

Lab 10 Assignment

Total: 10 points

Your submission will be graded out of 10 points based on the breakdown below.

You need to complete the below tasks, **publish the dashboard and submit the published link** to Brightspace.

1. Add the three csv files to tableau and add relation between the tables[2]
 - a) Join the airlines and flights table using airline id
 - b) Join the flights and airports table using origin airport ID -> airport ID and destination airport ID -> airport ID
2. Create box and whiskers plot showing delay minutes per airline [1]
 - a) Drag and drop Delay Min to rows
 - b) In analysis menu, uncheck Aggregate Measure
 - c) Change plot to box and whiskers
 - d) Drag airline Id to columns
3. Add a Donout chart showing how many flights each airline made on new worksheet [2]
 - a) Create a pie chart using the count of flight id and airline name
 - b) Add a 0 to the column. Do it again
 - c) In the second 0 item, remove it's attributes, change it to white color and decrease it's size slightly
 - d) Convert the axis to dual axis
 - e) Drag Airline Name to Label
 - f) Remove the headers
4. Create a scatterplot and divide it into sections using parameter on new worksheet [2]
 - a) Create a new Measure named Estimated Duration (min.) Use below formula
IF [Sched Arr Time] >= [Sched Dep Time] THEN
 DATEDIFF('minute', [Sched Dep Time], [Sched Arr Time])
ELSE
 DATEDIFF('minute', [Sched Dep Time], DATEADD('day', 1, [Sched ArrTime]))
END
 - b) Create a scatterplot showing Estimated Duration and Delay.
 - c) Create a duration parameter named "Duration Parameter" and delay parameter named "Delay Parameter", separating the scatterplot axis into two equal halves.
 - d) Add duration and distance parameters to the scatterplot

- e) Create a new scatterplot group calculated field showing each of the different regions of the scatterplot using below formula

IF [Delay Min] < [Delay Parameter]

AND [Estimated Duration (min.)] < [Duration Parameter] THEN

1

ELSEIF [Delay Min] > [Delay Parameter]

AND [Estimated Duration (min.)] > [Duration Parameter] THEN

2

ELSEIF [Delay Min] > [Delay Parameter]

AND [Estimated Duration (min.)] < [Duration Parameter] THEN

3

ELSE

4

END

- f) Change different areas of the scatterplot to different colors

5. Create a Flight Schedule Gantt Chart on new worksheet [1.5]

- a) b) Drag Airline Id to Rows and Sched Dep Time to Columns.
- b) Change the Marks type to Gantt Bar.
- c) Drag Estimated Duration (min.) to the Size shelf, each bar now represents one flight's duration.
- d) (Optionally) Drag Flight Id to Detail to show each flight separately.
- e) Color the bars by Airline Id or Status to differentiate airlines or on-time/delayed flights.
- f) Add Departure Date to Filters (choose one day) to keep the timeline readable.
- g) Adjust the Size slider to make the bars visible and add Sched Arrival Time or Delay Min to Tooltip for extra info.

6. Create a new dashboard with all the visualizations [1]

7. Publish this worksheet and upload the worksheet link on Brightspace. Make sure the link works [0.5].