**Project Team C: Transcendental function: F10 🡪 σ :(40082433)**

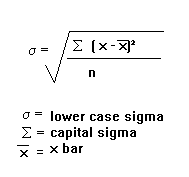
**Brief Description of σ**

The Standard Deviation is a measure of how spread out numbers are. Its symbol is **σ** (the Greek letter sigma). The formula is easy: it is the**square root** of the **Variance.**

To calculate the variance, follow these steps:

* Work out the Mean (the simple average of the numbers)
* Then for each number: subtract the Mean and square the result (the *squared difference*).
* Then work out the average of those squared differences.

And the Standard Deviation is just the square root of variance.



**Domain & co-domain of σ**

Domain are the values which can go into the function.

Domain in Roster form: {Data set of values which contains natural and real numbers and can be till Infinity}.

Codomain are the possibly value which come out of function.

Codomain in Roster form: {Value which are not negative and can be natural number or decimal number}.

**Characteristics of σ**

Few characteristics which make the σ function unique which are as follows**:**

* Standard deviation is only used to measure spread or dispersion around the mean of a data set.
* Standard deviation is never negative.
* For data with approximately the same mean, the greater the spread, the greater the standard deviation.
* If all values of a data set are the same, the standard deviation is zero (because each value is equal to the mean).
* When analyzing normally distributed data, standard deviation can be used in conjunction with the mean in order to calculate data intervals.

<https://www.mathsisfun.com/data/standard-deviation.html>