I
Advanced Calculations, Filter and Highlight Actions

Data Science Academy

Calculated Fields – Index

- Returns the index of the current row in the partition, without any sorting with regard to value.
- Drag Genre and Platform to rows
- Create Calculated Field with function Index
- Convert to Discrete from highlighted area
- Add *Index* to rows

Calculated Fields – Contains

o Contains function returns true if the given string contains the specified substring.
o Drag Product Name to rows
o Create Calculated Field with function Contains
o Drag 'Avery' to filter and choose True from highlighted area

Calculated Fields – Case When

o " CASE-WHEN" are used to perform the logical test and return the required value when the test expression is true.
o Open **Sample-superstore-subset-excel** dataset
o Drag Ship Mode to rows
o Create Calculated Fields with function Case When
o Drag Shipping Expense to text
o Change Measure to Minimum

Shipping Expense

```
CASE [Ship Mode]
WHEN 'Regular Air' THEN 1.32
WHEN 'Delivery Truck' THEN 24.15
WHEN 'Express Air' THEN 5.29
END
```

Pages	iii Columns	
	≡ Rows	Ship Mode

Filters

Sheet 1

Ship Mode	
Delivery Truck	24.15
Express Air	5.29
Regular Air	1.32

Marks

▣ Automatic ▼

Colour	Size	Text
Detail	Tooltip	

▣ MIN(Shipping ..

Calculated Fields – Lookup

o **LOOKUP** function allows to see a value in the column by specifying relative distance from another value.

Example: if you wanted to see next year's value on this year's cell

Notice how the function gives 1 year to the future's value

To see value of 2 years ago, write
lookup(sum([Boys Participation]), -2)

1)

lookup

Results are computed along Table (across).
LOOKUP(SUM([Boys Participation]),1)

The 1 means that there will be +1 distance between values.

2)

Year	Boys Participation	lookup along Table..
2002/2003	3,988,684	4,038,253
2003/2004	4,038,253	4,110,319
2004/2005	4,110,319	4,217,448
2005/2006	4,217,448	4,321,103
2006/2007	4,321,103	4,372,115
2007/2008	4,372,115	4,422,662
2008/2009	4,422,662	4,455,740
2009/2010	4,455,740	4,494,406
2010/2011	4,494,406	4,484,987
2011/2012	4,484,987	4,489,285
2012/2013	4,489,285	4,527,994
2013/2014	4,527,994	4,519,312
2014/2015	4,519,312	4,544,574
2015/2016	4,544,574	4,563,238
2016/2017	4,563,238	4,565,580
2017/2018	4,565,580	4,534,758
2018/2019	4,534,758	

Filter Actions

- From Dashboard tab, select **actions**.
- Choose **Add Actions**, select **filter**.
- Use *Genres* as the source and Platforms, Total by Year as target sheets.
- The target sheets will be filtered by the selection of source sheet.

Filter Actions

Before Selection:
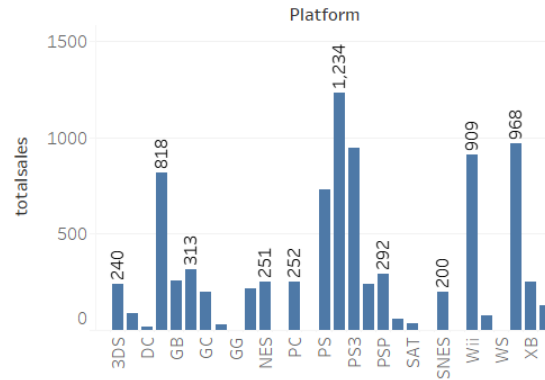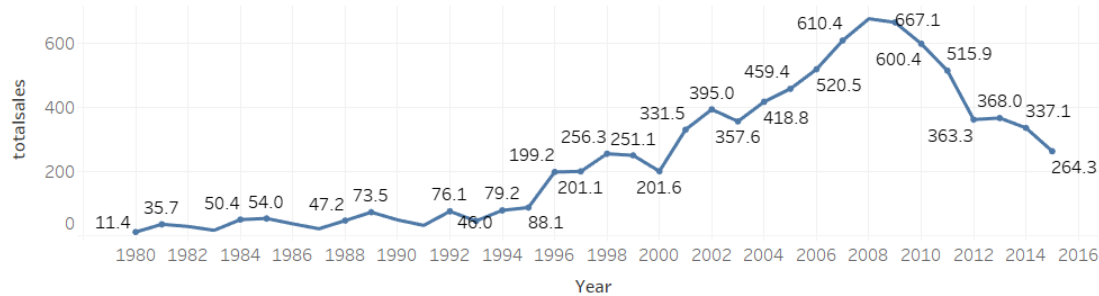
After Selection:
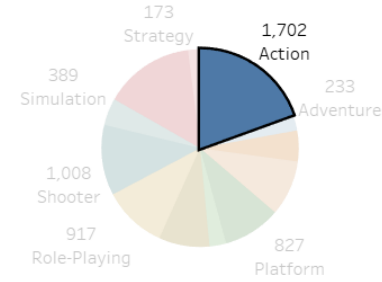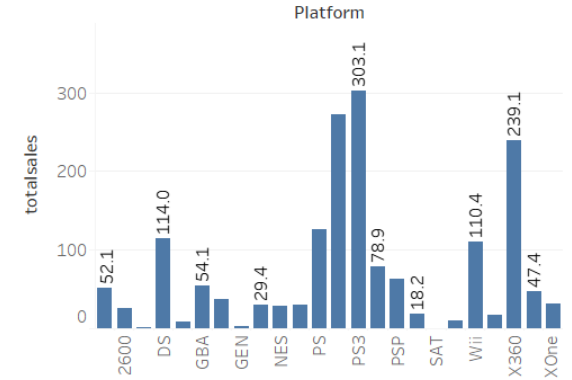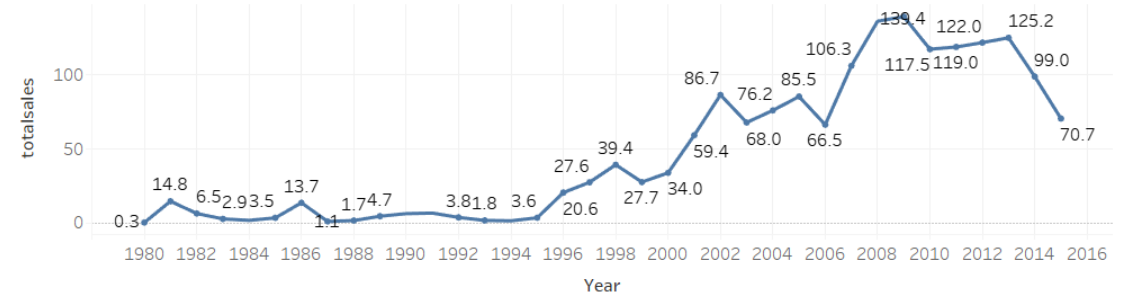
Filter Actions

- Go to dashboard tab, select **Actions**
- Press **Add Actions,** Choose **Filter**
- Use **Genres** as the *Source,* and *Eu Sales* as the target.
- Run action on *Select* and *Exclude* all values.

