Module 5: Advanced Visual Analytics

Demo Document II

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Demo II

Using “World Population dataset”, which contains one record for each country for year 1960, 1965, 1970……2015, measuring population. Create a visualisation, showing the difference in trend in population for different periods of time, of Afghanistan and Australia.

(Use World Population 1960-2015 dataset.xlsx)

Demo II – Solution

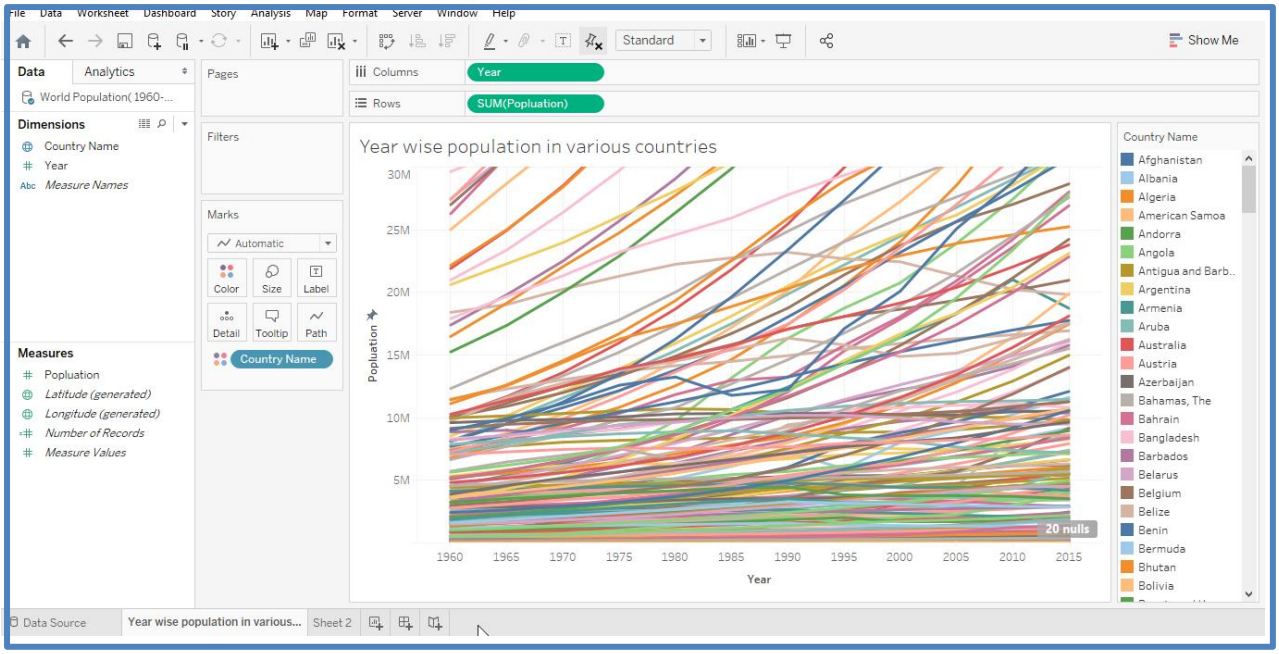
Using the given dataset, let us look at historical trends in population in various countries.

Step 1: Connect → Microsoft Excel → World_Population(1960-2015) → OK → Sheet1

Step 2: Drag: Year → Column, Population → Row, and Country Name → Marks Card → Color Shelf

