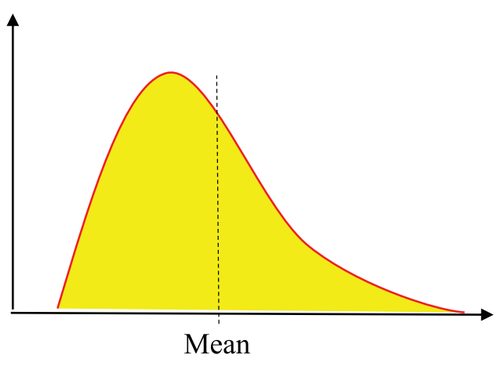
THE 3 MEASURES OF CENTRAL TENDENCY
THE 3 M'S - MEAN, MEDIAN & MODE

Mean

The mean is the sum of the numbers divided by how many numbers there are.

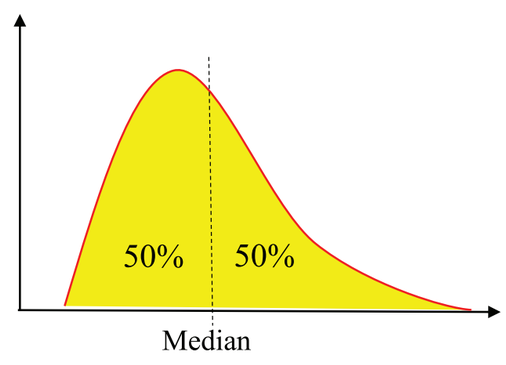


Example: Find the mean of
7, 9, 11, 6, 13, 6, 6, 3, 11
7 + 9 + 11 + 6 + 13 + 6 + 6 + 3 + 11 = 72

There are 9 numbers.
72 ÷ 9 = 8
So the mean value is 8.

Median

The median is the middle value.



Example 1: Find the median of
7, 9, 11, 6, 13, 6, 6, 3, 11

3, 6, 6, 6, **7,** 9, 11, 11, 13

So the median value is 7.

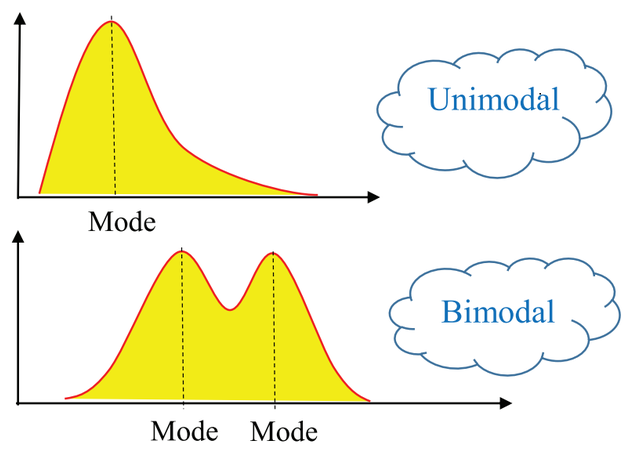
Example 2: Find the median of
7, 9, 11, 6, 13, 11, 6, 6, 3, 11

3, 6, 6, 6, **7, 9,** 11, 11, 11,13

There are two middle values, 7 and 9.
The median is halfway between 7 and 9, so the median is 8.

Mode

The mode is the value that appears most often.



Example 1: Find the mode of
7, 9, 11, 6, 13, 6, 6, 3, 11

3, **6, 6, 6,** 7, 9, 11, 11, 13
6 appears more than any other number.
So the mode value is 6.

Example 2: Find the mode of
7, 9, 11, 6, 13, 11, 6, 6, 3, 11

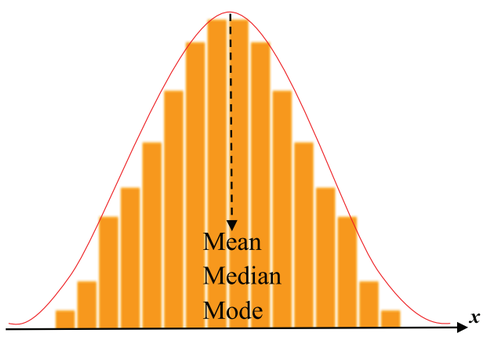
3, **6, 6, 6,** 7, 9, **11, 11, 11,** 13

Both 6 and 11 appear 3 times, so there are 2 modes (bimodal). So the modes are 6 and 11.

Relation between Skewness and the 3 M's

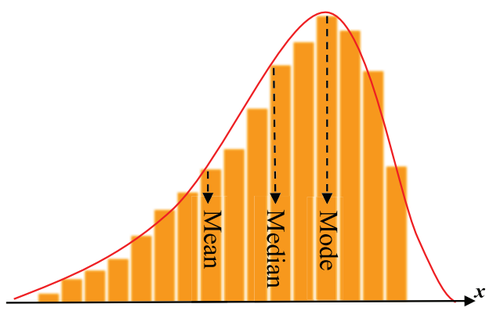
***Skewness** tells you whether your data is symmetrical or lopsided*

Symmetrical distribution
(also called normal distribution)



Mean = Median = Mode

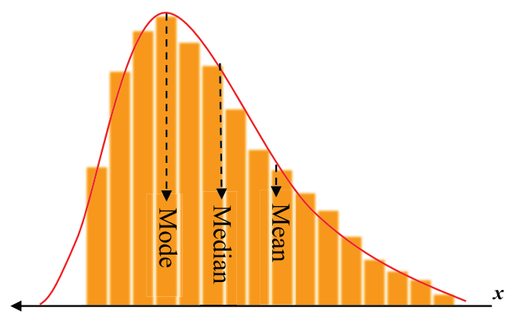
Negatively skewed distribution
(also called skewed left distribution)



A negatively skewed distribution has a tail on the left. Most data values are on the higher side.

Mean < Median < Mode

Positively skewed distribution
(also called skewed right distribution)



A positively skewed distribution has a tail on the right. Most data values are on the lower side.

Mean > Median > Mode

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