  Note: This can be used for invisible sheets on default.

Filter Actions

Unselected

Notice how Eu Sales chart becomes visible.
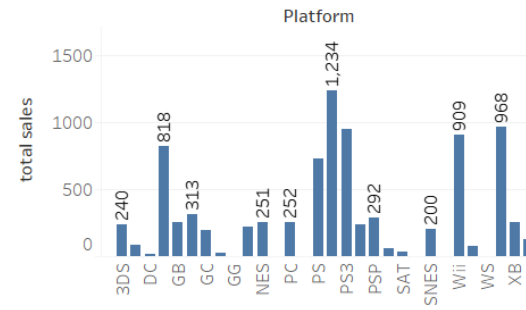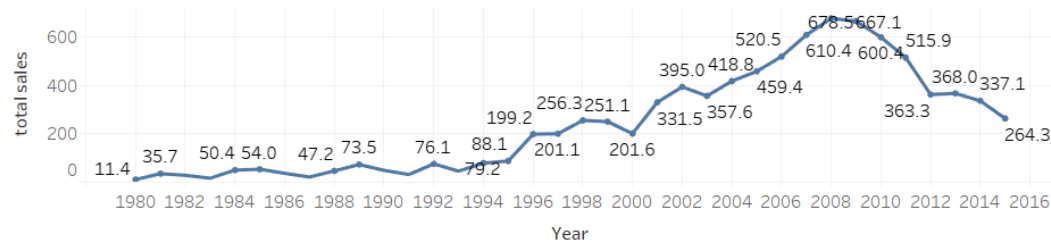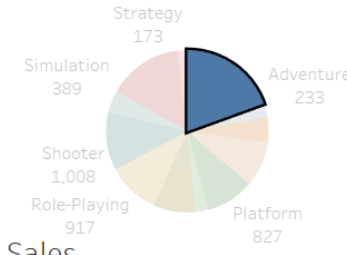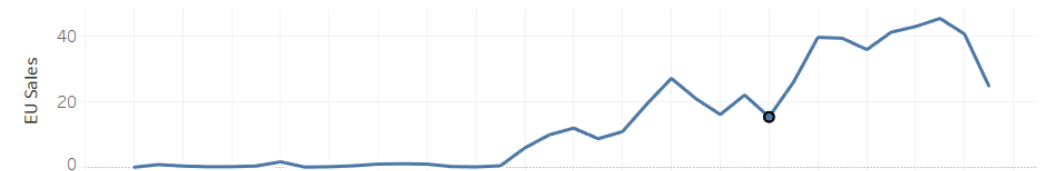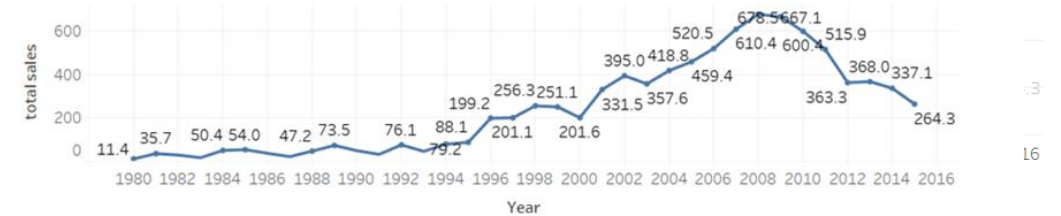
Highlight Actions

Create another Sheet that shows *Eu Sales* trend by years.

- Go to dashboard tab, select **Actions**
- Press **Add Actions**, then choose **highlight**
- Choose *Total by Year* as the source.
- Choose *Eu Sales* as the target.
- This means when we highlight a point on *Total by Sales*, the same point will be also highlighted on *Eu Sales' Chart*.

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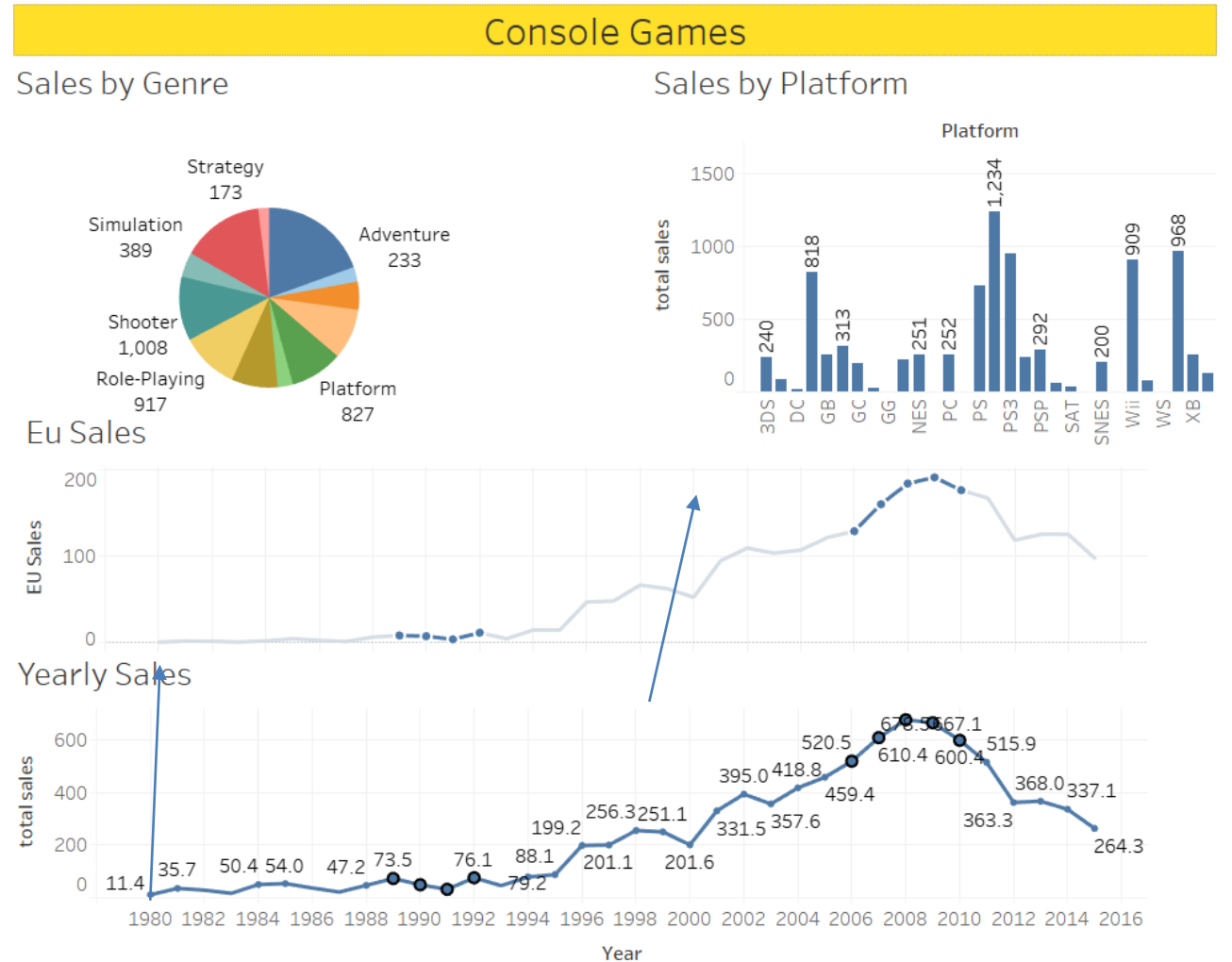10

Highlight Actions

○ Notice how the exact points on *Eu Sales* are highlighted when we choose from *Yearly sales*.

