NumCalc

A numerical calculator app

Students:

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Numerical Analysis

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FINAL PROJECT
First report

Objective: To adequately define the possible project to be developed during the semester, enunciate its aggregated values and provide a general overview of the methodology used.

Subject: Numerical Analysis

Professor: Edwar Samir Posada Murillo

Submission date: August 7, 2022.

Project name: NumCalc.

Description of the project:

NumCalc will be developed as a numerical analysis tool with application in any area of engineering and exact sciences. The project will consist of the creation of a downloadable calculator app as an *.apk* file for Android devices, written in JavaScript, that uses numerical methods to solve problems related to any area of knowledge.

The methods used in this project will cover topics such as error analysis, solution of single-variable equations, systems of linear equations, interpolation and as a possible added value, numerical differentiation and integration, and numerical solution of differential equations.

Finally, it should be clarified that the application will have a visually pleasing user interface and that it will be limited to the content seen during the numerical analysis course.

GitHub repository:

All the programming necessary to create the application, the numerical methods used and the reports required for its development will be updated in the GitHub repository at the URL,

https://github.com/isabellaecheverri/NumCalc.

Project members: Felipe Henao Gomez, Isabella Echeverri Villa, Juan Andres Montoya and Thomas Martinod Saldarriaga

Possible aggregated values:

The aggregated values considered during the development of the project will be:

Main Language: English will be employed as the main language of the project, clearly vital for all the reports, coding and the user interface.

Latex: All of the documents related to the project description will be generated via the LaTeXcompiler.

Programming languages: Even though the app is going to be born in JavaScript, we will consider Python, Matlab or Java for developing different versions of the app on executable files or for coding the methods used.

Extra methods: Different methods other than the ones taught in the course may be used for the sections of the app previously mentioned. Moreover, numerical differentiation and integration might be added to the menu along with simple algorithms for solving ODE's.

Signatures of the students: