**1. Basics:**

1. What is the difference between Discrete and Continuous Data?

* Continuous: Forming an unbroken whole, without interruption when any field is colored green on the columns shelf it is continuous. Continuous fields always result in axes.
* Discrete means individually separate and distinct. When any field is colored blue on the Columns shelf it is discrete. Discrete fields always result in headers.

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

* Dimension is a discrete field considered as independent variable. Tableau treats any field containing qualitative and categorical information as dimensions. Measure is a continuous field considered as dependent variable. Tableau treats any field containing numerical information as measures.

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

* Metadata is the Data that provides information about other data. The Metadata API enables us to see relationships between the content and asset that you're evaluating with other items on your Tableau Online site or Tableau Server. These items include the following: Upstream and downstream content including data sources, workbooks, sheets, fields, metrics, flows, and owners.

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

* Aggregation function performs mathematical calculation such as Sum, average, count etc. and returns a single value. If we want to see data at most detailed level we can disaggregate the data, Tableau will display a separate mark for every data value in every row of the data source.

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.

* If client adds more data, the visualization remains unchanged for extracted data until you refresh. Whereas visualization gets updated for live data.

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

* One can save work using several different Tableau specific file types. The different file extensions in tableau are:
  1. Workbooks (.twb) – Tableau workbook files have the .twb file extension. Workbooks hold one or more worksheets, plus zero or more dashboards and stories.
  2. Bookmarks (.tbm) – Tableau bookmark files have the .tbm file extension. Bookmarks contain a single worksheet and is an easy way to quickly share your work.
  3. 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 others who don’t have access to the original data.
  4. Extract (.hyper or .tde) – Depending on the version the extract was created in, Tableau extract files can have either the .hyper or .tde file extension. Extract 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.
  5. Data Source (.tds) – Tableau data source files have the .tds file extension. Data source files are shortcuts for quickly connecting to the original data that you use often. Data source files do not contain 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.
  6. 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.

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

**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?

### ****Step 1: Open the calculation editor.****

You can open the calculation editor in the following three ways;

* 1. By going to the Analysis menu >> Create Calculated Field…
  2. Right click anywhere on the dimension or measure area >> Create >> Calculated Field…
  3. On the data pane – open the drop down menu on top of the dimension area >> Create Calculated Field…

### ****Step 2: Name your calculation and enter your formula in the calculation editor****

In this case, have named the calculation – Profit ratio

And used this formula - SUM(Profit)/SUM(Sales)

* **Note:** The new calculated field is added to the data pane either under dimensions or measures. If your calculation computes quantitative data then it’s added to the measures. If it computes qualitative data then it’s added to the dimensions.

In this case, Profit ratio is added to the measure area.

1. **Global Superstore data** set; Region wise year wise sales are ranked. What is the rank of some country when compared to last year?
2. What percent of total profits do the top 10 customers by Sales represent? - **Sample Superstore**
3. Find the customer with the lowest overall profit. What is his/her profit ratio? - **Sample Superstore**
4. Ranking States based on Sales what is the rank of state which has sales crossed $20000. - **Sample Superstore**
5. What is the percent of orders which took more than 7 days on an average to deliver.
6. 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?

Context Filter

Set, Conditional and Top N Filters. Fixed LOD

Dimension

Filters

Measure

Filters

Data Source Filter

Extract

Filter

* **1. Context Filter** : Context filter in Tableau can help to create data sets by applying relevant pre-sets for compilation. Tableau context filter is always processed and applicable first, even if other filters are applied. The multiple pre-set categories in the worksheet can be divided into many more parts that end up working like a context filter in itself.
* **2. Extract Filter** : Extract filter in Tableau are used to extract a small subset of data from the original data source. Tableau then creates a local copy of the data set that is to be stored in the repository. These methods reduce Tableau queries. The data size can be further reduced by applying the measure or dimension filter to the extract as required.
* **3. Data Source Filter :** Data source filters in Tableau are mainly used to restrict sensitive data from viewers and reduce data feeds. Viewers can, however, have certain access rights to view the underlying data. Data source filters allow the direct application to source data. One important thing to mention is that the extract filter and the data source filter are not linked, and if you happen to go back to a live connection, the data source filter will remain intact.
* **4. Dimension Filter :** Dimension filters in Tableau are non-aggregated filters. The dimensions that are used are mostly blue pills. Blue pills correspond to discrete data. The dimension filter can be applied by dragging it from the Filters pane. The same can also be achieved by right-clicking on a particular dimension and selecting Show Filter. This way, one can exclude or include the values that they want to analyse. It  provides four options, General, Wildcard, Condition, and Top/Bottom.
* **5. Measure Filter :** Using a Measure filter in Tableau allows for various operations and aggregate functions such as sum, median, avg, standard deviation, etc. Aggregated filters are always applied after non-aggregated filters, no matter what the order is on the Filters pane. The filters are applied to Measure fields consisting of quantitative data.

In the next stage in a subsequent dialog box, you will get four types of filters:

* 1. Range
  2. At least
  3. At Most
  4. Special
* **6. Table calculation filter:** The Table Calculation filter is the last filter that is applied after the view has been created. If you want to add a filter to the view, the Table Calculation filter will do the job for you without filtering the underlying data.

Apart from the six main types of filters in Tableau, one will also come across other types of filters that are very convenient. Some of them are given below:

* **Global filter:** The Global filter can be applied across multiple worksheets by using the same source data within a workbook. The filter can be applied to all worksheets by using the same data as well.
* **Quick filter:** The various filter types in Tableau are quickly accessible by using the right-click option. These filters are known as Quick filters, and they have sufficient functionality for all common filtering needs. Quick filters in Tableau can also be implemented on dimensions or measures.
* **Cascading filter:** Cascading filters in Tableau allow for the selections in the first filter to change the options in the second filter. This helps to limit the values to ones that are only relevant to the first filter and prevents users from selecting irrelevant data, which creates a better user experience.
* **User filter:** The User filter, a.k.a. the row-level security, in Tableau is a feature that restricts and manages the data that users can view or access based on the authority given.

1. Create a list of Top 10 Products based on Profits whose sale value is more than $5000? - **Global Superstore**
2. Create a Chart with Customer Name and Profit and check for the Sale Value for top 15 Customers? - **Global Superstore**
3. Apply filter to all the worksheet, filter by year 2011, then find the sum(sales) for the highest subcategory.- **Global Superstore**
4. What is the name of 375th top most customer by sum of profits - **Sample Superstore**

**9. Dashboards & story:**

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

-> There are 3 Different device type preview that is:

1.Default

2.Phone

3.Tablet

4.Desktop

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

**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.
2. 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**