**1. Basics:**

1. **What is the difference between Discrete and Continuous**

**Answer:**

|  |  |
| --- | --- |
| **Discrete Field** | **Continuous** **Field** |
| Individually Separate and Distinct | Forming an Unbroken whole ,without interception |
| Individually Separate | Unbroken Whole |
| Represent by Blue pill | Represented by green pill |
| Can filter individual elements | Can filter only by range |
| Countable | Measurable |
| Becomes header in a view | Becomes axis in a view |
| Brings level of details (or Details) to view | Brings Aggregate to view |
| Can Have hierarchy | Cannot have hierarchy |
| Can be sorted | Cannot be sorted |
| Qualitative data | Quantitative data |

1. **What is the criteria for data to land into dimensions and measures?**

**Answer:**

**Dimensions** contains Qualitative values (such as names, dates, or geographical data).Using dimensions to categorize, segment, and reveal the details in your data .Dimensions affect the level of details in the view. The Represented as ‘abc’.

**Measures c**ontains numeric, quantitative values that you can measure.

Measures can be agregated .when you drag a measure into the view, Tableau applies an aggregation to that measure (by default).The represented as ‘#’.

1. **What is Metadata, where is it present in the workbook?**

**Answer:**

Metadata represents data about data. Metadata enriches the data with information that makes it easier to find, use and manage.

After connecting to a data source, Tableau presents all possible tables and columns present in the source .consider the source ‘Sample coffee shop’ for checking the metadata .click the data menu and choose to connect to data source. Browse for the MS Access file named ‘sample –coffee shop’ .Drag the table named product to the data canvas. On choosing the file, you get the following screen which shows the columns names, their data types. The String data types are shown as Abc and Numeric data types are show as #.

1. **What happens when you aggregate or disaggregate the Data?**

**Answer:**

Aggregation and disaggregation of the data in Tableau are the ways to develop a scatterplot to measure and compare the data values.

**Aggregation:**

It can be calculated the forms of the set of values that return a single numeric value.

A default aggregation can be set for any measure which is not user-defined.

**Disaggregation:**

The Disaggregation of data refers to view each data source row during analysing of data both dependently and independently.

1. **You are working on a dataset, the client adds in more data to the dataset. What happens to the Visualization that you had created? Give the explanation for both Live and Extracted data.**

**Answer:**

Live and extracts are two ways you can make the data connection to the

Tableau. Live allows you real time data while extracts are kind of the batch which needs to be refreshed from time to time to get the updated data.

So, in the case of live connection whatever changes will be done at the data source end that will be directly available to the tableau desktop.

While in case of extracting any changes made in the data source won’t reflect in the report immediately .it will be reflected when the extract will be refreshed.

1. **What are the file extensions in Tableau and how each one is different?**

**Answer:**

You can save your work using several different Tableau specific file types: workbooks, bookmarks, packaged data files, data extracts, and data connection files. Each of these file types are described below .For related details. See save your work.

* **Work books (.twb) –** Tableau workbook files have the .twb file extension. Workbooks hold one or more worksheets, plus zero or more dashboard and stories.
* **Bookmarks (.tbm)** – Tableau bookmark files have the .tbm file extension. Bookmarks contains a single worksheet and are an easy way to quickly share your work .the
* **Packaged Workbooks (.twbx) –** Tableau packaged Workbooks have the .twbx file extension. A packaged workbook is a single zip file that contains a workbook along with any supporting local file data and background images. This format is the best way to package your work for sharing with other who don’t have access to the original data.
* **Extract (.hyper or .tde) –** Depending on the version the extract was created in, Tableau extracted files are a local copy of a subset or entire data set that you can use to share data with others, when you need to work offline, and improve performance.
* **Data source (.tds) –** Tableau data source files have them. tds file extension. Data Source files do not contains the actual data but rather the information necessary to connect to the actual data as well as any modifications you ‘ve made on top of the actual data such as changing default properties, creating calculated fields ,adding groups, and so on .
* **Packaged Data Source (.tdsx) –** Tableau packaged data source files have the .tdsx file extension. A packaged data source is a zip file that contains the data source file (.tds) described above as well as any local file data such as extract files (.hyper or .tde), text files, Excel files, Access files, and local cube files. Use this format to create a single file that you can then share with others who may not have access to the original data stored locally on your computer.

These files can be saved in the associated folders in the My tableau Repository directory , which is automatically created in your my Documents folder when you install Tableau .Your work files can also be saved in other locations ,such as your desktop or a network directory.

