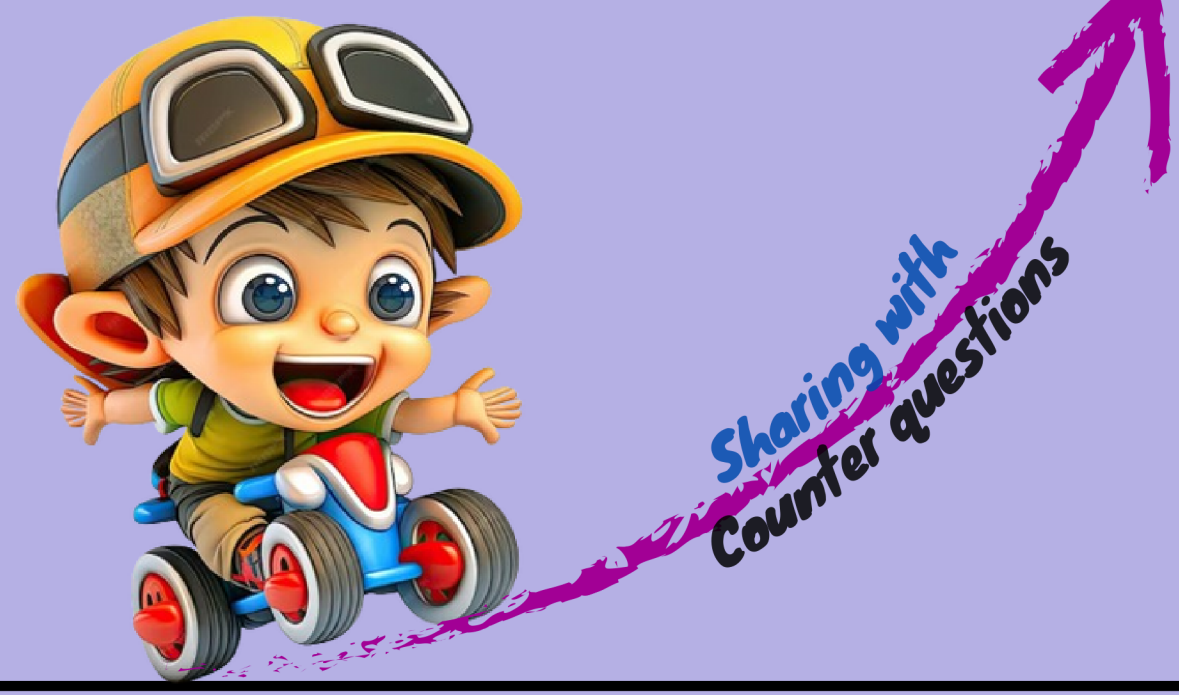
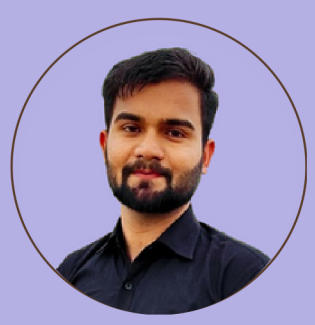
Part - 1

Data Modeling Interview Questions and Answers..!



