

# Experiment 3

## Dataset – vgsales

### Sheet 1:

1. Drag “EU sales” and “Global Sales” to rows
2. Drag “year” to column
3. Bar – line : Change the chart type in the “show me” pane to bar-line
4. Undo the changes in the graph type
5. Formatting : Start formatting the axes
6. Select individual axis, right click, enter “format”
7. Change font, font color, size, color
8. Naming : Select on the name of the sheet “sheet 1”, and give your own name like “Global And EU Sales By Year”, format it.
9. Change the color of the line graph as well, using the “marks” pane
10. Annotations : Right Click on any point of the line graph and select “annotation” then “mark”, format the text and apply
11. Filters : drag “year” to the filter pane, set any range (2000 - 2015) and then change the visualization to bar graph
12. Calculated Field : Right click on “Global Sales”, select “create”, then “calculated field”
13. Set the name as “Global Sales – EU Sales”,
14. Formula : [Global Sales] – [EU Sales]

### Sheet 2:

1. Drag “year” to column and “Global Sales – EU Sales” to rows.
2. Change the name of the sheet to “Global Sales – EU Sales By Year”
3. Parameter : right click on “genre”, select “create”, then “parameter”
4. Set the name as “Select genre” and then remove the fields below except “action”, “adventure” and “fighting” (your choice btw)
5. The parameter is created on the bottom left corner, right click on it and select “show parameter”, a window will open on the right.

6. Drag “select parameter” to “color” in the “marks” pane.
7. Select line chart and choose any of the three genres from the right window.

# Experiment 4

dataset - Sample superstore (already there)

worksheet 1 - Total Sales By Segment

1. Add segment to the column, Add sales to the rows and segment to marks
2. Add ship date on segment in the column shelf
3. change the graph to stacked bar and then area continuous

worksheet 2 - Sales By Category

1. Add segment to the column and sales to the row. Expand Product dimension and add sub-category to marks.
2. Change the graph to stacked bar.
3. In marks section, open label and mark the stuff at the top.

worksheet 3 - State Sales

1. Add order ID to the column and sales to the row. Expand location dimension and drag region to the marks section.
2. Change the graph to horizontal bar.

Dashboard 1 -

1. Drag Total Sales By segment first. After that drag Sales by category at the bottom, and then state sales on the right.
2. Set the Size on the left to auto automatic.

Dashboard 2 -

1. Drag State sales first and then drag total sales by segment to the right. Finally, sales by category on the far right. (Size - automatic)
2. open the filters section for sales by category and first select sub-category, untick some fields.
3. open filters again and this time select sum of sales. (75000 - 190000) (undo the changes due to the filter)

Dashboard 3 -

1. Drag horizontal containers (4), use floating option to move them around.
2. Fill in the containers with the 3 worksheets. (size - automatic)

Story 1 -

1. For the first page, drag total sales by segment, give the same in the caption.
2. Give annotations. (size - automatic)
3. On the second page, drag dashboard 1 and give the same as caption.
4. On the third page, drag state sales and give the same as caption, after that go to layout and select numbers.

# Experiment 7

Dataset – HR

Transform Data

- We will be using the first row as headers
- Caution: this particular step that you do, you must undo it later or else it will cause problems, this step is just for show purposes
- Click on “use first row as headers” and after doing that look to the right side and you will have “applied steps”, just cancel the recent 2 steps i.e remove “changed type1” and “promoted headers1”
- If you want to change the type of any column, like from text to decimal or vice-versa, you can right click on that particular column and select “change type”, and choose whatever you want, although, this step is not necessary, if and only if asked, you just show and then just undo the changes
- Now, we need to add one new column “Attrition Count”
- In the “ribbon” go to “add column” tab and select “conditional column”
- Give the name of the column as “Attrition Count”
- In place of “column name” add “Attrition”, in place of “operator” it will show “equals”, now In place of “value” give “Yes”, in place of “output” give 1 and in place of “else” give 0
- Now just close and apply