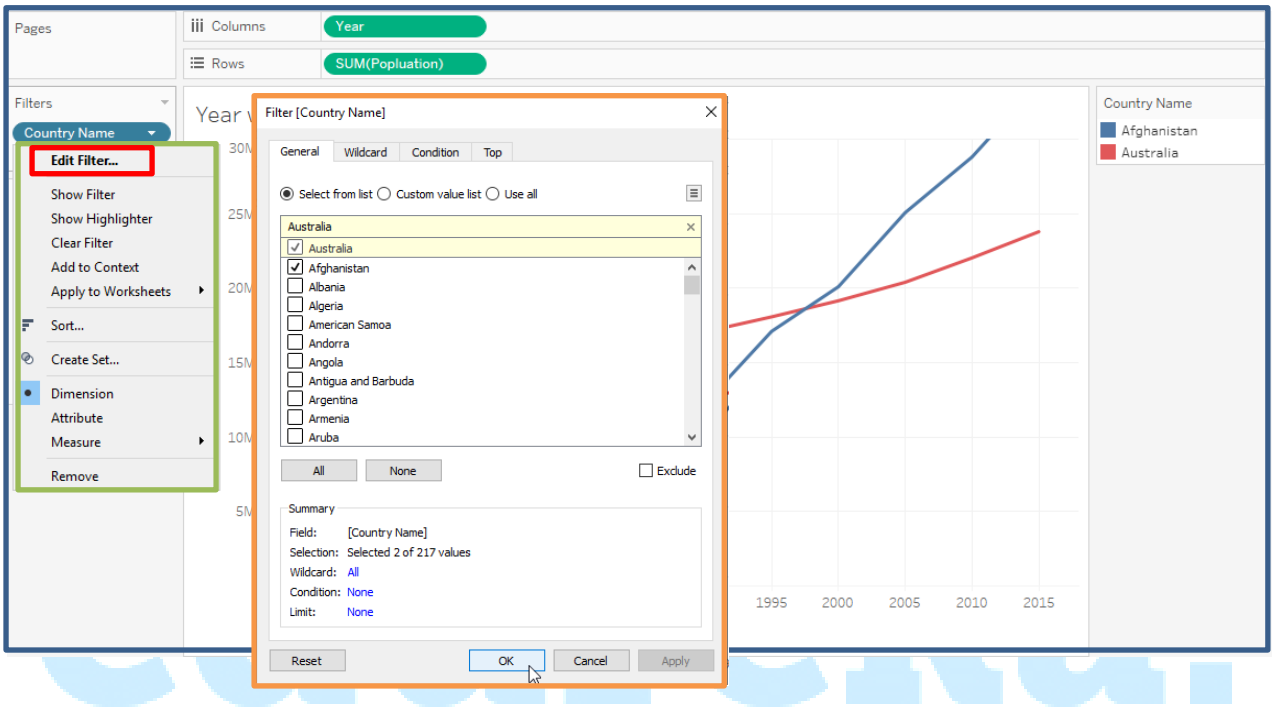
Step 3: To edit Axis:

Right Click on Population → Edit Axis → Fixed → Fixed Start – Fixed End (4K – 30M) → Apply →Ok

