TABLEAU

Q.1) Quick filter and Context filter
ANS :
Quick Filter: Quick Filter Creates an interactive selection panel on the right top corner of the data view. We can implement Quick Filter on Dimensions or Measures. The interactive selection panel provides the options based on the source data.
Example: Quick Filer on Order Date with Yearly Consolidation provides list of YEARS available from SOURCE DATA for user selection.

Context Filter: Context Filter helps to pass the criteria of the filter from one level to other related level.
Example: Top 10 Customers in country by their purchases, here the context is 'Top 10'. We can pass this context to know 'Top 10' Customers by Purchases in a State within the same country.

Q.2) Different types of filters
ANS : Types of Tableau Filters
Tableau filters can be used to organize and visualize data based on predefined criteria in several ways. Tableau has a total of six different types of filters:

- Extract Filter
- Data Source Filter
- Context Filter
- Dimension Filter
- Measure Filter
- User Filter

1 . Extract Filter

The Tableau filter that extracts a small subset of data from the original data source is the extract filter. If the user extracts data from the data source, this Tableau filter is used.

After connecting the text file to Tableau, you'll see two options in the top right corner of the data source tab: Live and Extract. A direct connection to a data source is referred to as a live connection. And the extract connection takes the data from the data source and saves it to the Tableau repository as a local copy.

2. Data Source Filter

The Tableau Filter that applies the filter directly to the data source, allowing for quick uploads of data is the Data Source Filter. It can limit the number of records in the data set. Both live and extracted connections are supported by the Data Source Filter.

3. Context Filter

A Context Filter is a standalone Tableau filter that can create a new dataset from the original data set and compute the worksheet selections. Context Filters are used to boost the performance of data source views, filters, and queries. You could run a context filter before any other Tableau Filters, and then apply the remaining filters on top of the data returned after context filtering.

Context filter is created because:

- **Improve Performance**: Queries will take a long time to run if you want to use a lot of filters or if your data source is large. In this case, you can improve performance by using one or more context filters.
- **Create a Dependent Numerical or Top N Filter**: You can arrange a numerical or top N filter after setting a context filter to include only the data of interest.

4. Dimension Filter

In Tableau, dimensions are independent fields, typically any field that contains categorical or qualitative data. Dimension Filters are those Tableau Filters that are applied to dimensional data. It's a non-aggregated filter that allows you to add a dimension, group, sets, and bins. The top or bottom conditions, wildcard match, and formula can all be used to apply a Dimension Filter. This Tableau filter can be used to include or exclude members from a dimension from the list. The following is the procedure for adding a dimension as a filter:

5. Measure Filter

The Tableau Filter that can be used to filter data based on the values in a measure is called the Measure Filter. Fields containing quantitative data are commonly referred to as measures. The data can be modified using the aggregated measure values in a Measure Filter. A Measure Filter can be applied by following the procedure:

6. User Filter

The Tableau filter that protects the row-level data in a dataset is the User Filter. When the workbook is published on a server, it can be used. For different users, different filtering conditions can be used. It's the process of limiting what data a user can see depending on who's looking at the dashboard.

Q.3) What are dimensions and measures (highlight the differences)
ANS :
Tableau distinguishes the data into Measures and Dimensions on its own. Let me tell you what Measures and Dimension exactly mean,

Dimension:

Dimensions generate headers when added to the view rows or column shelves. Tableau uses default for any field containing qualitative, categorical information.

The real definition of the dimension is somewhat more complicated. A dimension is an independent variable.

Measure:

Measures generate axes if they are added to the rows or column shelves. By default, Tableau treats any field that includes numerical data as a measurement.