**2. Text Table, Highlight Tables, Heat Maps, Tree Map:**

1. **Create a text table for the Avg (Sales) for each subcategory using Sample Superstore? List which Sub Category is got Avg (Sale) more than $1000? - Sample Superstore**
2. Create a Heat Table for the order date and Region against the Sub Category based in Count of Sales with two colours diverging that is distinguished by Sum of Profit - **Sample Superstore**
3. Create a Highlight table for the States for the Order Date Year whose highlighting is done based on Sum of profits - **Sample Superstore**
4. Which customer is having maximum of sales in the year 2012? - **Global Superstore**
5. How much is profit share less in Pennsylvania when compared to New York? - **Sample Superstore**
6. Check for the pane wise percentages of sales with Category, Sub- Category and quarter wise order date, also check for the Row wise grand totals and Column wise grand totals. - **Sample Superstore**

**3. Filled Maps, Symbol Maps:**

1. Use Global Superstore. Check Which Western Country in EMEA region has least profit percentage.
2. Use **“Sample Superstore. Xls”,** which state shares boarders only profit for tables

Visualization:

1. Use **“Sample Superstore. Xls”,** which state has no data for Profits for Office Supplies

**Visualization:**

According to the question the state has no data for Profits for Office Supplies is **Wyoming.**

**4. Bar Charts, Stacked, Side by Side:**

1. Which Customer name & Year is having all the Product Categories sum of profit less than over-all Average profit? - **Sample Superstore**
2. What is the Maximum of Life Expectancy Female for the region Africa & year 2012? - **World Indicators**
3. What is the share of the top 20 customers based on the sales amount compared to the customers based on profit amounts - **Sample Superstore**

**5. Line Graphs, Dual Line, dual axis:**

1. How can you show two different graphs in one view? - **Global Superstore**
2. Which Region is having Sum of Energy Usage>1000000 and sum of Population 65+>10? - **World Indicators**

**6. Trendlines, Cluster, scatter Plot, boxplot, Word Cloud (Packed Bubbles), Histogram:**

1. Draw a trend line for profit as a linear function of sales only for product technology? - **Sample Superstore**
2. Create a histogram showing the number of Sales using Sales Bins of $1000. Which bins have profit ratios of more than 25%? - **Global Superstore**
3. Using “**Sample Superstore”**, use order sheet create a histogram showing the number of orders using sales bins of $1000.
4. Using **“Global Superstore**”, use the orders sheet, build a scatter plot showing the sum of sales on the x-axis and sum of profits on the y axis for all products (Product name). What is the equation for linear regression for products in Technology?
5. Use **“World Indicators”.**  Take Health Exp% GDP, Health Exp/Capita, Life Expectancy Male, Female. What are the variables that are considered to create the clusters by default?

**7. Calculate Fields, Quick table calculations, LOD:**

1. **How do you create a profit ratio using the calculated fields?**

**Answer:**

**Step1: Create the calculated field**

1. In a Worksheet in Tableau, select Analysis > create Calculated field.
2. In the Calculation Editor that opens, give the calculated field a name.

In this example, the calculated field is called Profit Ratio.

**Step2: Enter a Formula**

1. Formula

SUM ([profit])/SUM ([sales]) then apply and ok.

1. Global Superstore data set; Region wise year wise sales are ranked. What is the rank of some country when compared to last year?

Answer:

1. What percent of total profits do the top 10 customers by Sales represent? - **Sample Superstore**
2. Find the customer with the lowest overall profit. What is his/her profit ratio? - **Sample Superstore**
3. Ranking States based on Sales what is the rank of state which has sales crossed $20000. - **Sample Superstore**
4. What is the percent of orders which took more than 7 days on an average to deliver.
5. Use **“World Indicators”.** Without using table calculations what is the proper syntax to build a calculated field which will display overall total GDP on this view?

**8. Filters:**

1. **What are the different types of filters and give their working order?**

**Answer:**

Different Types of Filters in Tableau

1. Extract Filters

2. Data source Filters

3. Context filters

4. Dimensions Filters

5. Measure Filters

6. Table filters

**1. Extract Filters**

As understood by its name, the extract filters are used to extract data from the various sources, by saving a screen grab of the way it gets added on your file Such methods can help in lowering the tableau queries to the data source .As soon as you are done extracting data into your dashboard, you can create the extract and execute hide all unused files to clear the columns unused in the datasheet of your panel.

