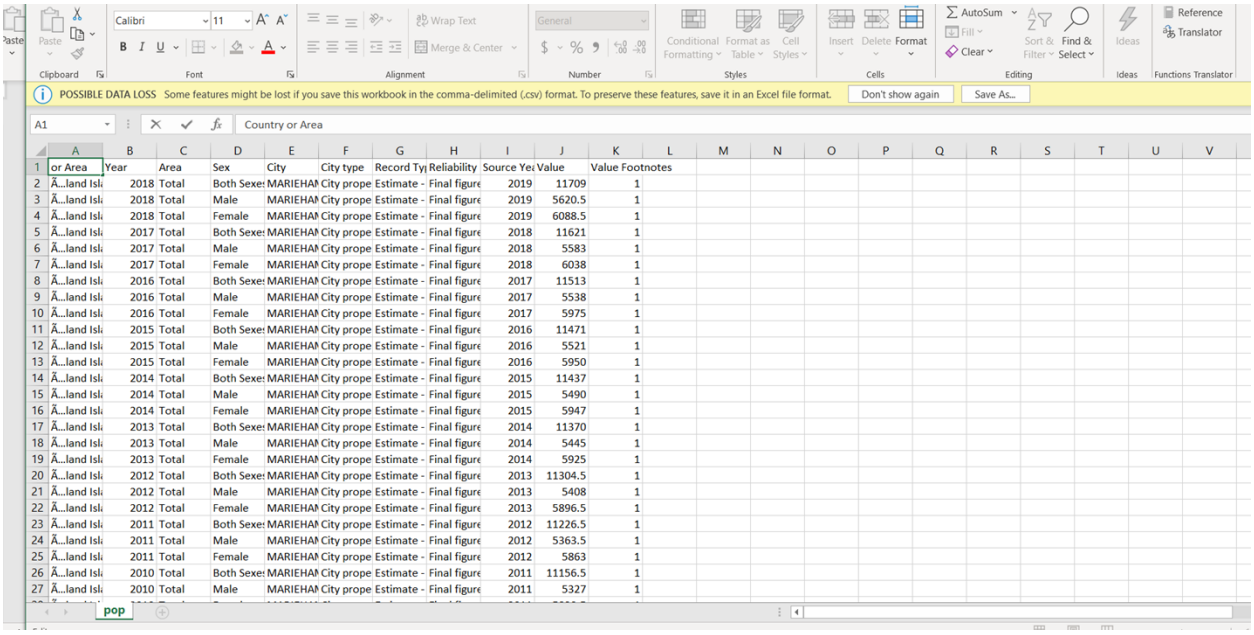
ASSIGNMENT 2- TABLEAU (DUE ON 03/17/2021) (POINTS 100)