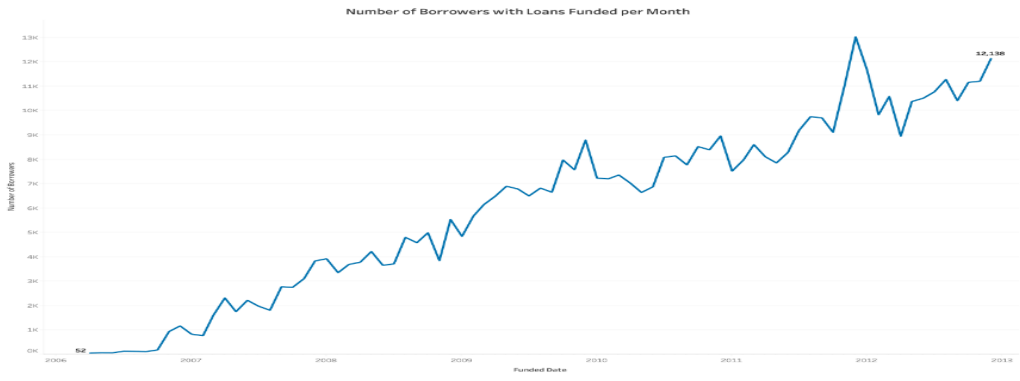
But the actual definition of a measure is slightly more complex in relational data sources. A measure is a field of a variable,its value is a one or more dimensional function.

Q.4) What are groups and sets?
ANS :
Groups : In Tableau, grouping is the process of combining multiple members from a single dimension into a higher category.

Standard dimensions filters are used to process Tableau Groups.

Sets: whereas creating a set is the process of combining members from multi-dimensions and/or conditions into a dynamic or constant Group.

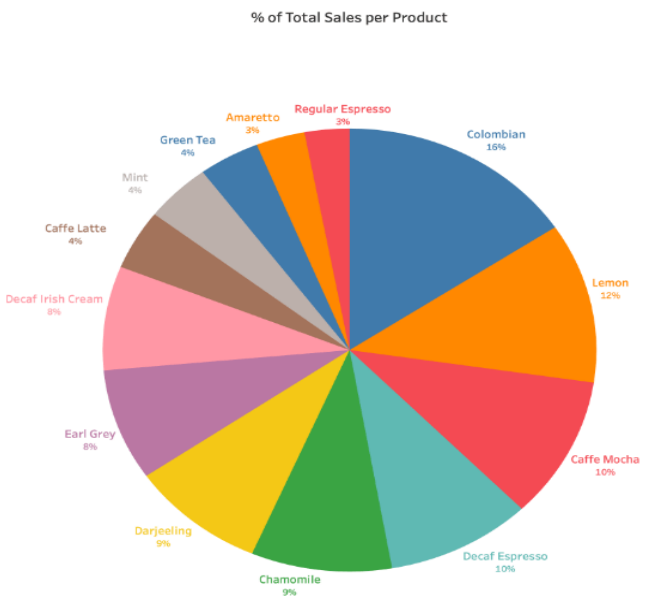
Q.5) When and why would you use a line chart?
ANS :
A line chart, also referred to as a line graph or a line plot, connects a series of data points using a line. This chart type presents sequential values to help you identify trends. Most of the time, the x-axis (horizontal axis) represents a sequential progression of values. The y-axis (vertical axis) then tells you the values for a selected metric across that progression. This is a common chart and is great to use when you want to show data over time. One use case could be tracking the interest of consumers in a type of product or service throughout the year to make predictions for the year ahead.



Q.6) When and why would you use a pie chart?
ANS :

What is a Pie Chart?

A pie chart helps organize and show data as a percentage of a whole. True to the name, this kind of visualization uses a circle to represent the whole, and slices of that circle, or “pie”, to represent the specific categories that compose the whole. This type of chart helps the user compare the relationship between different dimensions (Ex. categories, products, individuals, countries, etc.) within a specific context. Usually, the chart splits the numerical data (measure) into percentages of the total sum. Each slice represents the proportion of the value, and should be measured accordingly.



Q.7) Creating Calculated columns
ANS :

Here, we will use the Sample Super Store Data.

Problem Statement: Calculate Profit Sale Ratio of products subcategories within different states.

Steps to Create Calculated columns:

Build the View

- Connect the Sample Super Store Data
- Drag and Drop **State** into the column shelf
- Drag and Drop **Category** and **Sub-Category** into the row shelf

Create Calculated Field

- Select **Analysis** -> Select **Create Calculated Field**
- Enter the name Profit-Sale Ratio
- Enter the Formula

Note: The above formula:

1. Checks Sales is not equal to zero
2. If **True**, return **Profit** ratio ([Profit]/[Sales])
3. If **False** returns 0

- Click **OK**
- New Calculated Field Profit-Sale Ratio is added in the Data Pane

Note: All the calculated fields have an equal sign (=) next to them in the Data Pane.

