Final Project: Student Database

Development Guide in Snap!

1 Introduction

We are going to develop a practical project to master the handling of data structures in **Snap!**. Learning will be guided and progressive.

1.1 Functionalities to implement

- **Save**: Insertion of new data.
- **Delete**: Removal of records.
- **Sort**: Logical organization of information.
- **Query**: Reading and searching for elements.
- **Modify**: Editing existing data.

1.2 Methodology

Progress will be incremental: first we will establish the basic structure and, upon it, add each operation until the system is complete.

2 Project development

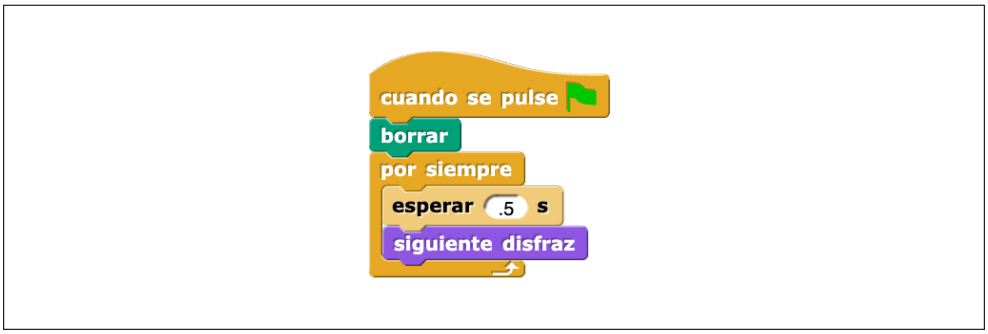
2.1 Import the stage

Download and import the stage from:
`https://github.com/costadamorte/snap-/blob/main/escenario.png`

2.2 Import the Terminal object

Import a new object called Terminal. To do this, go to Object > Costumes and drag the Terminal object. Download the **Terminal** object from:
`https://github.com/costadamorte/snap-/blob/main/Terminal.xml`

Initial configuration of the Terminal object



2.3 Delete default object

Delete the object “Object”, leaving only the terminal object **Terminal**.

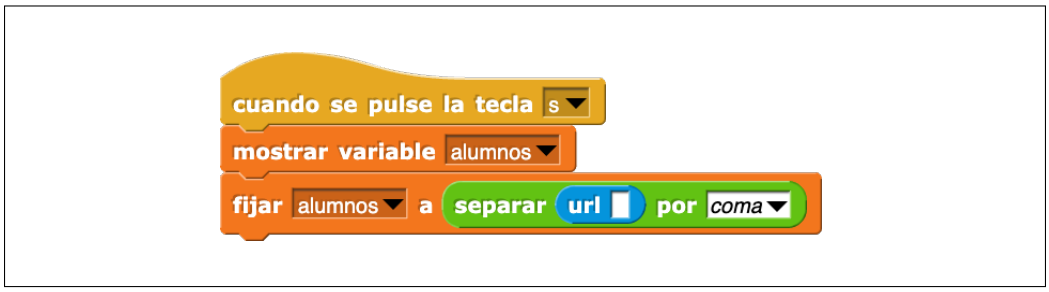
2.4 Declare variable

Create the variable `alumnos`.

2.5 Load CSV data

Import data from a csv file that you download from a server. In the url section, you must add the following address: https://gist.githubusercontent.com/costadamorte/1fcaea9b10c11e117ff0c4c904e2cc30tas.csv

Data Loading (Key “s”)



