INTRODUCTION TO COMPUTER SYSTEM DESIGN

Juan Sebastian Nieto Molina
February 2021

Abstract

This document is the solution of a guide that introduce to computer system design, we have to make a web site and program a statistical calculator, it has two methods, the mean and the standard deviation as i did in the last document, but it use two new components, first the micro-framework Spark, and second it has to be deployed in heroku, so, you can use it everytime and introduce a list of numbers to get the mean and standard deviation.

Contents

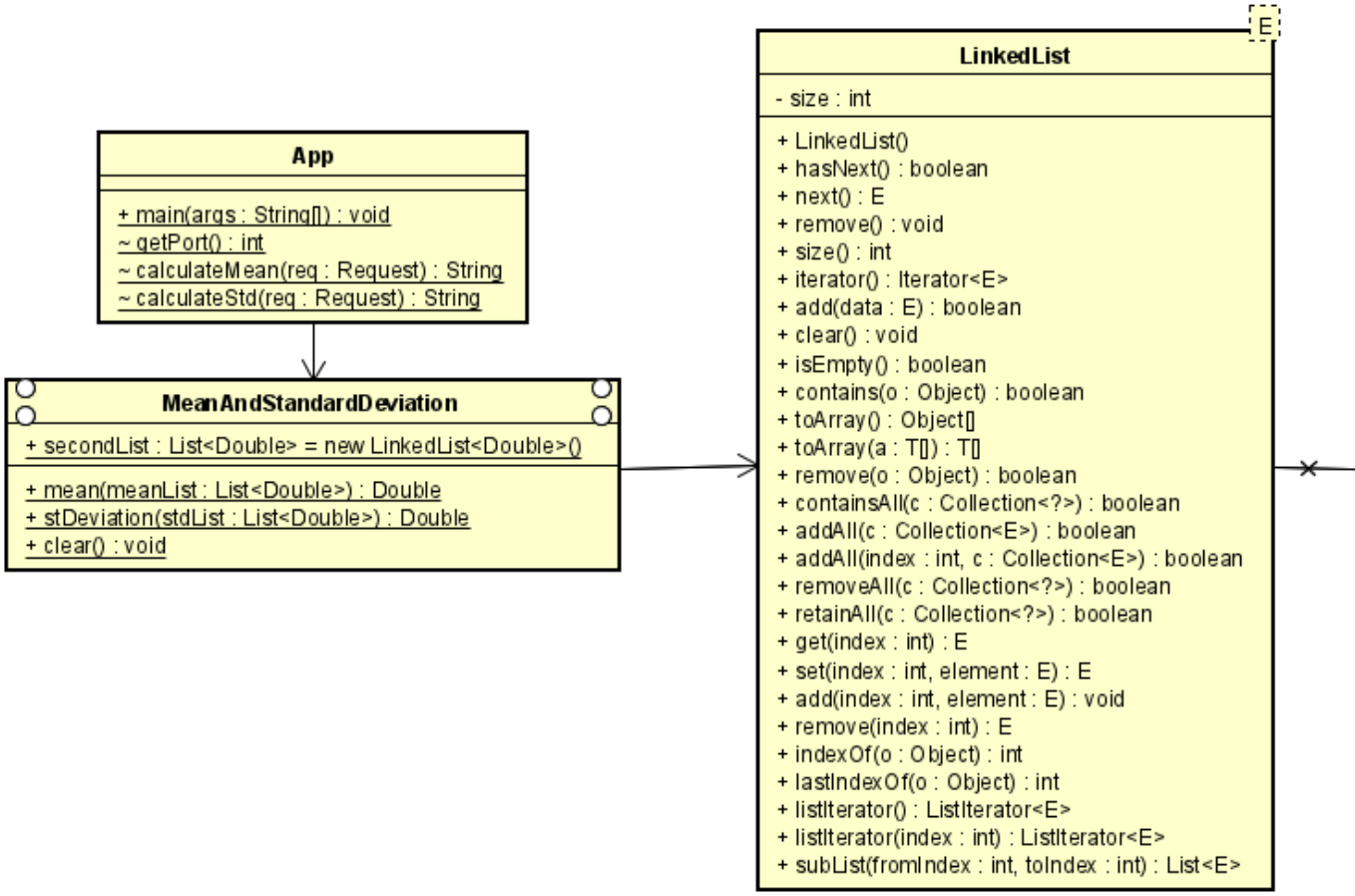
1 Introduction

The guide that developed for this paper has the intention of make a statics calculator. This calculator has two methods, calculate the mean that is used to give the average of a set of n data, and, the standard deviation, is a measure of the spread or dispersion of a set of data, more widely the values are spread out, the larger the standard deviation.

