AREP 2nd Laboratory

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January 2020

1 Introduction

This laboratory intended us to provide the mean and the standard deviation of a given set of doubles taken from a web page. To achieve this, it was necessary to use the implementations of linked list and nodes of the previous laboratory, as well of the spark library from Java. At the end, the program need to be deployed on Heroku, so it is accessible through the internet.

2 Structure

2.1 Spark

Spark is a Java server framework. Sparks allows the user to connect the front end with the back end by http messages. The users defines on the server how to handle the different http messages type and how to respond to them.

2.2 Linked List

The linked list is a list that can hold any kind of value, as it is a generic implementation. Each node that make the linked list has a pointer to the next and the previous nodes to it.

It has 3 attributes

1. The size of the linked list.
2. The head of the linked list.
3. The tail of the linked list.

2.2.1 Size

An int that holds how many items the linkedlist has.

2.2.2 Head

A reference indicating which Node is the first of the linked list Has public getters and setters

2.2.3 Tail

A reference indicating which Node is the last of the linked list Has public getters and setters

2.3 Node

The Node is implementation is a generic one It has 3 attributes:

1. The value that the node holds.
2. The next node.
3. The previous node.

2.3.1 Value

Because of the generic implementation of the node, the value can be any java object. This attribute has it's public getters and setters

2.3.2 Next node

Each node knows which nodes is the next one to them, and stores a reference to that node. This attribute has it's public getters and setters

2.3.3 Previous Node

Each node knows which nodes is the previous one to them, and stores a reference to that node. This attribute has it's public getters and setters

3 Conclusions

This lab was implemented successfully on a web page with spark acting as the intermediary to communicate the web page and the maven server. The main connection is made with a post petition to give the server the numbers and the callback to give back the answers. The results are shown on the web page on a list storaged on volatile memory

References

docs.oracle.com/javase/7/docs/api/java/util/LinkedList.html

docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html http://sparkjava.com