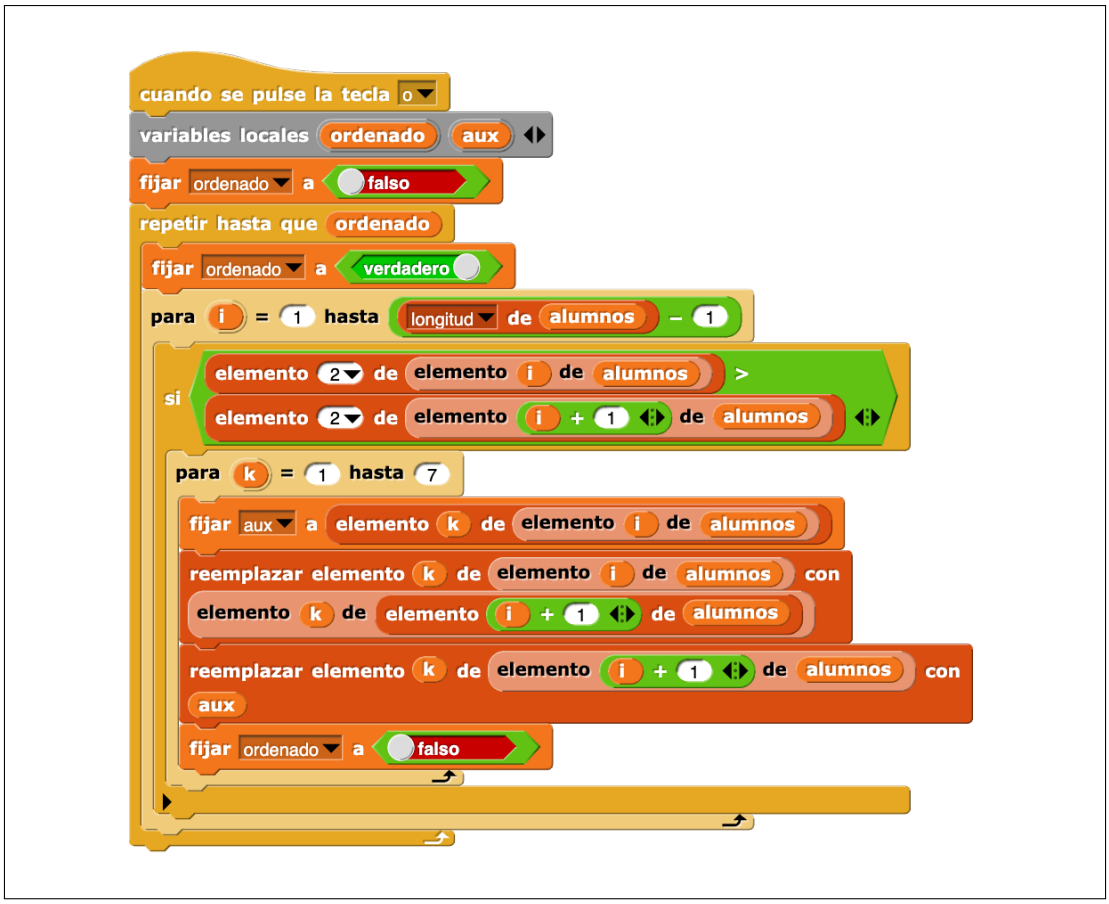
2.6 Delete data

In case you wish to delete all records from the ”alumnos” variable, you can implement the following algorithm.

Data Deletion (Key “r”)