M.JYOTHSNA

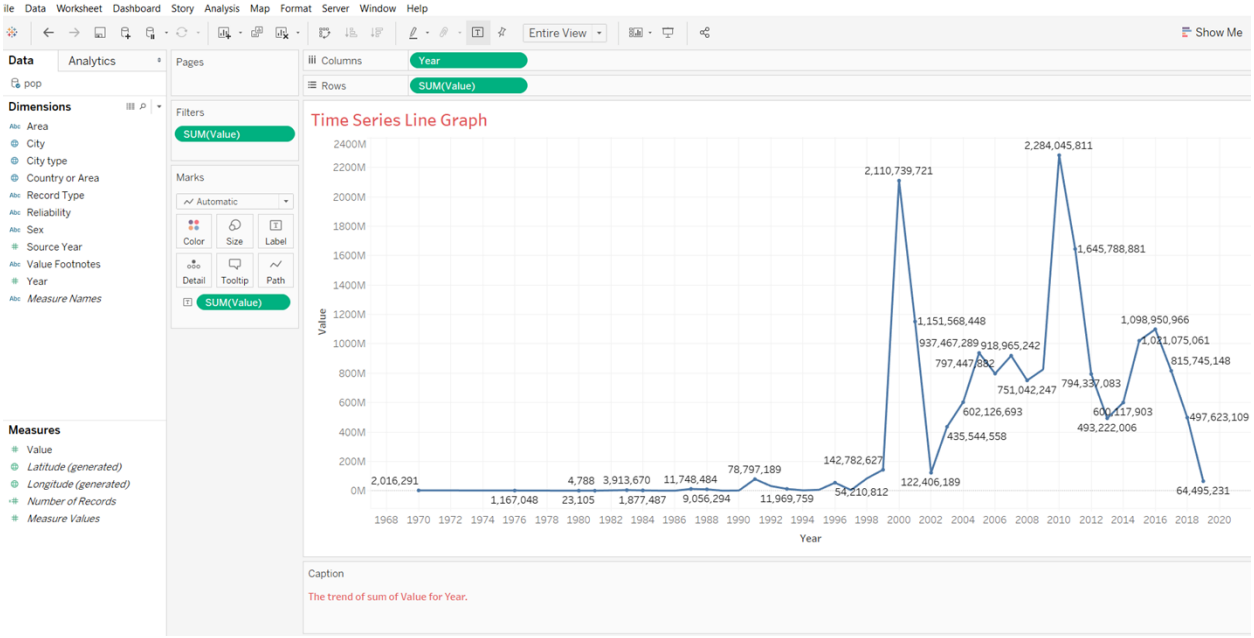
Tableau Graphs and Data Visualization on United Nations Demographics Statistics Data Base(City Population by City,Sex and City type)



	or Area	Year	Area	Sex	City	City type	Record Ty	Reliability	Source Ye	Value	Value Footnotes
2	Ã…land Isl	2018	Total	Both Sexes	MARIEHAM	City prope	Estimate -	Final figure	2019	11709	1
3	Ã…land Isl	2018	Total	Male	MARIEHAM	City prope	Estimate -	Final figure	2019	5620.5	1
4	Ã…land Isl	2018	Total	Female	MARIEHAM	City prope	Estimate -	Final figure	2019	6088.5	1
5	Ã…land Isl	2017	Total	Both Sexes	MARIEHAM	City prope	Estimate -	Final figure	2018	11621	1
6	Ã…land Isl	2017	Total	Male	MARIEHAM	City prope	Estimate -	Final figure	2018	5583	1
7	Ã…land Isl	2017	Total	Female	MARIEHAM	City prope	Estimate -	Final figure	2018	6038	1
8	Ã…land Isl	2016	Total	Both Sexes	MARIEHAM	City prope	Estimate -	Final figure	2017	11513	1
9	Ã…land Isl	2016	Total	Male	MARIEHAM	City prope	Estimate -	Final figure	2017	5538	1
10	Ã…land Isl	2016	Total	Female	MARIEHAM	City prope	Estimate -	Final figure	2017	5975	1
11	Ã…land Isl	2015	Total	Both Sexes	MARIEHAM	City prope	Estimate -	Final figure	2016	11471	1
12	Ã…land Isl	2015	Total	Male	MARIEHAM	City prope	Estimate -	Final figure	2016	5521	1
13	Ã…land Isl	2015	Total	Female	MARIEHAM	City prope	Estimate -	Final figure	2016	5950	1
14	Ã…land Isl	2014	Total	Both Sexes	MARIEHAM	City prope	Estimate -	Final figure	2015	11437	1
15	Ã…land Isl	2014	Total	Male	MARIEHAM	City prope	Estimate -	Final figure	2015	5490	1
16	Ã…land Isl	2014	Total	Female	MARIEHAM	City prope	Estimate -	Final figure	2015	5947	1
17	Ã…land Isl	2013	Total	Both Sexes	MARIEHAM	City prope	Estimate -	Final figure	2014	11370	1
18	Ã…land Isl	2013	Total	Male	MARIEHAM	City prope	Estimate -	Final figure	2014	5445	1
19	Ã…land Isl	2013	Total	Female	MARIEHAM	City prope	Estimate -	Final figure	2014	5925	1
20	Ã…land Isl	2012	Total	Both Sexes	MARIEHAM	City prope	Estimate -	Final figure	2013	11304.5	1
21	Ã…land Isl	2012	Total	Male	MARIEHAM	City prope	Estimate -	Final figure	2013	5408	1
22	Ã…land Isl	2012	Total	Female	MARIEHAM	City prope	Estimate -	Final figure	2013	5896.5	1
23	Ã…land Isl	2011	Total	Both Sexes	MARIEHAM	City prope	Estimate -	Final figure	2012	11226.5	1
24	Ã…land Isl	2011	Total	Male	MARIEHAM	City prope	Estimate -	Final figure	2012	5363.5	1
25	Ã…land Isl	2011	Total	Female	MARIEHAM	City prope	Estimate -	Final figure	2012	5863	1
26	Ã…land Isl	2010	Total	Both Sexes	MARIEHAM	City prope	Estimate -	Final figure	2011	11156.5	1
27	Ã…land Isl	2010	Total	Male	MARIEHAM	City prope	Estimate -	Final figure	2011	5327	1

