

# Making Decisions with Visual Data

*Part 1.1 Visualizing Categorical Data*

*Part 1.2 Visualizing Continuous Data*

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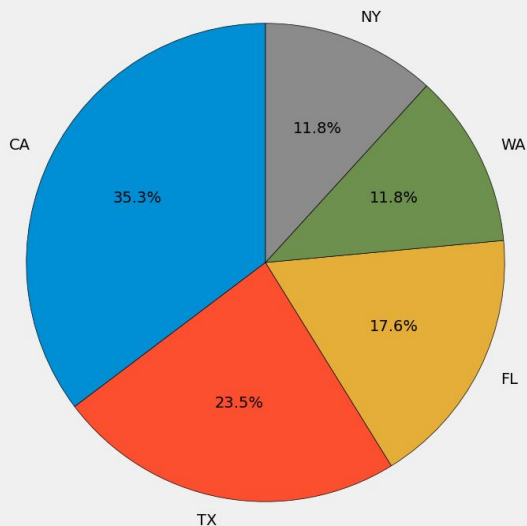
# Categorical Variables: Coffee Shop Locations by State

Q. Which state has the most locations?

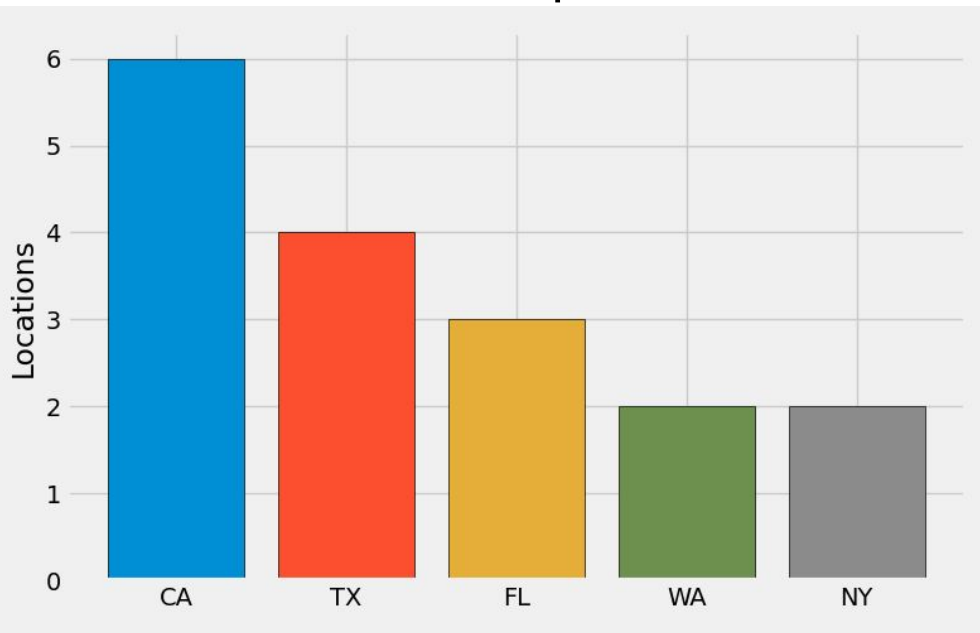
# Categorical Variables: Coffee Shop Locations by State

