Day 0: Mean, Median, and Mode

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Terms you'll find helpful in completing today's challenge are outlined below.

Mean (μ)

The average of all the integers in a set of values. Here is the basic formula for calculating the *mean* of a set of n values:

$\mu = \frac{\sum_{i=1}^{n} x_i}{n}$, where x_i is the i^{th} element of the set.

Median

The midpoint value of a data set for which an equal number of samples are *less than* and *greater than* the value. For an odd sample size, this is the middle element of the sorted sample; for an even sample size, this is the *average* of the 2 middle elements of the sorted sample.

Mode

The element(s) that occur most frequently in a data set. For the set $\{1, 1, 1, 2, 2, 3, 4, 4\}$, the mode is 1 because the number 1 appears three times in the set and every other number in the set has a frequency < 3. In contrast, the set $\{1, 2, 3, 4\}$ is multimodal because no number in the set appears more than 1 time, so every number in the set is a valid *mode*.

Precision and Scale

These are important terms to understand when formatting your output:

- *Precision* refers to the number of significant digits in a number. For example, the numbers 123.45 and 0.012345 both have a precision of 5.
- *Scale* refers to the number of significant digits to the *right* of the decimal point. For example, the number 123.45 has a scale of 2 decimal places. This term is sometimes misrepresented as *precision* in documentation.

View Practice Challenge

Tutorial By

 AllisonP

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