II
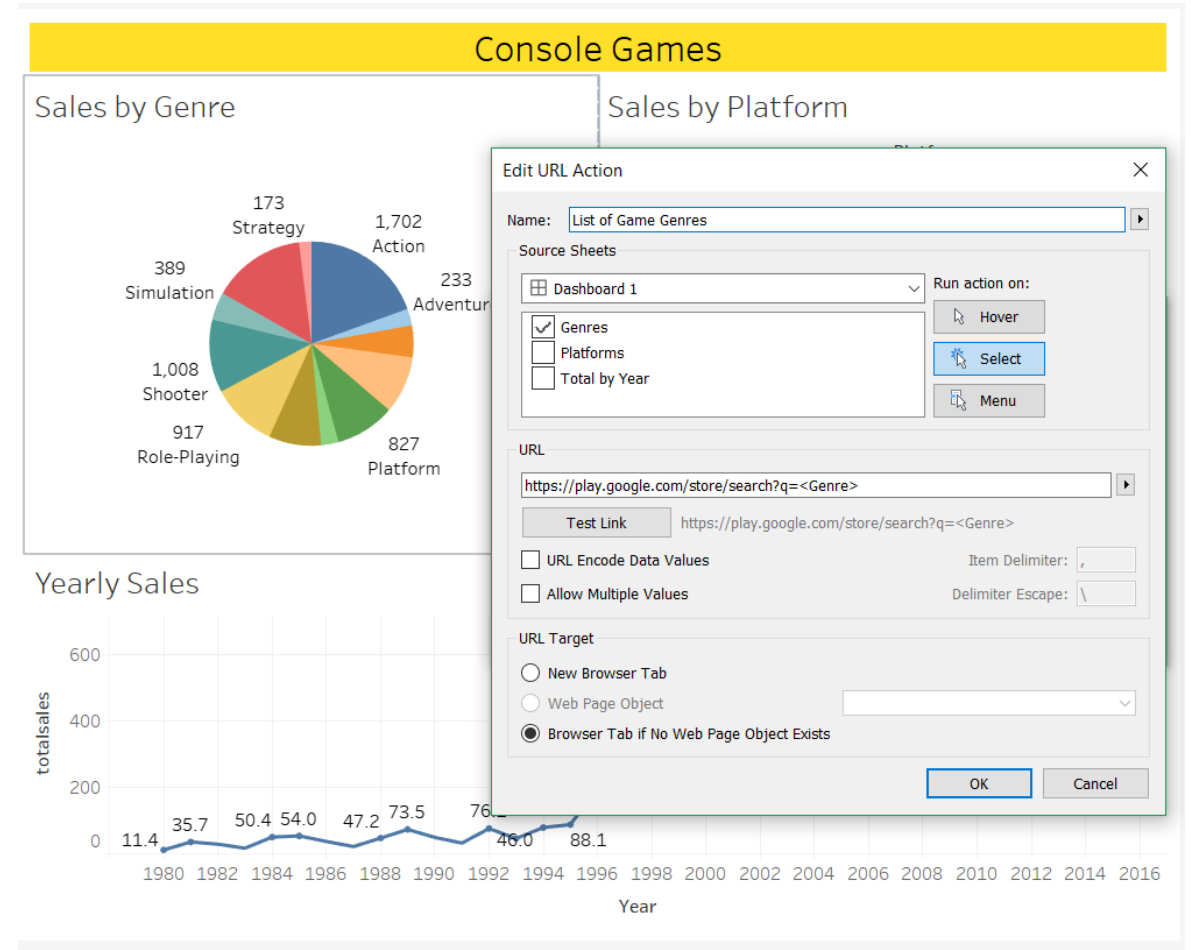# URL Actions and Lollipop Charts

URL Actions

- Go to dashboard tab, choose *Actions*.
- Press Add Actions, choose **Go to URL**.
- Choose **Genre sheet** as source, use **Select** as run action.
- Write the URL code below to the URL box:
- *https://play.google.com/store/search?q=<Genre>*

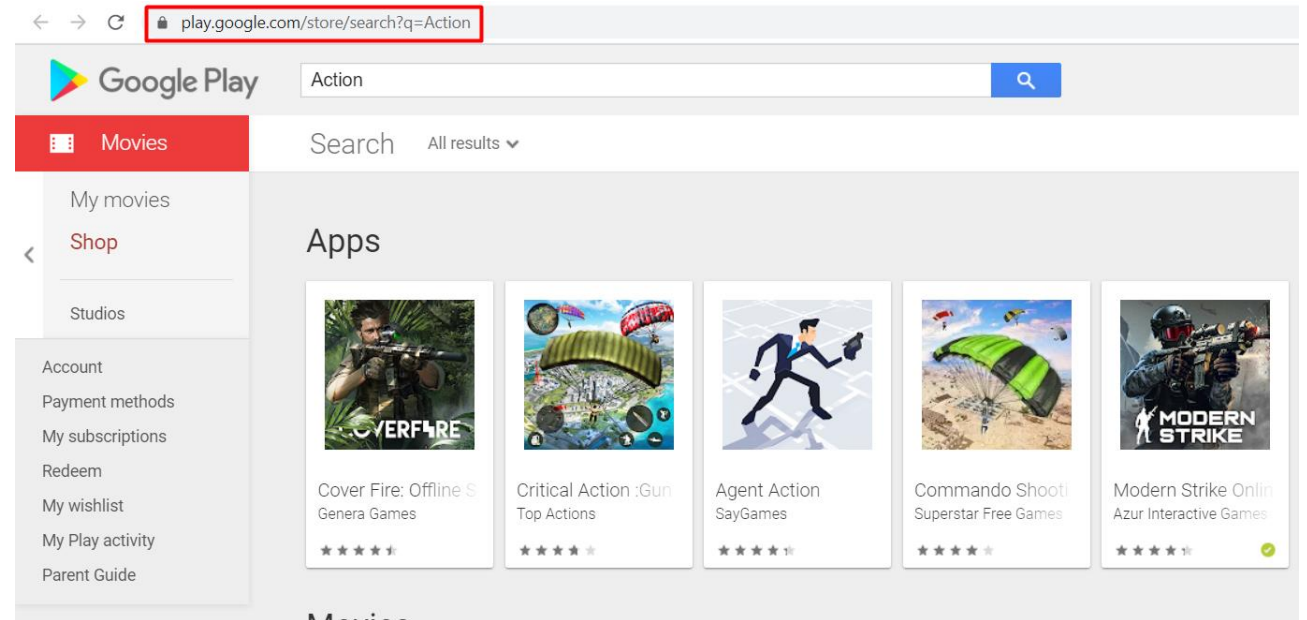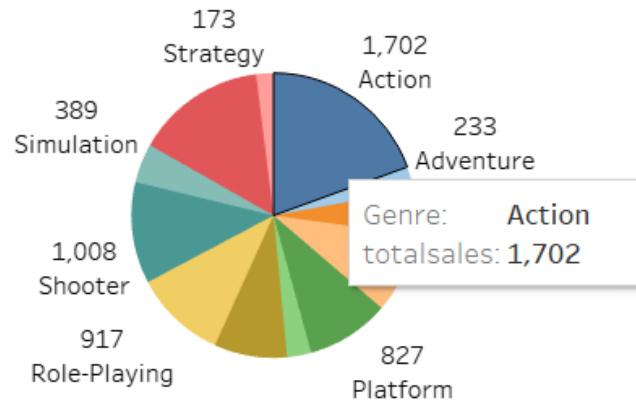The <Genre> part means that Tableau will swap the text at the end with which Genre you selected on your chart.