Q. Which state has the most locations?

Pie Graph



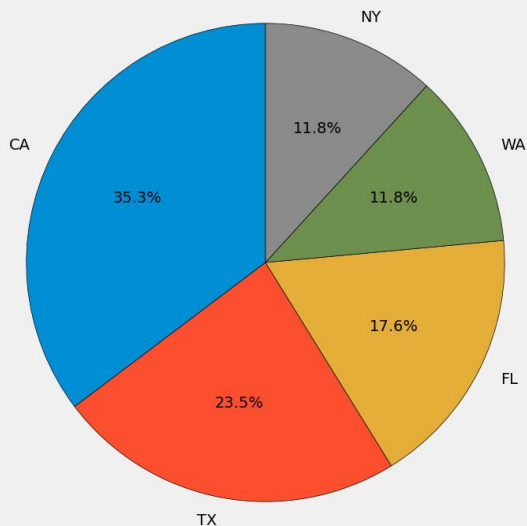
Bar Graph



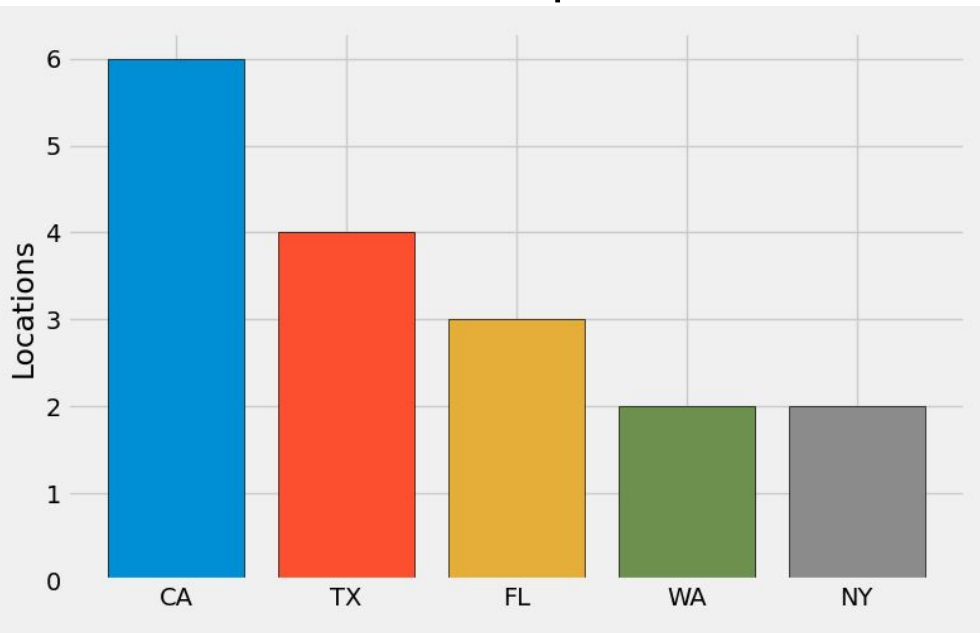
# Categorical Variables: Coffee Shop Locations by State