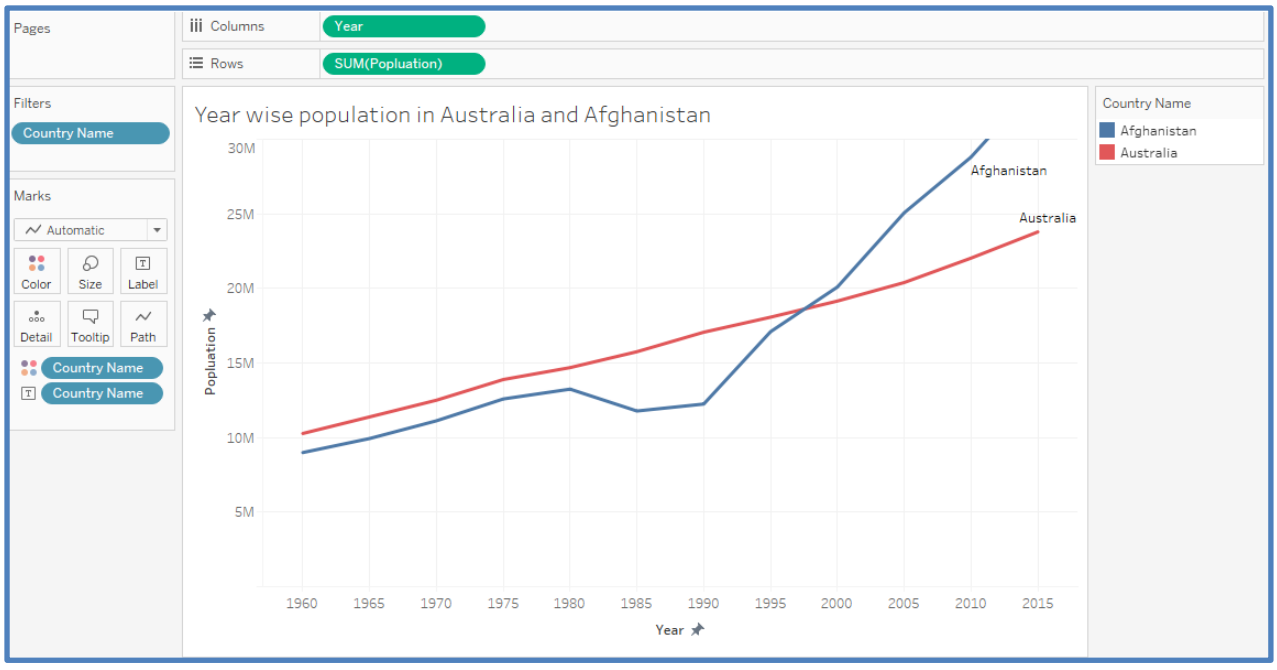


Now, create a visualisation which shows the change in population over time in Afghanistan and Australia.

Step 4: Country → Drop Down → Edit Filter → Select Afghanistan and Australia → Apply →OK



Step 5: Drag Country Name →Marks Card → Color Shelf and Label Shelf

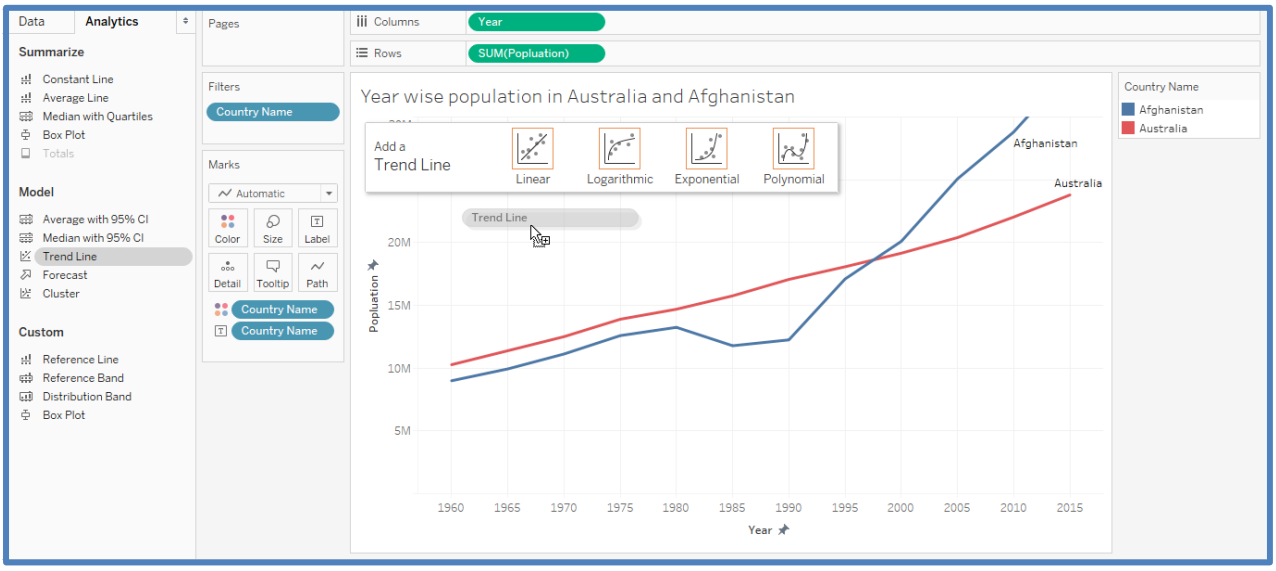


From this visualization, we can see:

