Power BI Interview Questions and Answers with Real-Time Examples

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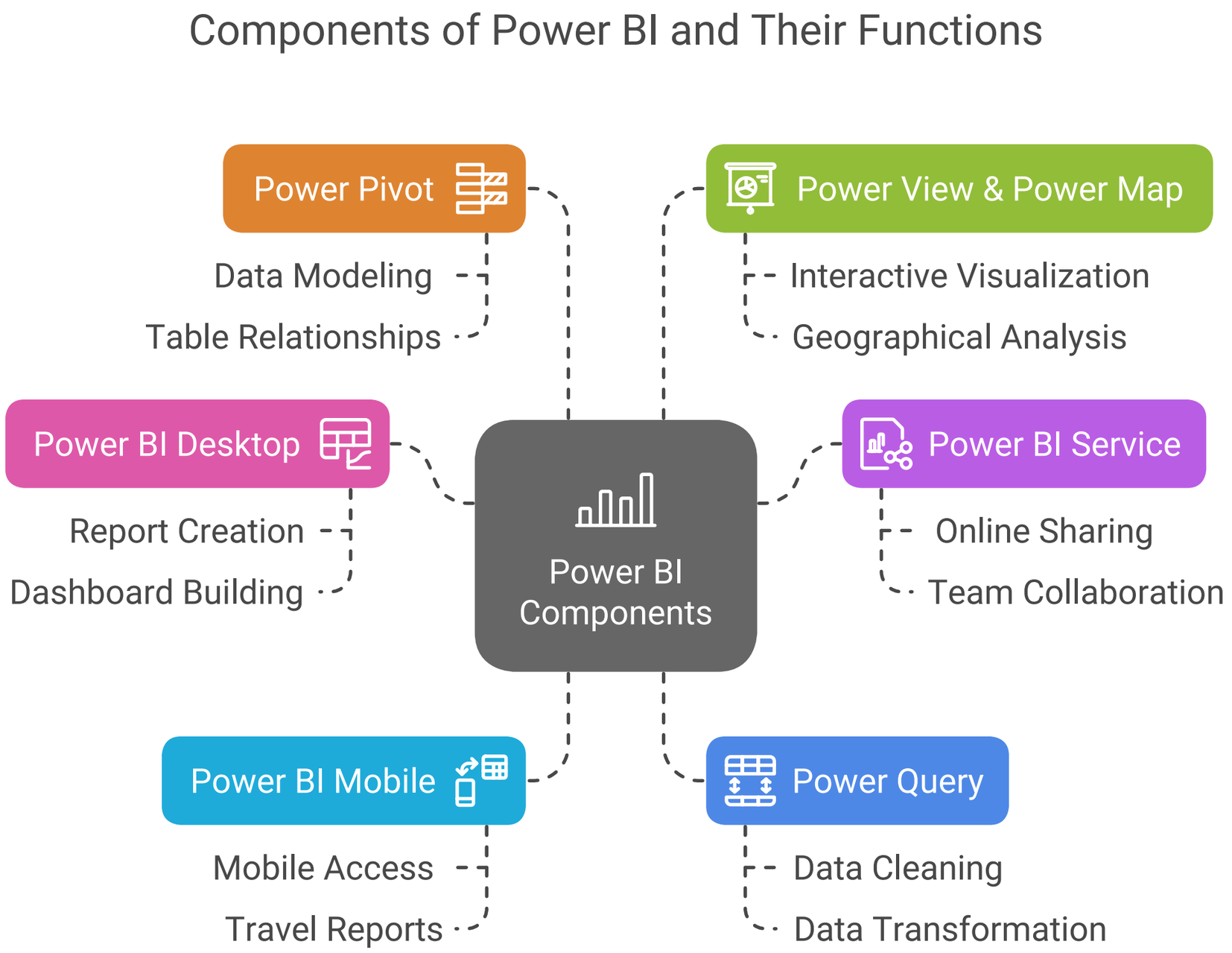
1. What are the components of Power BI?