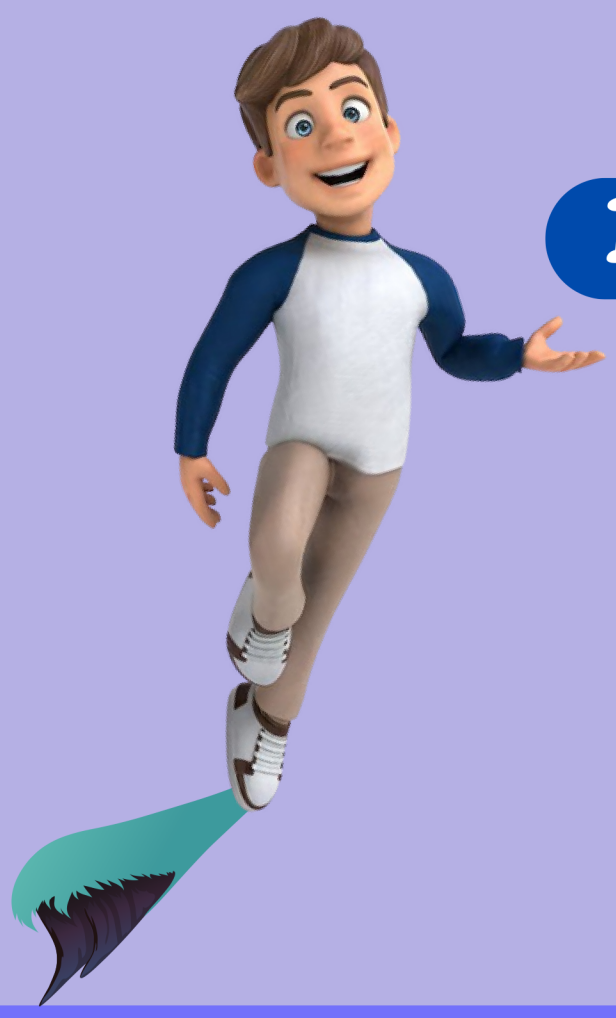


krishna kumar

@Krishan kumar

Can you describe the differences between fact tables and dimension tables?

Dimension means the master data that doesn’t change frequently and the table that describes the dimensions involved are called a dimension table.



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Types of Dimension table

Types of Dimension table

- **Slowly changing Dimension(SCD)**
- **Degenerate Dimension**
- **Junk Dimension**
- **Conform Dimension**
- **Role playing dimension**

Slowly changing Dimension(SCD)

- **Slowly Changing Dimensions are used to manage and track changes in dimension data over time.**

  There are several types:

  Type 1: Overwrites old data with new data, losing historical data.

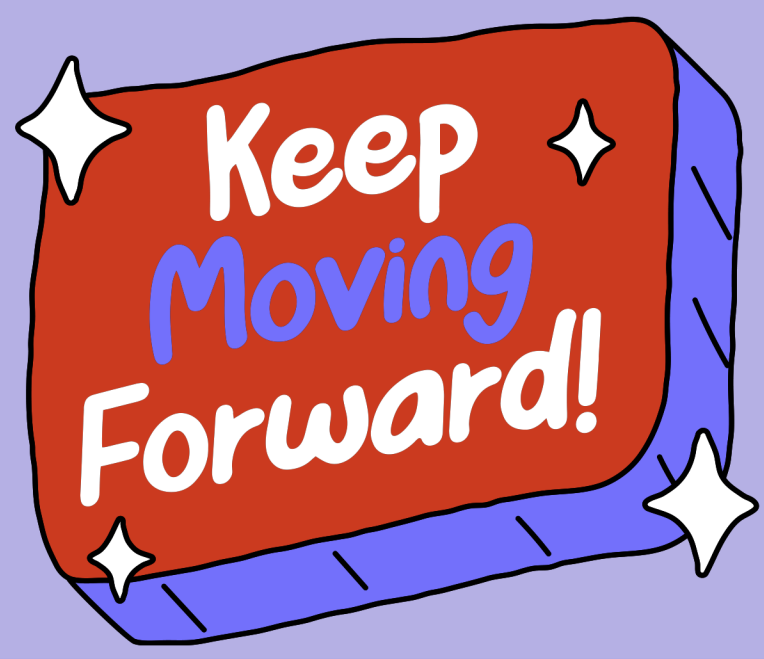
  Type 2: Adds a new record with the updated data, keeping historical data.

  Type 3: Adds a new column to track the change, limited historical data.

Slowly changing Dimension(SCD)

- **Degenerate Dimensions are attributes that do not have their own dimension table but exist in the fact table.**

  They are often used for transaction identifiers or invoice numbers.



