**Doc explaining Vis Design:**

Interactive Choropleth Map:

Task:

* Visually display a map of pricing in different NYC neighborhoods

Marks:

* Areas: We chose this mark to depict the space that each neighborhood takes up, so users can visualize the neighborhoods of New York City in the same layout of the actual city.

Channels:

* Color: The varying shades of the neighborhoods depict the average or max prices of Airbnbs in a neighborhood. Audiences can determine differences in prices by comparing shades.
* Size: The size of the marks communicate the square area of a neighborhood.
* Horizontal position: Communicates the latitude of a neighborhood
* Vertical position: Communicates the longitude of a neighborhood

Box Plot of Price by Room Type:

Task:

* Comparing price to the type of room the AirBnb was offering

Marks:

* Lines: We chose this mark to depict the range of prices for each room type. Users can see where the ranges are higher and lower to determine differences in room type pricing
* Points: This mark was chosen to represent outliers, since their stats could not be summarized with the range of the first mark.

Channels:

* Length: The length of the lines shows the total range of prices.
* Height: The height of a bar shows
* Width: Shows which segment of the line is the interquartile range
* Horizontal position: Depicts the room type
* Vertical position: Depicts the price of a room type
* Shape: determines whether a point is an outlier

Bar Chart of Price by Neighborhoods:

Task:

- Display the priciest neighborhoods to book an AirBnb

Marks:

* Bars: We chose this mark to depict the range of prices for each neighborhood. Users can see where the ranges are higher and lower to determine differences in neighborhood stay pricing

Channels:

* Length: The length of each bar would represent the average price of an Airbnb stay in that particular neighborhood.
* Horizontal Position: The primary channel used in the bar chart is the position along a common scale. In this case, the horizontal position of each bar represents the average price of a stay in an AirBnb in the corresponding neighborhood.
* Data Label: Each bar has a data label of the exact average price for a nightly stay in the corresponding neighborhood, providing clarity and context to the viewer.

Histogram of Airbnb Prices:

Task:

* Find trends in general pricing of AirBnb listings

Mark:

* Bars: We chose this park to depict the number of Airbnbs at different price levels

Channel:

* Length: The length of each bar would represent the number of Airbnbs at a price point, this can be used to visually compare different counts for different price levels
* Horizontal Position: Communicates the price level
* Vertical Position: Communicates the number of count of Airbnbs at a price point

Interactive Scatter of Number of Reviews vs, Price:

Task:

* Reveal if there’s a correlation between number of reviews and the price of AirBnb

Marks:

* Points: These communicate the data for one Airbnb.

Channels:

* Horizontal Position: For the main price vs. review count scatter, this depicts the price of an Airbnb. For the borough scatters, this depicts the longitude of an Airbnb
* Vertical Position: For the main price vs. review count scatter, this depicts the number of reviews an Airbnb has. For the borough scatters, this depicts the latitude of an Airbnb.
* Color: Depicts the borough that a point belongs in, this allows users to differentiate the borough that the point belongs to