Power BI has several key components that help users analyze and visualize data effectively:

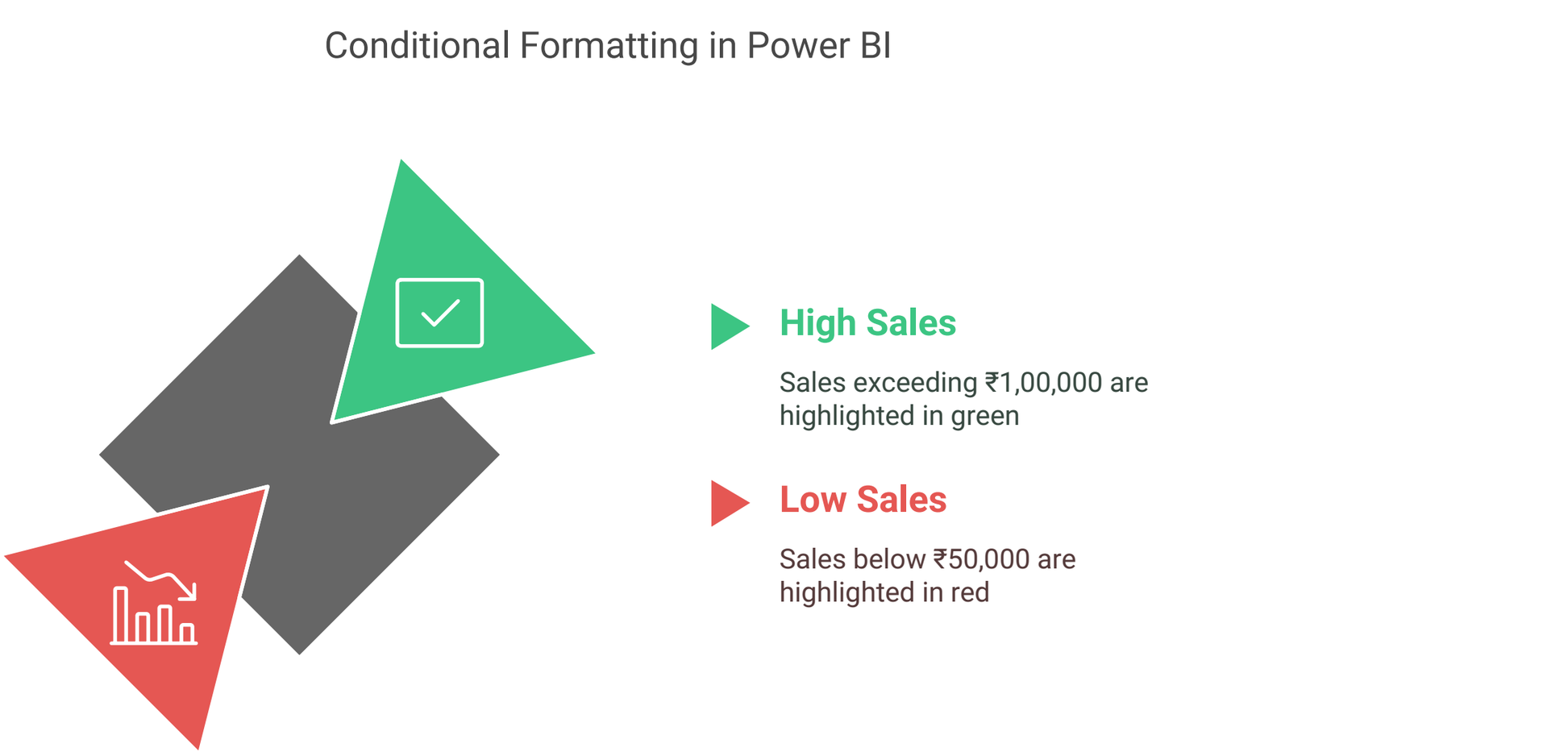
1. **Power BI Desktop** – Used for creating reports and dashboards.
    - **Example**: A sales manager builds a report in Power BI Desktop to track monthly sales.
2. **Power BI Service** – A cloud-based platform for sharing and collaborating.
    - **Example**: The sales manager publishes the report to Power BI Service so the team can view it online.
3. **Power BI Mobile** – Mobile apps for accessing reports on the go.
    - **Example**: A regional manager checks sales reports on their phone while traveling.
4. **Power Query** – Used for cleaning and transforming data.
    - **Example**: Removing duplicate customer entries before analyzing sales data.
5. **Power Pivot** – Used for data modeling and creating relationships between tables.
    - **Example**: Connecting "Sales Data" and "Customer Details" tables for deeper insights.
6. **Power View & Power Map** – Used for interactive visualization and geographical data representation.
    - **Example**: A marketing team uses Power Map to analyze customer purchases by location.