Conform Dimension

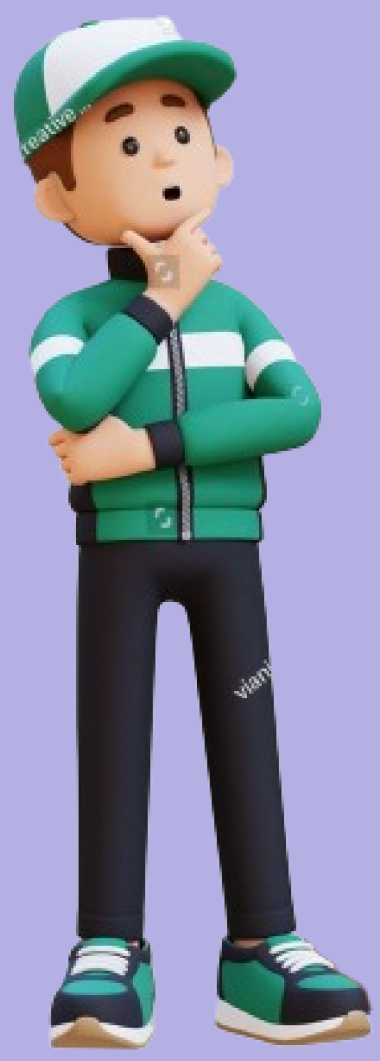
- **Conformed Dimensions are dimensions that are shared across multiple fact tables or data marts, ensuring consistency in reporting and analysis.**

Junk Dimension

- **Junk Dimensions combine low-cardinality flags and indicators into a single dimension table, reducing clutter and simplifying the data model.**

Role playing dimension

- **Role-Playing Dimensions are dimensions that are used multiple times in the same database for different purposes.**



Fact table

- **A fact table is a measure that can be summed, averaged or manipulated.**

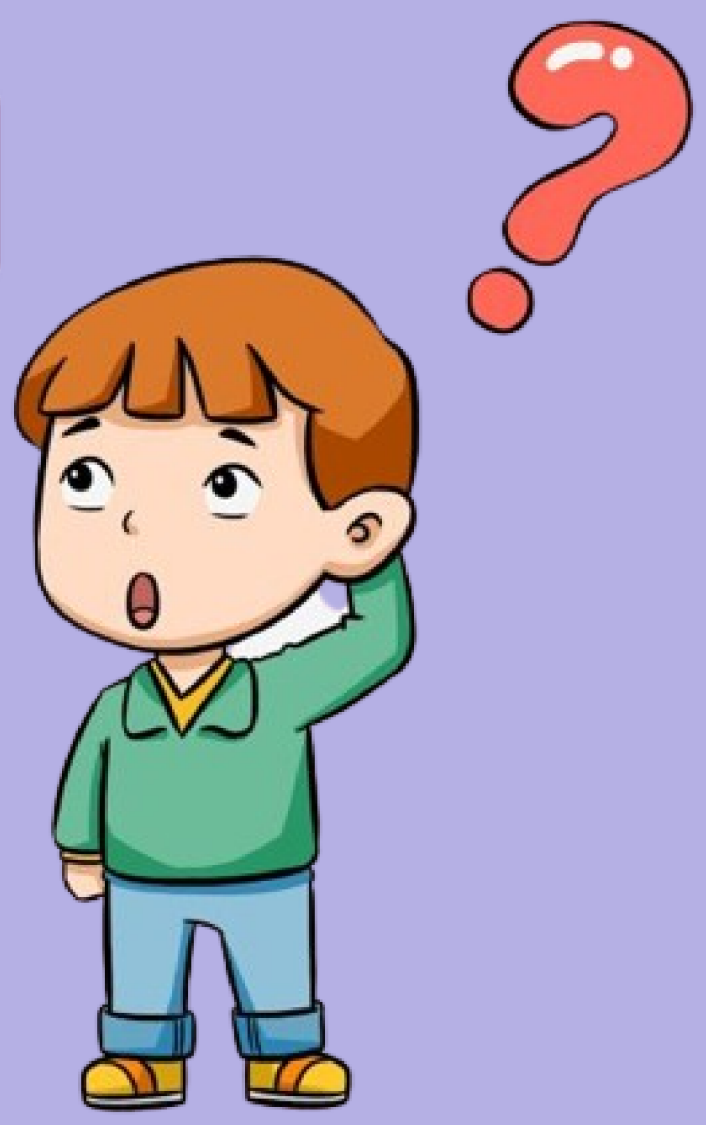
A fact table contains two types of data-

A dimension key: dimension keys are the ones with which these fact table connected to the dimension table.

