

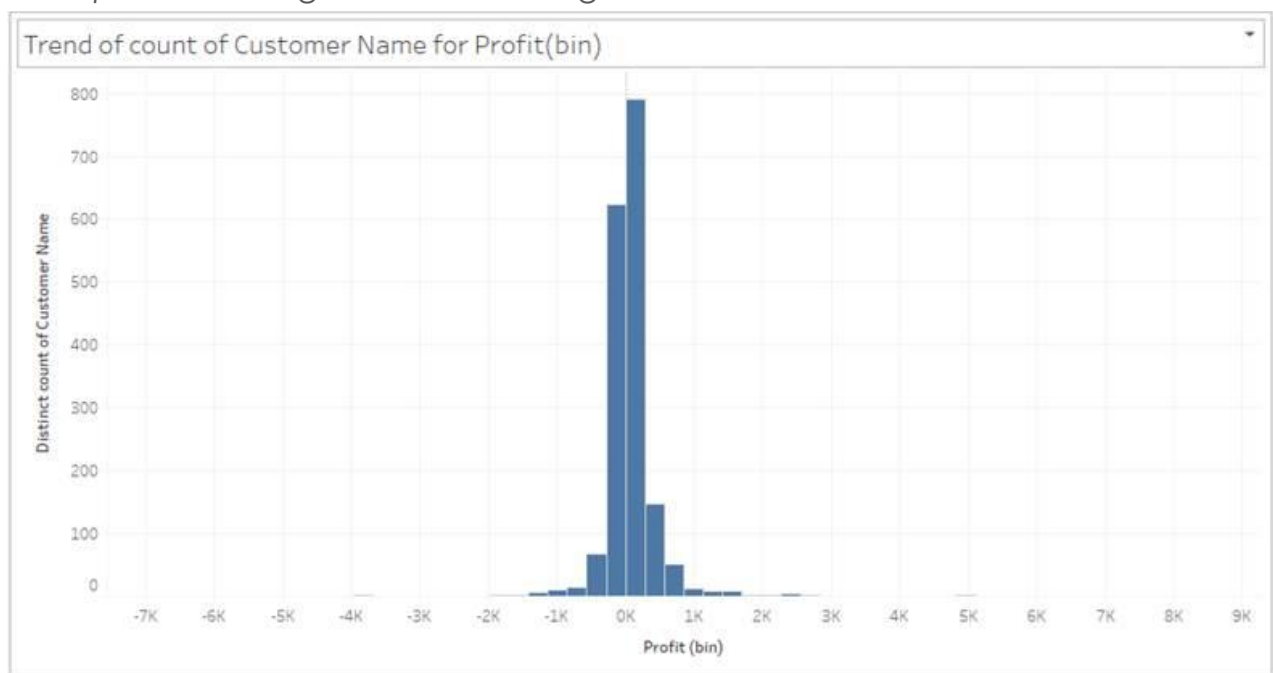


# HISTOGRAM

## HISTOGRAM

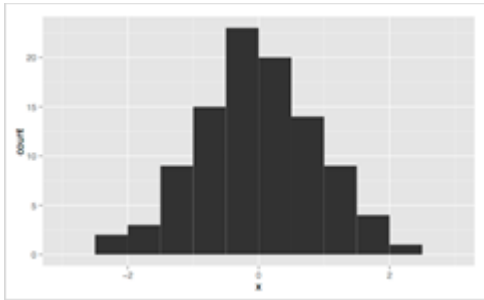
A histogram is a graphical representation of the distribution of numerical data. It is an estimate of the probability distribution of a continuous variable (quantitative variable) and was first introduced by Karl Pearson. It displays data using bars of different heights. A histogram groups numbers into ranges and you can decide what ranges to use. This allows the inspection of the data for its underlying distribution (e.g., normal distribution), outliers, skewness, etc. To create a histogram, you first need to convert a continuous variable (i.e. fact / measure) data into intervals called bins.

*Example of a Histogram created using Tableau.*

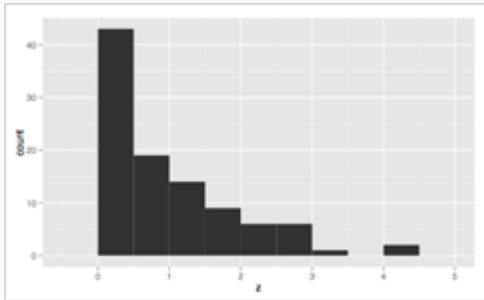


The words used to describe the patterns in a histogram are: "symmetric", "skewed left" or "right", "unimodal", "bimodal" or "multimodal".