URL Actions

Click on any genre in the dashboard.

The action will open a link as specified earlier:

URL Actions with Web Page Object

o Go to Objects click Web Page from highlighted area
o Enter the following link:

https://play.google.com/store/search?q=<Genre>
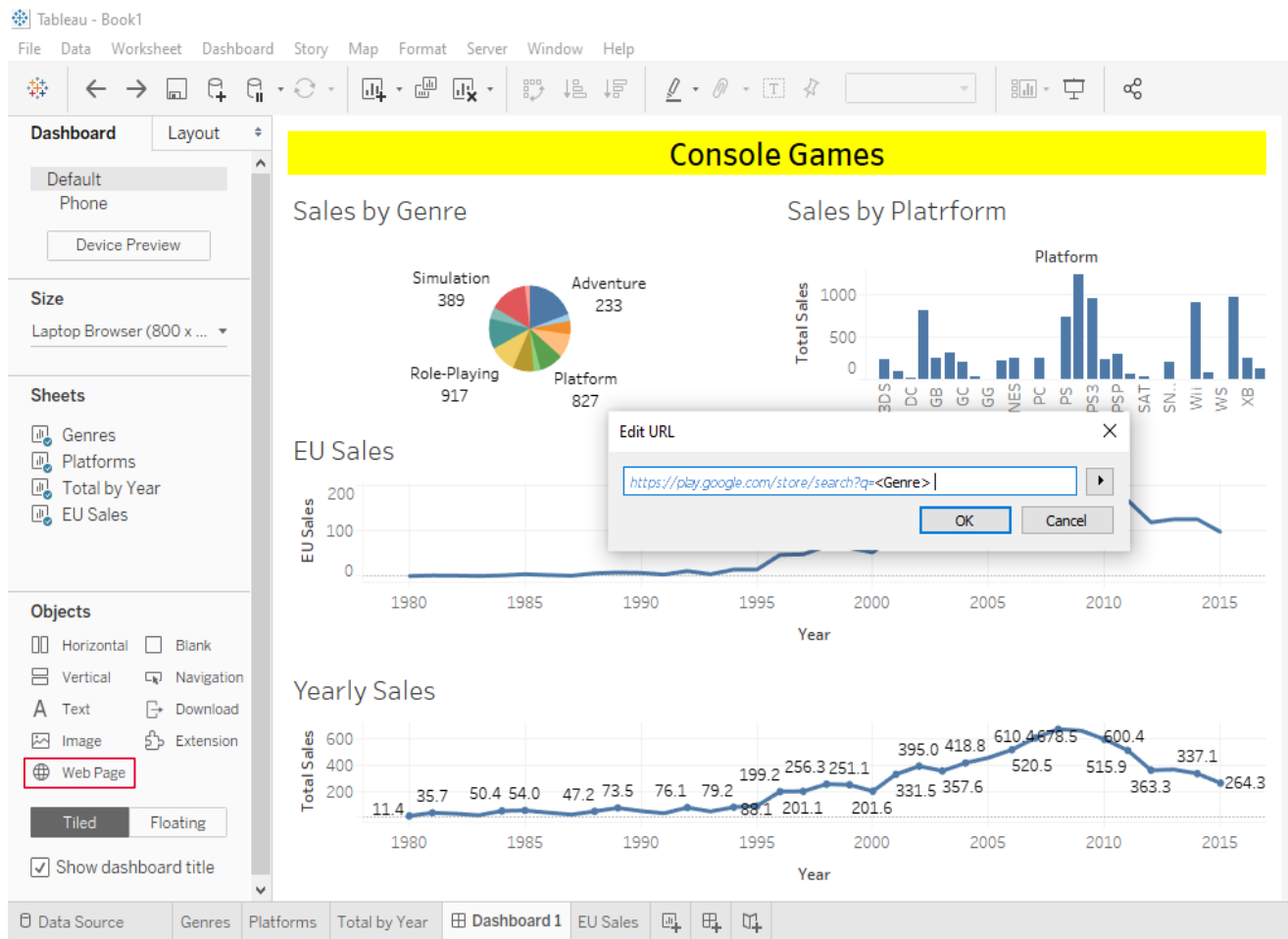
URL Actions with Web Page Object

o Go to worksheet in Dashboard then select Actions

o *https://play.google.com/store/search?q=%3CGenre%3E* write this link in selected area

