Instituto Tecnológico y de Estudios Superiores de Monterrey

Programming Languages

Report

Professor: Benjamín Valdés Aguirre

Saul Axel Palacios Acosta - A01208320

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Context of the problem

The problem is focused and designed on the public schools of the city of Querétaro, Mexico, but can be easily used and adapted to match other schools, even if they have a different structure, or even to have a different usage completely.

One of the problems that hinder productivity is the report of scores to the principal and the upload of this to the official website, this is because most of the professors have their own order and preferences to report grades, with their own sizes of cells and font. The procedure to upload the grades to the official website is that only the principal has access to the system; hence why all professors report their grades to the principal, make sure all the scores have a valid number; a number between 6 and 10, and then write on the web page each grade one by one; sometimes making mistakes that may take from minutes to hours to fix depending of the severity of the mistake.

From this we can identify 3 main problems that slows the process of uploading the scores to the official website:

1. The lack of a standardization to report the scores, that even some professors refuse to follow when trying to implement one.
2. Having to check that all the scores are valid, since it can be difficult and confusing to do it when having a lot of numbers on screen.
3. When uploading the scores to the official website, some errors may occur, the most extreme being uploading the wrong subject, having to replace them later, taking more time than expected.

Solution

This program makes use of two program paradigms to tackle this problem, both complementing each other, Logic and Concurrency.

Logic

Prolog will be used for everything related to the search and filter of information, this is because Prolog can search recursively, and taking full advantage of the backtracking to get every possible result, as long as the knowledge base is made properly, it should always return coherent and accurate results. There are three knowledge bases: Subjects, Students and Score, each on their own file, then a main file, where all the previous knowledge bases are included and all the rules for searching for information are, thus making it easier to keep the information up to date and only needing to consult this main file to access all the information from all three knowledge bases. Additionally, there are two more knowledge bases, Groups and Periods, both only purpose is to simplify the use of the filters, since both are updated when Importing Students and Score respectively.

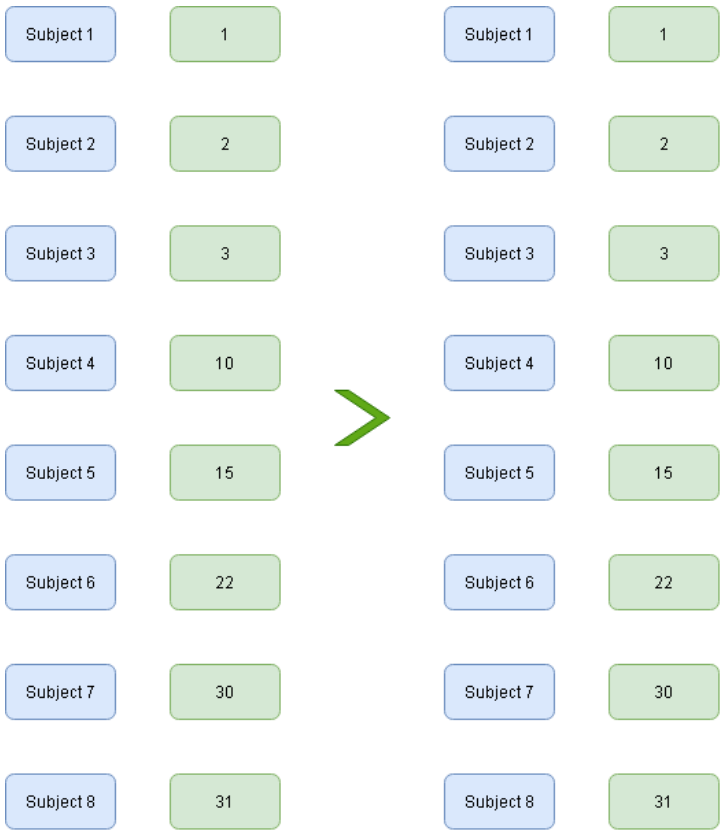
Subject

The knowledge base stores the information of the Subjects in the following order:

1. Name of the Subject: A text surrounded by ‘. (See *Special Characters* on *Concurrent*)
2. Code of the Subject: A numeric value.