Page 1 – Formatting the Charts

1. Add “card” from the visuals pane, the one with 123 written on it
2. Drag and drop employee count in it

3. Now if you would like to beautify it, you can select the card and go to format visual, turn off the “category label” and change the font, size or color for “callout value”
4. In the “general” section enable “title” and select it, give the title as “Employee Count”, align it properly and enable “divider”, increase its width
5. Now, go to the effects section and change the background color, then enable “visual borders”, make it rounded with 20 px
6. One more thing, in the ribbon go to “insert” and select “text box”, align it properly on the top
7. And write “formatting charts” inside it and amplify the design
8. Next up in the same page set up a “pie chart” from the visuals pane
9. Drag “department” to legend and “attrition count” to “values”
10. Select “stacked column chart” in the same page from the visuals pane
11. Drag “Age” to x-axis, “Gender” to “legend” and “employee count” to y-axis, you can sort the graph in ascending or descending order by selecting the three dots above the chart and choosing “sort legend”
12. We wish to create another conditional column, so, in the ribbon select “transform data”, now go to “add columns” and select “conditional column”
13. New column name – “Legal Rights”

Column name – “age”

Operator – “is greater than or equal to”

Value – 21

Output – Y

Else – N

14. Add “matrix” from the visuals pane and drag “JobRole” to row and “JobSatisfaction” to columns and “EmployeeCount” to values
15. Add a “stacked bar chart” from the visuals pane and drag “education” to y-axis and “Attrition count” to x-axis
16. Select “donut” chart from the visuals and drag “gender” to the “legend”, then “Attrition Count” to “values”
17. In the visuals pane look for “List Slicers” and select it
18. Drag and drop “education” in the value, based on different education levels the whole page can be filtered or in a way “sliced”

# Experiment 8

Dataset – HR

- **You have to do the entire 7<sup>th</sup> experiment and once you have done that, you can start with the 8<sup>th</sup> one**
- Drag and drop “department” to the filters pane under “filters on this page”, you can then select individual departments and filter the data for the whole page
- Remove the “department” filters and drag “monthly income” to filters on this page
- In the advanced filtering section, give it as “is greater than or equal to”, value – 10000
- You can choose any type of advanced filtering
- Remove the filter and select the “matrix” visual we made, jobrole and jobsatisfaction
- Choose Jobrole in the filter pane, select the filter type as “top N” and give the number 4
- In the “by value” drag and drop JobSatisfaction, then apply the filter.

# Experiment 9 – Power BI

## Page 1 – Map

1. Select “filled map” from “visual pane” and drag “state” to “location” & “revenue” to “legend”
2. Similarly, select normal map and add “revenue” to bubble size and “state” to “location”

## Page 2 – Line Chart

1. Select “line chart” from the visuals
2. Drag “month” to “x-axis” and “revenue” to “y-axis”
3. You will get the line chart, but we need to beautify it and hence select “format visual” and there we can format “x-axis” and “y-axis” separately and then the “line” itself

## Page 3 – Stacked Column Chart

1. Create Customer Age (bins) by right clicking on “customer age” and select “new group” then in “bin size” enter 10.
2. Now drag “customer age (bins)” to the x-axis and “revenue” to y – axis

## Page 4 – Donut Chart

1. Select “Donut Chart” from the visuals
2. Drag “state” to legend and “revenue” to “values”
3. Go to format visual and select “detail labels” , go to “options” and then select position as “inside”

## Page 5 – Butterfly

1. Select 2 Stacked Column Chart, side by side

2. Drag “product category” to y – axis and “revenue” to x – axis for both the charts
3. Add “customer gender” in the filters pane for both the charts and select “F” and “M” for the 1<sup>st</sup> and 2<sup>nd</sup> chart respectively
4. Now select the 1<sup>st</sup> chart and go to “format visuals” and select “x - axis” and enable “invert range”
5. Similarly for the 2<sup>nd</sup> chart in the format pane select “y - axis” and enable “switch axis position”