o Select Genre from highlighted area

URL Actions with Web Page Object

o Choose any Genre
o The action will open link in Web Page in Dashboard
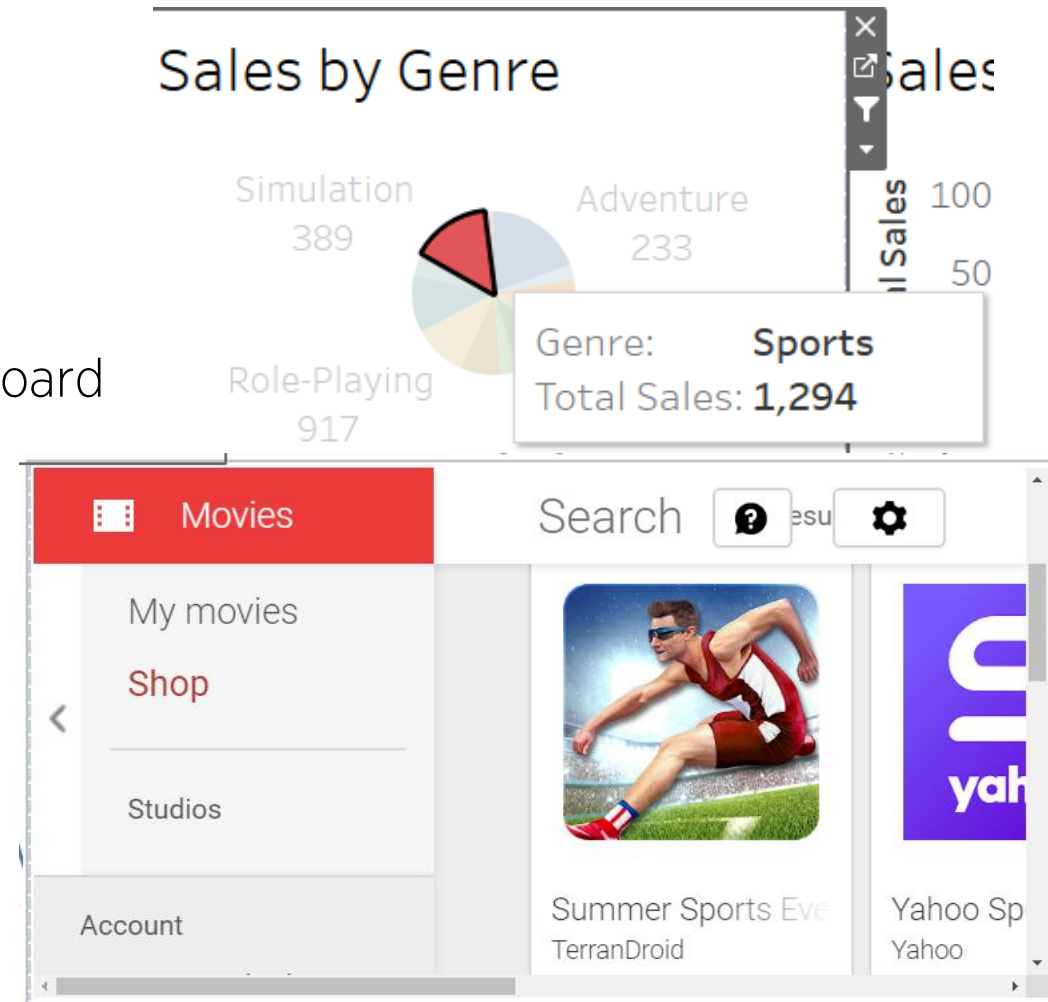
Lollipop Chart

Lollipop Chart is a chart that reminds of Lollipops. It shows bars for different variables with a circle at peak points.

To show Female Participation by State:

- Add *State* to Column and *Girl Participation* to Rows.
- Make a copy of Girl Participation at Rows, then choose **dual axis**.
- Go to the marks of first Girl Participation. Change **the mark** to **bar**.
- Change the Second Girl Participation's Mark to circle.
- Adjust the sizes. Make circles bigger and bars narrower.

Lollipop Chart

- Add Girls Participation as a color mark in the General(All) Marks tab.
- Add Girls Participation as a label on second marks tab, use top alignment.
- Remove headers.

Female Participation by States
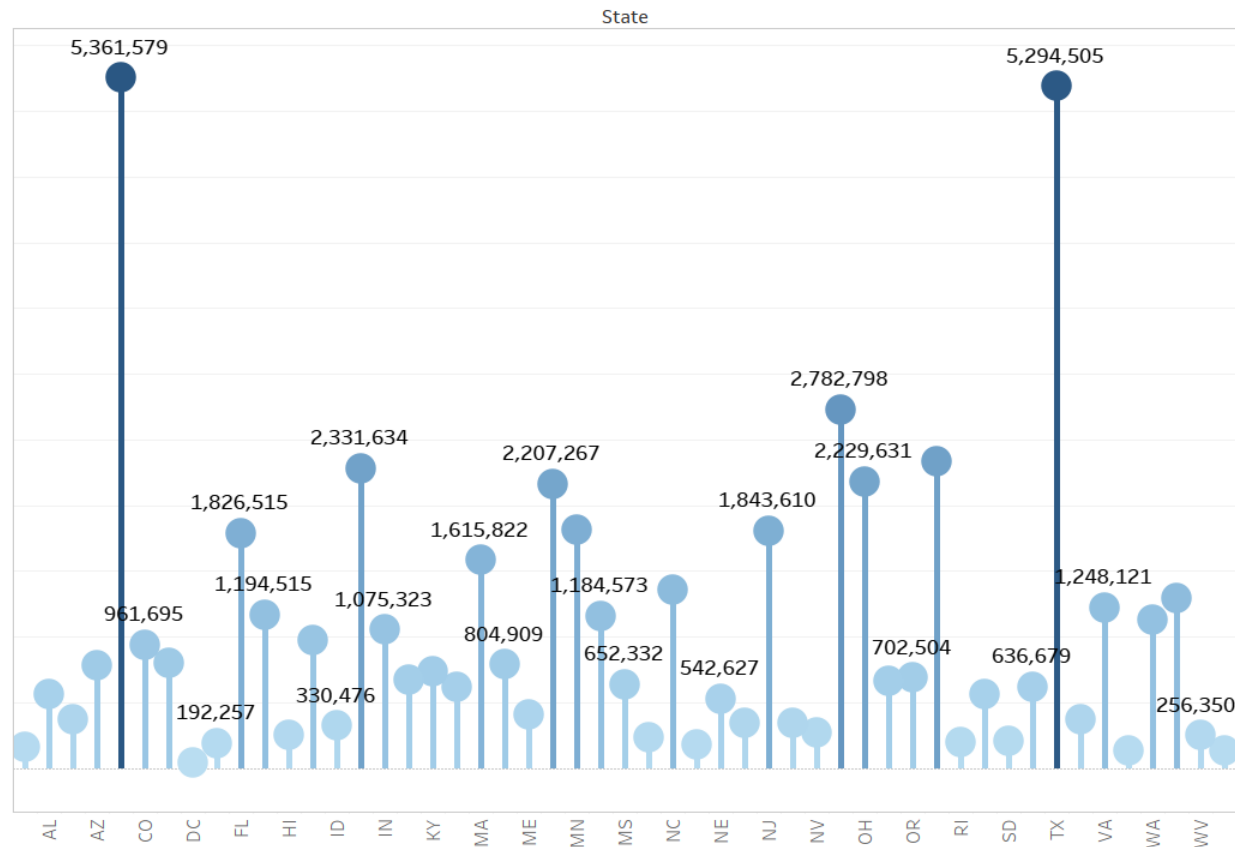
III
Advanced Charts

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Bump Chart

Bump chart is a complex chart used to show how the rankings of variables in the dataset change over time.