The rule simply lists all the information of the Subjects. It receives:

1. A variable: Where all the information of a Subject returned on each solution.



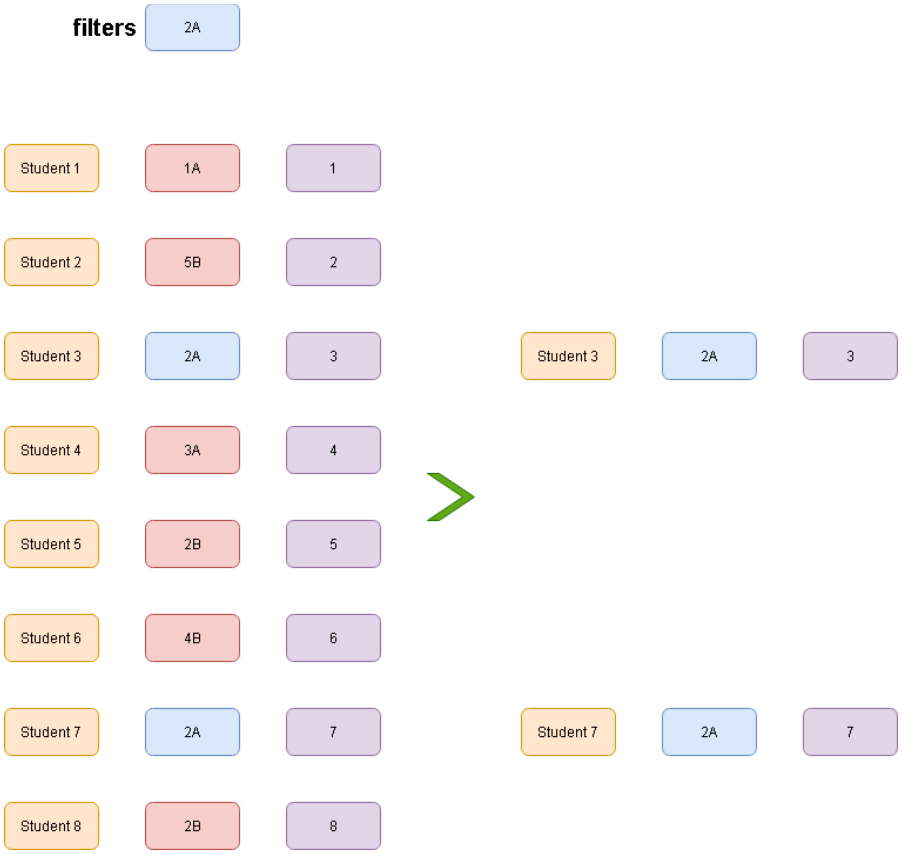
Students

The knowledge base store the information of the Students in the following order:

1. Name of the Student: A text surrounded by ‘. (See *Special Characters* on *Concurrent*)
2. Grade: A string.
3. Number of List: A numeric value.

The rule to list all the information of the Students can be filtered by the Grade and/or Group given, or return all Students if none were given. It receives:

1. Group: A string or the ‘_’ character.
2. A variable: Where all the information of a Student is returned on each solution.



