**Basic Level Questions**

1. What is Tableau?

Answer: Tableau is a powerful data visualization tool used for converting raw data into an understandable format. It allows for the creation of a wide range of visualizations to analyze and understand data, supports real-time data analytics, and has an easy-to-use drag-and-drop interface.

2. Explain the different Tableau products and their primary use.

Answer

- Tableau Desktop: Used for creating dashboards, stories, and worksheets.

- Tableau Server: Used to share visualizations and dashboards created in Tableau Desktop.

- Tableau Online: A cloud-based version of Tableau Server.

- Tableau Public: A free version of Tableau Desktop and Tableau Server for creating and sharing public data visualizations.

-Tableau Prep: Used for data preparation, cleaning, and transformation before analysis.

3. What is a Tableau workbook?

Answer: A Tableau workbook is a file that contains one or more worksheets and dashboards. It’s saved with a .twb or .twbx extension.

4. Describe the difference between a .twb and a .twbx file.

Answer: A .twb (Tableau Workbook) file is an XML document that contains all the metadata, whereas a .twbx (Tableau Packaged Workbook) is a compressed package that includes the .twb file along with any associated data sources and images.

**Intermediate Level Questions**

5. What are filters in Tableau?

Answer: Filters in Tableau are used to restrict the data displayed in a view. There are different types of filters such as data source filters, context filters, dimension filters, measure filters, and extract filters.

6. Explain what a context filter is and how it is used.

- Answer: A context filter in Tableau is a filter that sets a context for other filters. Any other filters used are considered dependent filters and process only the data that passes through the context filter.

7. How do you create a calculated field in Tableau?

- Answer: To create a calculated field, right-click on the data pane and select "Create Calculated Field". Then, define the calculation using Tableau's formula syntax.

8. What is a dual-axis chart in Tableau?

Answer: A dual-axis chart is a chart that allows you to visualize two different measures on the same chart, but with separate axes. It’s useful for comparing two different data sets.

**Advanced Level Questions**

9. What are Tableau Data Extracts (TDE)?

Answer: Tableau Data Extracts are compressed snapshots of data stored locally. They improve performance and enable offline access to the data.

10. Explain the concept of LOD (Level of Detail) expressions.

Answer: LOD expressions in Tableau allow you to compute values at different levels of granularity. They are used to create calculations that are performed at a more granular or less granular level than the view.

11. How does Tableau handle null values?

Answer: Tableau provides several ways to handle null values such as filtering them out, replacing them with a default value, or using conditional calculations to deal with them.

12. What is the difference between blending and joining data in Tableau?

Answer:

Joining: Combining data from the same data source at the row level.

Blending: Combining data from different data sources at an aggregated level.

**Scenario-Based Questions**

13. You have a large dataset that is slow to load and render in Tableau. How would you improve performance?

Answer:

- Use Tableau Data Extracts (TDE) instead of live connections.

- Reduce the number of marks and data points in views.

- Optimize calculations and use context filters.

- Aggregate data and minimize the use of complex calculations.

14. How would you handle a situation where data from two different sources needs to be analyzed together?

Answer: Use data blending to combine the data sources. Ensure there is a common field to join the data, and use relationships to blend the data accurately.

**Practical Questions**

1. How to create a bar chart in Tableau?

Answer:

1. Drag a dimension (e.g., "Category") to the Columns shelf.

2. Drag a measure (e.g., "Sales") to the Rows shelf.

3. Tableau will automatically create a bar chart.

2. How to create a calculated field to show the profit ratio?

Answer:

1. Right-click in the Data pane and select "Create Calculated Field".

2. Name the calculated field (e.g., "Profit Ratio").

3. Enter the formula: SUM([Profit]) / SUM([Sales])

4. Click OK.

3. How to create a dual-axis chart to compare Sales and Profit?

Answer:

1. Drag "Sales" to the Rows shelf.

2. Drag "Profit" to the Rows shelf, creating two separate charts.

3. Right-click on the second measure axis (Profit) and select "Dual-Axis".

4. To synchronize the axes, right-click on the second axis and select "Synchronize Axis".

5. Optionally, change the mark type for one of the measures to better visualize the comparison (e.g., one as bars, the other as a line).

4. How to create a parameter and use it to filter data?

Answer:

1. Right-click in the Data pane and select "Create Parameter".

2. Name the parameter (e.g., "Sales Threshold").

3. Set the data type (e.g., Float) and define the allowable values (e.g., range from 0 to 100000).

4. Click OK.

5. Right-click on the parameter and select "Show Parameter".

6. Create a calculated field using the parameter: `IF SUM([Sales]) > [Sales Threshold] THEN "Above Threshold" ELSE "Below Threshold" END`.

7. Drag the calculated field to the Filters shelf and select "Above Threshold".

5. How to blend data from two different data sources?

Answer:

1. Connect to the primary data source.

2. Connect to the secondary data source.

3. Ensure both data sources have a common field (e.g., "Customer ID").

4. Drag a field from the primary data source to the view.

5. Drag a related field from the secondary data source to the view.

6. Tableau will automatically blend the data using the common field.

7. If necessary, click on the link icon in the Data pane to manage the blending relationship.

6. How to create a dashboard with interactive filters?

Answer:

1. Create the necessary worksheets.

2. Go to a new Dashboard by clicking the "New Dashboard" button.

3. Drag the worksheets onto the dashboard.

4. To add interactivity, click on a filter in one of the worksheets, then select "Use as Filter".

5. Adjust the layout and styling as needed.

7. How to create a heat map in Tableau?

Answer:

1. Drag a dimension (e.g., "Region") to the Rows shelf.

2. Drag another dimension (e.g., "Product Category") to the Columns shelf.

3. Drag a measure (e.g., "Sales") to the Color shelf.

4. Tableau will create a heat map where colors represent the intensity of the measure.

8. How to use a level of detail (LOD) expression to find the average sales per region?

Answer:

1. Right-click in the Data pane and select "Create Calculated Field".

2. Name the calculated field (e.g., "Average Sales per Region").

3. Enter the formula: ` { FIXED [Region] : AVG([Sales]) }`.

4. Click OK.

5. Drag the new calculated field to the view as needed.

9. How to create a map view in Tableau?

Answer:

1. Ensure you have geographic data such as "State" or "Country".

2. Drag the geographic dimension (e.g., "State") to the Detail shelf.

3. Tableau will recognize it as a geographic field and create a map.

4. Optionally, drag a measure (e.g., "Sales") to Color to show varying sales across different regions.

10. How to create a story in Tableau?

Answer:

1. Click on the "New Story" button.

2. Drag a sheet or dashboard onto the story workspace to create the first story point.

3. Add a caption for the story point.

4. Click "New Blank Point" or "Duplicate" to add more story points.

5. Customize each story point to convey the desired narrative.

6. Navigate between story points to create a sequence of insights.