#### Page 6 – New Measure

1. Create a new measure, “Average Revenue Per State”, formula:  
Average Revenue Per State = AVERAGEX(VALUES(SalesTable[State]),  
CALCULATE(SUM(SalesTable[Revenue])))
2. Create a new measure, “Profitability status”, formula:  
ProfitabilityStatus = IF(SalesTable[Average Revenue Per State] > 1000,  
"Profitable", "Non- Profitable")
3. Select “table” from visuals and drag “state”, “average revenue per state” and “profitability status” in the column

#### Page 7 – Dashboard

1. Go to every single page previously made and right click on the charts, select “copy visuals” and paste it in this page
2. Format it properly, and keep the sizes proper for every chart.

# Experiment 9 (Tableau)

Dataset – Revenue

Rule – give proper names to every sheet

Sheet 1 – Choropleth Map

1. Drag “country” to “details” in the “marks” pane, and “longitude” to column, “latitude” to row, change type to “filled map” in “show me”
2. Now Drag State to “details” in the “marks” pane
3. Now drag “revenue” to “size” in the “marks” pane, then remove it. (don’t know why this step exists)
4. Drag “revenue” to “color” in the “marks” pane

Sheet 2 – Line Chart

1. Drag “revenue” to row.
2. Drag “year” to column, and then “date” on top of “year” – year(date), remove the individual “year”
3. Look for the + sign on the left of year(date), click on it, now click on the + sign of quarter(date), remove quarter(date)
4. You can name the visualization as “sum of revenue by month”
5. You can apply any filters if you want using “month(date)”, or you can leave it
6. Drag “revenue” to “size” of the “marks” pane
7. Format the axis if you want, change the color of the visualization

### Sheet 3 – Bins

1. Right click on “customer age”, select “create”, then “bins”
2. Give the Bins size as 10 and apply
3. Drag “customer age (bin)” to “color” in the “marks” pane and in the column
4. Add “revenue” to the row and change the visualization to “stacked bar”

### Sheet 4 – Donut Chart

1. Select “pie chart” in “marks”
2. Drag “country” to “color” & “label” and “revenue” to “angle” & “label” in the “marks” pane
3. Set the view, it’s on the top (middle section), “standard” to “entire view”
4. Create a new calculated field: “zero access”, formula: 0
5. Drag “zero access” twice to the row, you will have two pie charts, the idea is to make the bottom one white and place it on top of the 1<sup>st</sup> pie chart.
6. Select the 1<sup>st</sup> “zero access” from the “marks” pane and increase its size
7. In the 2<sup>nd</sup> pie chart, remove everything from the “marks” pane and add “revenue” to the “label”, increase its size but keep it smaller than the 1<sup>st</sup> one.
8. Now right click on the bottom axis, and select “dual axis”, it combines both.
9. Set the color of the 2<sup>nd</sup> pie chart to “white”
10. There you have it, the donut chart, although the same thing in Power BI takes 1 sec, so, that one is better.

## Sheet 5 – Butterfly Chart

1. Create two calculated fields – “Female Revenue”, formula: IF [Customer Gender] = 'F' THEN [Revenue] END  
  
“Male Revenue”, formula: IF [Customer Gender] = 'M' THEN [Revenue] END
2. Drag “product category” to row and “male revenue” & “female revenue” to column
3. Sort both the axes in descending order, it’s present in the top ribbon
4. Right click on the left graph axis and click on “edit axis”. In it, under the “scale” section mark “reversed”.
5. Add “customer gender” to “color” and “revenue” to “label” in the “marks” pane, right click on “revenue” there, select “quick table calculations” and then “percent of total” (can do the same in donut chart as well)
6. Set the view from “standard” to “entire view”
7. You can change title to gender based revenue
8. Drag “zero access” to the column between male and female revenue