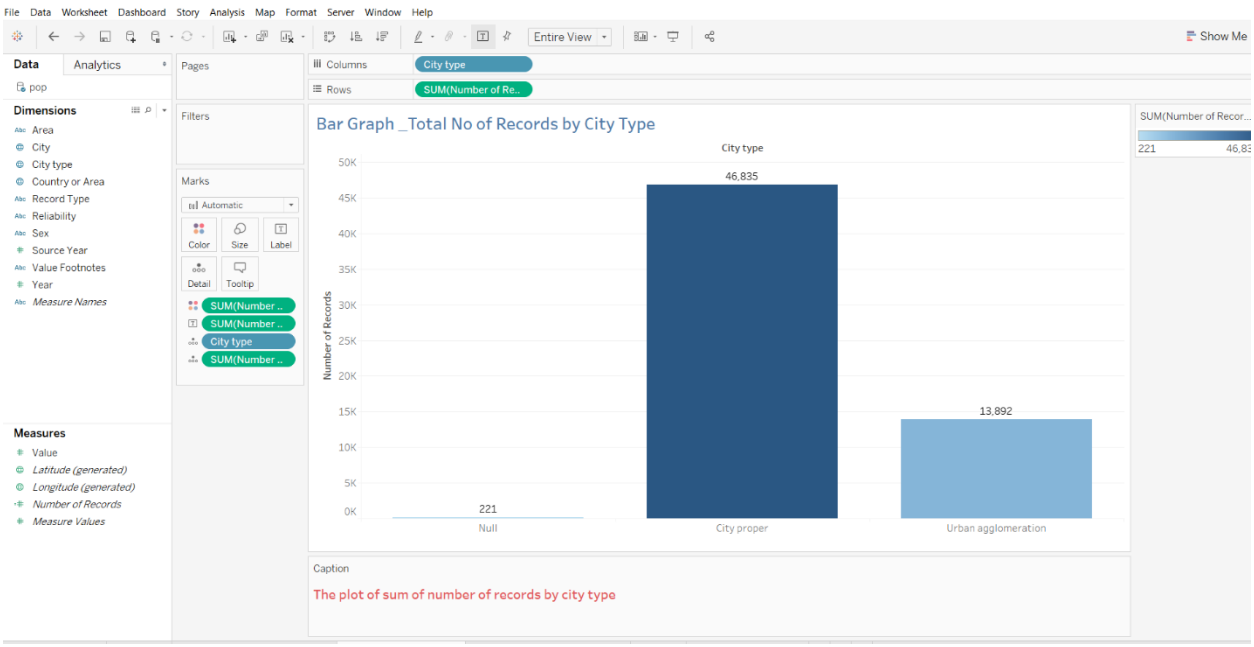
1) Time Series Line Graph

Time Series analysis is a statistical technique used to record data points over a period of time, such as daily,monthly,yearly etc.. A time series chart is a graphical representation of the time series data across the interval period.