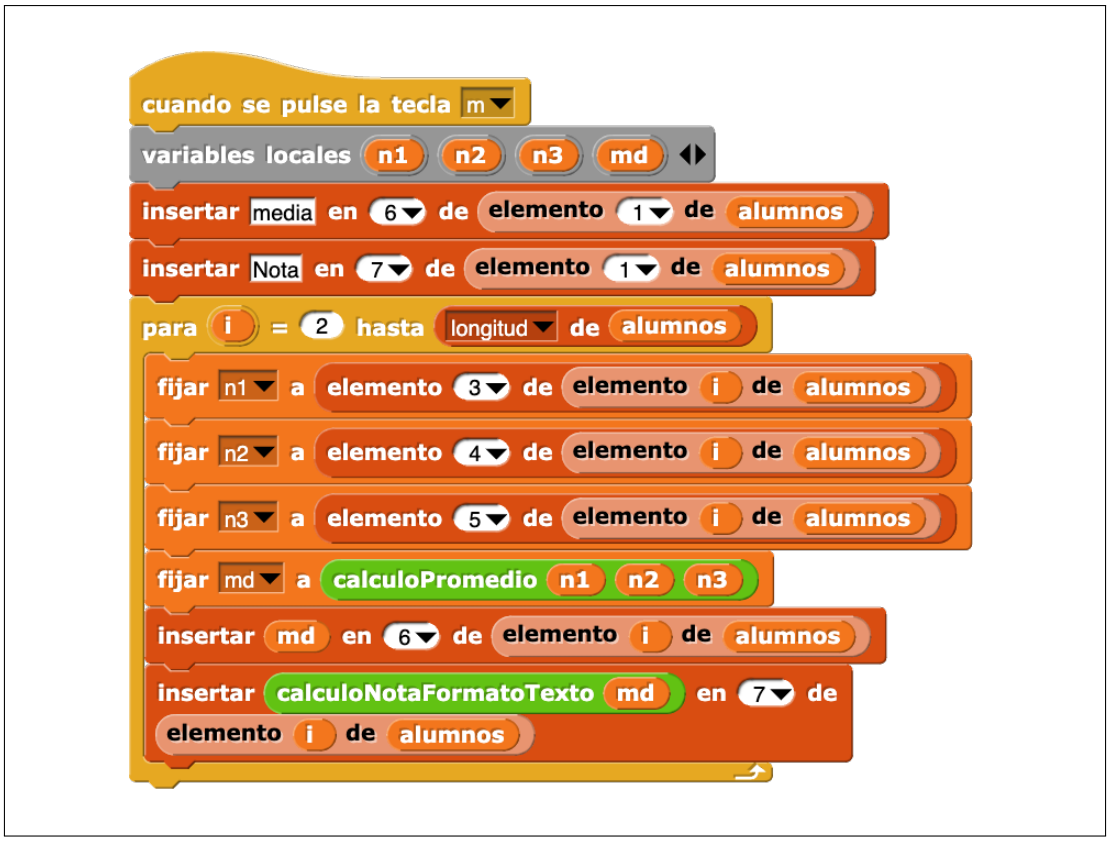
2.7 Sort students

Sorting Algorithm (Key "r")



2.8 Calculate average grade and qualification

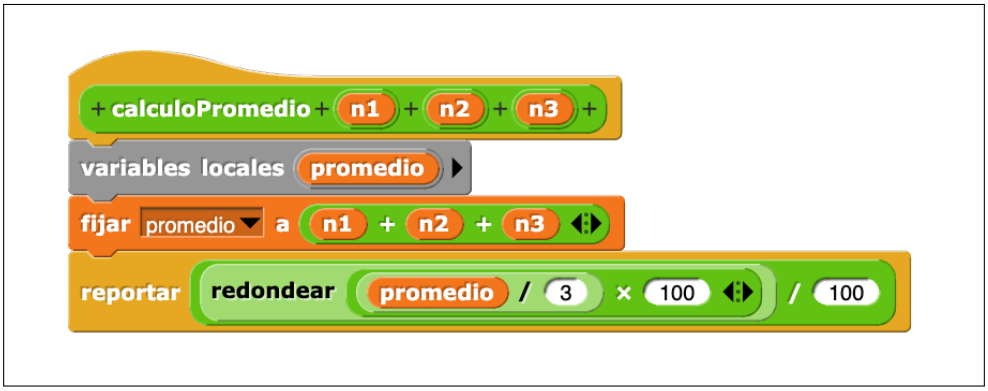
Main Block (Key “m”)