A Measure: measure means transaction data.

So fact table basically compromises of dimensions keys and as well as transection data that is measures.

Do you know the Types of fact table



Types of fact table

Additive fact

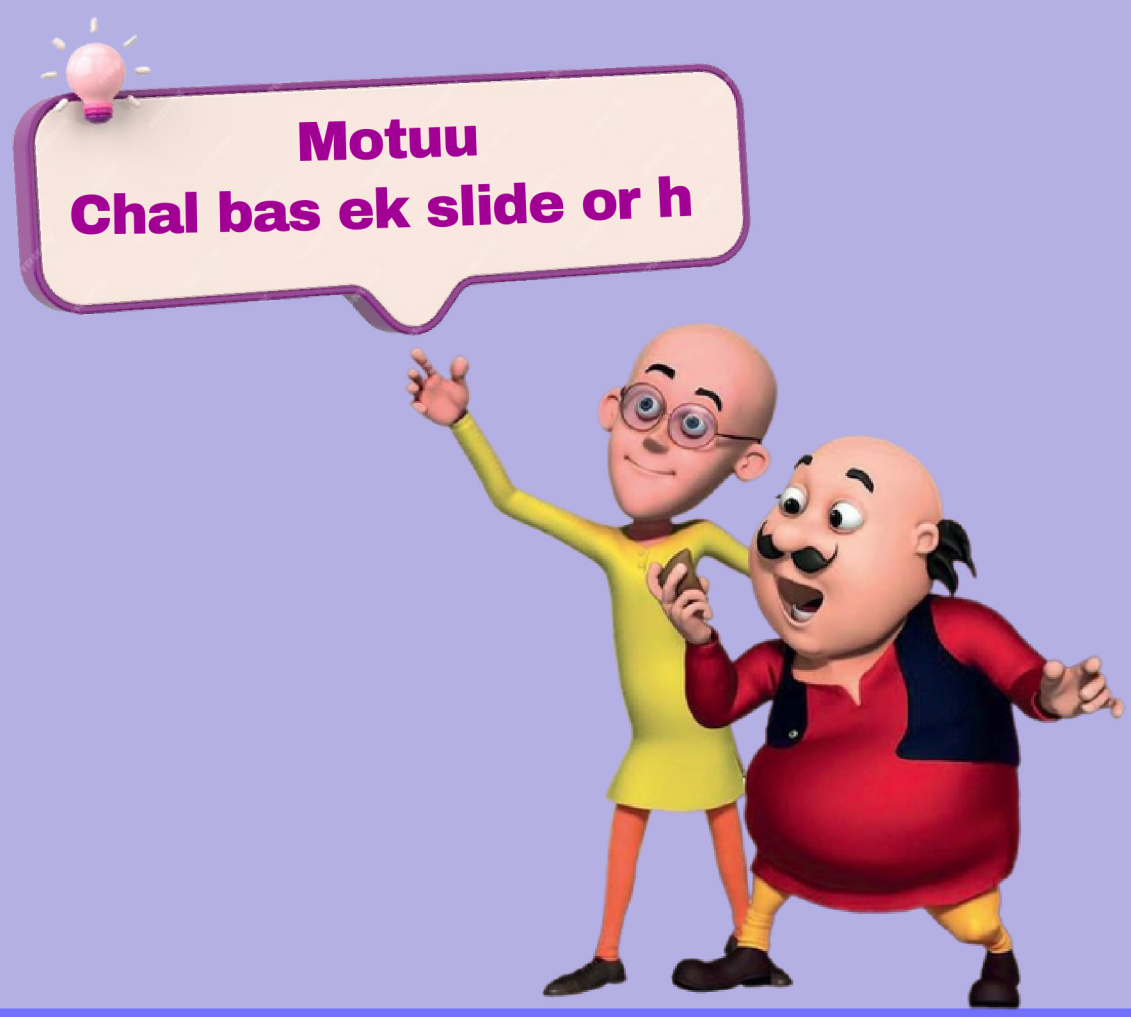
- **Additive facts are measures that can be summed up across any dimensions in a fact table.**

  They are typically used for straightforward aggregations and total calculations.

