Summary – Day 3

- **Filters – Overview**:
  - Tableau lets one filter individual views or entire data sources based on dimensions or measures.
  - In databases, filtering is a useful way to see only the data one wants to see. When the data is visualized in a readable, actionable format, Tableau filters are required to highlight any underlying insights that can be derived from it.
  - Tableau filters are based on a condition that can be used to limit the number of records in the database. Tableau filters support both simple cases based on field values and advanced calculations or context-based filters.
  - The Tableau filter one chooses, or a combination of Tableau filters, is largely determined by what one wants to limit one's data set to.

- **Types**:
  - Extract Filters
  - Data Source Filters
  - Context Filters
  - Dimension Filters
  - Measure Filters
  - Quick Filters

- The order of operation of filters i.e. if any two different category filters are applied simultaneously then according to above hierarchy the preference is given to the filters coming from top.

- **Extract Filters**:
  - Extract filter is used to filter the extracted data from the data source. This filter is utilized if the user extracts the data from the data source.
  - After connecting the text file to Tableau, one can see the two options, Live and Extract in the top right corner of the data source tab.
  - A live connection is directly connected to a data source. An extract connection extracts the data from the data source and creates a local copy in Tableau repository.
  - It works with Extract connection only.
  - It is available with Tableau Professional only and with Public.
  - Using this filter, the filter can be applied on all the worksheets.

- **Data Source Filters**:
  - The data source filter is used to filter the data in data source proportion. It restricts the files present in the data set.
  - This filter is similar to the extract filter in securing the data. But data source filter and extract filter both are different, and they are not linked to each other.
  - A data source filter works on both Live connection and Extract connection.
  - Using this filter, the filter is applied on all the worksheets.

- **Context Filters**:
  - Generally, all the filters that one sets in tableau are independently computed.
  - Basically, what it means is that each filter accesses all rows in the data source without regard to other filters.
  - A context filter is like an independent filter. Any other filter that is set, is termed as a dependent filter due to the fact that they only process the data that passes through the context filter.
  - The benefit of context filter is to improve the query performance.
  - Right-click the dimension filter and select Add to Context option in order to apply context filter.
  - For example, finding top 3 sub-categories w.r.t. category selected.

- **Dimension Filters**:
  - Dimension filters are applied on the dimensions.
  - Need to drag and drop the dimension in the filter shelf.
  - One gets to see 4 options i.e. General, Wildcard, Condition, Top
  - One can select any combination of these tabs as filters to be applied to the chart.
  - In General tab one can include the values or exclude the values from the dimension to filter the chart
  - Users can also select Only Relevant Values option from this tab in order to see only relevant values of that dimension.
  - In Wildcard tab one can search the pattern of strings by typing the required string and selecting either of below options.
    - Contains
    - Start With
    - Ends with
    - Exactly matches
  - In Conditions tab one can filters the data in the chart based on only one condition. e.g. SUM(Sales)>25000
  - One can also filter the data by mentioning the formula as well.
  - One can get to see either Top or Bottom values using this option.
  - One can select any column and any aggregate function to find out the top/bottom members.
  - For example, Top 10 products w.r.t. SUM(Sales)

- **Measure Filters**:
  - Measure filters are applied on the continuous measures. Using this filter one can select the range of values for a measure.

- o For example, in Product Name vs SUM(Sales) bar chart, one can see the SUM(Sales) values between 15K to 20K by dragging and dropping Sales in filters shelf and then selecting SUM as an aggregate function.
- o One can also filter the Null values by clicking Special → Non-null values

- **Quick filters**:
  - o These are used for showing interactive filters in the dashboard in different looks i.e. dropdown, checkbox or radio button format.
  - o In order to show the quick filter right click on the dimension and select Show Filter
  - o In case of two or more than two quick filters are expected to be shown and in case the requirement is to show only relevant values in second filter then one needs to select Only Relevant Values option in second quick filter.
  - o For example, In order to see the relevant cities falling under particular state, one needs to select Only Relevant Values option in city quick filter. This operation is called as cascading.

- If the requirement is to apply the filters to multiple worksheets from one worksheet, then Apply to Worksheets has three different ways to do it.

- **All Using Related Data Sources**:
  - o This option applies the filter to all worksheets that use related data sources as their primary data source.
  - o On the Filters shelf, right-click the field and select *Apply to Worksheets > All Using Related Data Sources*.
  - o Any changes you make to the filter affects all of those worksheets.

- **All Using This Data Source**:
  - o This option applies the filter to all worksheets that use the current worksheet's primary data source as their primary data source.
  - o On the Filters shelf, right-click the field and select *Apply to Worksheets > All Using This Data Source.*
  - o Filters that use this option are global across the workbook.

- **Selected Worksheets**:
  - o This option opens a dialog box where one can select from a list of worksheets that use the same data source or related data sources.
  - o On the Filters shelf, right-click the field and select *Apply to Worksheets > Selected Worksheets*.
  - o Any changes you make to the filter affect all of the selected worksheets.