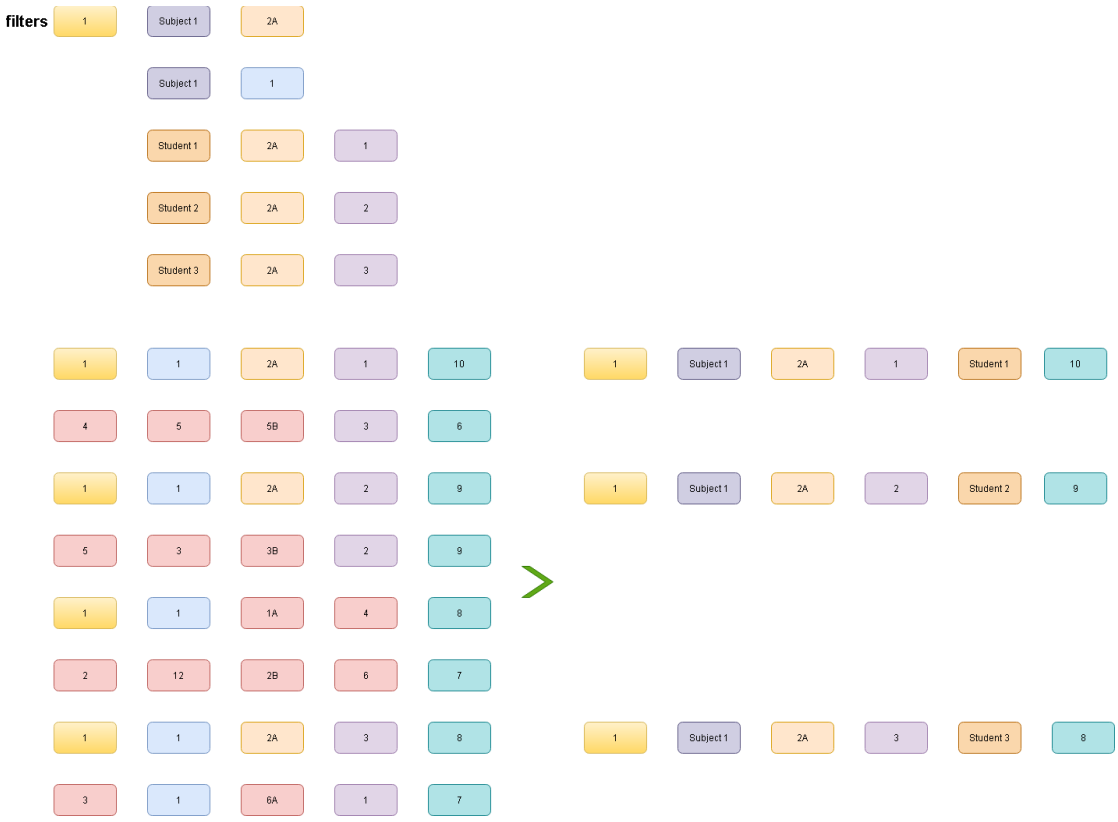
Scores

The knowledge base stores the information of the Scores in the following order:

1. Period: A numeric value.
2. Code of the Subject: A numeric value.
3. Group: A string.
4. Number of List: A numeric value.
5. Score: A numeric value.

The rule to list the Scores receives Period, Name of the Subject, Grade and Group of the Student, showing all the grades that match the previous conditions. It receives:

1. Period: A numeric value or the '_' character.
2. Name of the Subject: A text surrounded by ' or the '_' character.
3. Group: A string or the '_' character.
4. A variable: Where all the information of a Score of a Subject by a Student is returned on each solution.

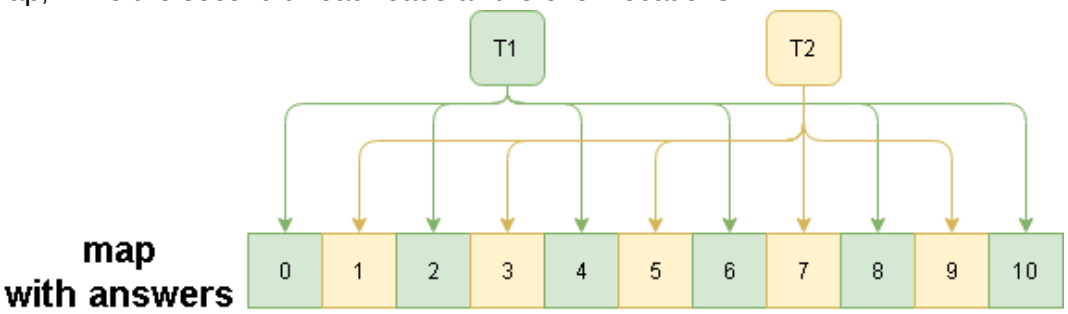


Concurrent

Because there could be a lot of information; more precisely for the data expected: 6 periods for 12 groups, each group with 50 students and each student with 12 subjects for a total of 43 200 unique Scores in a whole school year, a fast way to process this information is needed. In order to optimize this, the use of Threads on Java was decided to access and process all of this information simultaneously.

Communication with Prolog

The JPL library is used to communicate Java with Prolog. After making a query, all of the answers are stored on a map, then each thread reads a location of that map to obtain a specific result from the query, in the case of being two threads, the first one reads all the odd locations of the map, while the second thread reads all the even locations.