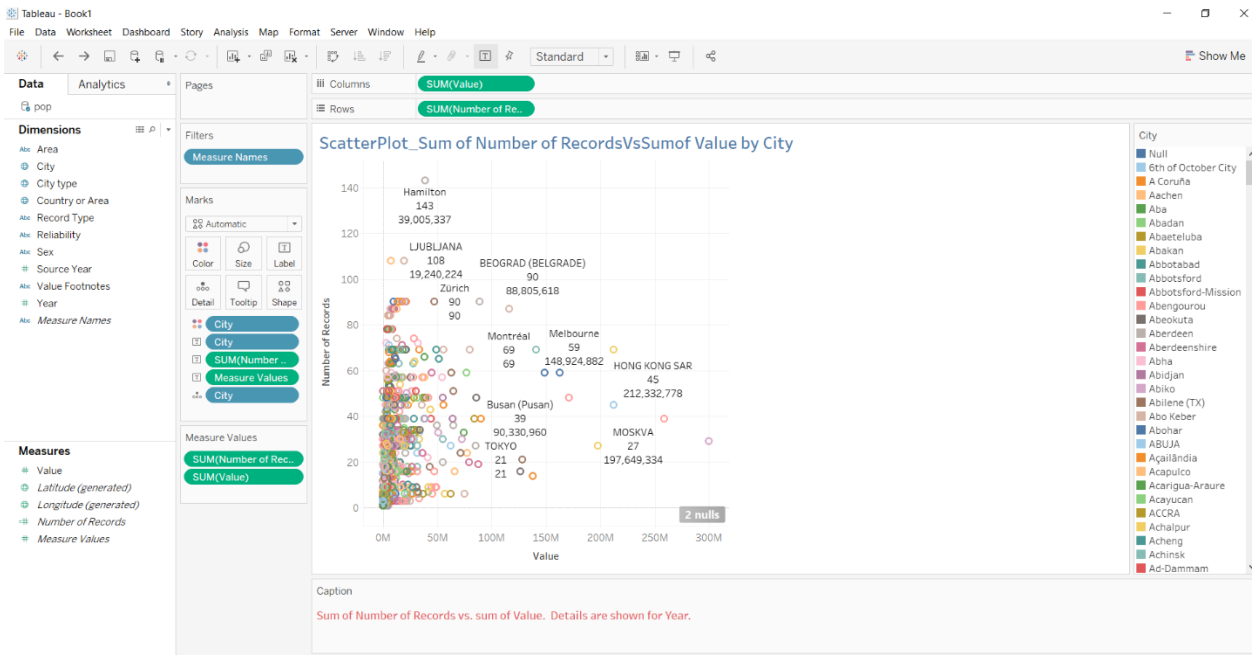
The above chart shows graphical representation of trend of sum of value of population during the period from 1968 through 2020.
From the year 1970-1990 the sum of values were somewhat stable ranged from 2,016,291 – 1,221,319.The values raised to very high in the year 2000 with sum of values 2,110,739,721.In the year 2002 the sum of values fell down to 122,406,189.From the year 2002-2005 the sum of values gradually increased and has reached its peak in the year 2010 with value of 2,284,045,811.
The values again fell down in the year 2013 to 493,222,006.
From 2013 to year 2-16 the sum of values gradually increased to 1,098,950,966 in the year 2016.
Again the values fell down to 64,495,231 in the year 2019.
CONCLUSION : From the Line Graph we can conclude that the sum of values are like roller coaster with no constant increase or decrease.

2) Bar Graph



The above Bar Graph deciphers that the Sum of Number of Records in City Type leads the way with over 46,835 and Second most is Urban Agglomeration with 13,892 Records and least no of Records of 221 (Null) were found where there is no information about the city type .