Semi-additive fact

- **Semi-additive facts can be summed up across some dimensions but not all.**

  They are often used for balances or stock levels, which are not additive over time.



Non-Additive fact

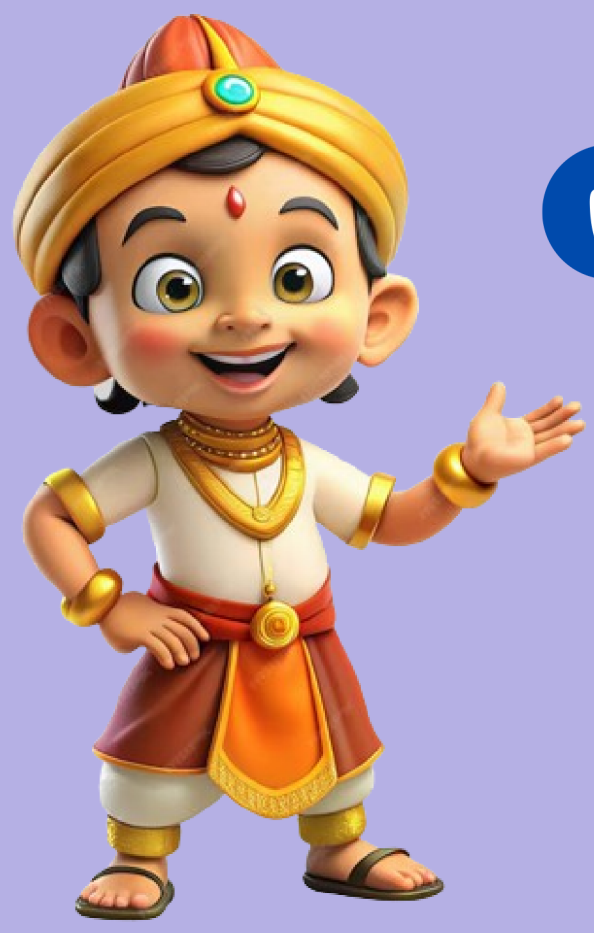
- **Non-additive facts cannot be summed up across any dimensions.**

  They are used for calculations like ratios and percentages that don't aggregate meaningfully.

Factless Fact

- **Factless fact tables do not contain numeric facts but capture the relationships between dimensions.**

  They are useful for tracking events or recording occurrences without any measurable data.

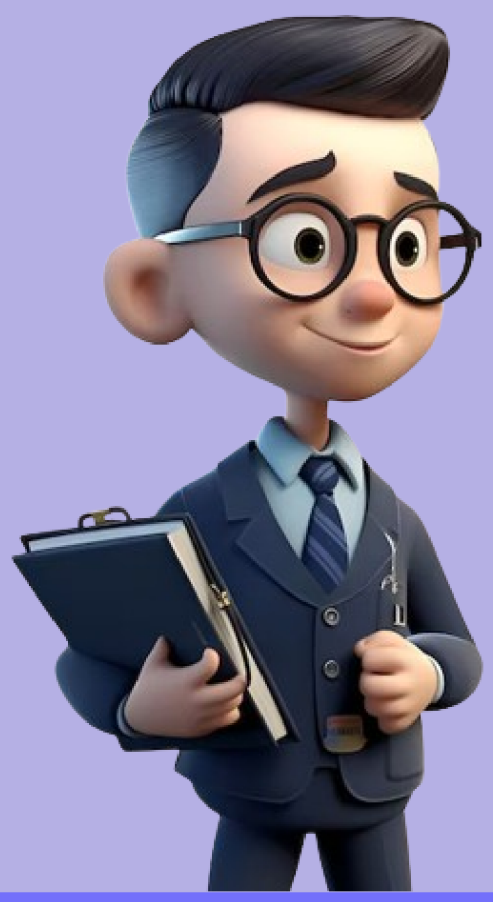


1. What are some common use cases for a Slowly Changing Dimension (SCD) Type 2?

SCD Type 2 is commonly used in scenarios where it's important to retain historical data, such as tracking changes in customer information over time.

For example, if a customer's address changes, a new record is added to keep the history of all previous addresses.

