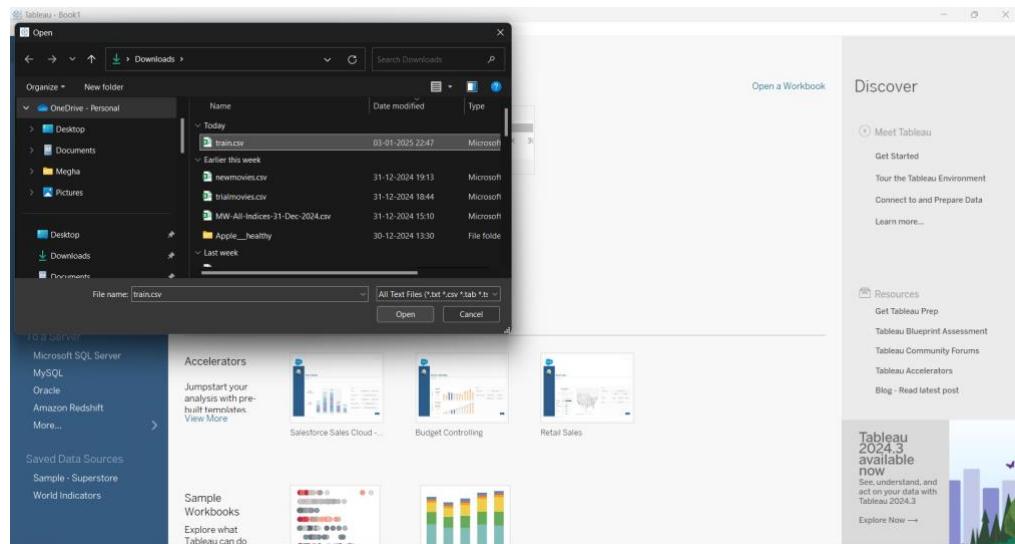


EXPERIMENT 05

Consider titanic dataset and perform the following

Load the dataset to tableau by launching the Tableau Desktop and upload the dataset using text file as option and then select the desired sheet.



1. Perform calculations:

- a) Calculate the survival rate using $\text{SUM(IIF([Survived] = 1, 1, 0)) / COUNT([PassengerId])}$

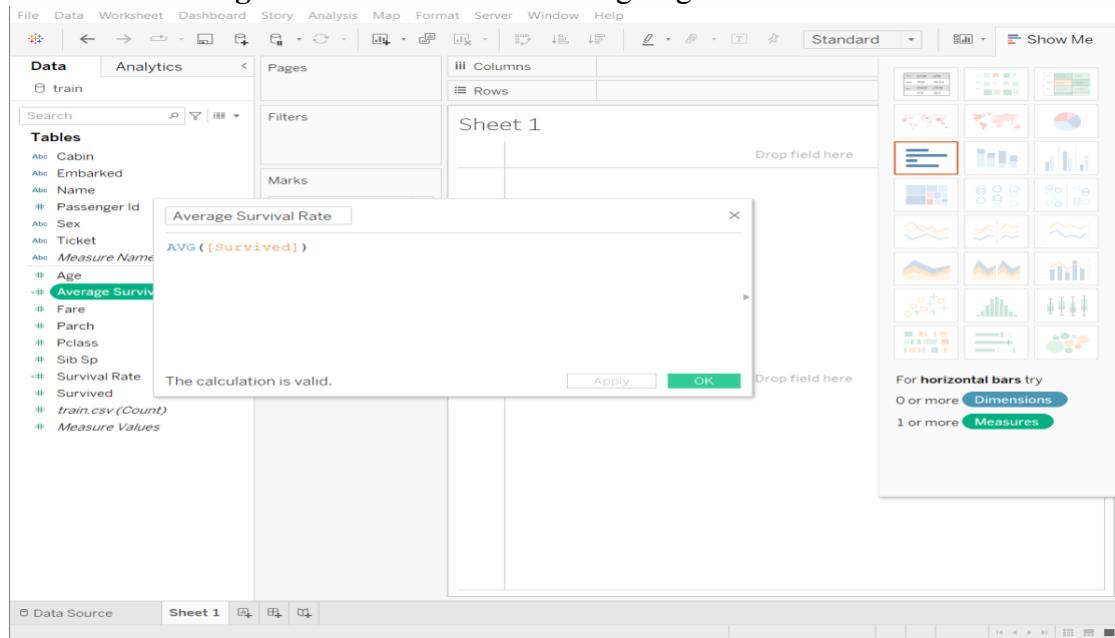
Go to the Data Pane in Tableau. Create a Calculated Field. Name it Survival Rate. Enter the formula:

$\text{SUM(IIF([Survived] = 1, 1, 0)) / COUNT([PassengerId])}$. Drag this field to the Text or Detail shelf to display the survival rate.