2. What is Conditional Formatting in Power BI?

Conditional Formatting in Power BI helps highlight specific data points based on conditions.

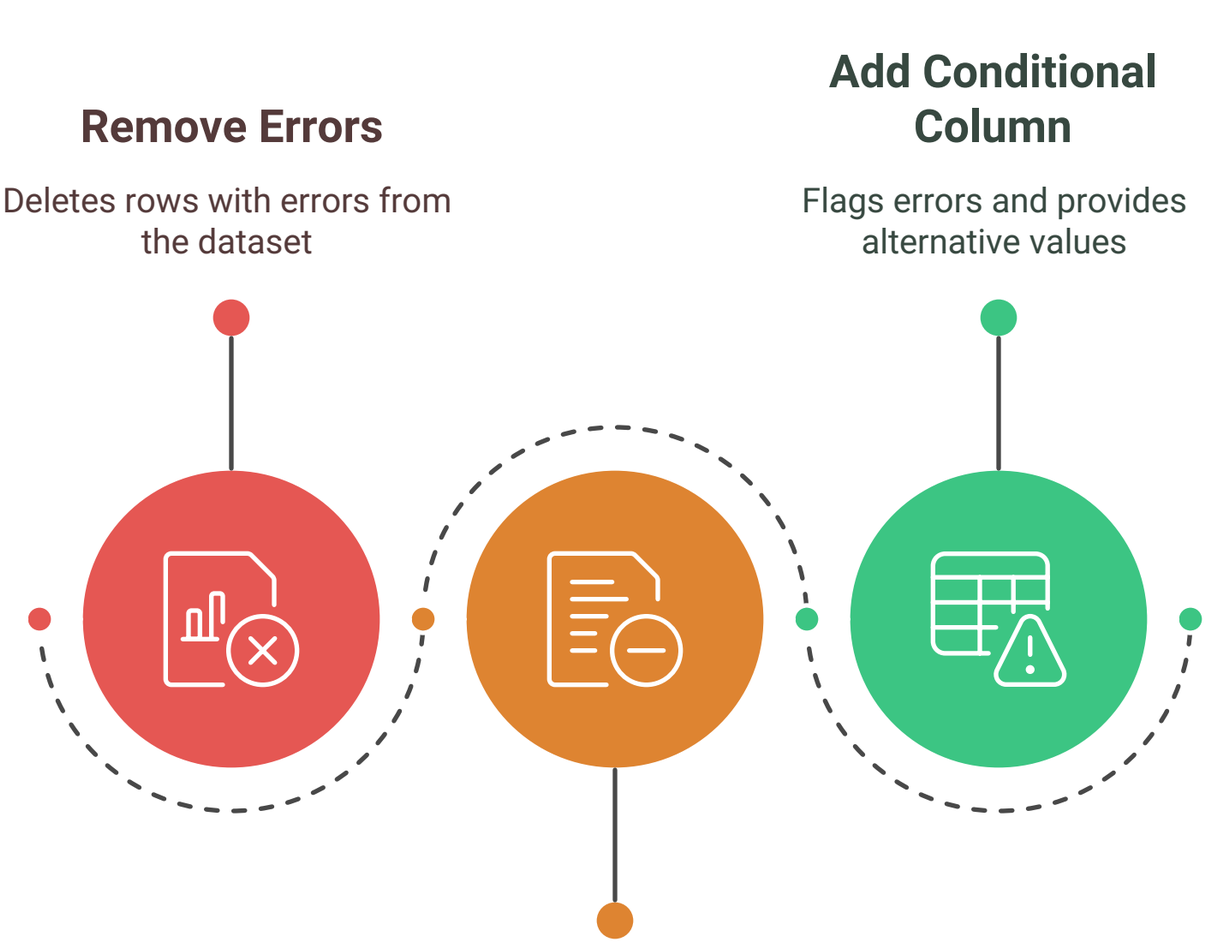
- **Example**: In a sales report, you can set **high sales (>** ₹1,00,000) in green and **low sales (<** ₹50,000) in red, making it easier to spot trends.