Add Calculated Field in the View

- Drag and Drop Profit-Sale Ratio on the Mark Card

Note: By Default, Profit-Sale Ratio is aggregated as a sum, we can change it to AVG, MEDIAN, MODE, Maximum, Minimum etc by

Right-Click on **SUM(Profit-Sale Ratio)** in the Mark Card -> Select **Measure (SUM).**

Q.8) Difference between blending and joining
ANS :

Data blending simulates a traditional left join. The main difference between the two is when the aggregation is performed. A join combines the data and then aggregates. A blend aggregates and then combines the data.

Data Blending	Joins
Data Blending Aggregates the data and then combines it.	Joins combine the data and then aggregates it.
Data Blending can combine data from different sources.	Joins can combine data from the same sources only.

Data Blending can execute Left-Join only.	Joins can execute all four varieties of Joins.
Data Blending offers data availability at different levels of granularity.	Data has to be maintained at one single level granularity throughout the process while using Joins.
Data Blending in the tableau can execute queries to the separate datasets, aggregate data, and then perform data blending.	Joins can only perform the join operations at row level.

Q.9) Difference between TBW and TBWx files
ANS :
Tableau Workbook File (TWB) is an XML document. It contains the information about your sheets, dashboards and stories. The TWB file references a data source file such as Excel or TDE, and when you save the TWB file, it is linked to the source.

The most important thing to remember about TWB files is that they don’t contain any data – if you want to share your workbook, therefore, you will need to send both the Tableau Workbook File and the data source file.

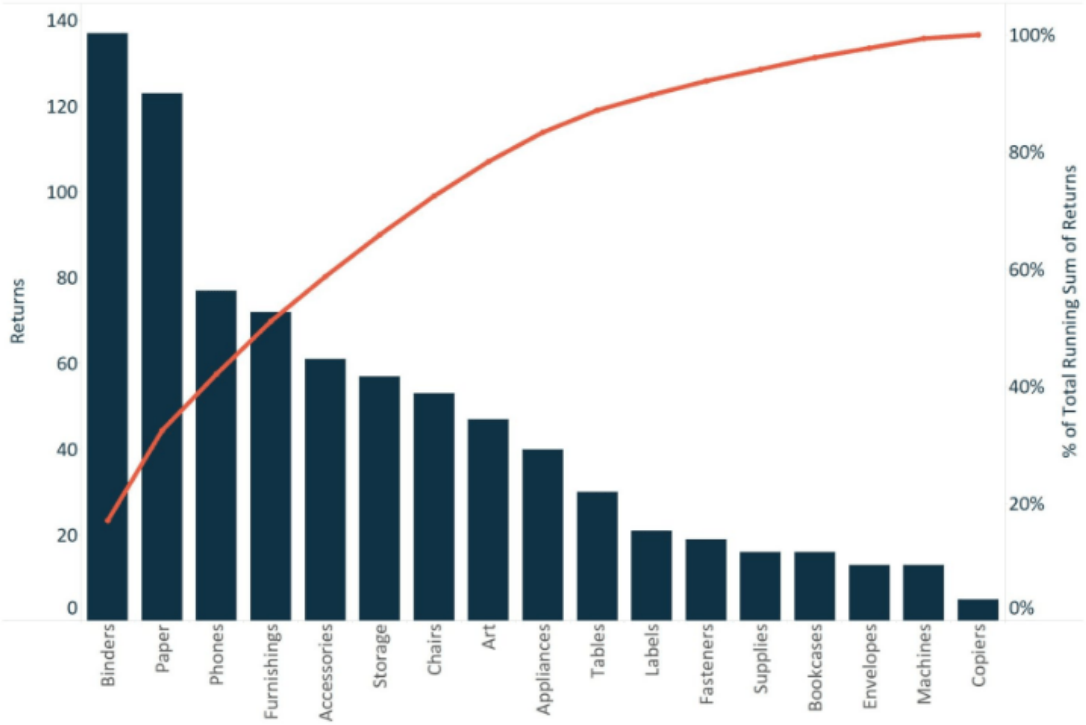
Tableau Packaged Workbook (TWBX) is a package of files “compressed” together. It includes a data source file, TWB, and any other file used to produce the workbook (including images).