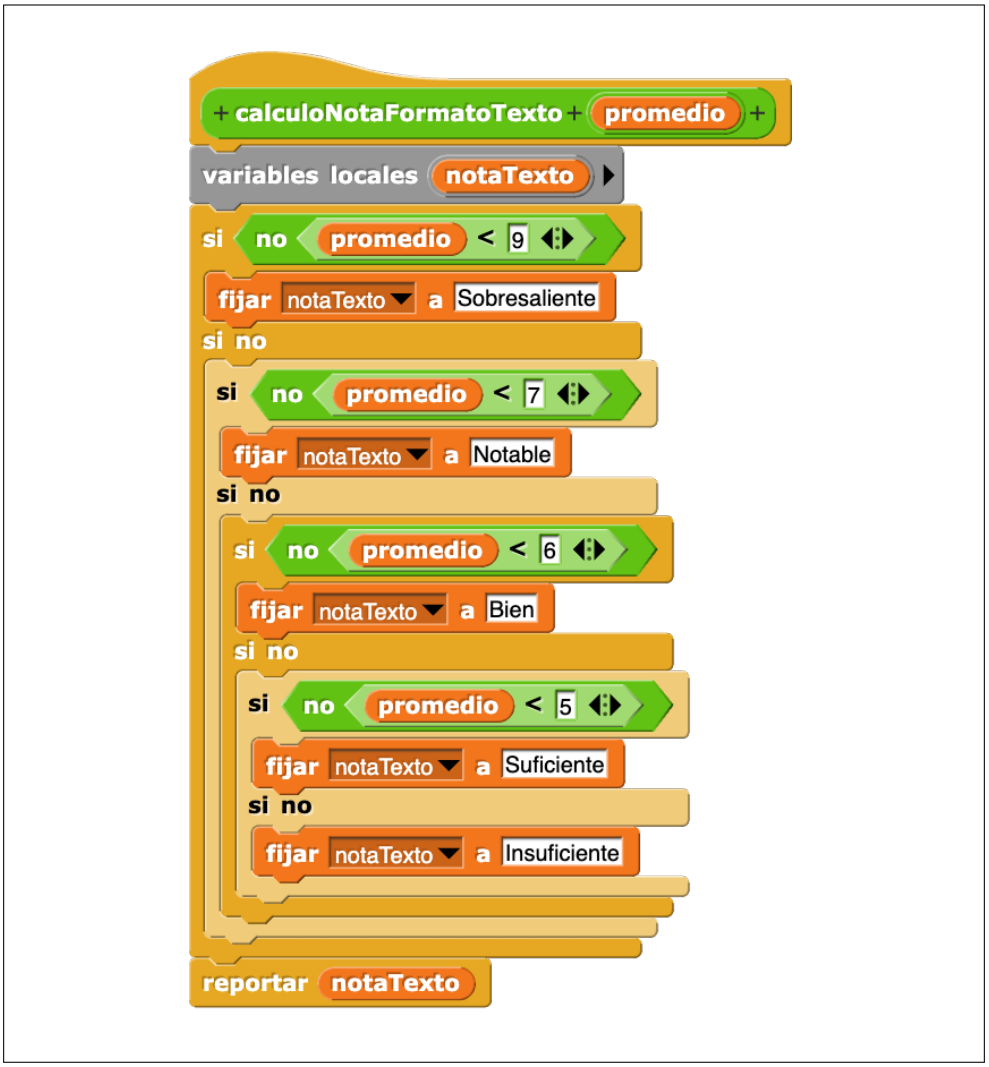
2.8.1 Custom blocks

Create the following custom block, responsible for calculating the arithmetic mean and returning the result to the main function.

calculoPromedio Function



calculoNotaFormatoTexto Function



2.9 Search for student

With this last block you will learn how to search for a student within the list by their name. If the student exists, the system will display all their information on the screen:
Name
Last Name
Average grade
Final grade in text format (Fail, Pass, Good, Very Good, or Excellent)

Student Search (Key “b”)