3. How do you handle errors in Power Query?

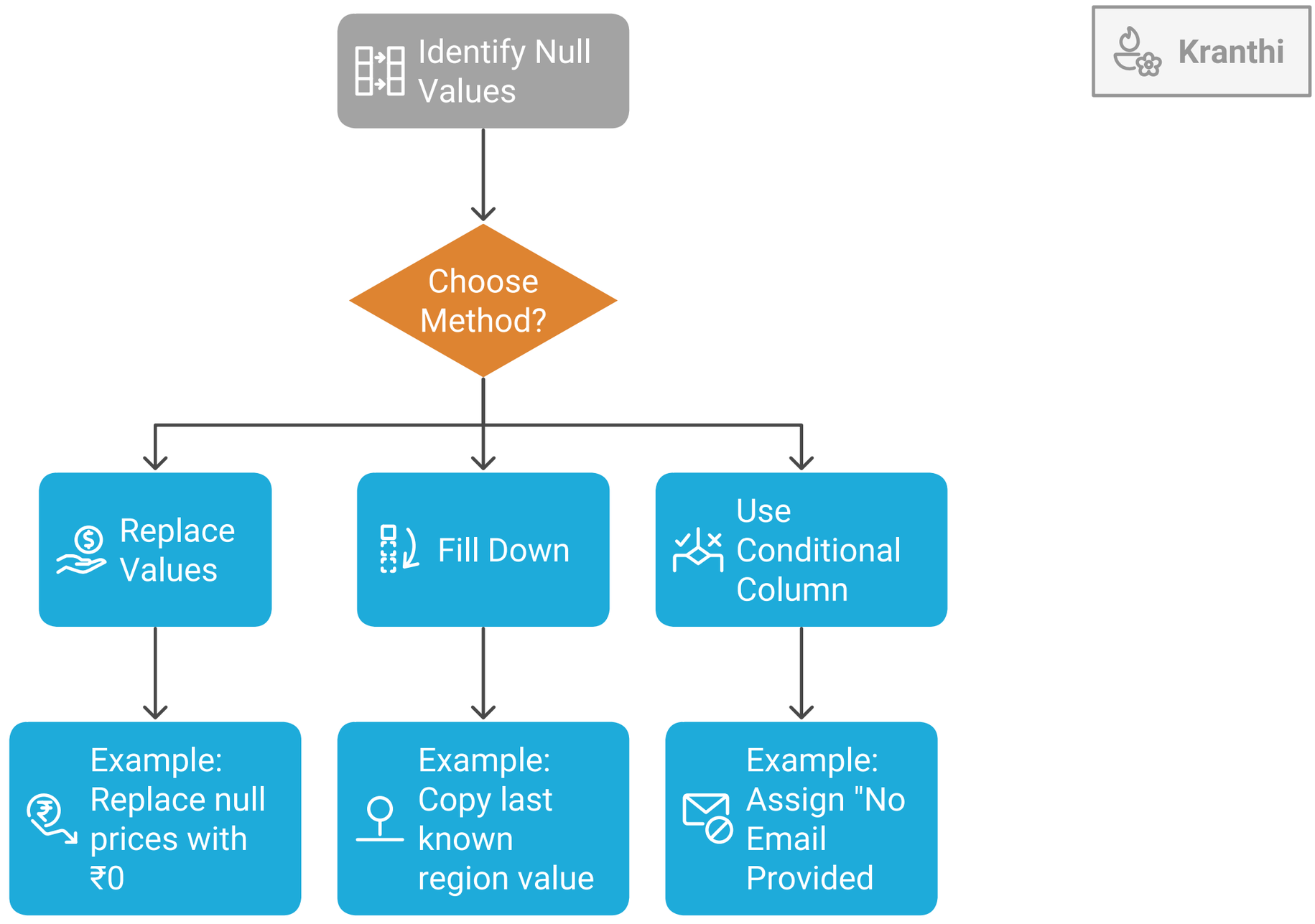
Errors in Power Query can be handled in different ways:

1. **Remove Errors** – Deletes rows with errors.
    - **Example**: If some rows have missing product prices, they can be removed.
2. **Replace Errors** – Replaces errors with default values.
    - **Example**: If a division-by-zero error occurs, replace it with "N/A".
3. **Add Conditional Column** – Flags errors and provides alternative values.
    - **Example**: If a column contains negative sales values, replace them with 0.