Q. Does Florida (FL) or Washington (WA) have more locations?

Pie Graph



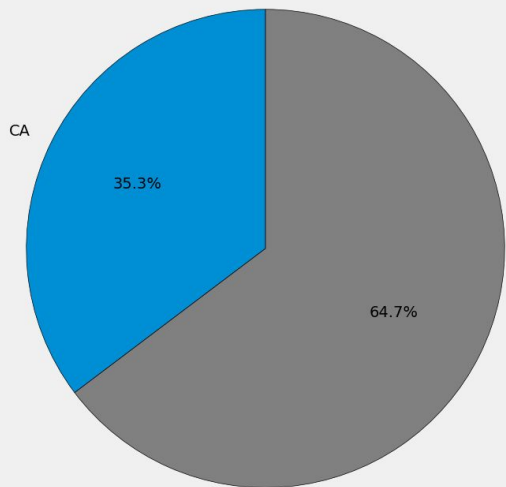
Bar Graph



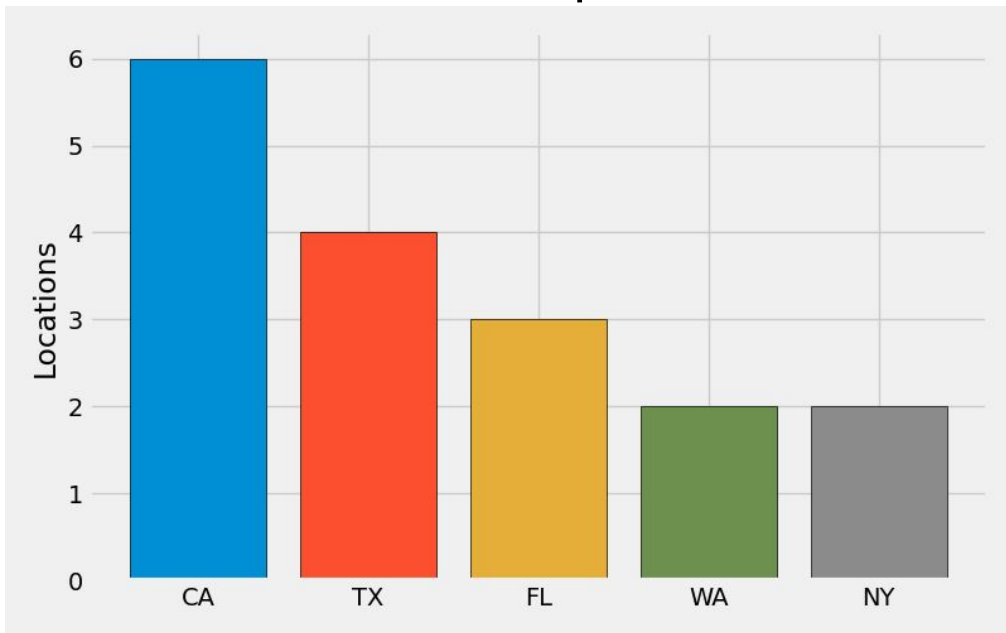
# Categorical Variables: Coffee Shop Locations by State

Q. What share of coffee shop locations in CA?

Pie Graph



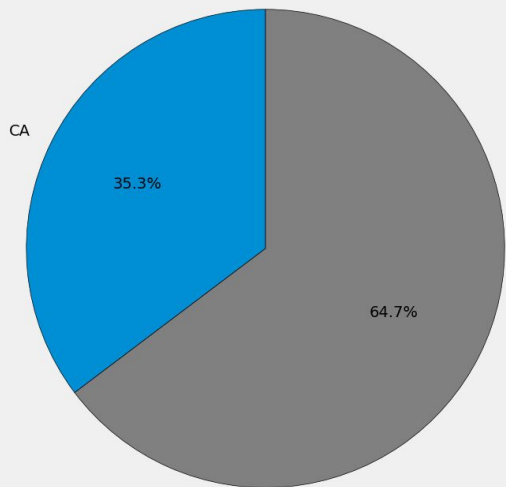
Bar Graph



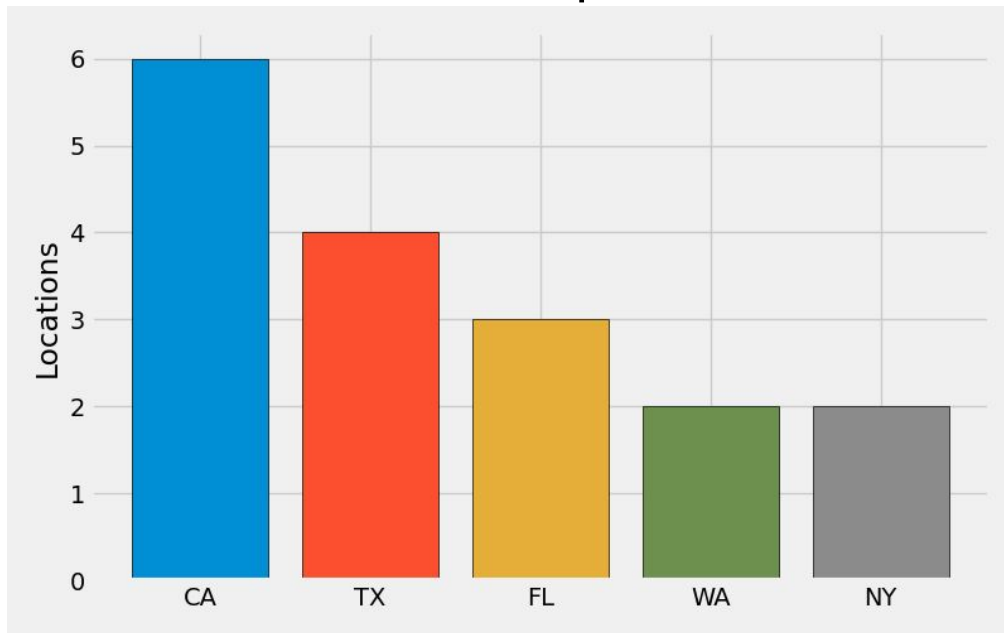
# Categorical Variables: Coffee Shop Locations by State

- Use bar graphs to compare values with each other.
- Use pie graphs to compare one value against the total.