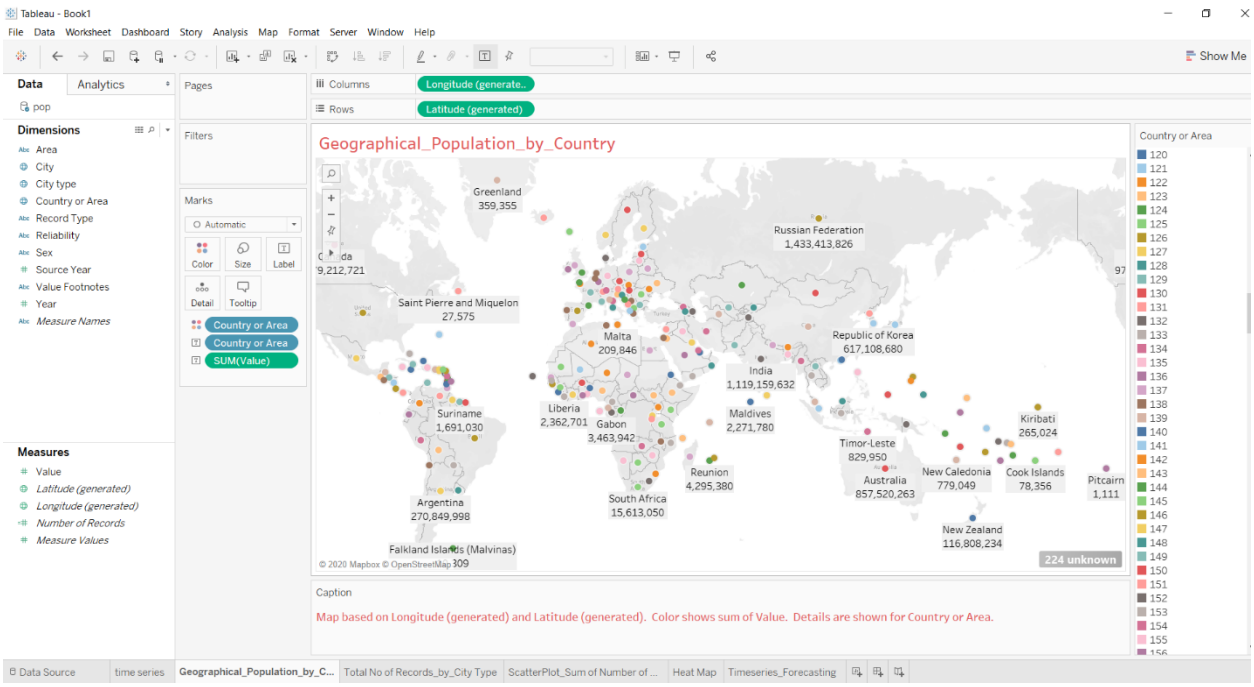
3) Scatter Plot



Scatter plot is excellent chart to correlate to visualize correlation between two variables. It is useful for spotting outliers as well.
The highest records 143 were recorded in the city Hamilton and next highest 108 is the city LJUBLIANA.And the lowest no of record types 21 were recorded in the city TOKYO.