## Sheet 6 – Profitable States

1. Create a calculated field: “average revenue”, formula: AVG([revenue])
2. Drag “average revenue” to row and “state” to column, sort in descending order
3. Create a new calculated field: “profitable”, formula: IF [average revenue] >= 1000 THEN "Profitable" ELSE "Non-Profitable" END
4. Add “profitable” to row and to “color” in the “marks” pane, use “entire view”

## Dashboard 1

1. Drag all the worksheets in, change fixed size to automatic

## Dashboard 2

1. Drag all the worksheets properly, now apply filter on the “choropleth map”, i.e. “country”
2. Right click on the filter, and select the worksheet to display upon, select all and apply the filter.

# Experiment 10 – Power BI

Dataset – GDP

Data Pre-Processing (Transform data):

- Select “use first row as headers”
- Press Ctrl and select the first two columns and then go to “Transform” and select “unpivot columns” and then “unpivot other columns”
- Rename “attribute” to “years” and “values” to “GDP Growth”
- Close and apply

Page 1 – Symbol Map

1. Select normal map from the visual
2. Drag “country\_name” to location, “GDP Growth” to Legend and “GDP growth” to Bubble Size
3. Now, change the map to filled map

Page 2 – Stacked Column Chart

1. Drag “Years” to “x-axis” and “GDP growth” to “y-axis”
2. “country\_name” to “filters” and select “Belgium”
3. And in “Years” in the filters pane select 2006 - 2024

Page 3 – Pie Chart

1. Select Pie chart from the visuals
2. Add “country\_name” to Legend and “GDP growth” to values

3. In the filters pane, filter countries to India, Singapore, Nepal, South Africa, Romania
4. Select 2010 in the years filters

#### Page 4 – Line Chart

1. Select Line chart from the visuals
2. Drag “year” to x-axis and “GDP Growth” to y-axis, “country\_name” to legend
3. In the filters pane for the country\_name, select Bhutan and Costa Rica
4. Convert the line chart to the Stacked column chart from the visuals

#### Page 5 – Scatter Plot

1. Choose “scatter chart” from the visuals
2. Drag “year” to x-axis and “GDP Growth” to y-axis, “country\_name” to legend and add “GDP growth” to size
3. In the filters pane select countries fiji, algeria, Estonia, Mexico and set the years from 2004 to 2006

#### Page 6 – Dashboard

1. Create an interactive dashboard by copying the visuals from each page.

# Experiment 10 – Tableau

Dataset – GDP

Rule – give proper name to every sheet

- One important thing, data pre-processing is required, we need to pivot the years together and make the first row as header
- Right click on the GDP.csv rectangular box and choose “field names are in first row”
- Now we want all the years to be grouped as one single column, click on the column “1980”, in the dataset
- Now hold shift key + right arrow key until all are selected, now right click once everything is selected and click on “pivot”
- Then you can change the names of the new columns, like “pivot field name” to “years” and “pivot field values” to “GDP growth”

Sheet 1 – Country GDP

1. Drag “longitude” to column and “latitude” to row
2. Drag “country\_name” to “details” and “labels” in the “marks” pane

Sheet 2 – Filter country Belgium

1. Drag “country\_name” to filter and select “belgium”
2. Drag “years” to filter and select years from 2006 to 2024
3. Drag “years” to column and “GDP growth” to row
4. Drag “years” to “color” and “GDP growth” to “label” in the “marks” pane
5. Add title GDP of belgium from 2006 – 2024

### Sheet 3 – Pie Chart

1. Change the visualization to “pie chart”
2. Drag “country\_name” and “years” to “filters” pane and select India, Romania, Nepal, Singapore and South Africa as countries, all the years till 2010
3. Now change from standard view to entire view, present in the ribbons pane, top-middle
4. Drag “country\_name” to “colors” and “label”, and the drag “GDP growth” to “angle” and “label” in the “marks” pane