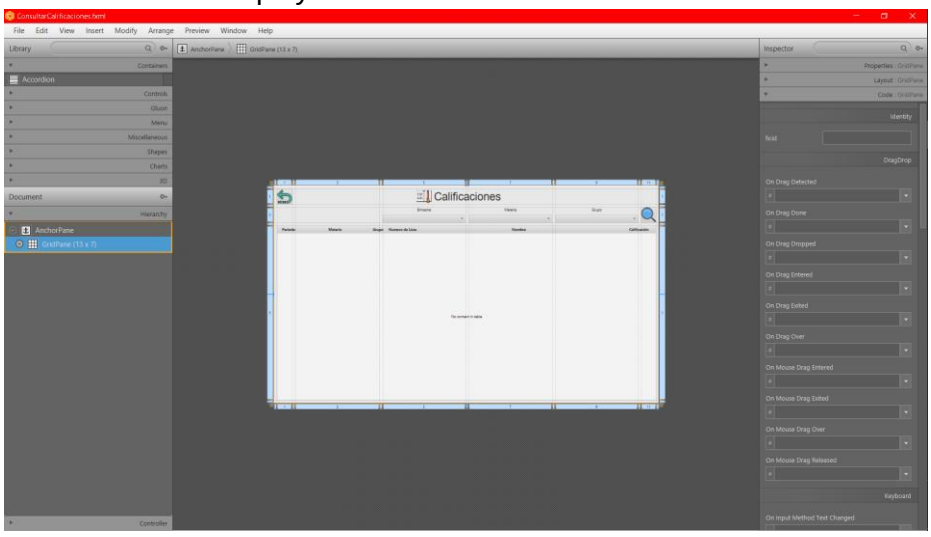
Special Characters

Some problems of compatibility with some languages can occur with certain characters not present in the ISO-8859-1 codification, because of this a unique combination of characters, preferably having at least one not used on the language, can be used to indicate another character, for example “*a|*” is used to represent “*á*”. The function replaceEach from the library CommonsLang 3 is used as an easy and fast way to replace this set of characters, even if it is a large amount without being too tedious.

Before replace	After replace
Matemáticas	Matema|ticas
Español	Espan|ol
Geografía	Geografi|a
Francés	France|s

JavaFX

JavaFX was chosen as the GUI to display information to the user, not only because it has a nice and clean look and design, but also because of the Scene Builder tool, making and modifying GUIs can be done in a fast and easy way, without the need to modify code directly and just focus on the correct display of information.



After setting up a grid with the proper measurements and size, all that is left is to simply drag and drop the elements to the correct place.

Once each thread gets the answer of a query and replaces any character it needs for proper display, it is then stored as an object inside an Observable List, so it can be displayed on the table.

Also, the tables allow to sort each column, fixing problem 2, as now the Scores can be sorted from the lowest to highest, the principal can detect instantly which Student and Subject has a invalid score.

Periodo	Materia	Grupo	Numero de ...	Nombre	Calificación
	Subject 1	2A	2	Student 2 2A	1
	Subject 1	4B	4	Student 4 4B	1
	Subject 1	1B	5	Student 5 1B	1
	Subject 1	4B	6	Student 6 4B	1
	Subject 1	4A	9	Student 9 4A	1
	Subject 1	4B	10	Student 10 4B	1
	Subject 1	5A	10	Student 10 5A	1
	Subject 1	1A	11	Student 11 1A	1
	Subject 1	3B	13	Student 13 3B	1
	Subject 1	5B	13	Student 13 5B	1
	Subject 1	4A	16	Student 16 4A	1
	Subject 1	5A	16	Student 16 5A	1
	Subject 1	4A	19	Student 19 4A	1
	Subject 1	4B	20	Student 20 4B	1
	Subject 1	1A	22	Student 22 1A	1
	Subject 1	4A	23	Student 23 4A	1
	Subject 1	6A	23	Student 23 6A	1
	Subject 1	1A	25	Student 25 1A	1

Additionally, being able to only show one Subject at a time fixes problem 3, as long as the correct Subject is selected, there is no way to mix up Subjects when uploading the grades, only needing attention at the vertical order.

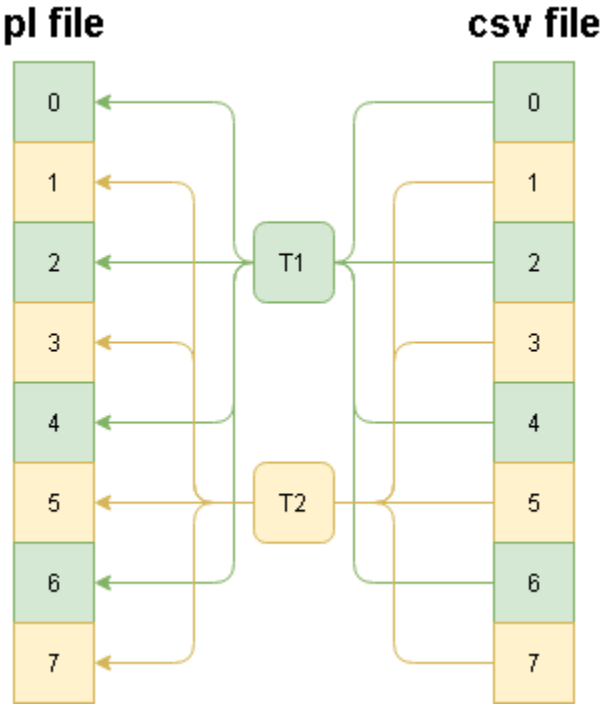
Periodo	Materia	Grupo	Numero d...	Nombre	Calificación
	Subject 3	3B	1	Student 1 3B	39
	Subject 3	3B	2	Student 2 3B	46
	Subject 3	3B	3	Student 3 3B	5
	Subject 3	3B	4	Student 4 3B	47
	Subject 3	3B	5	Student 5 3B	17
	Subject 3	3B	6	Student 6 3B	3
	Subject 3	3B	7	Student 7 3B	41
	Subject 3	3B	8	Student 8 3B	12
	Subject 3	3B	9	Student 9 3B	1
	Subject 3	3B	10	Student 10 3B	79
	Subject 3	3B	11	Student 11 3B	3
	Subject 3	3B	12	Student 12 3B	95
	Subject 3	3B	13	Student 13 3B	97
	Subject 3	3B	14	Student 14 3B	22
	Subject 3	3B	15	Student 15 3B	61
	Subject 3	3B	16	Student 16 3B	35
	Subject 3	3B	17	Student 17 3B	34
	Subject 3	3B	18	Student 18 3B	79