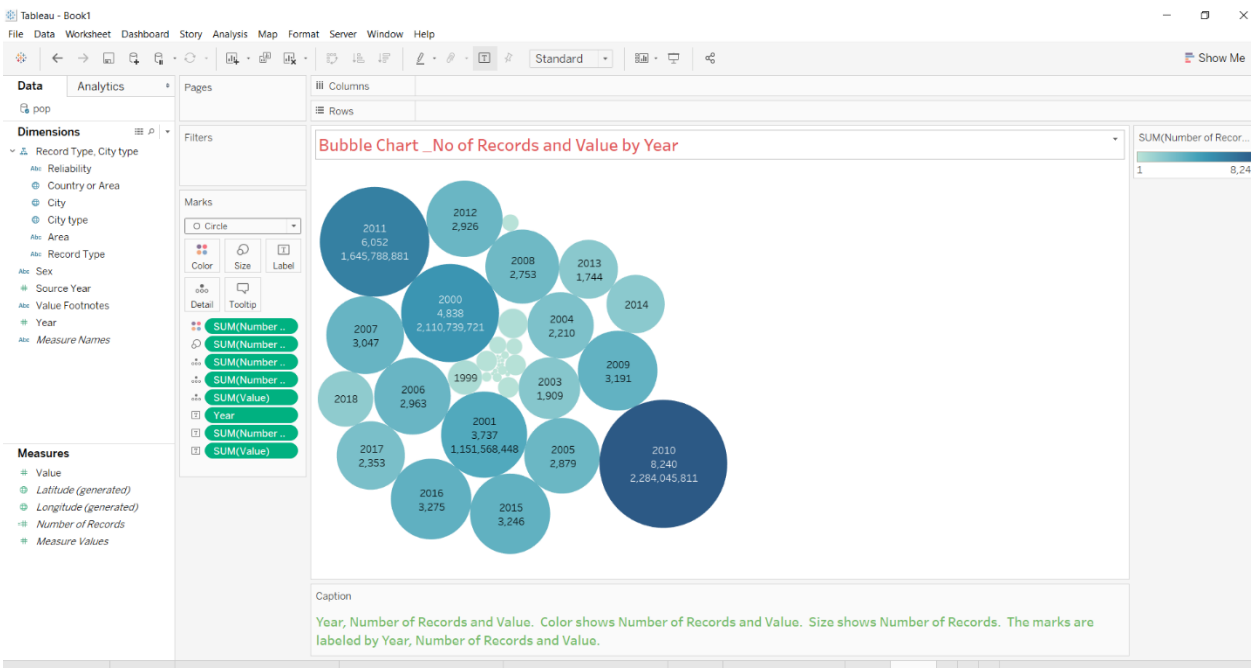
As you can see by the scatter plot there is one outlier with record value of 143 in the city HAMILTON whose value is drastically high compared to other cities records.

4) Geographical Graph



Geographical Graph of population by country shows that the highest population is in Russian Federation 1,433,413,826.
Lowest Population is in Pitcairn 1,111