## Pie Graph



## Bar Graph



# Excel Exercise: Categorical Variables

We're going to examine the locations of coffee shops by State.

- Data: Coffee\_Shops.csv
- Bar Graph
- Pie Graph

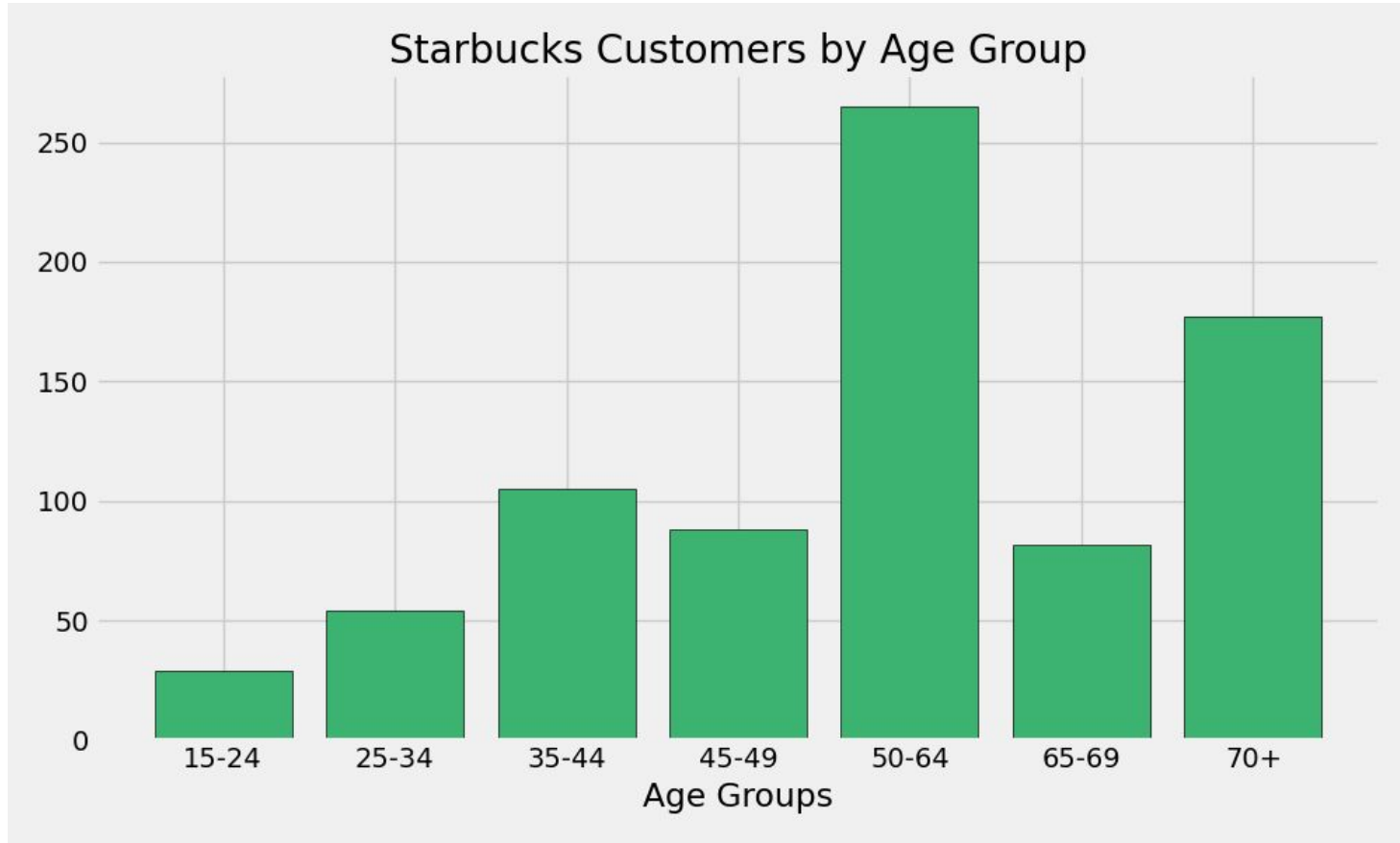
# Continuous Variables

Q. Which age group has the most Starbucks customers?



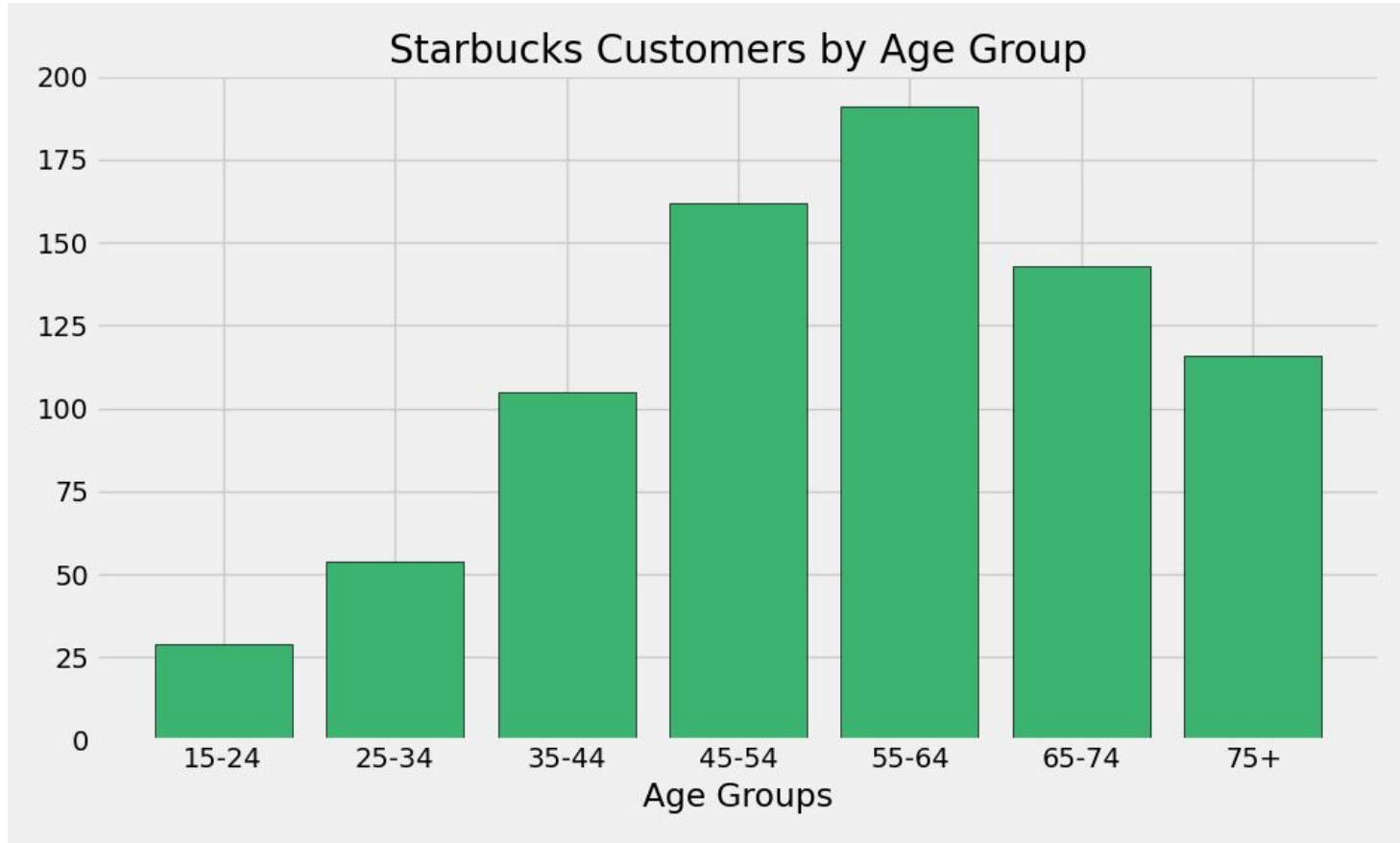