- Add **Years** into Columns, make sure it is continuous.
- Create Total Participation(*[Boys Participation] + [Girls Participation])* variable, add it to rows.
- Make Sport a color mark.
- Now you have a line for each sport's trend over years to rank them by their participation numbers
- Right click on **Total Participation**, choose **Quick Table**
- **Calculation** and click **Rank**.
- Choose **Compute Using** and select **Sport**.
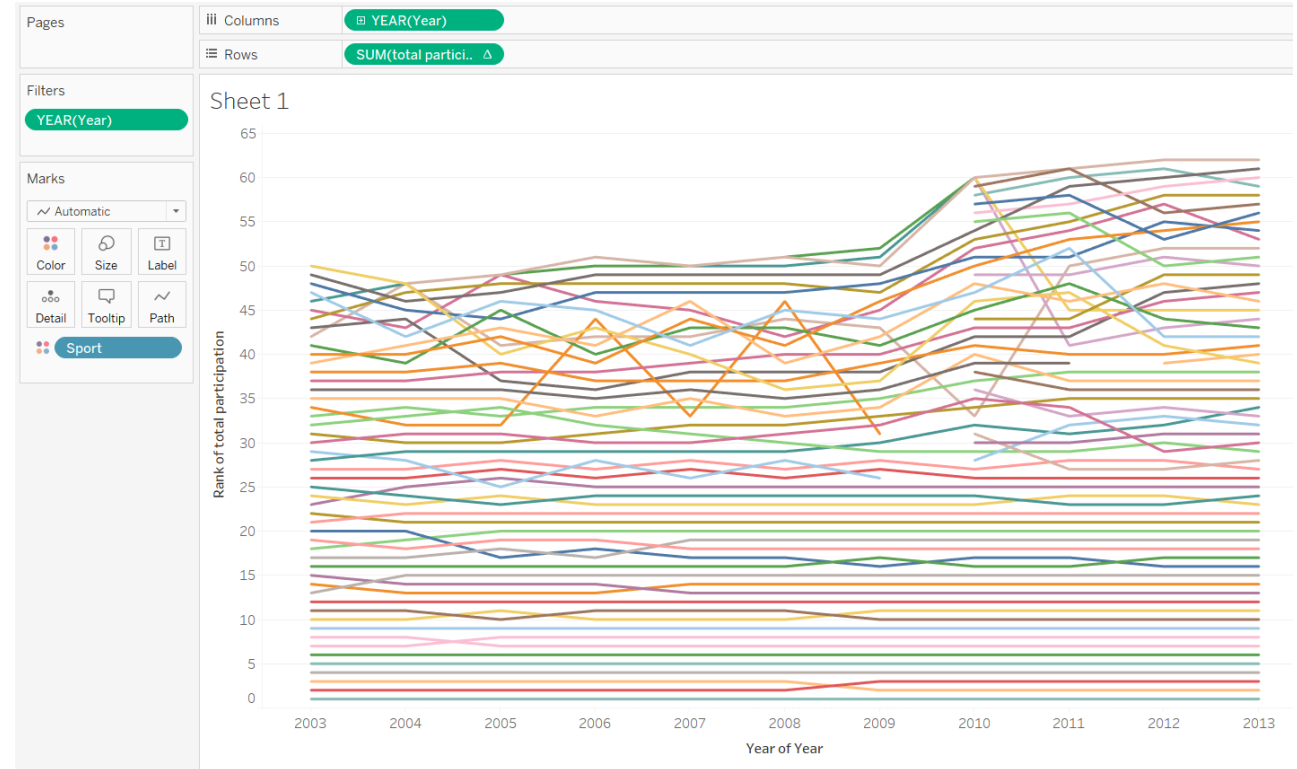
Bump Chart

o To have variables ranked correctly, create a copy of SUM(Total Participation), and choose Dual Axis.
o Right click both of the Y axis headers and edit them.
o Filter to show Top 20 sports by total participation.
o Choose Reversed for each one of them.
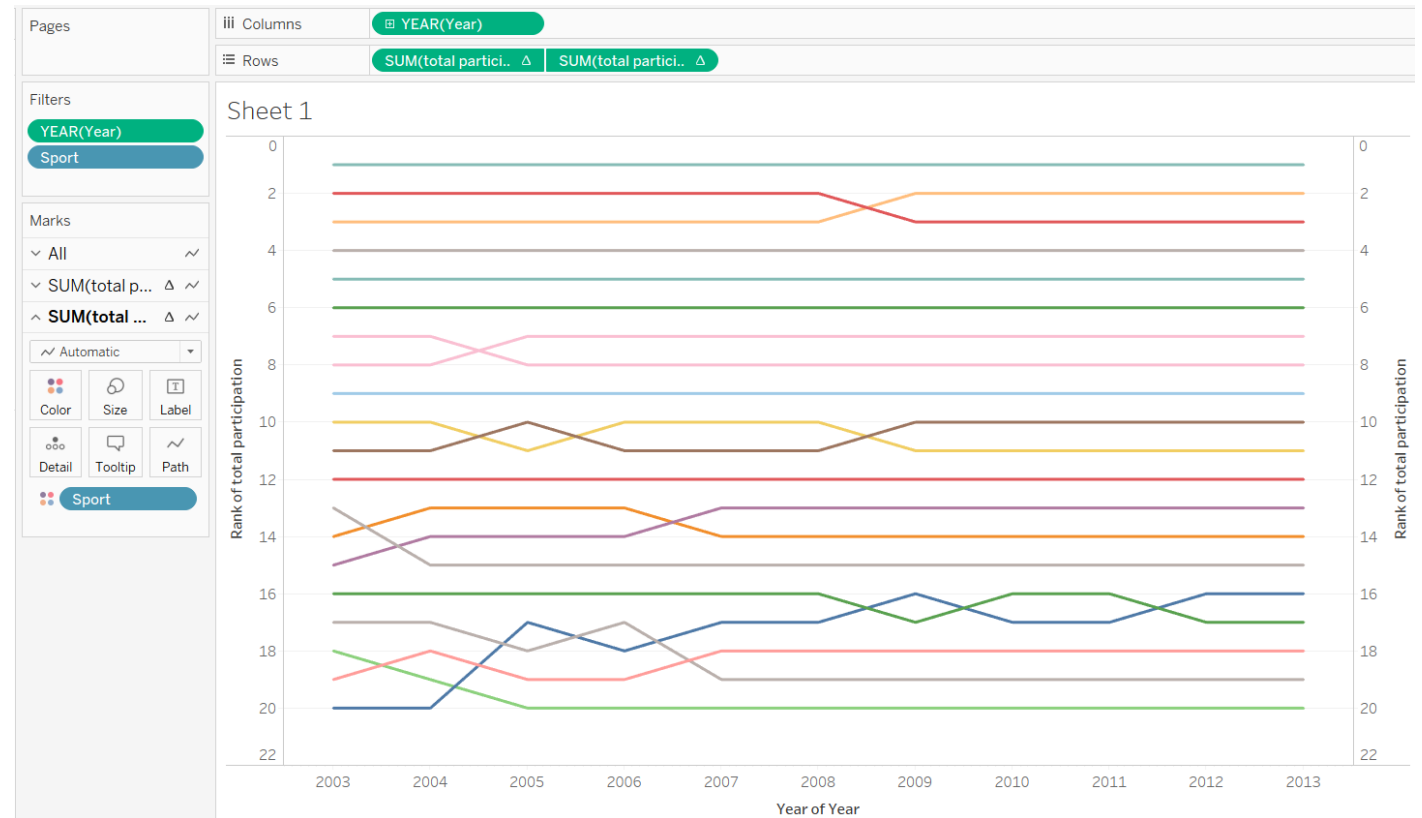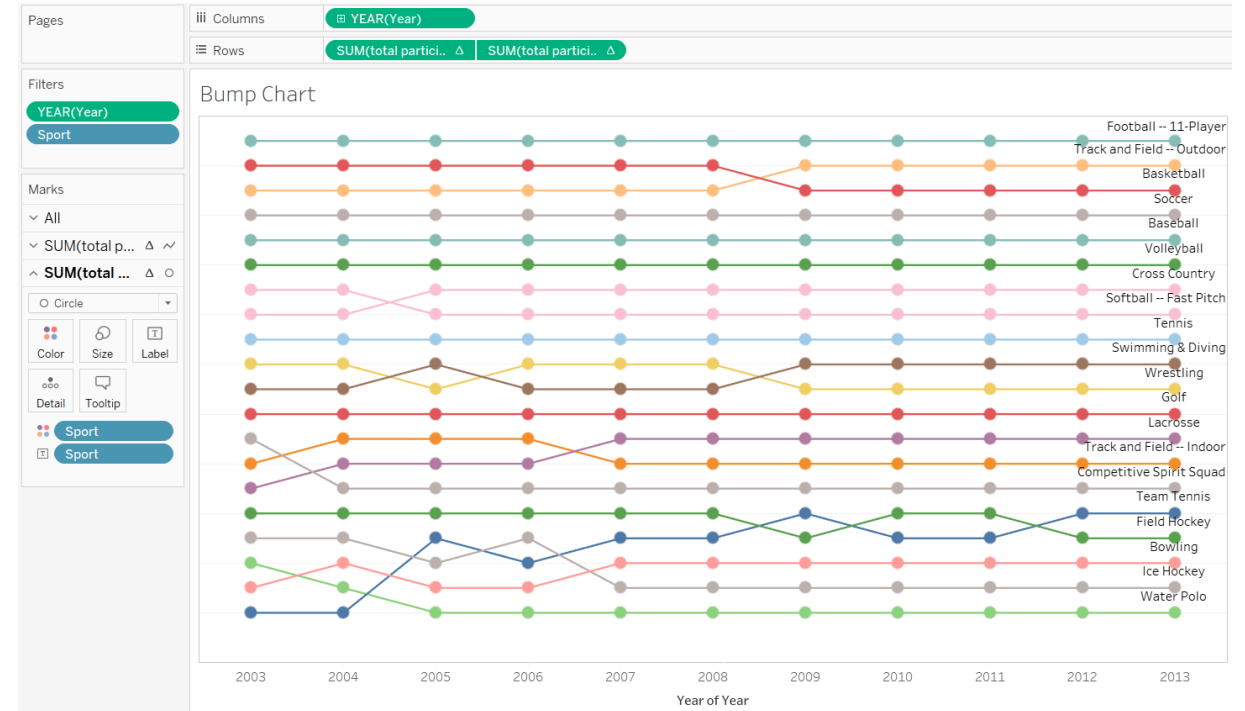
Bump Chart

