Jhon Stiven Arboleda, Juan Sebastián Barrera, Alejandro García

Tarea Integradora 2

1. **Identification of the problem**

You want to develop a software prototype that allows you to manage certain basic operations on a database from the American continent.

**Needed:**

* The simulation of creating a close number of records of the population of the American continent for 2020 (around one billion people).

**Problem:** Efficient database storage, each record must be editable and removable.

1. Research

Functional requirements:

1. To do
2. To do
3. To do
4. To do
5. To do
6. To do
7. To do
8. To do

**AVL:** The AVL tree takes its name from the initials of the surnames of its inventors, Georgii Adelson-Velskii and Yevgeniy Landis. They made it known in the publication of an article in 1962, "An algorithm for the organization of information" ("An algorithm for the organization of information").

AVL trees are always balanced in such a way that for all nodes, the height of the left branch does not differ by more than one unit from the height of the right branch or vice versa. Thanks to this form of balance (or balancing), the complexity of a search in one of these trees is always kept in order of complexity O (log n). The balance factor can be stored directly at each node or computed from the heights of the subtrees.

References:

Tree AVL definition.

https://sites.google.com/a/espe.edu.ec/programacion-ii/home/arboles/arboles-avl