **What is the purpose of the FILTER function?**

- o Returns a table that meets the specified condition(s).

13. **How does the EARLIER function work?**

- o Refers to the previous row context in nested row-based operations.

14. **What is the use of the DISTINCT function?**

   ○ Returns a unique list of values from a column or table.

15. **How do you calculate a running total in DAX?**

   ○ Using CALCULATE and FILTER:

RunningTotal = CALCULATE(SUM(Sales[Amount]),

FILTER(ALL(Sales), Sales[Date] <= MAX(Sales[Date])))

16. **What is the use of the DIVIDE function?**

   ○ Safely performs division and handles division by zero.

17. **What is the difference between VALUES and DISTINCT?**

   ○ VALUES: Returns a one-column table with unique values, respects filters.

   ○ DISTINCT: Ignores filters and returns unique values.

18. **How does the RANKX function work?**

   ○ Ranks values in a column or table based on an expression and order.

19. **What is the purpose of the USERELATIONSHIP function?**

   ○ Activates an inactive relationship in a calculation.

20. **How do you handle many-to-many relationships in DAX?**

   ○ Using a bridge table and functions like CROSSFILTER or relationship configuration.

Advanced Level

21. **What is the difference between NATURALINNERJOIN and NATURALLEFTOUTERJOIN?**

   ○ NATURALINNERJOIN: Returns the intersection of two tables.

   ○ NATURALLEFTOUTERJOIN: Returns all rows from the left table and matching rows from the right.

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22. **How does the SAMEPERIODLASTYEAR function work?**

   ○ Returns a table of the same period (e.g., day, month) from the previous year.

23. **What is the use of TREATAS in DAX?**

   ○ Forces a table to behave like a column in a relationship.

24. **What is the function of GENERATE in DAX?**

   ○ Combines two tables using a Cartesian product and applies transformations.

25. **How can you optimize DAX calculations for performance?**

   ○ Tips:
     ▪ Use measures over calculated columns.
     ▪ Reduce the use of FILTER and EARLIER.
     ▪ Avoid complex nested iterators.
     ▪ Leverage relationships and efficient filtering with ALLEXCEPT.