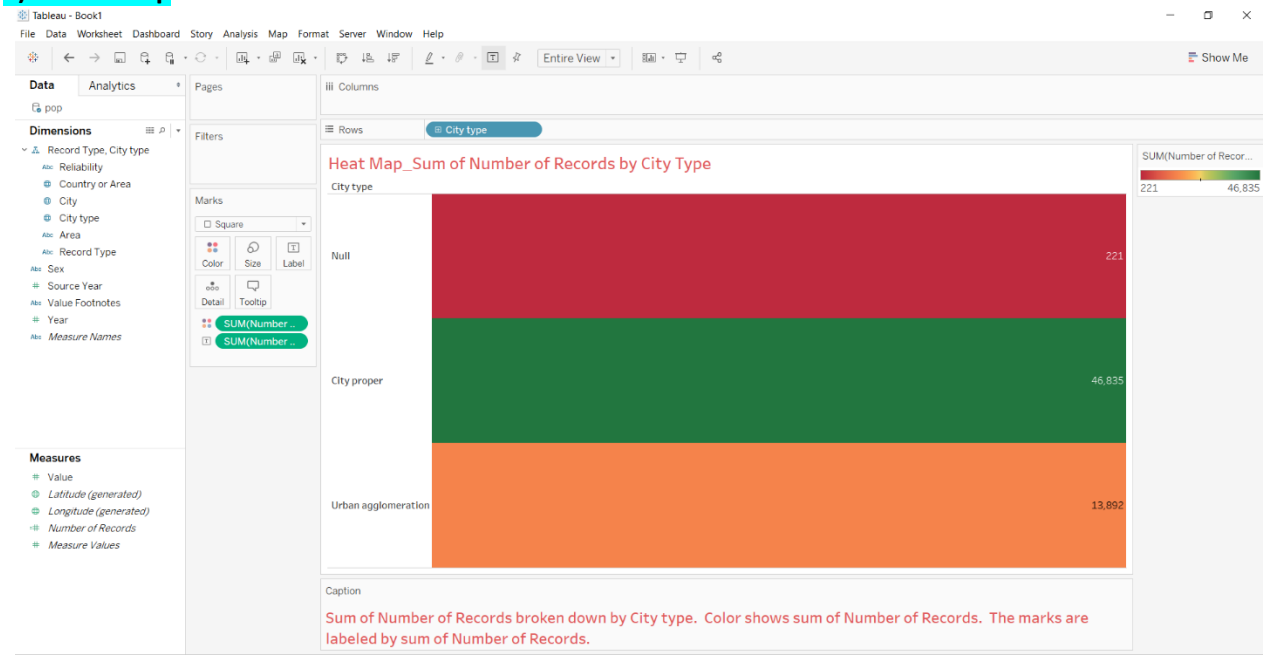
5) Bubble Chart



The highest no of records and highest sum of value was in the year with values of 2,284,045,811 and 8,210 in the year 2010.

The lowest no of record and lowest sum value of 493,222006 and 1,744 in the year 2013.
With bubble chart we can easily interpret the data and values.

6) Heat Map



A heat map is a two dimensional representation of data in which values are represented by colors.A simple heat map provides an immediate visual summary of information.

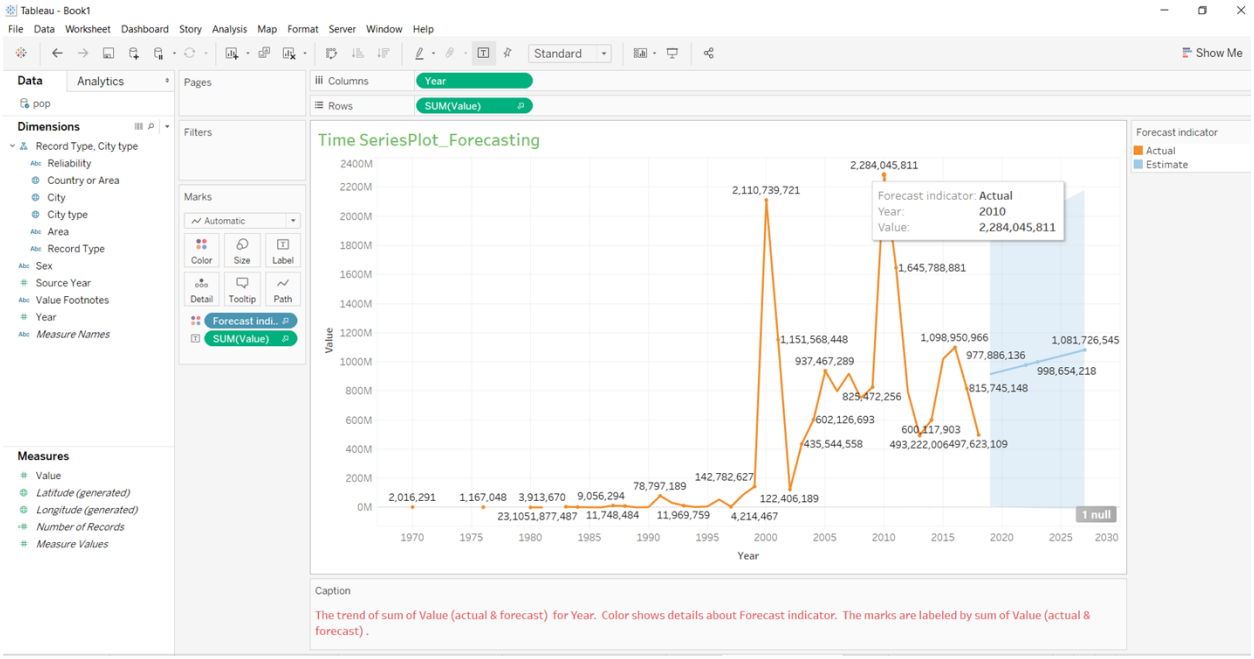
The above heat map gives sum of number of records broken down by city type. Color shows the sum of number of records. The marks are labeled by sum of number of records.