### Sheet 4 – Side by Side bars

1. Drag “country\_name” to filters pane, select “Bhutan” & “costa rica”
2. Now drag “years” to column and “GDP growth” to rows, also drag “country\_name” to “colors” in the “marks” pane
3. Drag “country\_name” to column as well and change the visualization to “side by side bar” from the “show me” pane

### Sheet 5 – Scatter plot

1. Drag “country\_name” to filters pane and select countries fiji, Estonia, Mexico and algeria
2. Drag “years” to filters pane and select the years from 2004 to 2006
3. Now, hold the ctrl button and select “country\_name”, “year” and “GDP growth”
4. Select “side by side circle” from the “show me” pane
5. Change the view from “standard” to “entire view”

## Dashboard 1

1. Drag all the worksheets properly to the dashboard, you can use containers as well, and change the size to “automatic”

## Dashboard 2

1. First drag the 1<sup>st</sup> sheet to the dashboard i.e. “country GDP”
2. Now add horizontal containers, make them “floating” horizontal containers, we need 4 of them, as 4 sheets are remaining
3. Drag and drop the remaining 4 worksheets in the containers and start applying the filters in the Map to see changes in the rest of the worksheets as well

# Experiment 11 – Power BI

Dataset – HR

Page 1 – KPI Cards

1. Create a measure, “Employee Count”, formula :  
Employee Count = COUNT('HR'[EmployeeNumber])
2. Now, select “card” from the visuals, it’s the one with 123 written on it
3. Drag and drop “employee count” in it
4. Now we must do some formatting, go to format visuals and in the visuals panel, disable “category label”, you can format the “callout value” to any font or color, your choice
5. Now, go to “general” and enable “title”, inside it, type the title “Count of Employees”
6. Minimize it and look for “divider” and enable it, increase its width
7. Now, go to effects pane and change the background color according to your choice, enable “borders” and make it rounded to 20 px
8. Now, it is better to basically copy this KPI card and use it for the other 4 KPI cards
9. Right click on the card and select copy visual
10. Paste it on the same page and now we just have to use the different value and change the title.
11. Select the pasted card and remove “employee count” from “fields” from the “build visual” pane
12. Create a new measure, “attrition count”, formula :

Attrition Count = COUNTROWS(FILTER('HR', 'HR'[Attrition]="Yes"))

13. Drag and drop the “attrition count” field in the card and change the “title” from the format visuals pane “attrition count”.
14. Once again copy-paste the card in the page, and remove the “field” from the card visual pane
15. Create a new measure, “Attrition Rate”, formula :  
  

$$\text{Attrition Rate} = \text{DIVIDE}([\text{Attrition Count}], [\text{Employee Count}], 0) * 100$$
16. Now add “attrition rate” to the card and change the “title” to “attrition rate”
17. Once again copy-paste the card in the page, and remove the “field” from the card visual pane
18. Create a new measure, “Active Employees”, formula :  
  

$$\text{Active Employees} = [\text{Employee Count}] - [\text{Attrition Count}]$$
19. Drag “average age” to the card and update its title to “average age”

## Page 2 – Lollipop Chart (Line and stacked Column Chart)

1. It is not possible to make lollipop chart in power bi, so, we have lollipop chart
2. Create a new measure, “Attrition Count By Gender”, formula :  
  

$$\text{Attrition Count By Gender} = \text{CALCULATE}([\text{Employee Count}], \text{HR}[\text{Attrition}] = \text{“Yes”})$$
3. Select “Line and Stacked Column Chart” from the visuals, drag “gender” to x-axis and “attrition count” to “column y-axis” and “attrition count by gender” to “line y-axis”
4. Now you can format the “line” from the format visual pane the way you like