1. **Data Source filter**

Used mainly to restrict sensitive data from the data viewers, the data source filters are similar to the extract filters in minimizing the data feeds for faster processing.

The data source filter in Tableau helps in the direct application of the filter environment to the source data and quickly uploads data that qualifies the scenario into the tableau workbook. To execute such processes, you need to go to the Data source tab and select the add option in the upper right corner.

Clicking on the add option in the menu would open into a dialog box, where you can select the field and choose through the values you want to record. Once you press confirmation, you shall be presented with a summary of the presents selected from the data source filters.

1. **Context Filter**

A context filter is a discrete filter on its own , creating datasets based on the original datasheet and the presents chosen for compiling the data Since all the types of filters in tableau get applied to all rows in the datasheet, irrespective of any others filters, the context filter would ensure that it is first to get processed.

Despite being constrained to view all data rows, it can be implemented to choose sheets as and when required to optimize its performance by minimizing the data efficiently.

The Context filter helps in applying a relevant, actionable context to the entire data analysis in tableau if there are multiple filter present categories used in the worksheet, dividing it into many parts can overall turn into a context filter in itself that guides all the others

Filters present in the datasheet.

1. **Dimension filter**

Now that you‘ve chosen the data, you can access the values highlighted or remove them from the selected dimension, represented as strikethrough values. You can click all or none to select or deselect based on your operation in case of multiple dimensions.

1. **Measure filters**

In this filter, you can apply the various operations like Sum, Avg, Median, Standard Deviation, and other aggregate functions. In the next stage, you would be presented with four choices: Range, At least, At most, and Special for your values. Every time you drag the data you want to filter, you can do that in a specific setting.

1. **Table Filters**

The last filter to process is the table calculation that gets executed once the data view has been rendered. With this filter, you can quickly look into the data without any filtering of the hidden data.

2. Create a list of Top 10 Products based on Profits whose sale value is more than $5000? - **Global Superstore**

**Answer:**

1. Create a Chart with Customer Name and Profit and check for the Sale Value for top 15 Customers? - **Global Superstore**

**Answer:**

1. Apply filter to all the worksheet, filter by year 2011, then find the sum(sales) for the highest subcategory.- **Global Superstore**

Answer:

1. What is the name of 375th top most customer by sum of profits - **Sample Superstore**

Answer:

**9. Dashboards & story:**

1. What are the different device type preview that Dashboards can use?

Answer: Device layouts appear on the Dashboard tab, under Default. Initially, each device layout contains every item in the Default dashboard and derives its size and layout from Default as well.

Think of the Default dashboard as the parent, and the device layouts (desktop, tablet, and phone) as its children. Any view, filter, action, legend or parameter that you want to add to a device layout must first exist in the Default dashboard.

1. Create a dashboard using World Indicators showing the all the Actions that can be performed in Tableau.

**10. Time Series:**

1. Use Order date and drill down the information for Quarter and Month level separately and show the line Chart in a Continuous Form- **Global Superstore**

**11. Sets, Parameters, Groups:**

1. Parameters can be used in?

Answer:

A parameter is a workbook variable such as a number, date, or string that can replace a constant value in a calculation, filter, or reference line.

For Example, you may create a calculated field that returns true if sales is greater than $500000 and otherwise returns false.

1. What are the different ways to create a Parameter?

Answer:

There are four steps to creating and using a parameter.

They are filters, bins, reference lines, and calculated fields.

**12. Forecast:**

1. **You are provided with the dataset for the past 10yrs. How can you forecast the data for next 4 years, Quarter wise?**

**Answer:** Forecasting in Tableau uses a technique known as exponential smoothing .Forecast algorithms try to find a regular pattern in measures that can be continued into the future.

You typically add a forecast to a view that contains a date field and at least one measure .However in the absence of the date, Tableau can create a forecast for a view that contains a dimension with integer values in addition to at least one measure.

Tableau tests for a seasonal cycle with the length most typical for the time aggregate of the time series for which the forecast is estimated .So if you aggregated by Quarters, tableau will look for four –Quarters cycle.

To make good forecasting you need three years of data or more and to make a great forecast.

1. Use **“Sample Superstore”.** What is the Sales Forecast Estimate for the month of September 2018?

**13. Pie Chart:**

1. Create a Pie Chart using regions and sum of sales, sort the pie in ascending order, increase the size in the view and label them with Count of Quantity and Sum of Profits- **Sample superstore**