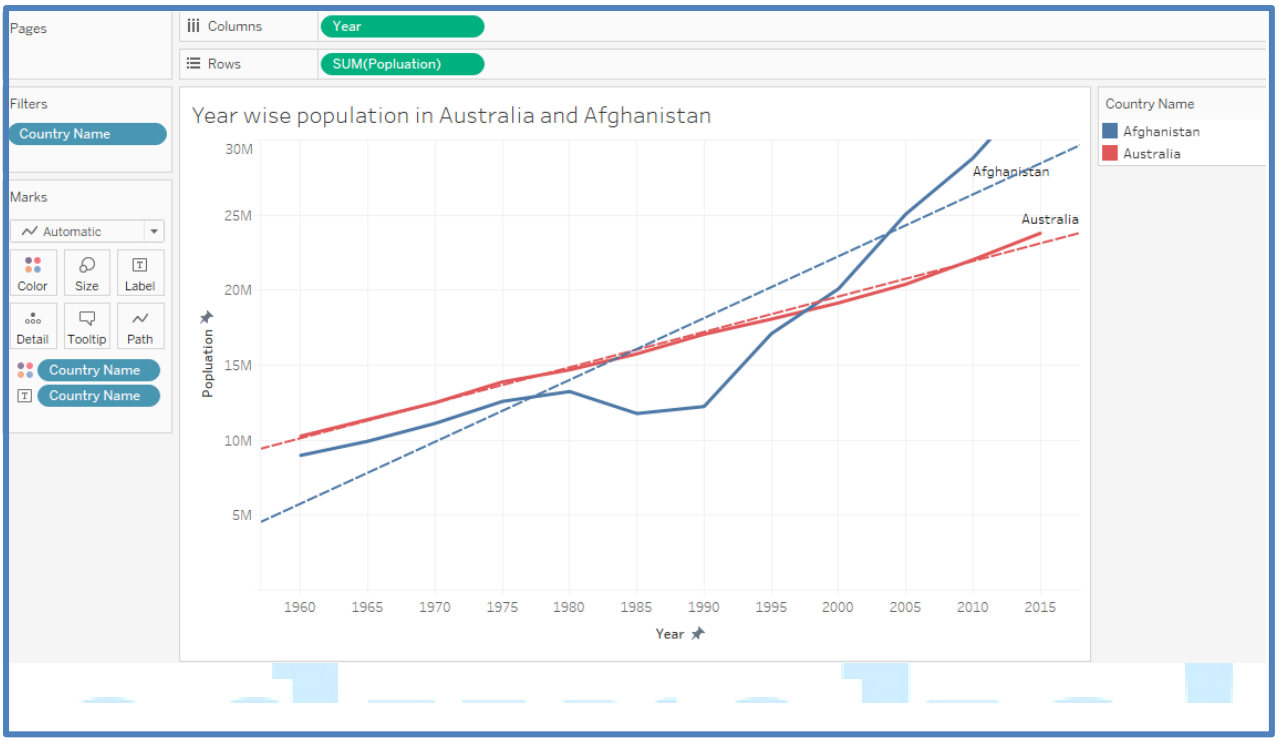
- The growth in population of Afghanistan and Australia, was similar up to 1980
- Afghanistan's population declined until 1988 then the population of Afghanistan started increasing
- Around 1996, Afghanistan's population exceeded that of Australia

Let us observe the above-mentioned observations using Trend lines:

Step 6: Analytics → Model → Trend Line → Drag **Trend Line** to Canvas → Select Linear Trend Line



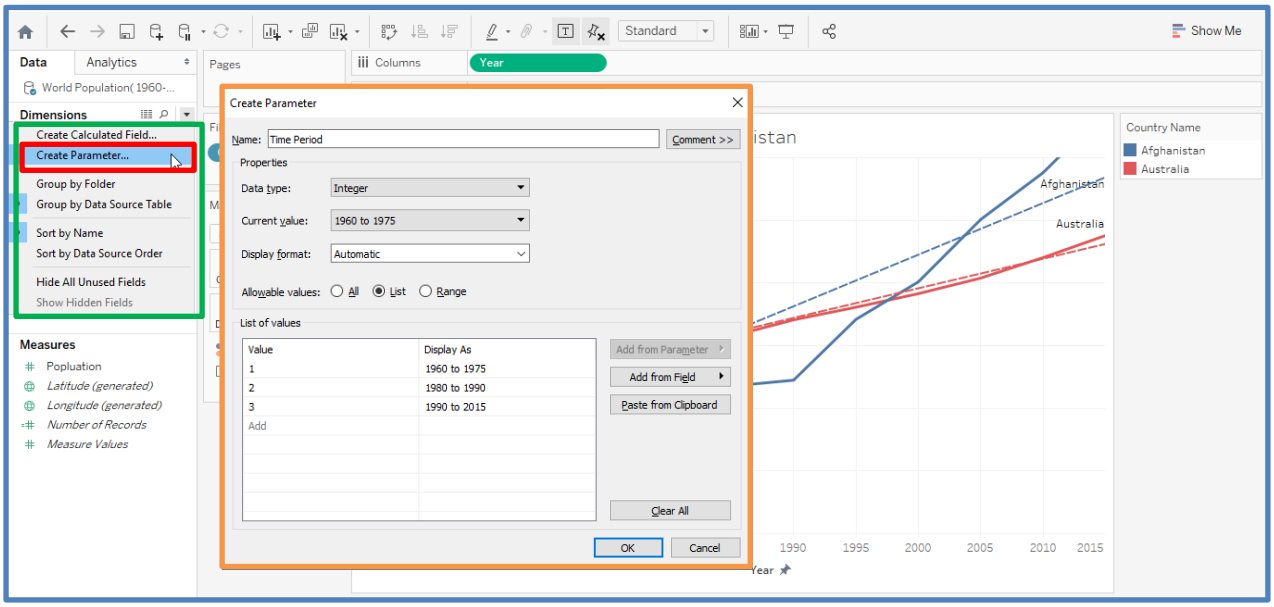
After adding Trend Line to our view, two trend lines are reflected one for each country.