# Continuous Variables: Histograms

Q. Which age group has the most Starbucks customers?



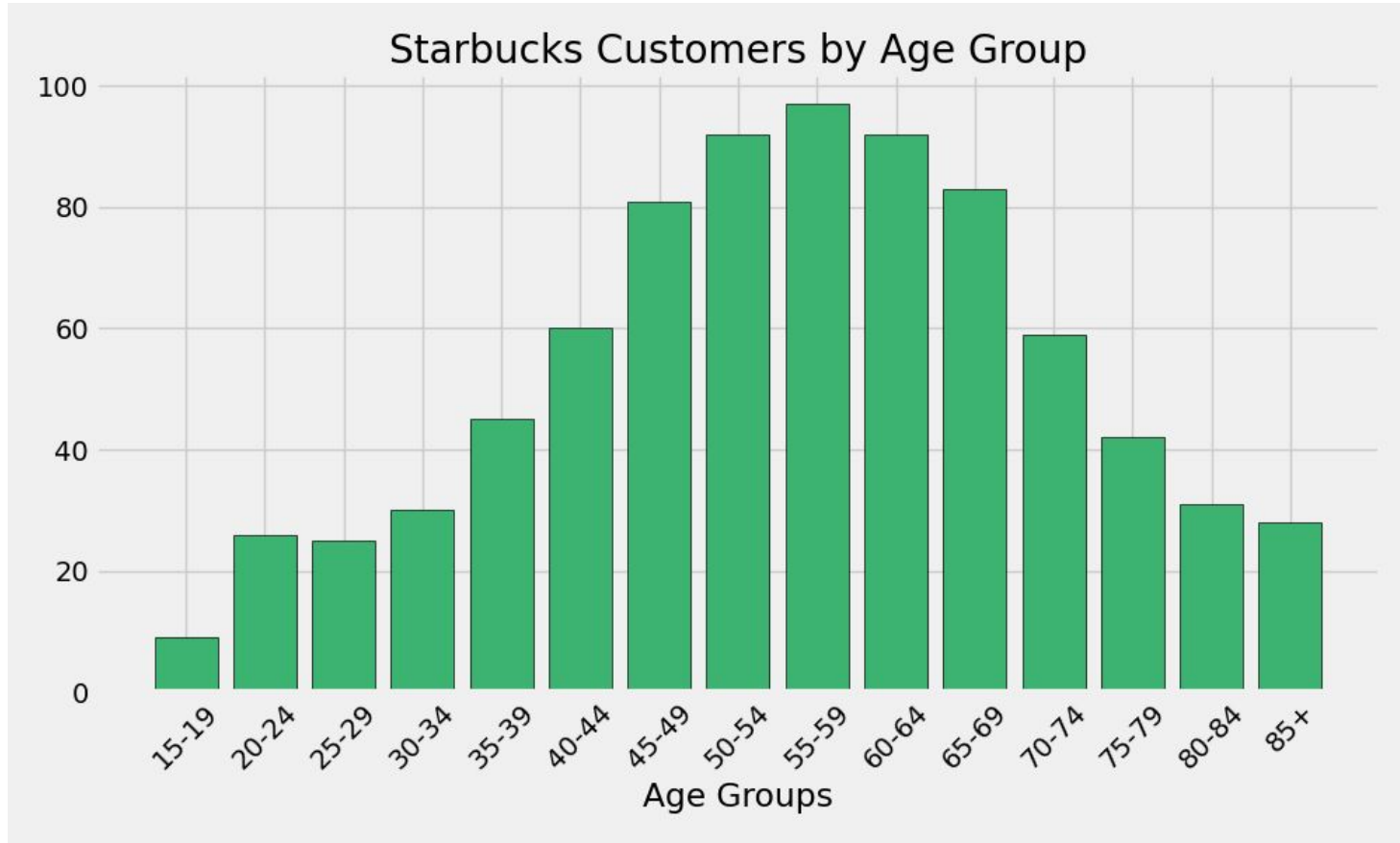
# Continuous Variables: Equal Sized Bins