### Page 3 – Pie Chart

1. Select “pie” chart from the visuals pane
2. Drag “department” to “legend” and “attrition Count” to “values”

### Page 4 – Bar Chart

1. Create “age (bins)” by right clicking on “age” and selecting “new group”, Set the “bin type” to “number of bins” and “bin count” as 10
2. Select “stacked bar chart” from the visuals pane and drag “age (bins)” to y-axis and “employee count” to x-axis

### Page 5 – Highlight Table

1. Select “matrix” from the visuals pane
2. Drag “JobRole” to rows and “JobSatisfaction” to columns and “employee count” to values

### Page 6 – Horizontal Bar Chart

1. Select “stacked bar chart” from the visuals pane and drag “educationalField” to y-axis and “attrition count” to x-axis

### Page 7 – Multiple Donut Chart

1. Select “donut” chart from the visuals pane and drag “gender” to the “legend” and “attrition rate” to the “values”
2. Replicate the same donut chart 3 more times, with the same legend and values
3. Now select the 1<sup>st</sup> donut chart and drag “Age (bins)” to the filters pane
4. Give advanced filtering as “is less than 30”
5. Similarly, do the same for 2<sup>nd</sup> donut chart and give advanced filtering as “is greater than or equal to 30 and is less than 40”

6. For the 3<sup>rd</sup> donut chart, “is greater than or equal to 40 and is less than 50”
7. For the 4<sup>th</sup> donut chart, “is greater than or equal to 50”

#### Page 8 – Dashboard

1. Create an interactive dashboard by copying each visual from the previous pages

# Experiment 11 – Tableau

Dataset – HR

Sheet 1 – KPI – Employee Count

1. Create a new calculated field “Count Employee”, formula:  
`COUNT([Employee Number])`
2. The thing is that Employee Count is already there, so, it is your choice whether or not you would like to create another field.
3. Drag “Count Employee” to “text” in the “marks” pane
4. Now select “text” in the “marks” pane and format the text to KPI form
5. Number should be bigger than the text, above the Number, write “Employee Count”, increase the size and keep the size of the number bigger than the text written above.
6. Format the text the way you want, any color, any font

Sheet 2 – KPI – Attrition Count

1. Create a new calculated field, “Attrition Count”, formula: `COUNT(IF [Attrition] = 'Yes' THEN [Employee Number] END)`
2. Do the same procedure as the first sheet to make the KPI card for Attrition Count

Sheet 3 – KPI – Attrition Rate

1. Create a new calculated field, “Attrition Rate”, formula:  
  
`IF COUNT([Employee Number]) = 0 THEN 0  
ELSE ([Attrition Count]/[Count Employee])*100 END`
2. Do the same procedure as the first sheet to make the KPI card for Attrition Rate

## Sheet 4 – KPI – Active Employees

1. Create a new calculated field, “Active Employees”, formula:  
[Count Employee] - [Attrition Count]
2. Do the same procedure as the first sheet to make the KPI card for Active Employees

## Sheet 5 – KPI – Average age

1. Create a new calculated field, “Average Age”, formula:  $\text{AVG}([\text{Age}])$
2. Do the same procedure as the first sheet to make the KPI card for Average Age

## Dashboard 1 – KPI Cards

1. Now we combine all the cards we made before into one full KPI card dashboard
2. To do this, we create 5 horizontal containers and arrange them accordingly, so, that they fit the cards
3. I hope you know how to make horizontal containers, and move them using the floating option
4. Place each card in one container and adjust the sizes, so, that it shows the values properly

## Sheet 6 – Lollipop Chart

1. Create a new calculated field, “Attrition Rate (By Gender)”, formula:  
 $\text{COUNT}(\text{IF } [\text{Attrition}] = \text{'Yes'} \text{ THEN } [\text{Employee Number}] \text{ END}) / [\text{Count Employee}]$
2. Drag “Attrition Rate (By Gender)” to column 2 times and “gender” to rows
3. Also add “gender” to “color”