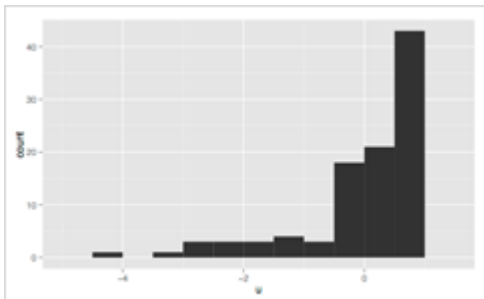
*Symmetric, unimodal*



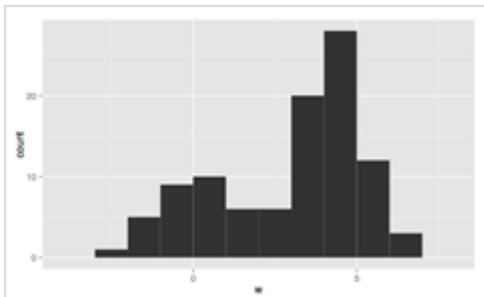
*Skewed right*



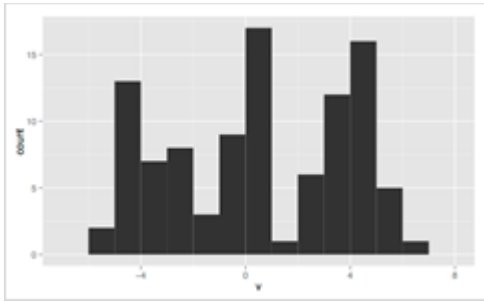
*Skewed left*



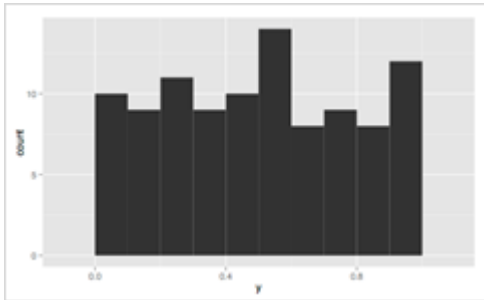
*Bimodal*



Multimodal



Symmetric

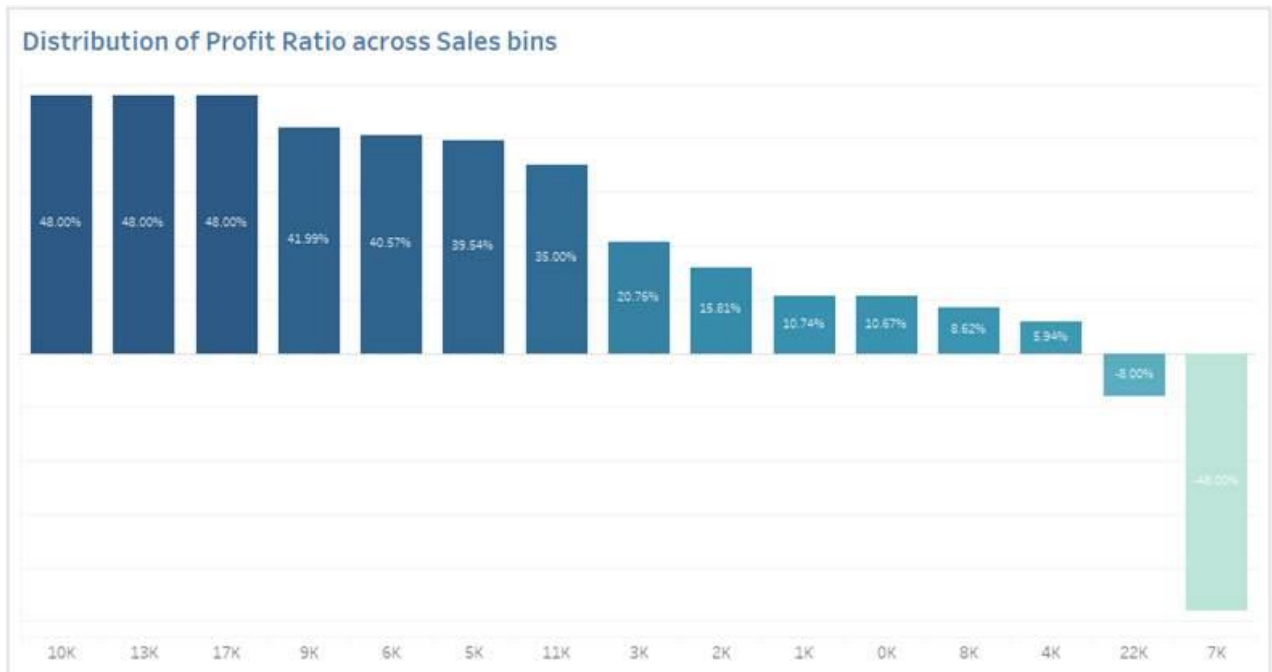


(Source: <https://en.wikipedia.org/wiki/Histogram>)

Here is another example of a Histogram.



One more example of a Histogram.



Applications:

- When summarizing large data sets graphically.
- When comparing process results with specification limits.
- When you want to view the values, which occur most frequently.

Sources:

<https://statistics.laerd.com/statistical-guides/understanding-histograms.php>

<https://en.wikipedia.org/wiki/Histogram>

[http://www.saferpak.com/histogram\\_articles/howto\\_histogram.pdf](http://www.saferpak.com/histogram_articles/howto_histogram.pdf)