o Now filter to show Top 20 sports by total participation.

Bump Chart

o Go to marks for our second **Total Participation** variable.
o Change the mark from line to circle. Adjust the size.
o Add *Sport* to label, set the mark as **most recent**.
o Adjust the alignment to center and above.

Dumbbell Chart

o Dumbbell chart is used to display the values of two categories at the same time.

o Convert **Age** into a dimension.
o Turn off Aggregate Measures.
o Bring Age and Ownership to Columns and Rows.
o Set Year as the colour mark.
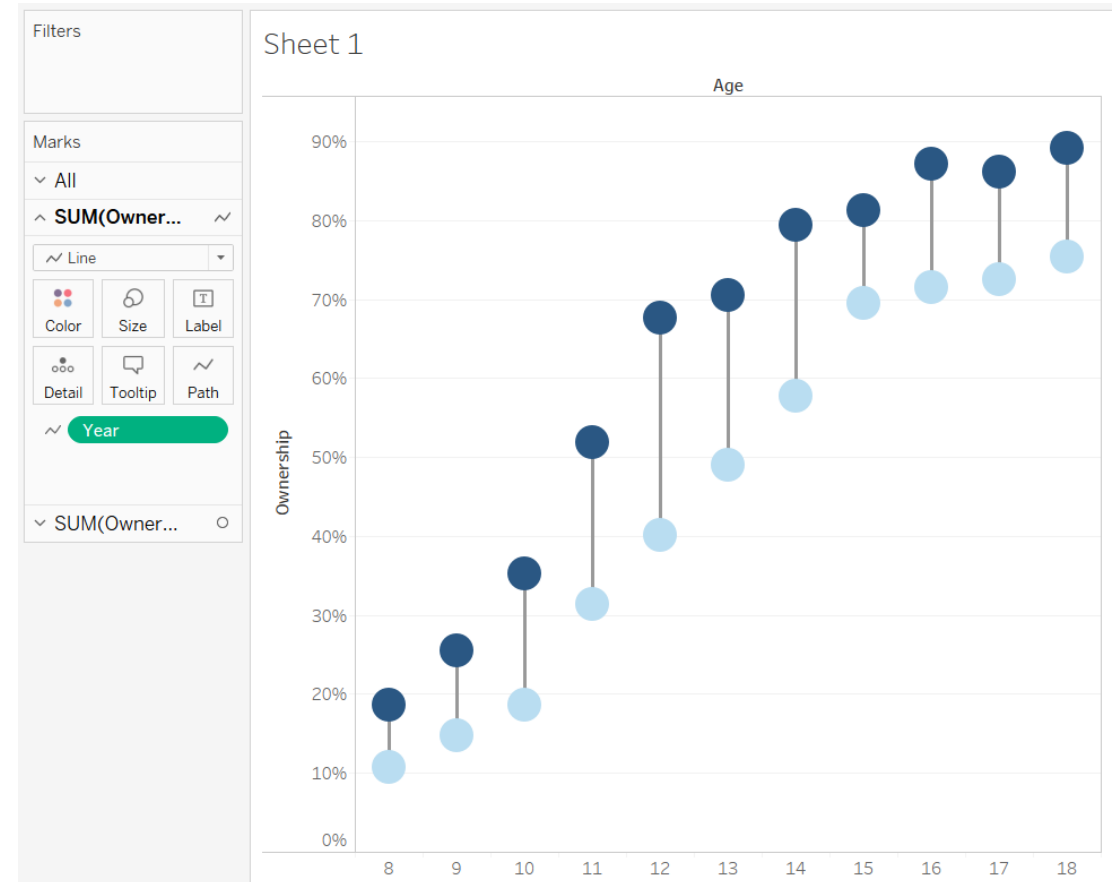o Now create a copy of Ownership and set Dual Axis.
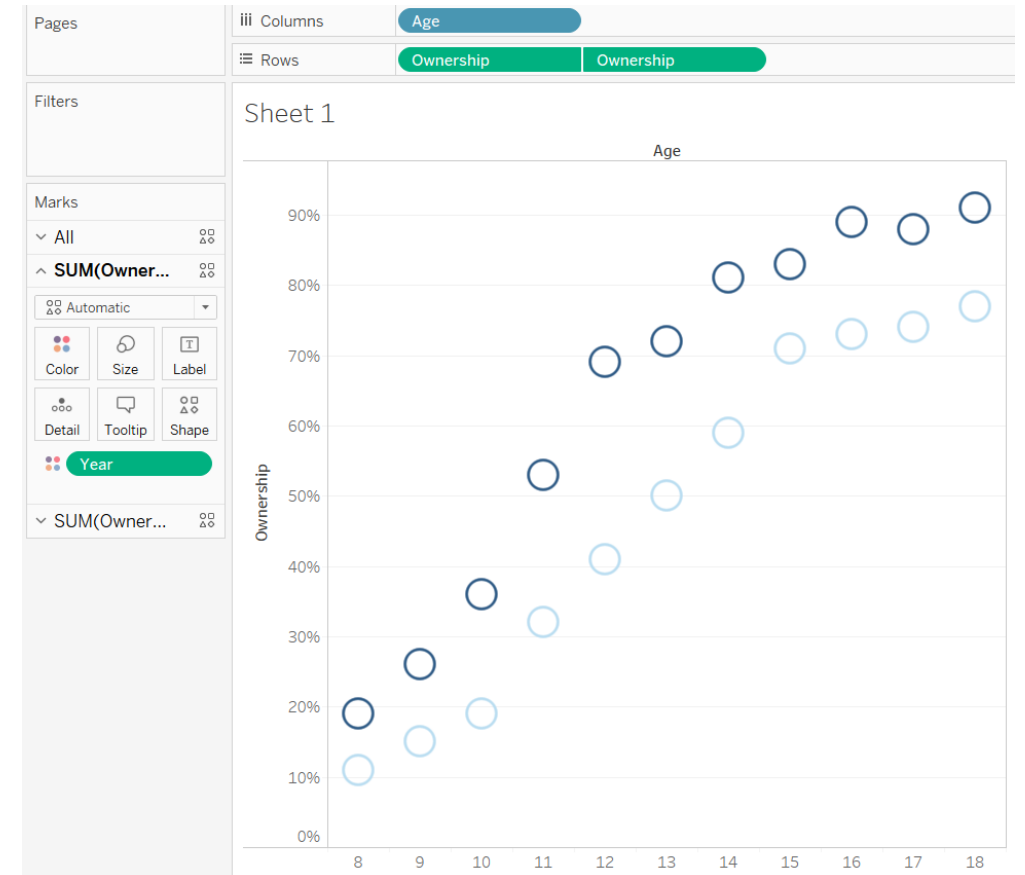
Dumbbell Chart

- Change the first mark to Line and second mark to Circle.
- Drag Year in first mark from color to Path.
- To add labels, create 2 calculated fields for 2015 and 2019 years

2015

if [Year] = 2015 then [Ownership]END

2019
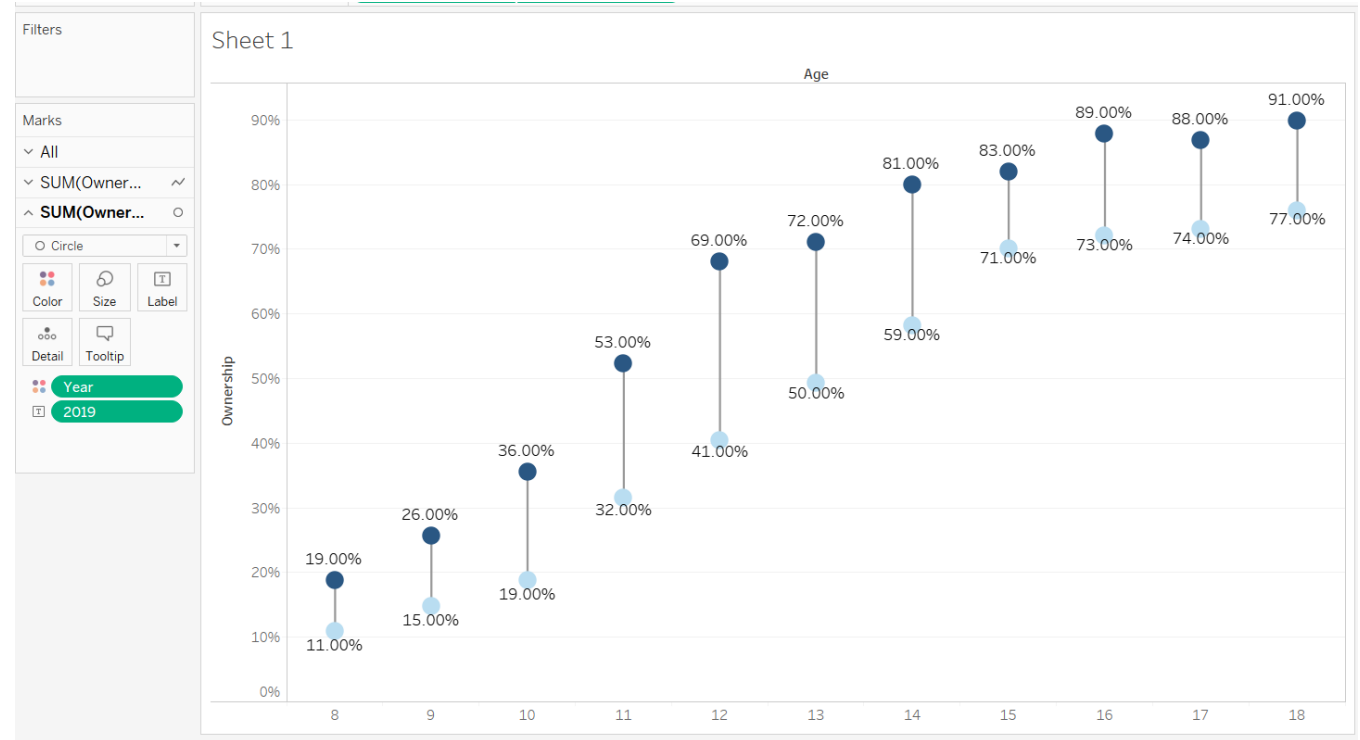
if [Year]= 2019 then [Ownership] END

Dumbbell Chart

- Add 2015 to first mark's label and change alignment to bottom.
- Add 2019 to second mark's label and change alignment to top.
- Change ownership's number property to percentage.

Thank you!

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