

# Introduction MVN-GIT: Calculator using LinkedList

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## 1 Introduction

A brief explanation will be made in which the how of the implementation made by the author will be known and how it is used to obtain the results of the calculator and more specifically the mean and standard deviation.

## 2 Metodology

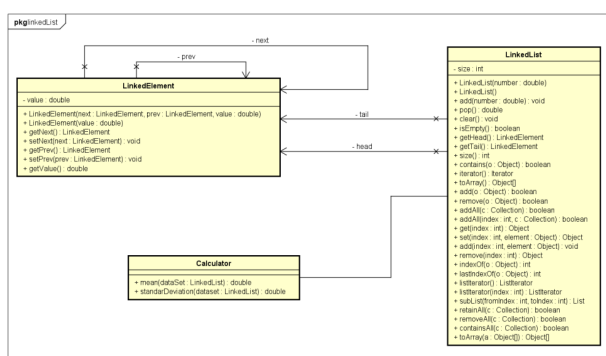


Figure 1: Class model

Mainly to make the linkedList a support class was required which helps to facilitate the iteration of the list. This support class is the LinkedListElement, as such the class allows a real number to be linked to another or to a null element, and this last characteristic is what tells me who is the first or last value of the list itself at the time to iterate with it, because once all the elements are reviewed, the null element becomes an identifier of the end of an iteration.

The linkedList has by itself the identification of its head and its tail, which can be useful if it is necessary to use some other calculation or operation, it also gives a certain degree of modification, especially to the most recently added data, in summary the implement of the linkedList could be use like any API collection (just with real numbers for now).

Regarding the statistical calculation, it is enough to go through the set of data and use them depending on their respective equations:

$$x_{avg} = \frac{\sum_{i=1}^n x_i}{n}$$

Figure 2: Mean operation

$$\sigma = \sqrt{\frac{\sum_{i=1}^n (x_i - x_{avg})^2}{n-1}}$$

Figure 3: Standard Deviation operation

However, the true focus of this project is to demonstrate the way in which Git allows us to modify certain functionality or correct a recent problem and have control or history on it, which together with Maven makes the development process of any large-scale project be a little more manageable

## 3 Conclusion

Regarding what was elaborated for this project, without a doubt it is a brief review on certain characteristics of the Java language itself and it is also a fairly concise feedback on the use of git and maven and its flexibility in most projects today.

## 4 References

- Daniel Benavides. 2021. Clase de laboratorio. [22 January 2021].
- David Vargas. 2021. Conversación Sobre Métodos de implementación. [24 January 2021]