A screenshot of the Tableau desktop interface focusing on the Data pane. The 'Data' tab is selected, showing a list of tables: 'Cabin', 'Embarked', 'Name', 'Passenger Id', 'Sex', 'Ticket', and 'Measure Name'. A calculated field named 'Survival Rate' is currently being edited. The formula is $\text{SUM(IIF([Survived] = 1, 1, 0)) / COUNT([PassengerId])}$. A message box says 'The calculation is valid.' There are 'Apply' and 'OK' buttons. To the right, there's a 'Show Me' panel with various chart and table options, and a note: 'For horizontal bars try 0 or more Dimensions 1 or more Measures'.

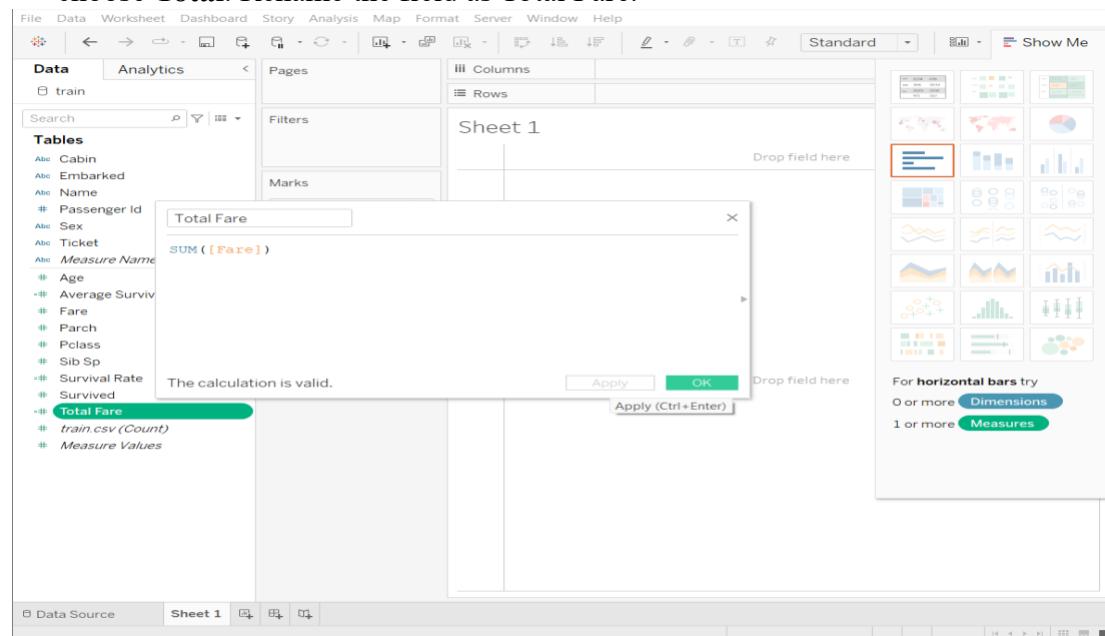
b) Calculate the average

Drag the Age field to the Rows shelf. Right-click the field, select **Measure**, and choose **Average**. Rename the field as Average Age.



c) Calculate the total fare

Drag the Fare field to the Rows shelf. Right-click the field, select **Measure**, and choose **Total**. Rename the field as Total Fare.



2. Perform group operations

a) Create a group to categorize passengers by age

Right-click on the Age field and choose **Create > Bins**. Set bin size (e.g., 10 years) or manually specify ranges: Children: 0–12 Teenagers: 13–19 Adults: 20–59 Seniors: 60+. Name it Age Groups.

The screenshot shows the Tableau interface with the 'Age Groups' dimension selected in the data pane. A context menu has been opened on the 'Age' field, and the 'Create > Bins' option has been chosen. The 'Edit Group [Age Groups]' dialog box is displayed, allowing the user to define age categories. The categories listed are Null, Children, Teenagers, Adults, and Seniors, with 'Teenagers' currently selected as the target group for this specific binning operation.

