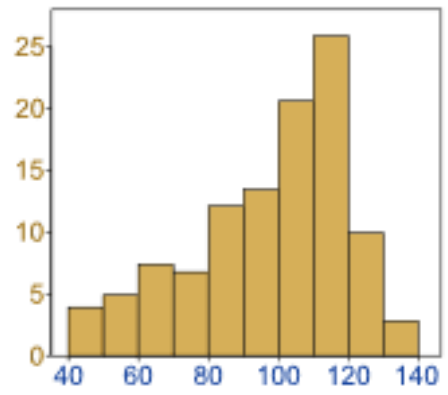
Normal Distribution

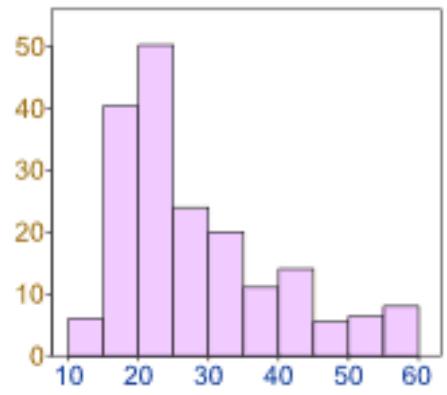
https://www.mathsisfun.com/data/standard-normal-distribution.html

Data can be "distributed" in different ways.

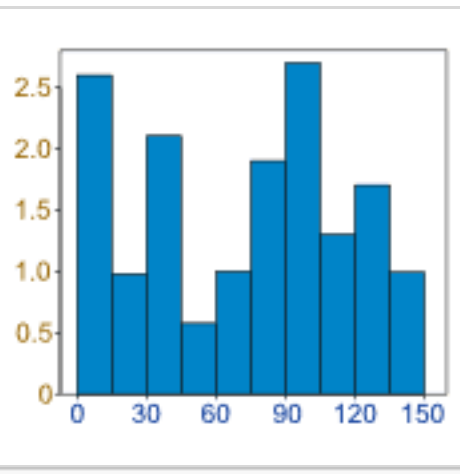
They can be skewed, with a tail to the left.



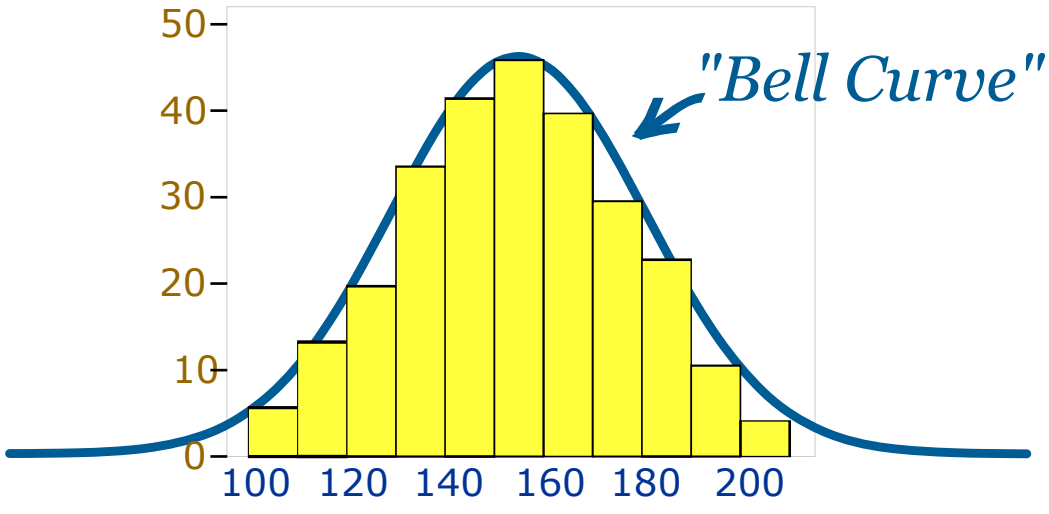
They can be skewed, with a tail to the right.



Or they can seem flat.



However, for many distributions, the data tend to be peaked around a central value with no skewing to the left or right. We call this a "Normal Distribution."



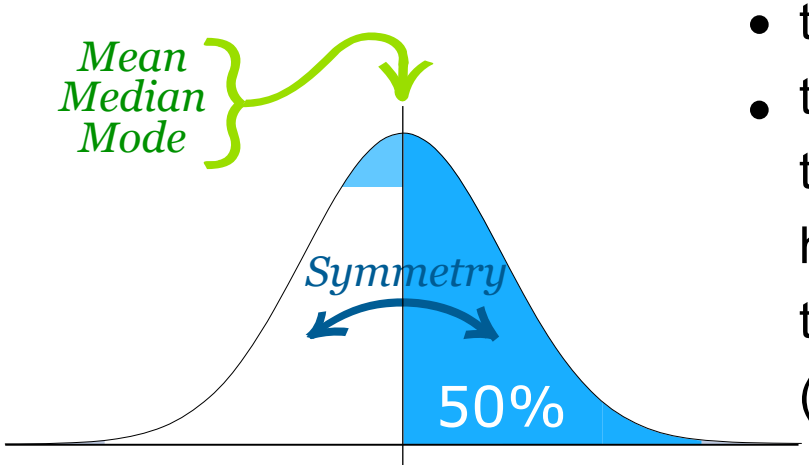
As the yellow histogram above illustrates, in a Normal Distribution, most of the data follow the "normal curve" although not always perfectly.

A normal curve is often called a "Bell Curve" because it forms the shape of a bell.

Many types of data form a Normal Distribution:

- people's heights
- people's shoe sizes
- things produced by machines (e.g., the net weight of cereal in manufactured boxes of cereal)
- errors in measurements

We say that data are "normally distributed" when



- the mean = the median = the mode
- there is approximate symmetry around the midpoint, such that approximately half (50%) of the values are less than the midpoint and approximately half (50%) are greater than the midpoint