4. Three processes to replace and handle null values in Power Query

1. **Replace Values** – Replace null values with a specific value.
    - **Example**: Replace null prices with ₹0.
2. **Fill Down** – Copies the previous row's value into the null cell.
    - **Example**: If the "Region" column has a blank row, it copies the last known region value.
3. **Use Conditional Column** – Assigns a default value if the cell is null.
    - **Example**: If a customer's email is null, assign "No Email Provided".



5. Difference between referencing and duplicating a query in Power Query

Feature	Referencing	Duplicating
Meaning	Creates a new query linked to the original one.	Creates a completely independent copy.
Changes in Original Query	Affect the referenced query.	Do not affect the duplicate.
Use Case	When you want different transformations from the same dataset.	When you need an independent version of the data.

- **Example**:
  - If **Query 1** contains sales data, a **reference query** can be used for regional sales, while a **duplicate query** can be modified separately for a different analysis.

6. What is the M language, and how does it relate to Power Query?

M Language is a functional programming language used in Power Query for data transformation.

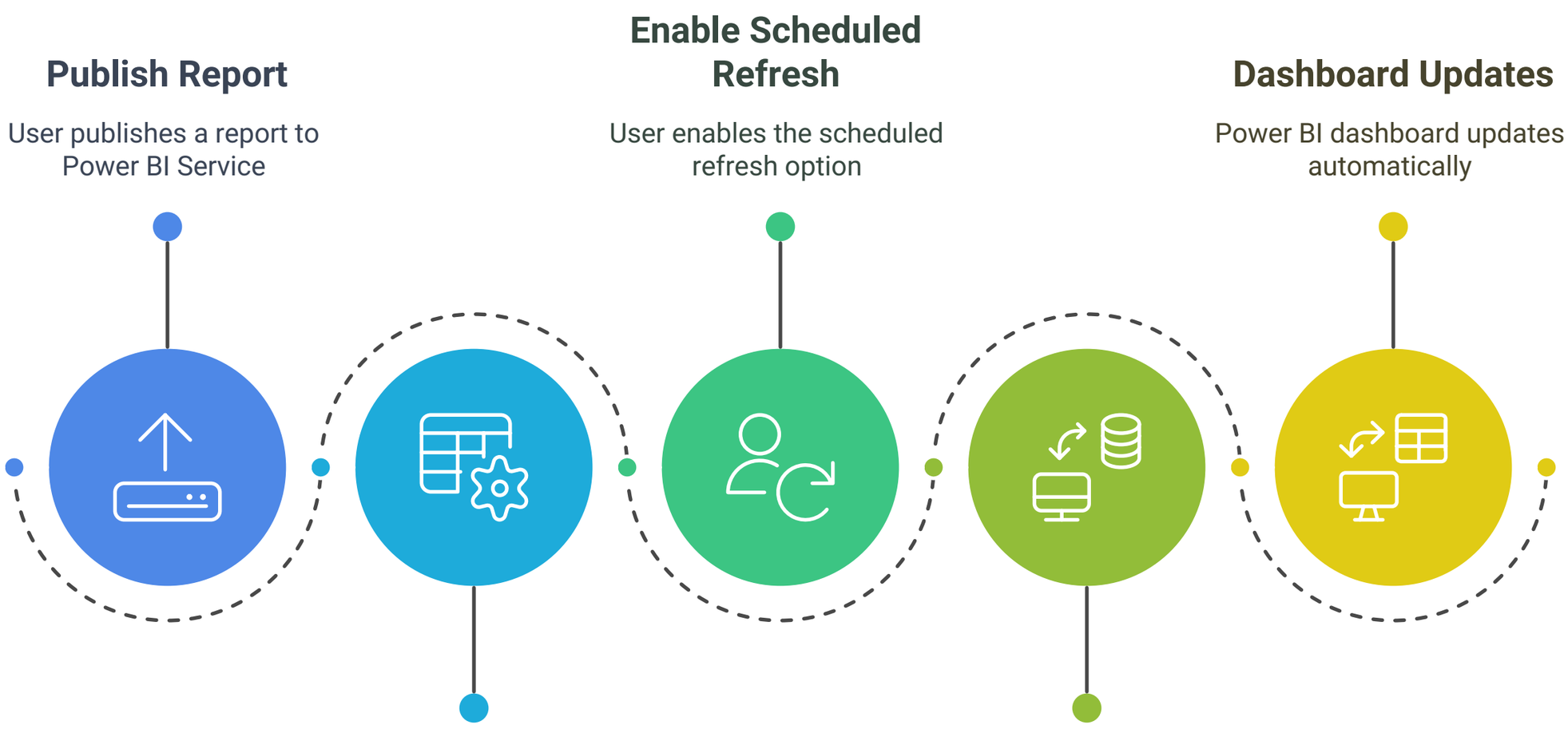
- **Example**: If you filter sales data to show only 2023 transactions, Power Query **generates M code like:**

```
Table.SelectRows(SalesData, each [Year] = 2023)
```

This ensures consistency when refreshing data.

