ASSIGNMENT 2

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Q 1 : What is the importance of data modelling in Power BI ?

Data analysis involves using statistical and logical methods to understand and evaluate data.

- Organize data : It improves structured way to organize and represent data making it easier to manage .
- Data relationship: Define relationships between different data entities, allowing more complex analysis.
- Improves performance : A good data model can optimize query performance , fast retrieval of data and analysis .

Q 2 : Can you explain the difference between fact table and dimension table ?

- Fact table : A fact table is a central table in a star or snowflake schema stores quantitative data for analysis . Fact table typically stores measurable ,numerical data .
- Dimension table : A dimension table is a table provide context and descriptive information for the facts in the fact table .

Q 3 : How do you create relationships between tables in Power BI ?

Steps to Create Relationships Between Tables in Power BI :

- Load data tables .
- Go to the model view.
- Identify the tables and columns for the relationship.
- Drag the key column from one table and drop it onto the matching column in the other table .
- Configure the relationship like One-to Many ,Many-to-One etc.

Q 4 : What are bi-directional filters , and when should they be used ?

Bi-directional filters in Power BI allow filters to flow in both the directions between the related tables .

Bi-directional filters is used when :

- Use bi-directional filters when you need two tables to filter each other.
- Complex data model with multiple tables .
- Many-to-many relationships.
- Slicers and filters to work both directions .

Q 5 : Why is it important to hide fields in the report view ?

- In Power BI datasets usually have many columns ,all columns are not necessary ,hiding them avoids confusion while performing operations .
- Prevent accidental mistakes like dragging the wrong column .
- Improves the performance .

Q 6 : What are some best practices for organizing tables in data model ?

- Follow star schema design : central fact table connected to dimension table .
- Set correct datatypes (like whole number , text).
- Manage relationships : use single directional filter by default ,bi-directional filters if necessary.
- Separate fact and dimension table

Q 7 : Can you describe the concept of normalization in data modeling ?

- Normalization is the process of organizing the data in a data model to minimize the duplicate data and improve efficiency . Normalization reduce duplicate data ,prevent update error ,improve query performance and make the data consistent .

Q 8 : What is the purpose of creating hierarchies in a data model ?

It is structured way to organize related fields into parent-child levels , letting users explore data from general groupings to specific records . Purpose of hierarchies are :

- Simplified data exploration
- Consistent navigation
- Improved performance

Q 9 : How do you ensure data integrity when designing a data model ?

- Reject invalid data
- Uniquely identify each record
- Minimize redundancy
- Star schema will reduce ambiguity

Q 10 : Why is it recommended to avoid complex relationships in a data model ?

- Complex relationships increase risk without proportional benefit .
- Performance decay
- Ambiguity in calculations
- Poor user experience