Lecture -3

Visualization of Citi Information Data

Data file: City Info Values.xlsx

The file City Info Data.xls contains demographic information about 273 cities in the US. Our goal is to visualize trends about cities, income, and population using Tableau.

0. Load data

- Load Tableau in your PC. Click Microsoft Excel and load the city information data into Tableau.
- Data source tab: Drag 'Sheet1' to the right or double click it.

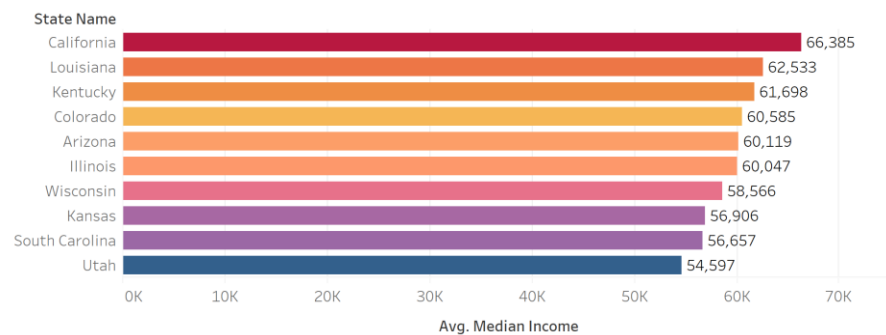- Now we are ready to create plots! Go to 'Sheet 1'.

1. Plots for summary statistics

We will create plots for Median Income by state.

(i) Bar chart

Create a bar chart of **average** median income by state (top 10 states only)

Average Median Income by State (Bar Chart)

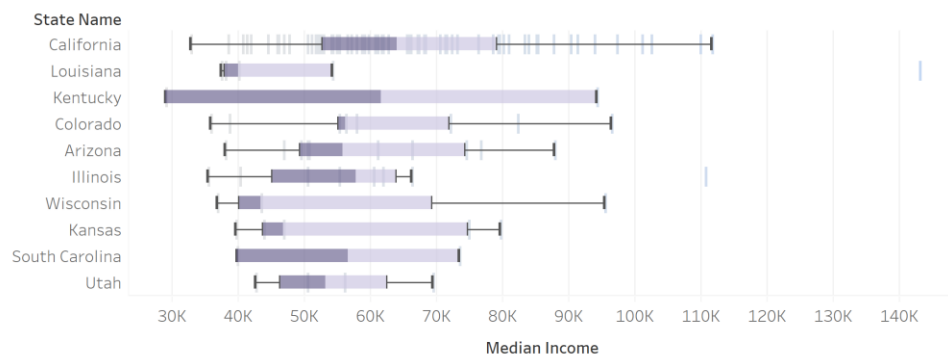| State Name	Avg. Median Income
California	66,385
Louisiana	62,533
Kentucky	61,698
Colorado	60,585
Arizona	60,119
Illinois	60,047
Wisconsin	58,566
Kansas	56,906
South Carolina	56,657
Utah	54,597

Average of Median Income for each State Name. Color shows average of Median Income. The view is filtered on State Name, which has multiple members selected.

(ii) Box plot

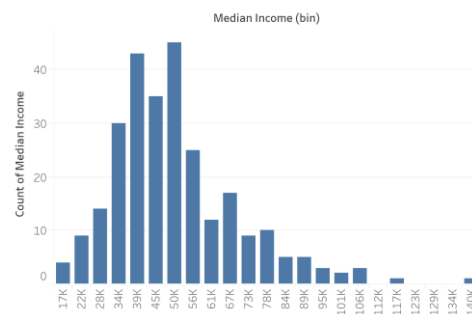Create a box plot of Median Income by state (top 10 states only)

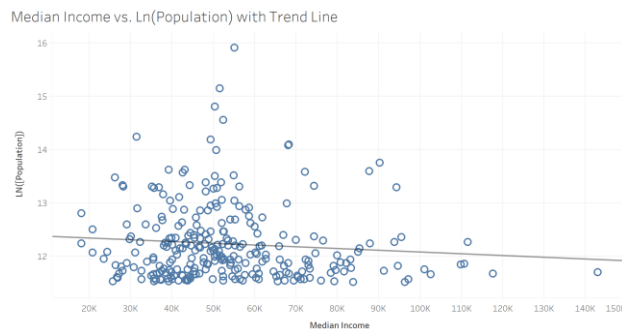Average Median Income by State (Box Plot)

