Task 1

Mean: is the average of a data set

$$\text{mean} = \bar{x} = \frac{\sum_{i=1}^{n} x_i}{n}$$

Median: is the middle of the set of numbers, If the size of the data set n is odd
the median is the value at position p where:

$$p = \frac{n+1}{2}$$

$$\tilde{x} = x_p$$

If n is even the median is the average of the values at positions p and $p + 1$
where:

$$p = \frac{n}{2}$$

$$\tilde{x} = \frac{x_p + x_{p+1}}{2}$$

Mode: Mode is the value or values in the data set that occur most frequently.
For the data set **1, 1**, 2, 5, **6, 6**, 9 the mode is 1 and 6.
Variance: statistical measurement of the spread between numbers in a data
set. More specifically, variance measures how far each number in the set is from
the mean and thus from every other number in the set.

$$\frac{\sum_{i=1}^{n} (x_i - \bar{x})^2}{n - 1}$$

Standard deviation: The Standard Deviation is a measure of how spread-out
numbers are.
The formula is the square root of the Variance.

$$\sqrt{\frac{\sum_{i=1}^{n} (x_i - \bar{x})^2}{n - 1}}$$

Gaussian distribution: is a bell-shaped curve, and it is assumed that during
any measurement values will follow a normal distribution with an equal number of
measurements above and below the mean value.