1. What is Tableau Data Engine?

* The Tableau Data Engine, also known as Hyper, is an in-memory data storage technology developed by Tableau Software. It is designed to optimize the performance of data retrieval and analysis in Tableau workbooks.
* The Tableau Data Engine operates by creating an extract or snapshot of the data from the original data source and storing it in a highly compressed and optimized format. This extract is then loaded into the Tableau Data Engine, residing in the computer's memory (RAM). By keeping the data in memory, the Tableau Data Engine can deliver fast query response times and enable interactive data exploration.
* The Tableau Data Engine leverages a columnar database architecture, where data is stored and processed by column rather than by row. This approach allows for efficient data compression, as similar values within a column can be stored more compactly. Additionally, the columnar structure improves query performance, as it only needs to read the specific columns required for a query instead of scanning entire rows.
* The Tableau Data Engine also supports advanced indexing techniques and data partitioning, which further enhance query performance. It can handle large volumes of data and provides efficient data aggregation and filtering capabilities.
* With the Tableau Data Engine, users can benefit from accelerated query performance, faster data exploration, and improved interactivity in Tableau workbooks. It is particularly useful when working with large datasets or when quick data analysis and visualizations are required.
* It's important to note that as of Tableau version 10.5, the Tableau Data Engine has been renamed to "Hyper" to reflect the advancements and enhancements made to the technology.

1. How to create a calculated field in Tableau?

Creating a calculated field in Tableau allows you to perform custom calculations or transformations on your data. Here's how you can create a calculated field in Tableau:

* Open your Tableau workbook and navigate to the worksheet or dashboard where you want to create the calculated field.
* In the Dimensions or Measures pane on the left side of the screen, right-click (or Control-click on Mac) and select "Create Calculated Field." Alternatively, you can click on the drop-down arrow next to the field and choose "Create Calculated Field."
* The Calculated Field dialog box will appear. Here, you can define your custom calculation.
* Give your calculated field a name in the Name field at the top of the dialog box. Choose a descriptive name that represents the calculation you're performing.
* In the Formula field, enter the formula for your calculation. You can use mathematical operators (+, -, \*, /), functions, and references to fields in your data. Tableau provides a wide range of functions, such as SUM, AVG, MAX, MIN, IF, and more. You can click on the "Functions" drop-down menu to explore the available functions and their syntax.
* As you enter your formula, Tableau will provide suggestions and auto-complete options to assist you.
* Optionally, you can click on the "Insert Field" button to insert a field reference into your formula. This allows you to use the values from a specific field in your calculation.
* Once you have entered your formula, click the "OK" button to create the calculated field.
* The calculated field will now appear in the Dimensions or Measures pane, depending on the type of calculation you performed.
* You can drag and drop the calculated field onto your worksheet to use it in visualizations, filters, or calculations.

1. Can you tell the differences between TreeMap and Heat Map?

TreeMap:

* Visualization: A TreeMap represents hierarchical data using nested rectangles. The size and color of each rectangle encode different variables or attributes.
* Data Representation: Each rectangle in a TreeMap represents a specific category or subgroup, and the size of the rectangle corresponds to a quantitative value. Additional attributes, such as color or shading, can be used to represent another variable.
* Hierarchy: TreeMap visualizations display a hierarchical structure, where larger rectangles encompass smaller rectangles, representing parent-child relationships within the data.
* Purpose: TreeMaps are effective for displaying hierarchical data and comparing the proportions and sizes of categories within the hierarchy. They can show how categories are divided into subcategories and provide a sense of the relative importance or distribution of values within the hierarchy.

Heat Map:

* Visualization: A Heat Map uses colors or shading to represent the magnitude or density of values within a two-dimensional grid or matrix.
* Data Representation: Each cell in a Heat Map represents a specific data point or combination of variables. The color or intensity of each cell indicates the value or density of the variable being measured.
* Continuous Data: Heat Maps are often used to display continuous data, such as temperature, population density, or sales figures, across different categories or time periods.
* Purpose: Heat Maps are useful for identifying patterns, trends, and variations in data. They highlight areas of high or low intensity, allowing for quick visual analysis of the distribution and relationships within the data.

In summary, the key differences between a TreeMap and a Heat Map lie in their visual representation, data structure, and purpose. TreeMap visualizations focus on hierarchical data and use nested rectangles to represent categories and subcategories. Heat Maps, on the other hand, utilize colors or shading to display the intensity or density of values within a two-dimensional matrix. They are often used to analyze continuous data and identify patterns or variations.

1. What are the components of a dashboard?

In Tableau, a dashboard consists of several key components that help organize and present data effectively. Here are the main components you'll find in a Tableau dashboard:

1. Worksheets and Visualizations: Tableau worksheets contain individual visualizations such as charts, graphs, maps, and tables. These visualizations display data and provide insights. In a Tableau dashboard, you can include multiple worksheets to create a cohesive view of your data.
2. Filters: Filters allow users to interact with the dashboard and control the data displayed in the visualizations. Tableau offers various types of filters, such as dropdown lists, sliders, and date selectors, which enable users to dynamically modify the displayed data based on their preferences or analysis requirements.
3. Parameters: Parameters are user-defined inputs that enable further interactivity in a dashboard. They allow users to select values or options, which can then influence calculations, filters, or other parts of the visualization.
4. Actions: Actions provide interactivity between different components of a dashboard. For example, you can set up actions to highlight specific data points when clicked, filter other visualizations based on a selection, or navigate to different worksheets or dashboards.
5. Text and Annotations: Dashboards can include text boxes, titles, captions, or annotations to provide explanations, context, or descriptions of the data. This helps users understand the insights and analysis presented in the visualizations.
6. Layout Containers: Tableau offers layout containers, such as horizontal or vertical layout containers and horizontal or vertical blank objects, to arrange the visualizations and other components within the dashboard. These containers help in organizing the elements and ensuring a visually appealing and logical layout.
7. Dashboard Objects: Tableau provides additional objects that can be added to a dashboard, such as images, web pages, and embedded content. These objects allow you to incorporate external information or enhance the dashboard with additional elements.
8. Formatting and Styling: Tableau allows you to customize the appearance of the dashboard through formatting options, including color schemes, fonts, borders, backgrounds, and other visual styles. This helps create a cohesive and visually appealing design.

By leveraging these components, Tableau dashboards enable you to present data in an interactive and visually compelling manner, allowing users to gain insights and make data-driven decisions effectively.

1. How much sales have come from customers from the previous in the current year in terms of Sales Value?

1. How much sales have come from customers from the previous in the current year in terms of Sales Percentage?

1. Find the orders placed by each customer.