Q. Which age group has the most Starbucks customers?



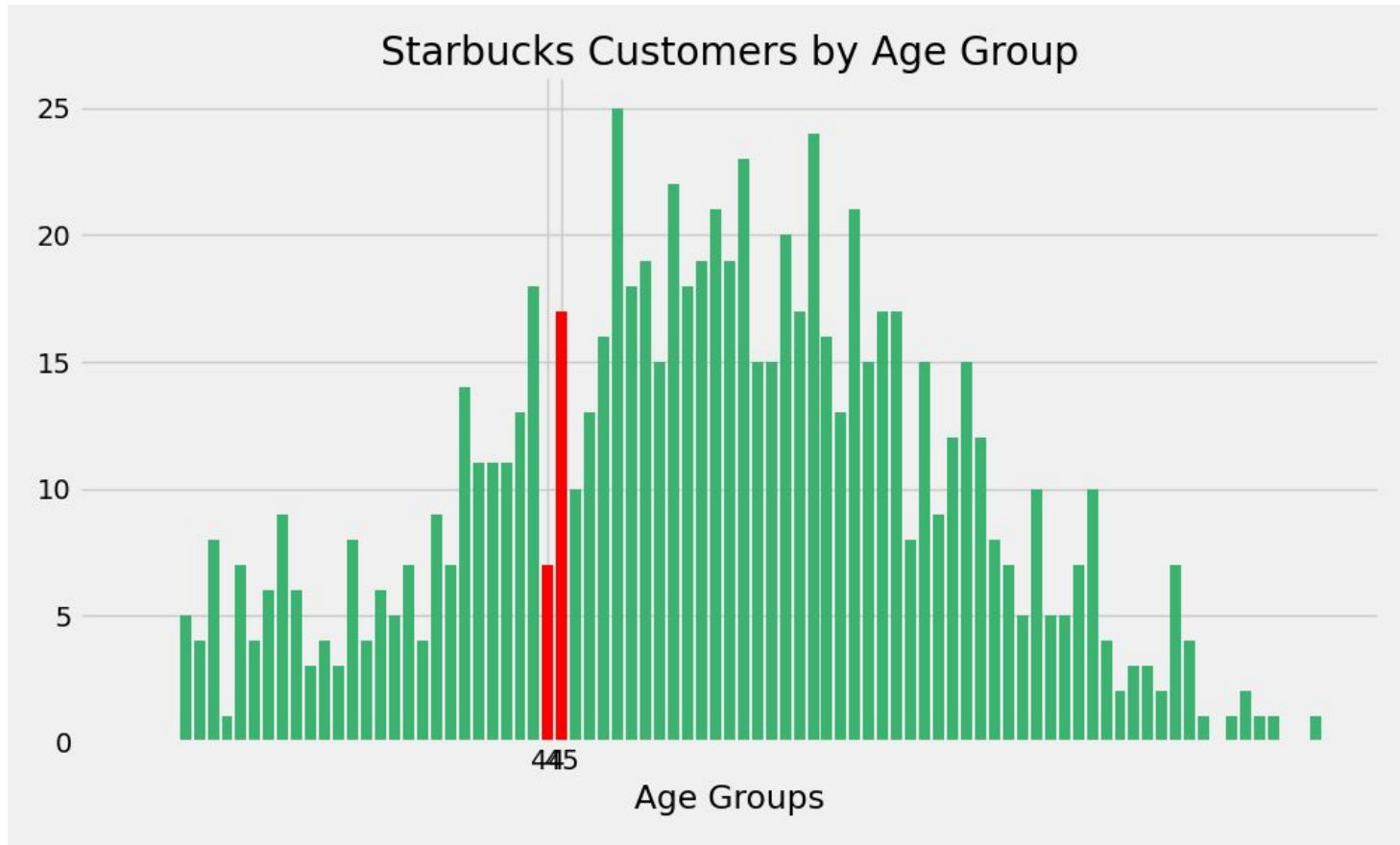
# Continuous Variables: 5 Year Bins

Q. Which age group has the most Starbucks customers?



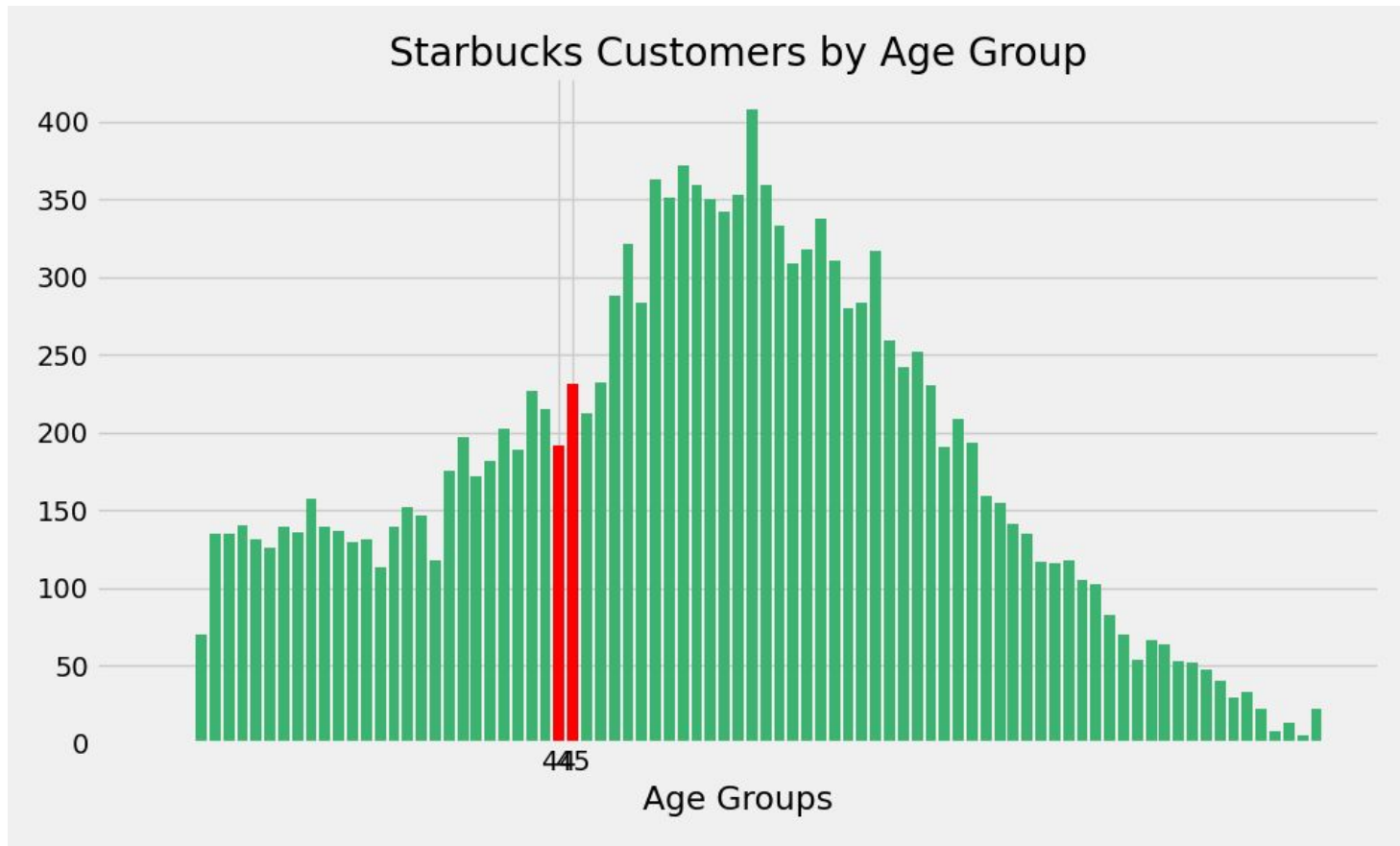
# Continuous Variables: Statistical Noise

Q. Which age group has the most Starbucks customers?



# Continuous Variables: Statistical Noise w/ More Data

Q. Which age group has the most Starbucks customers?



# Continuous Variables: Starbucks Customer Ages

## Summary:

- Use **histograms** to visualize continuous variables.
- Make histograms with equally sized bins.
- Histograms with bins that are too narrow increase statistical noise, which can obscure underlying relationships.

# Excel Exercise: Continuous Variables

We're going to examine the ages of starbucks customers by age.

- Data: Starbucks\_Customer\_Profiles.csv
- Histograms