Excel and Prolog files

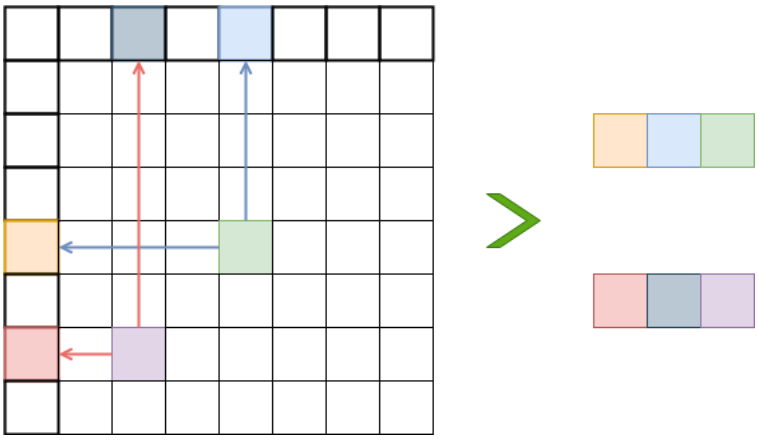
Usually, scores are already stored in an excel file, but because of the problem mentioned in the previous chapter, there is a need to standardize in a not overly complicated way, that is why the Comma Separated Values (csv) is used, both because it can be modified with Excel and be easily read as a text file.

In order to move information from each professor own list of Scores into the csv in the fastest and convenient way possible a table of sorts was made, in which the *x* and *y* axis tell the context of the information present inside the cell, this solves the problem 1, because now there is no need of a strict order in which to report the grades, as long as both axes have the correct information, the program will be able to transfer it into the knowledge base correctly.

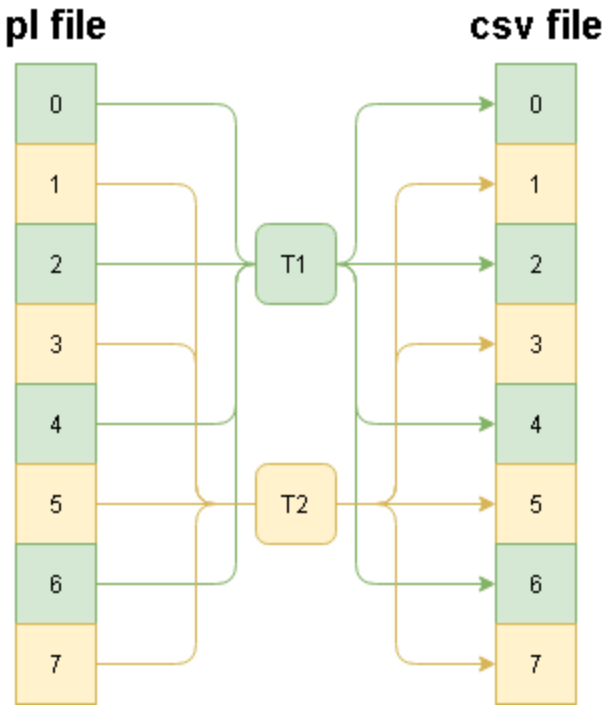
When Importing data, the information stored on the csv is read by the threads, processed and written on the correct prolog file as facts, in a similar fashion as with the map with prolog, each thread reads and writes on the same line of each file.