4. The idea is very is simple, we will be making the 2<sup>nd</sup> graph as circle and then combining the 2 together
5. Select the 2<sup>nd</sup> graph in the “marks” pane and set the graph as “circle”, increase the size a bit
6. First, go to the “marks” pane for the 1<sup>st</sup> graph and select “bar” chart from there
7. Now, merge the two charts by right clicking on the axis of 2<sup>nd</sup> graph and choosing “dual axis”
8. Change the view from “standard” to “entire view” and decrease the size of bar chart & increase the size of the circle chart, so, that it looks like a lollipop
9. Drag “Attrition Rate (By Gender)” to the “label” of the “marks” pane for the circle chart only. Set the alignment for the text at the center of the circle by clicking on “label” in the “marks” pane and then “alignment” to center.

#### Sheet 7 – Pie Chart

1. Drag “Attrition” to “filters” pane and select “Yes”, apply
2. Drag “department” to “colors” and “label” & drag “Employee number” to “angle” and “label” in the “marks” pane
3. It will show it is not compatible, bcoz “employee Number” doesn’t give us the count, so, right click on “employee number” in the “marks” pane and select “measure”, in it select “count”
4. Do the same for the 2<sup>nd</sup> “employee number” in the “marks” pane
5. Now, we would like to see as percent, for that right click on “employee number” in the “marks” pane which is for “label”
6. Now choose “quick table calculations” and then “percent of total”

7. Now, we need to see the total attrition count as well, either you could just drag and drop “attrition count” to “label” of the “marks” pane
8. Or you could create a new calculated field, “total attrition”, formula:  
COUNT( IF [Attrition] = “Yes” THEN [Employee Number] END )
9. Now just drag and drop “total attrition” to “label” in the “marks” pane
10. You can format the text to look more beautiful, it is upto you

#### Sheet 8 – Bar Chart

1. Create a new calculated field, “Ae group”, formula:  
IF [Age] < 30 THEN 'Under 30'  
ELSEIF [Age] < 40 THEN '30-39'  
ELSEIF [Age] < 50 THEN '40-49'  
ELSE '50+'  
END
2. Drag “Age Group” to the row and “Employee Number” to column, once again right click on “Employee Number” and select “measure” and then “count”
3. Set the view from “standard” to “Entire view”
4. You can name the visualization as “Number of Employees By Age Group”

#### Sheet 9 – Highlight Table

1. You can name the visualization as “Job Satisfaction Rating By Job Role”
2. Drag and drop “Job Satisfaction” to column and “Job Role” to row
3. Set the type as “square” from the “marks” pane
4. Drag “employee number” to “label” and “color” in the “marks” pane, and once again right click on “Employee Number” and select “measure” and then “count”
5. Set the view from “standard” to “entire view”

## Sheet 10 – Horizontal Bar Chart

1. Name the visualization as “Attrition count by education field”
2. Drag “Attrition” to “filters” pane and select “Yes”, apply
3. Drag “Employee Count” to column and “Education Field” to row
4. Add “employee count” to “color” in the “marks” pane
5. Set the view from “standard” to “entire view”

## Sheet 11 – Multiple Donut Chart

1. Name the visualization as “Attrition Rate by Gender for different Age groups”
2. Drag “Attrition” to “filters” pane and select “Yes”, apply
3. We have to use zero access for the donut chart
4. Create a new calculated field, “zero access”, formula: 0
5. Now drag “Age Group” to column and set the chart type to “pie” in the “marks” pane
6. Fit the view by setting it from “standard” to “entire view”
7. Add “gender” to “color” and “employee count” to “angle” & “label” in the “marks” pane, right click on the “employee count” for “label” and select “quick table calculations” and then “percent of total”
8. Add “access zero” to the row 2 times
9. Increase the size of the first chart from the “marks” pane
10. Now remove everything from the “marks” pane of the 2<sup>nd</sup> chart and increase its size as well, but keep it smaller than the 1<sup>st</sup> one.