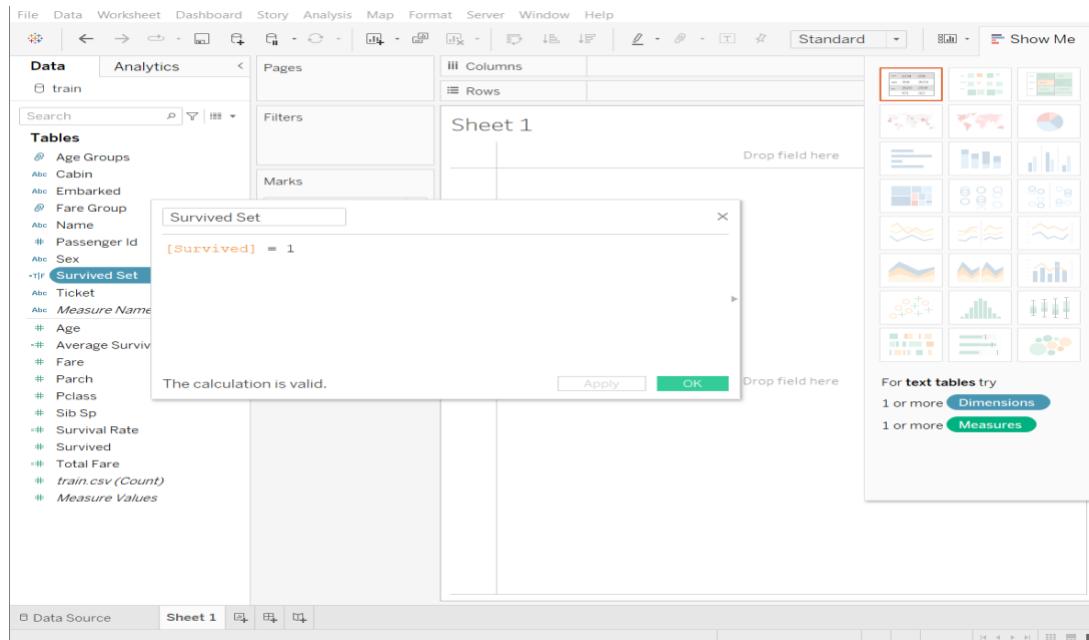
b) Create a group to categorize passengers by fare

Right-click on the Fare field and choose **Create > Bins**. Set appropriate bin sizes (e.g., 0–50, 51–100, 101–200, etc.). Name it Fare Groups.

The screenshot shows the Tableau interface with the 'Fare Group' dimension selected in the data pane. A context menu has been opened on the 'Fare' field, and the 'Create > Bins' option has been chosen. The 'Edit Group [Fare Group]' dialog box is displayed, allowing the user to define fare categories. The categories listed are Second class, First class, Gold, Platinum, and Diamond, with 'Platinum' currently selected as the target group for this specific binning operation.