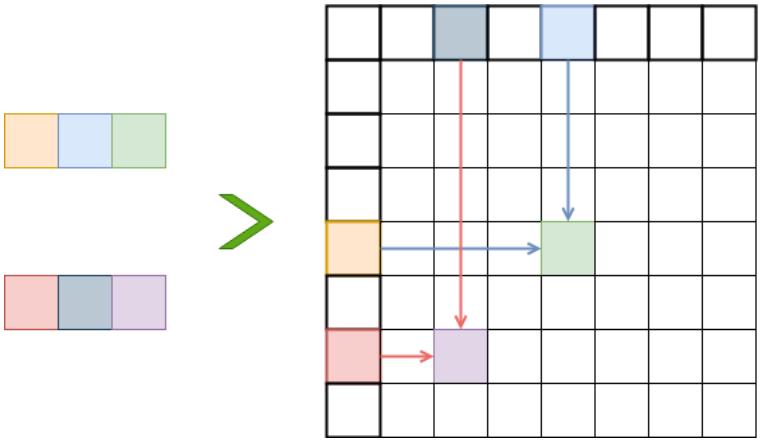
When accessing the table, each thread gets the axis of the cell they have on hand, determining the context of the information.



And the same the other way around, when exporting, the threads read each line from the prolog file, and write the information properly into the csv file, allowing to be able to transfer data to different instances of the program, from professor to principal mainly.



When accessing the table, since each fact already has the context of the information, it only needs to place it on the correct cell.



Results

Threads

This table is a comparison of the efficiency to perform each operation with 1 and 2 threads. This test was performed with the maximum data expected: 12 Subjects, 600 Students and 43 200 Scores. The results shown on the table are the average of 10 tests. As can be observed on the table, the most significant difference of time is on the Scores, demonstrating that the program works by cutting time of processing by using parallelism.

Activity	1 Thread	2 Threads
Import Subjects	21 ms	18 ms
Import Students	28 ms	21 ms
Import Scores	2701 ms	1894 ms
Consult Subjects	27 ms	23 ms
Consult Students	53 ms	39 ms
Consult Scores	2082 ms	1045 ms
Export Subjects	13 ms	4 ms
Export Students	15 ms	8 ms
Export Scores	1310 ms	743 ms

Importing data

To make sure the import of data doesn't take a lot of time to fill the csv with the necessary data, each principal was timed when filling the data necessary for a complete school year and only 1 period. It was made this way in case all professors refuse to use the program, making sure it doesn't take a lot of time for the principal to fill the csv for the period in case this happens and still wants to use the program, in normal conditions the time to fill 1 period for each professor would be cut by the twelfth approximately. It is highly unlikely that the principal needs to fill the csv for a whole school year.

Activity	Time	
	All Data	Only 1 period
Import Subjects	34 s	
Import Students	3m 16s	
Import Scores	12m 48s	5m 12s

Setup Instructions

Prerequisites

- Java 8
- Prolog

Install instructions

1. Download the repository.
2. On the dist folder, a jar with 3 folders called, lib, excel and pl are necessary to run the program.
    a. Extract these 4 files in another location if desired.
3. Add to the *Path* variable
    a. %SWI_HOME_DIR%\bin
    b. %SWI_HOME_DIR%\lib\jpl.jar
4. Execute the jar.

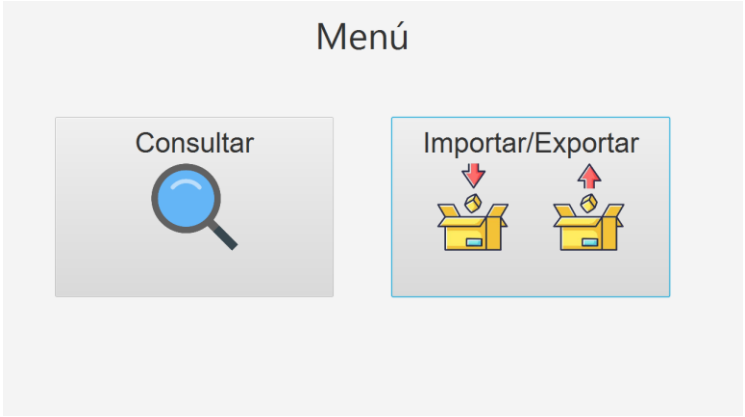
Conclusion

Using technology to our advantage to solve everyday problems is beneficial to improve process, as it frees time that could be used to do other things or even having more free time. The develop of this program is beneficial mainly to every director that needs to upload the grades to the official system, since diminishes the possibility of an error, helps to identify the invalid scores almost instantly and every professor can send their own list of scores without following a format, as long as they follow the instruction on how to fill the csv, that is a flexible model, won't have any problems. This help both principal and professors reducing the time required to report and upload the grades. Also the way the application is built can be easily adaptable for other schools and even for entirely new things.