7. How do you schedule data refreshes in Power Query?

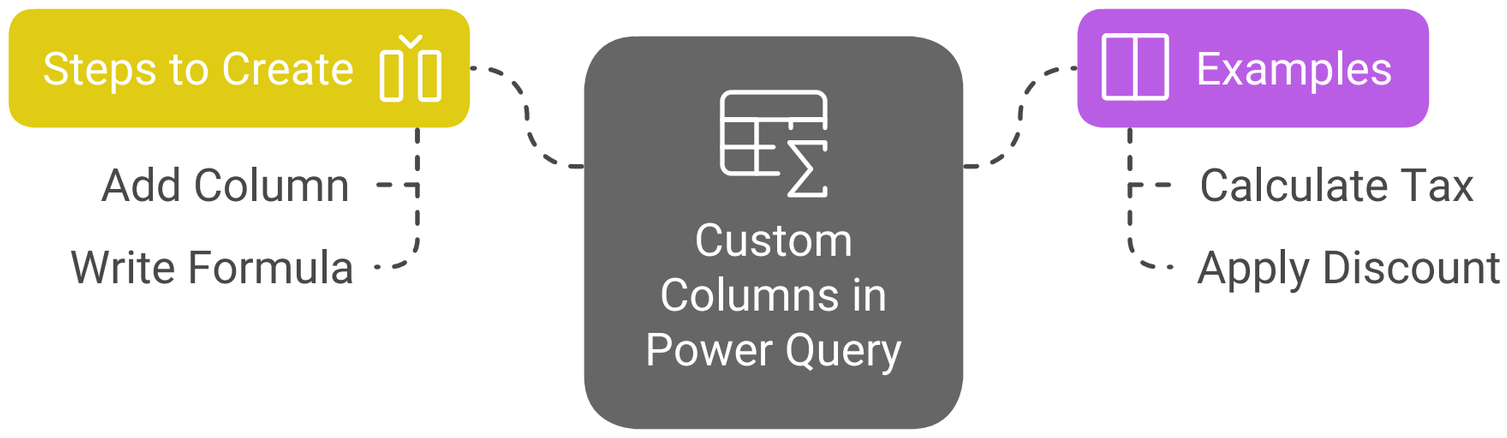
1. **In Power BI Service**:
    - After publishing a report, go to the "Datasets" section and enable "Scheduled Refresh".
2. **Example**:
    - A finance team updates daily expense data in an Excel file. By scheduling a refresh every morning at 9 AM, the Power BI dashboard updates automatically.



8. What are custom columns in Power Query, and how do you create them?

A custom column is a new column created using a formula or calculated values.

- **Steps to Create**:
    1. Click on "Add Column" → "Custom Column".
    2. Write a formula, e.g., **[Sales] * 1.05** to add a 5% tax.
- **Example**:
    - If a store offers a **10% discount on sales above** ₹10,000, a custom column can calculate the discount:
    - **if [Sales] > 10000 then [Sales] * 0.9 else [Sales]**



9. What is the 'Group By' function in Power Query, and how is it used?

The "Group By" function summarizes data based on specific fields.

- **Example**:
    - A store wants **total sales per region**:
        - Select the "Region" column.
        - Click "Group By" and sum the "Sales" column.

Before Grouping:

Region	Sales
North	10,000
South	15,000
North	8,000

After Grouping:

Region	Total Sales
North	18,000
South	15,000

10. Explain how to remove duplicates from a dataset in Power Query.

To remove duplicate values:

1. Select the column(s) where duplicates should be removed.
2. Click on **Remove Duplicates** under the "Home" tab.

- **Example**:
    - If a customer database has duplicate email IDs, removing duplicates ensures each customer appears only once.

Removing Duplicates in Power Query: Importance and Process