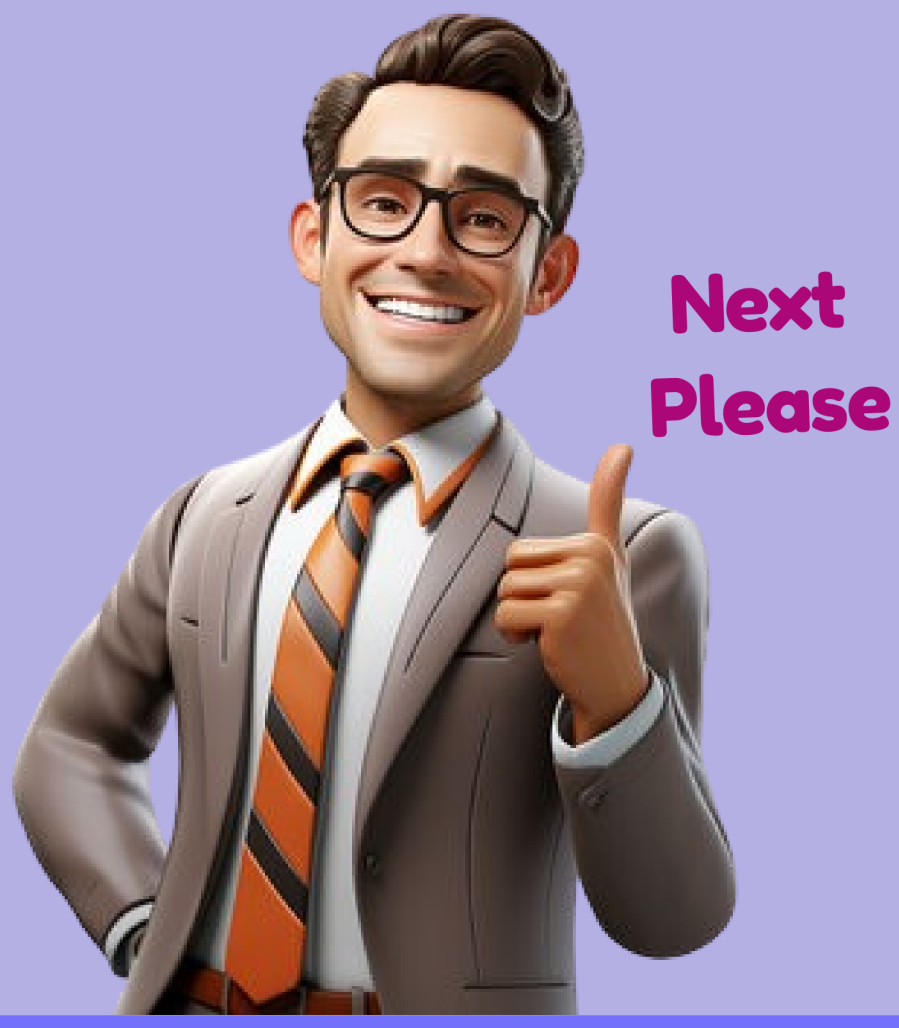
Next Question



2. Why are conformed dimensions important in data warehousing?

Conformed dimensions are important because they ensure consistency and accuracy in reporting across different fact tables or data marts.

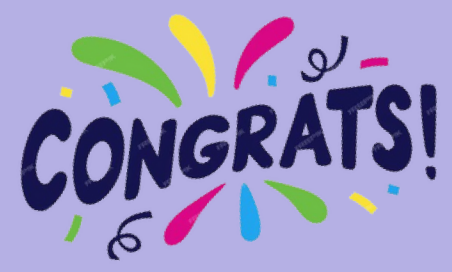
For example, using a conformed date dimension allows for consistent time-based analysis across sales and inventory data.