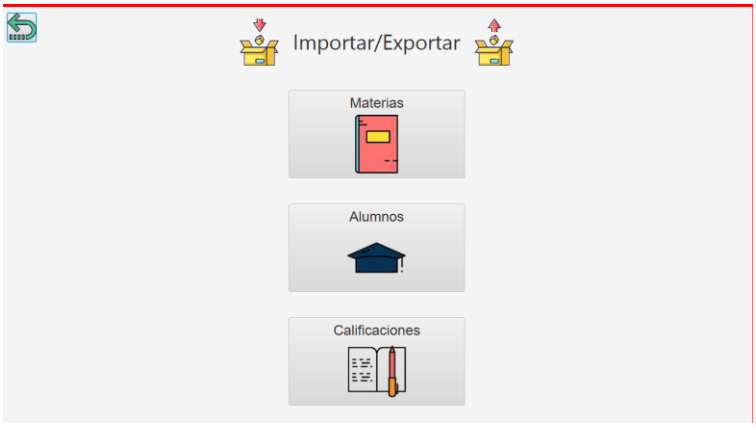
How to use

Import and Export

1. Select the Import/Export button of the Main menu



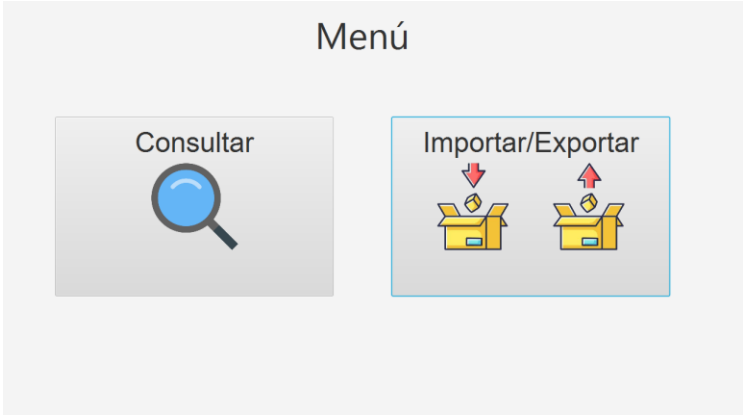
2. Select which you want to work with, Subjects, Students or Scores.



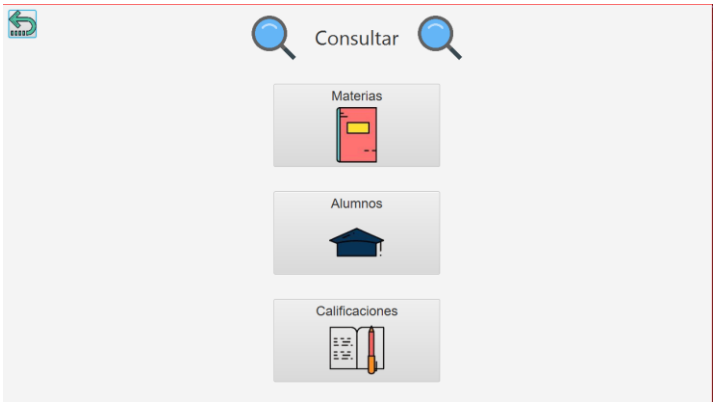
3. Press the button you want to do, either import or export
    a. If you want to export but delete all the data currently existing, select the small checkbox below.