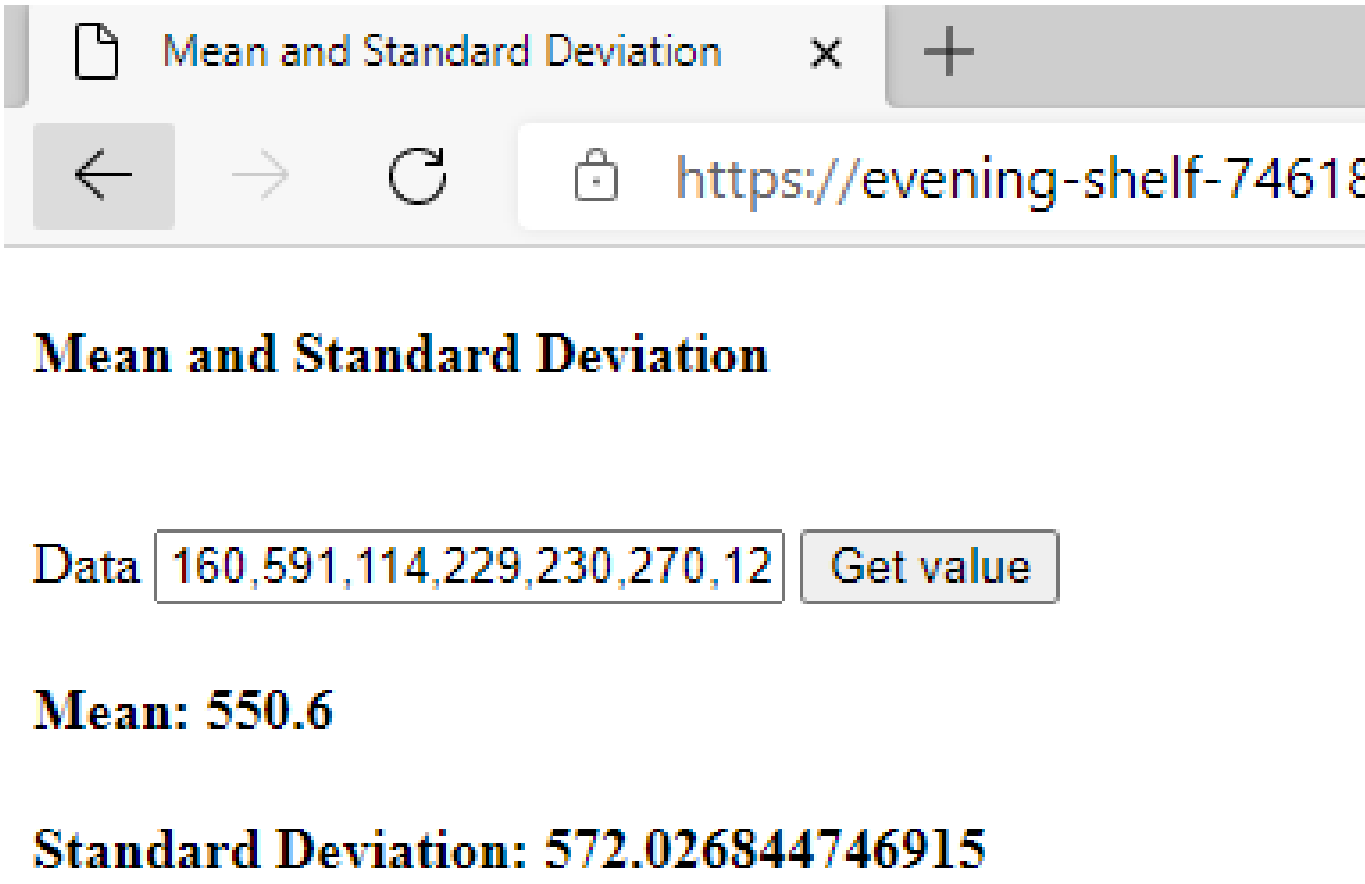
For this version we are going to use an archetype of mvn to create a mvn project. Git and github to store our project versions, the micro-framework Spark and heroku to design the web site, also i used java language to implement the LinkedList class and the methods mean and standard deviation, the idea is use the List interface.