11. Now right click on the axis of the 2<sup>nd</sup> chart and choose “dual axis”
12. Change the color of the 2<sup>nd</sup> chart to “white”
13. And finally the multiple donut is complete, if you get the 11<sup>th</sup> one somehow, try to negotiate for power BI

## Dashboard 2

1. Add all the sheets one by one, except the first five of course, they are KPI cards and for them we have already prepared the dashboard

# Experiment 12 – Power BI

Dataset – Amazon

## Page 1 – Donut Chart

1. Rename “listed\_in” to “genre”, select “donut” chart from the visuals pane
2. Drag “type” to “legend” and “Title” to “Values”
3. Now go to filters pane and filter out only “Movie” and “TV Shows” from the “type” filters

## Page 2 – Area Chart

1. Select “area chart” from the visuals pane
2. Drag “release\_year” to x-axis and “title” to y-axis and “type” to “Legend”

## Page 3 – Horizontal Bar Chart

1. Select “stacked bar chart”
2. Drag “genre” to y-axis and “title” to “x-axis”
3. now go to the “filters” pane and select “genre”, in it set filter type as “Top N”, give the value as 10
4. In the “By value” region, drag and drop title, it show as “first title”, click on the drop down arrow and select the 4<sup>th</sup> option “count”
5. Finally, click on apply filter

## Page 4 – Map

1. Create a new measure, count showid = count(Amazon[realease\_year])

2. Select “filled map” from the visuals pane and drag “country” to “location”, then drag “count showid” to “tooltips”

#### Page 5 – Description Table

1. Select “table” from the visuals pane
2. And then drag “title” & “description” to column

#### Page 6 – Dashboard

1. Make an interactive dashboard by copying the visuals from the previous pages and pasting them in the dashboard page, properly align and place every visual in the page.

# Experiment 12 – Tableau

Dataset – Amazon

## Sheet 1 - Donut Chart

1. Create a new calculated field, “count of shows”, formula: COUNT([Title])
2. Rename the visualization as “percentage of Movies vs TV Shows”
3. Choose type of chart as “pie” in the “marks” pane and drag “type” to “colors” and “label”, set the view from “standard” to “entire view”
4. Drag “title” to “angle” and “label” in the “marks” pane and just as always, right click on “title” and select “measure” and then “count”
5. Right click on the “CNT(Title)” for “label” and select “Quick Table Calculations” then “percent of total”
6. Create “zero access” field with formula 0
7. Drag it 2 times to the rows and remove everything for the 2<sup>nd</sup> pie chart for the marks pane and right click on the 2<sup>nd</sup> graph axis and click on “dual axis”
8. Then change the color of the 2<sup>nd</sup> pie chart to white
9. There is your donut chart.

## Sheet 2 – Area Chart

1. Name the visualization as “Titles By Release Year and Type”
2. Drag “type” to “color” in the “marks” pane and drag “release year” to column and “title” to row, and right click on title and select “measure” then “count”
3. Then select “area” chart from either “marks” pane or “show me” pane

### Sheet 3 – Horizontal Bar Chart

1. Name the visualization as “Top 10 Genres”
2. Drag “listed in” to row and “title” to column, then right click on “title” and select “measure” and then “count”
3. Drag “listed in” to “filters” and select “top” and then select “by field” and “apply”
4. Sort the graph in descending order and set the view from “standard” to “entire view”

### Sheet 4 – Map

1. Name it as “Total Shows by Country”
2. Drag “country” to details, it will automatically generate the map, now drag “count of shows” to “color”
3. Now remove the null values by selecting the “67 unknown” at the bottom right corner and click on “filter data” next

### Sheet 5 – Description Table

1. Drag “title” to row and “description” to the “text” in the “marks” pane.
2. It will take some time and generate the description table, just expand the table from the right

### Dashboard 1 –

1. Create an interactive dashboard by adding all the sheets in it