TWBX is intended for sharing. It does not link to the original file source; instead it contains a copy of the data that was obtained when the file was created. TWBX files are usually used as reports and can be viewed using Tableau Viewer.

Q.10) Explain pareto chart.
ANS : What is a Pareto Chart?

A Pareto chart is a dual-axis combination chart in Tableau. On its primary axis, bars are used to show the basic raw quantities for each dimension, usually sorted in descending order and on the secondary axis, a line graph is used to show the cumulative total in a percentage format. Now, while this chart type serves a variety of purposes, it is most known for being a part of the seven basic tools of quality control. So, it is traditionally used to identify the biggest opportunities for improvement.

I'm going to be sticking with a quality control scenario. This article will use **the Sample Superstore** which is already available on the Tableau Desktop. We shall use this data set to look at which product sub-categories contribute the most returned items. The final chart will look like the following image;



Q11). What are the Data Value Available For Visualization

Ans: There are many types of data visualization. The most common are scatter plots, line graphs, pie charts, bar charts, heat maps, area charts, choropleth maps and histograms. In this guide, we've put together a list of 32 data visualizations.

Q12). What are the File Extensions In Tableau

Ans: Tableau workbook files have the . twb file extension

Q13). What type of Join Used in Blending

Ans: Data blending can only be a LEFT join, which means the primary table should contain all possible values.

Q14). What are the Components of a Dashboard

Ans: Dashboard components can be charts, tables, gauges, metrics, or other components that you can create with VisualForce.

Q15). What are Different Tableau Products

Ans: The Tableau Product Suite consists of
1) Tableau Desktop
2) Tableau Public
3) Tableau Online
4) Tableau Server and Tableau Reader.

Q16). What are the Data Types Supported in Tableau.

Ans: Tableau supports 7 types of data types String values, Date values, Date & Time values, Numeric values, Boolean values, Geographical values, Cluster or mixed values.

Q17). What is the difference between Groups and Sets in tableau

Ans: Grouping in Tableau is grouping multiple members/values into several groups which will create a higher category of the dimension. Creating a set in Tableau is putting multiple values IN my a single set depending on a condition or by manually picking them.

Q18). What are the Data types available in tableau

Ans: There are seven different data types in tableau String values, Date values, Date & Time values, Numeric values, Boolean values, Geographical values, Cluster or mixed values.

Q19). What is aggregation and disaggregation of data

Ans: To aggregate data is to compile and summarize data; to disaggregate data is to break down aggregated data into component parts or smaller units of data.

Q20). What is disadvantage of context filters

Ans: The context filter is not frequently changed by the user – if the filter is changed the database must recomputed and rewrite the temporary table, slowing performance.

Q21). What is meant by discrete and continuous in tableau

Ans: Continuous means "forming an unbroken whole, without interruption"; discrete means "individually separate and distinct." Green measures and dimensions are continuous. Continuous field values are treated as an infinite range. Generally, continuous fields add axes to the view. Blue measures and dimensions are discrete.

Q22). What is the latest version of tableau

Ans: Tableau 2022.3. Tableau 2022.3 brings new capabilities that help you easily unlock insights about your data at scale. Highlights include Data Guide, Table Extensions, dynamic zone visibility, and more.

Q23). What are the filters

Ans: Tableau filters help in minimizing the size of the data for efficiency purposes, cleaning up underlying data, removing irrelevant dimension members, and setting measure or date ranges for what you want to analyze.

Q24). Name the different filters in tableau

Ans: Tableau has 6 different type of filters:
Extract Filter.

Data Source Filter.

Context Filter.

Dimension Filter.

Measure Filter.

User Filter.

Q25). What is disadvantage of context filters

Ans: The context filter is not frequently changed by the user – if the filter is changed the database must recomputed and rewrite the temporary table, slowing performance.

Q26). Tell me About Architecture of Tableau.

Ans: Tableau Architecture is an n-tier client-server architecture that aids web clients, desktop-installed, and mobile clients software. Tableau offers different robust features, so Tableau architecture plays a vital role in understanding its functionality.