(iii) Histogram

Create a histogram of Median Income.
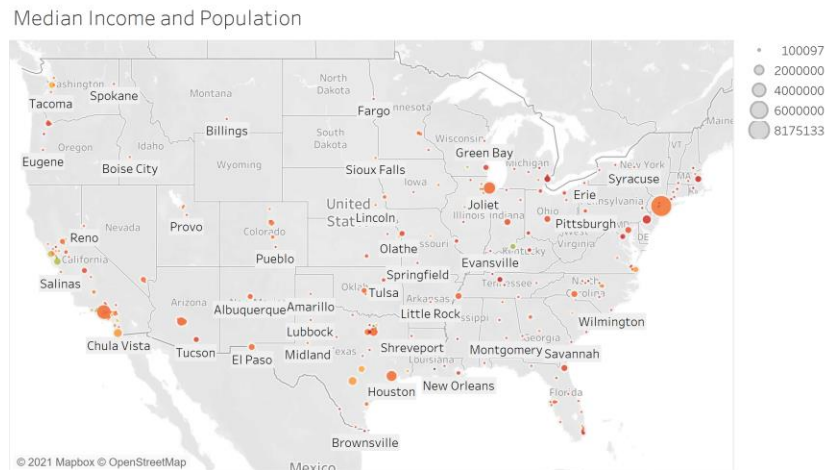
Median Income (Histogram)

2. Scatter plot

Create a scatter plot of Median Income and LN(population)

Median Income vs. Ln(Population) with Trend Line

3. Map

(i) Present Median Income and Population on a map

Median Income and Population

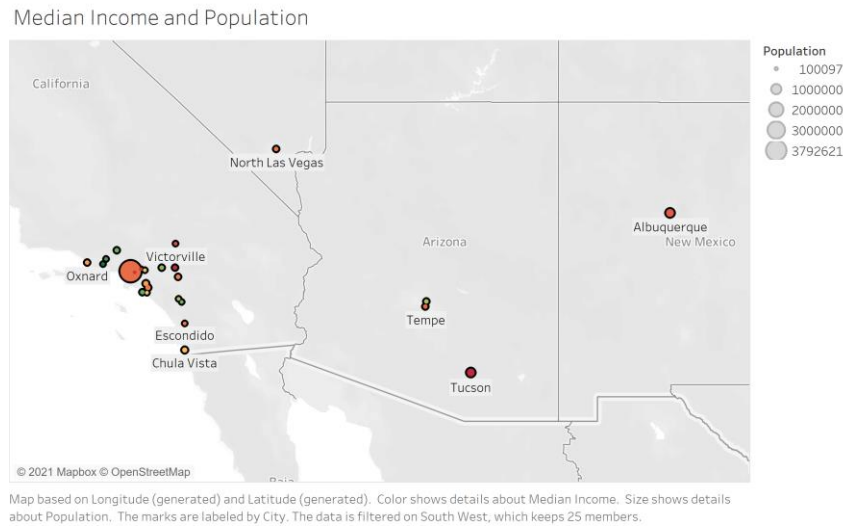(ii) Sets and Groups for filtering: Present big cities in California (Population >250,000)

Median Income and Population
- California cities > 250,000

Map based on Longitude and Latitude. Color shows Median Income. Size shows details about Population. The marks are labeled by City. The data is filtered on California, which keeps 1 member. The view is filtered on Population, which includes values greater than or equal to 250000.
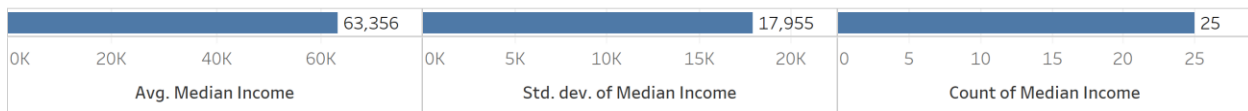
(iii) Lasso: Present cities in South west region

Median Income and Population

Map based on Longitude (generated) and Latitude (generated). Color shows details about Median Income. Size shows details about Population. The marks are labeled by City. The data is filtered on South West, which keeps 25 members.

(iv) Comparisons: Summary statistics of South West Median Income

Average, Stdev, and Count (Sample Size)

3-(iv) Med Income Southwest

63,356	17,955	25

Avg. Median Income | Std. dev. of Median Income | Count of Median Income
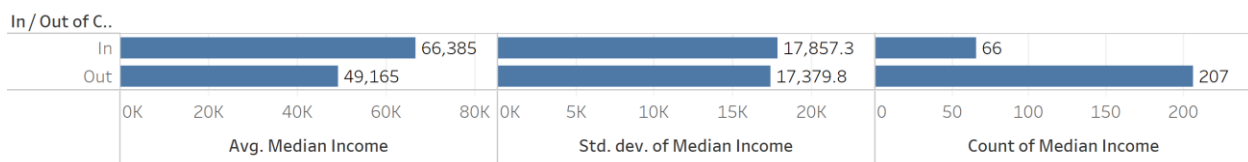
Average of Median Income, standard deviation of Median Income and count of Median Income. The data is filtered on South West, which keeps 25 members.

(v) Comparisons: California vs all other states

3-(v) California In/Out

In / Out of C..

	Avg. Median Income	Std. dev. of Median Income	Count of Median Income
In	66,385	17,857.3	66
Out	49,165	17,379.8	207

Average of Median Income, standard deviation of Median Income and count of Median Income for each In / Out of California.

4. Create more graphs and maps with other variables.