2 Design

It has a structure, where it use a class call App, this class contain the spark method to obtain post method, but it has two methods to calculate mean and standard deviation calling class MeanAndStandardDeviation, it has this architecture.



The web site has a button to send the data and a box to enter the information, for this, we used Spark to obtain the data with post methods, and heroku to deploy the web site, we obtain this:

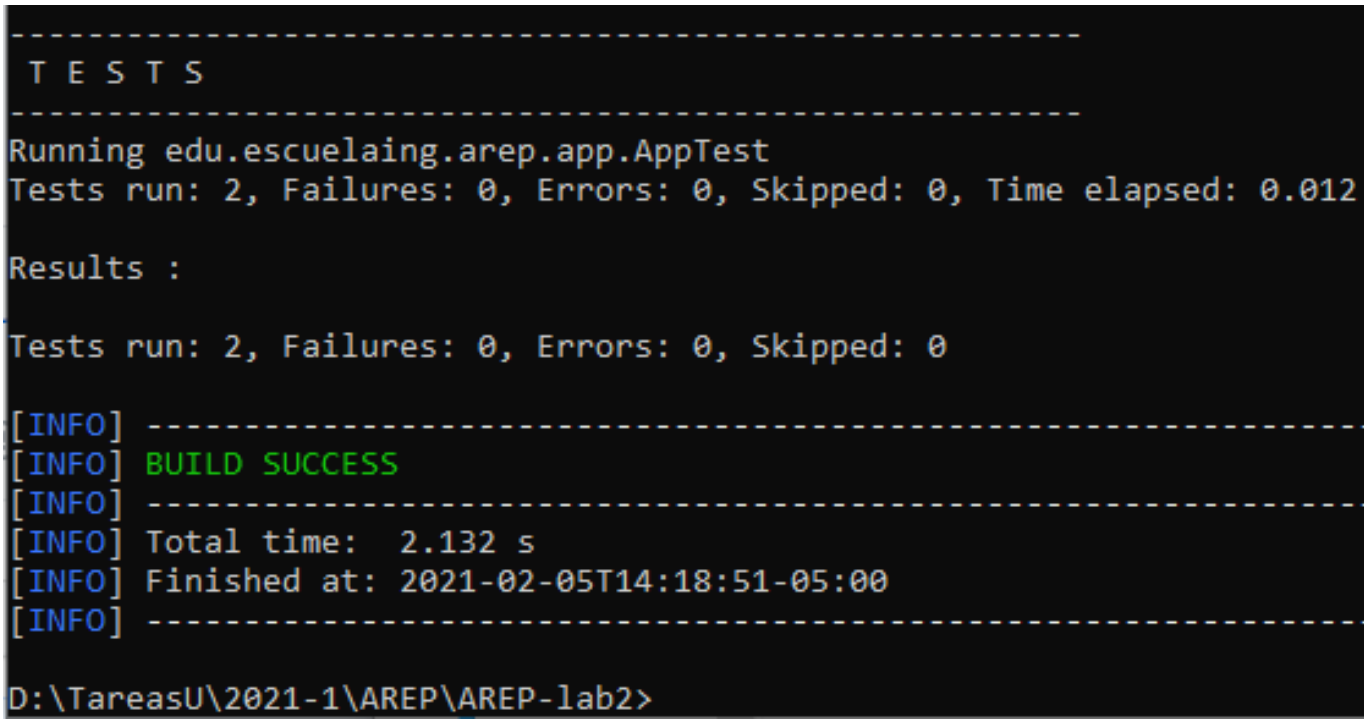


3 Tests

Table 1: Table for test

Header 1
160
591
114
229
230
270
128
1657
624
1503

Finally we can see all the test pass successfully.



4 Conclusion

For this case, we requirement a high level of data structure to implement methods of statistic, also we complete with the minimum requirements to complain successfully this guide. using Java, MVN, Git, Github, implementation of LinkedList, Spark and heroku, and we can see that saprk is a helpfull micro-framework that easy the petitions http,

5 References

[1] Benavides, P. L. D. (2021). INTRODUCTION TO COMPUTER SYSTEM DESIGN. Arquitectura empresarial, Bogotá, Colombia.

[2] Sebastian Nieto (2021). Tomado de: https://github.com/sebastianNietoMolina/AREP-lab2

[3] Documentation (2021). Tomado de: http://sparkjava.com/documentation.htmlrequest/