c) Create a set to include only passengers who survived

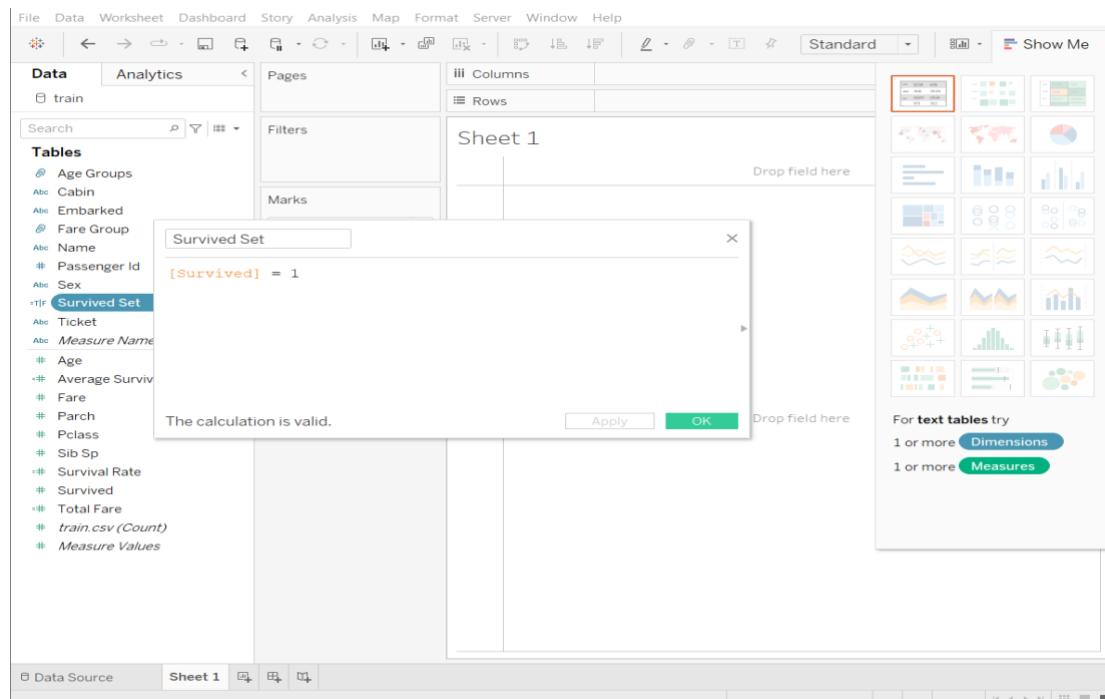
Right-click on the Survived field and choose **Create > Set**. Set the condition as Survived = 1. Name it Survived Set.



3. Perform set operations

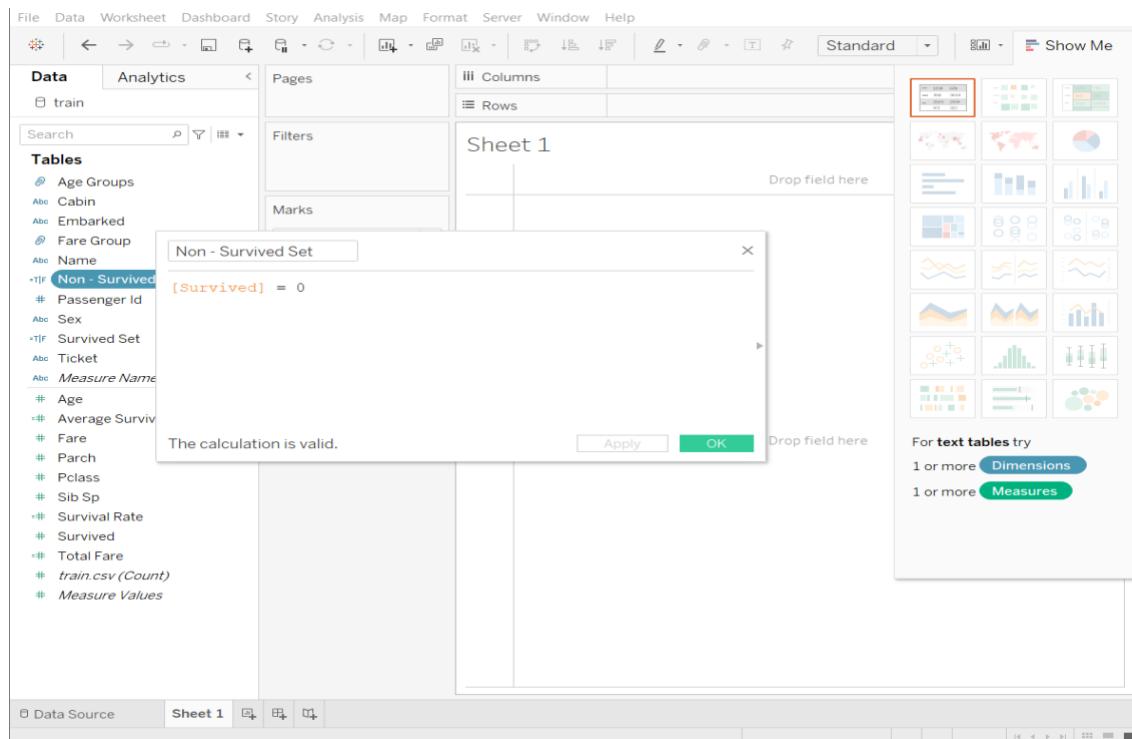
a) Create a set to include passengers who survived

Create a set for survivors by right-clicking the Survived field, selecting "Create > Set," and setting the condition Survived = 1. Name it Survived Set. This set is essential for analysing trends or visualizing data specific to survivors.



b) Create a set to include passengers who did not survive

Right-click on the Survived field and choose **Create > Set**. Set the condition as **Survived = 0**. Name it Non-Survived Set.