Green color represents that highest number of records with value of 46,835 were recorded in City Proper

Next highest no of records were visualized by gold color with values of 13,892 were recorded in Urban Agglomeration.

Red color is visualized with values of 221 record types where the information of city type is not available and is represented as Null

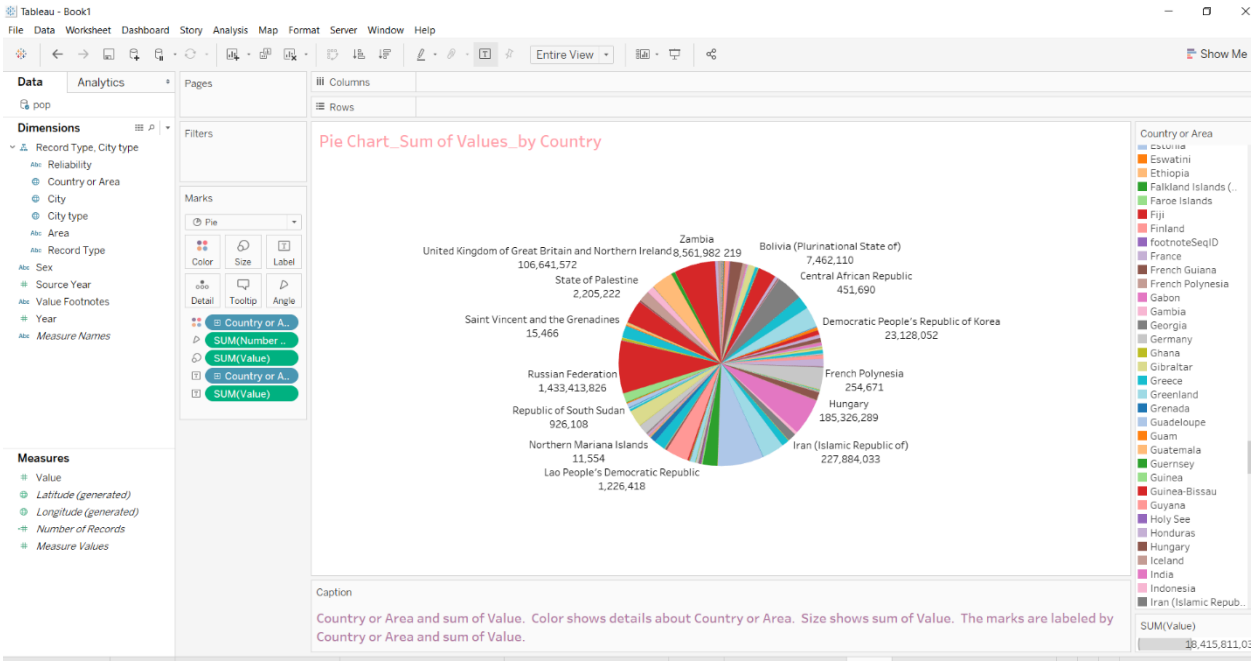
7) Time Series Plot with Forecasting



Time series analysis comprises methods for analyzing time series data in order to extract meaningful statistics and characteristics of data.Time series forecasting is the use of a model to predict future values based on previously observed values.

Based on above time series plot forecasting.The plot is not stable ,it has highs and lows in equal ratio.The highest values are seen in the year 2010 with 2,284,045,811.In the year 2014 the values fell down to 600,117,903.By the time series forecasting plot,it was estimated that in future in 2027 the values will be 1,08,726,545.

8) Pie Chart



A Pie Chart represents data as slices of a circle with different sizes and colors.Slices are labeled and the numbers corresponding to each slice is also represented in the chart.
With Pie Chart we can clearly got to know that Russian Federation has highest sum of values with 1,433,413 ,826 and the country with lowest number of sum of values with 15,466 is Saint Vincent and the GrenadLines.