3. What are the benefits of using junk dimensions?

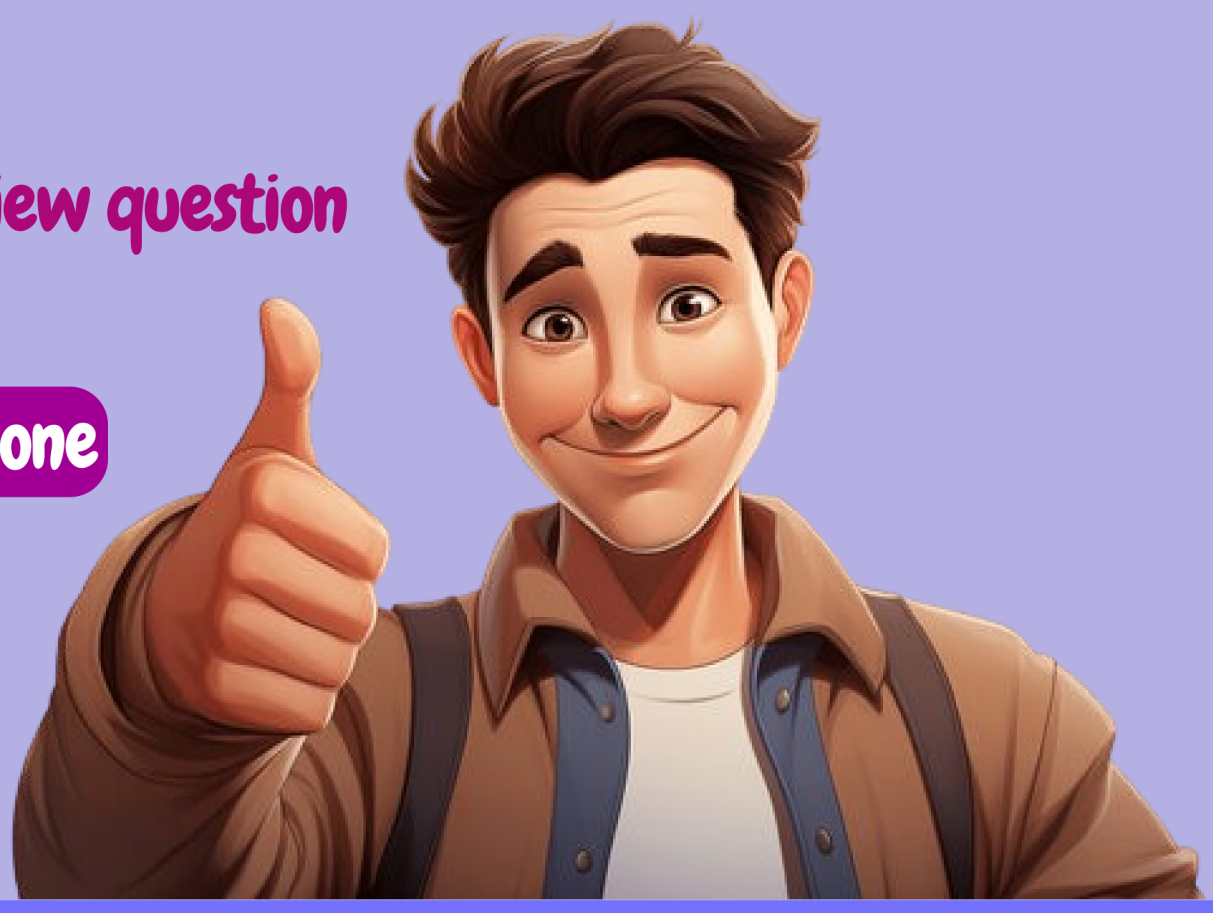
- **Junk dimensions combine low-cardinality flags and indicators into a single dimension table, reducing the number of dimension tables and simplifying the data model.**

This approach helps in managing and analyzing data more efficiently.



you completed one interview question with me,

see you in the next one



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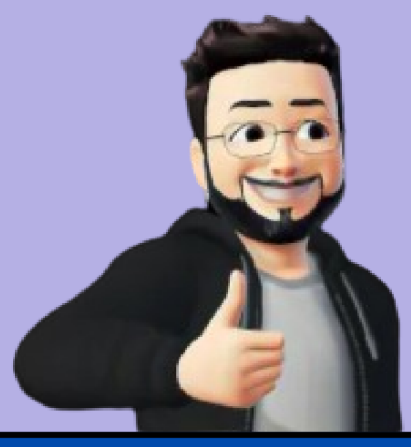

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