4. Create dashboard

a) Survival rate by age group - Create a bar chart to represent survival rate by age group

Drag Age Groups to the **Columns** shelf. Drag Survived to the **Rows** shelf and select **Average** as the aggregation. Convert it to a **Bar Chart**. Rename the chart to **Survival Rate by Age Group**.



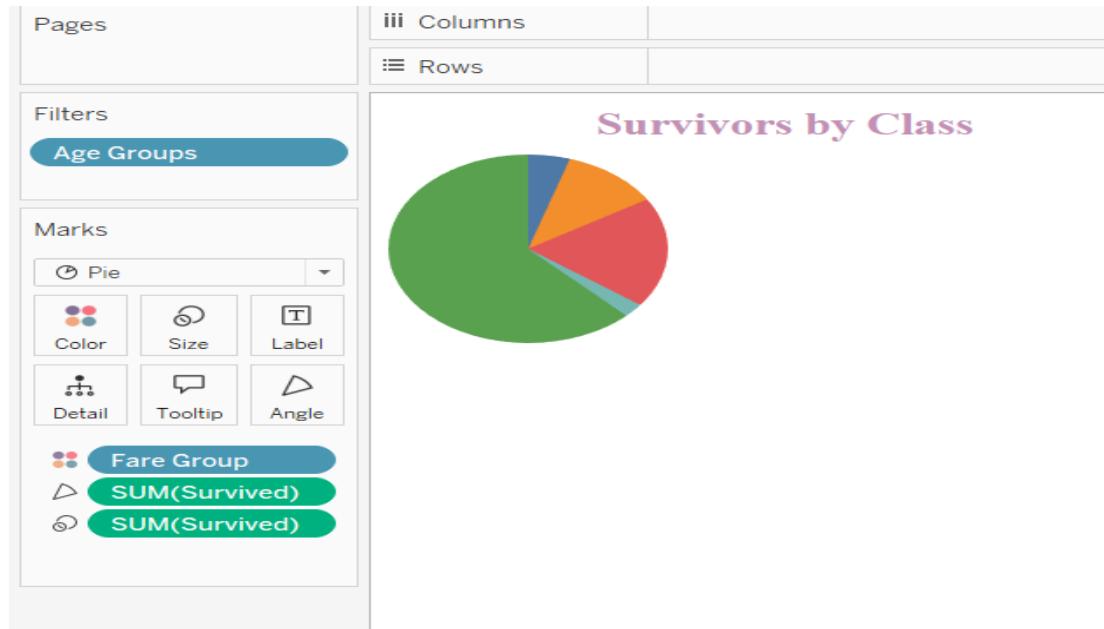
b) Average fare by fare group - Create a bar chart to represent average fare by fare group

Drag Fare Groups to the Columns shelf. Drag Fare to the **Rows** shelf and select **Average** as the aggregation. Convert it to a **Bar Chart**. Rename the chart to **Average Fare by Fare Group**.



c) Survivors by class – Create a pie chart to display number of survivors by class

Drag FareGroup to the **Columns** shelf. Drag Survived to the **Rows** shelf. Convert it to a **Pie Chart** using the **Marks** card. Filter the chart for only survivors using the Survived Set.



5. Add additional visualizations

When designing additional visualizations, focus on clear and relevant chart types, such as histograms for distributions and bar charts for comparisons. Maintain consistent colours, fonts, and styles, using annotations and tooltips to highlight key insights like survival rates or fare trends. Add interactivity with filters and dropdowns to explore data dynamically, ensuring a balanced and intuitive layout. Group related

charts logically, and include clear titles and legends to make the visuals self-explanatory and impactful.

6. Combine dashboards.

Combine all visualizations into a single dashboard. Drag and drop each chart into the dashboard workspace, arranging them logically. Add interactivity by including filters for age groups, fare groups, and class to allow users to explore different aspects of the data. Ensure the layout is clear and visually appealing for effective storytelling.