So far, we have observed population of Afghanistan increased and decreased over years. Now, we will visualize different trend lines for increased and decreased time periods:

Step 7: Create a parameter to represent different time periods:

- Dimensions → Drop Down → Create Parameter → Create Parameter Dialog Box
- Create Parameter Dialog Box → Name (here Time Period) → Properties → List →OK



Step 8: Create a calculated field called Time Period which defines dicrete values for different time periods.

- Dimension → Drop Down → Create Calculated Field → Name Calculated field as Parameter (here Time Period) → Write code → Apply → Ok

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IF [Year] <= 1979

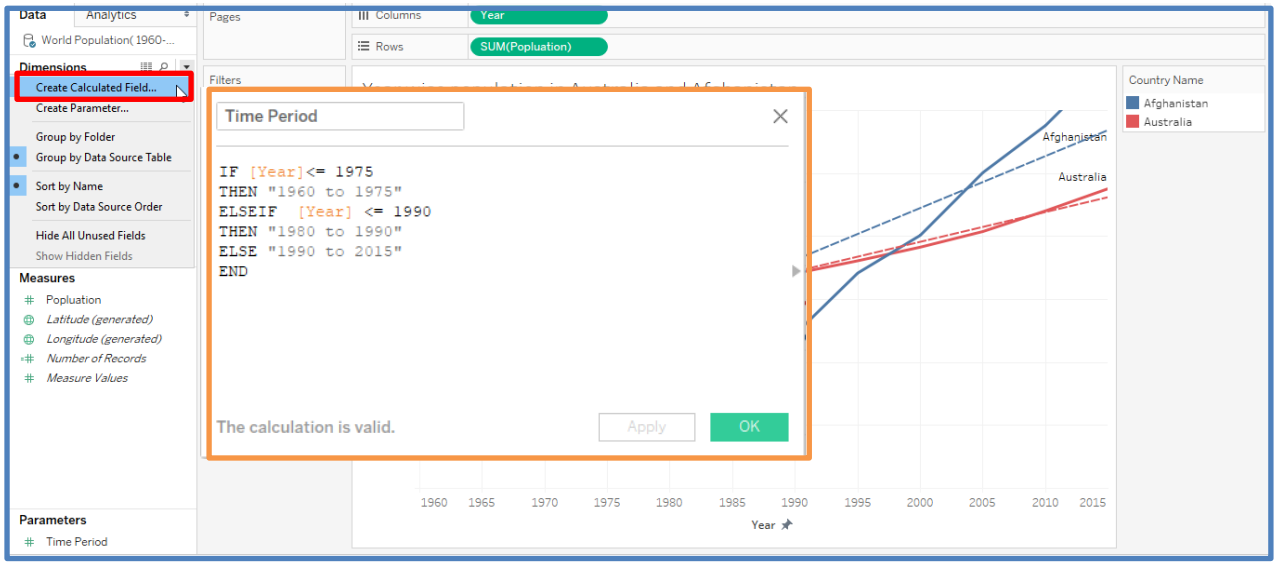
THEN "1960 to 1979"

ELSEIF [Year] <= 1988

THEN "1980 to 1988"

ELSE "1988 to 2015"

END
```



Step 9: After placing Time Period (Calculated Field) on columns, you will get a header for each time period, which breaks the lines and causes separate trends to be shown for each time period.

Now, we can visualize the difference in trends for different periods of time:

- From 1960 to 1975, the growth in population of Afghanistan and Australia was similar
- From 1980 to 1990, Afghanistan's population declined
- From 1990 to 2015, Afghanistan's population exceeded that of Australia