Consult

1. Select the Consult button from the Main menu.

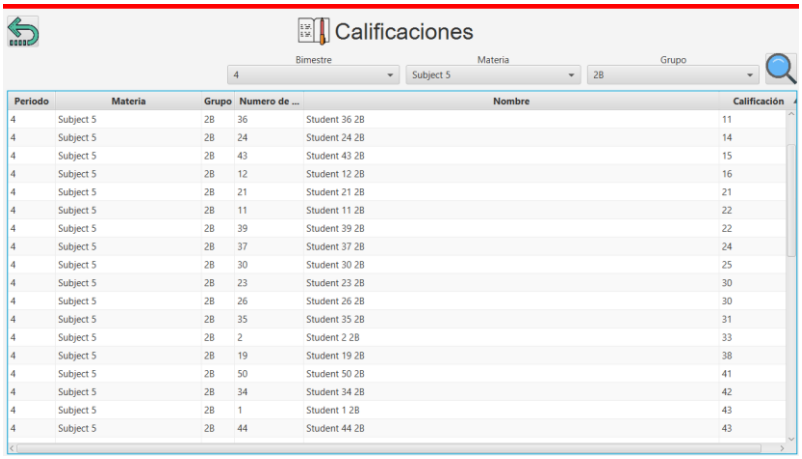


2. Select which you want to work with, Subjects, Students or Scores.



3. If filters apply, select which one to filter information with and press the search button.

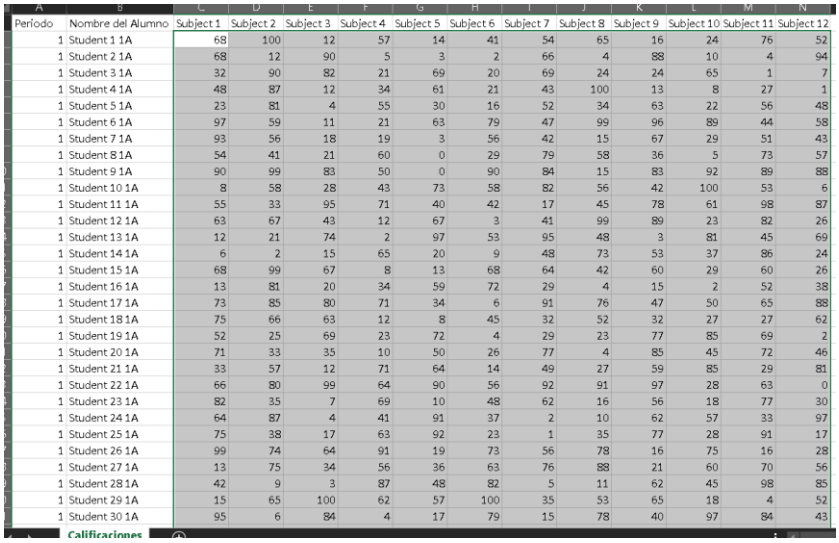
4. The table can be sorted with whatever column you desire.



Periodo	Materia	Grupo	Numero de ...	Nombre	Calificación
4	Subject 5	2B	36	Student 36 2B	11
4	Subject 5	2B	24	Student 24 2B	14
4	Subject 5	2B	43	Student 43 2B	15
4	Subject 5	2B	12	Student 12 2B	16
4	Subject 5	2B	21	Student 21 2B	21
4	Subject 5	2B	11	Student 11 2B	22
4	Subject 5	2B	39	Student 39 2B	22
4	Subject 5	2B	37	Student 37 2B	24
4	Subject 5	2B	30	Student 30 2B	25
4	Subject 5	2B	23	Student 23 2B	30
4	Subject 5	2B	26	Student 26 2B	30
4	Subject 5	2B	35	Student 35 2B	31
4	Subject 5	2B	2	Student 2 2B	33
4	Subject 5	2B	19	Student 19 2B	38
4	Subject 5	2B	50	Student 50 2B	41
4	Subject 5	2B	34	Student 34 2B	42
4	Subject 5	2B	1	Student 1 2B	43
4	Subject 5	2B	44	Student 44 2B	43

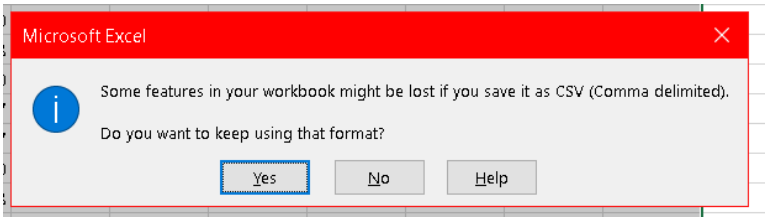
CSV files

1. Fill the necessary information to complete the table.



Periodo	Nombre del Alumno	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Subject 7	Subject 8	Subject 9	Subject 10	Subject 11	Subject 12
1	Student 1 1A	68	100	12	57	14	41	54	65	16	24	76	52
1	Student 2 1A	68	12	90	5	3	2	66	4	88	10	4	94
1	Student 3 1A	32	90	82	21	69	20	69	24	24	65	1	7
1	Student 4 1A	48	87	12	34	61	21	43	100	13	8	27	1
1	Student 5 1A	23	81	4	55	30	16	52	34	63	22	56	48
1	Student 6 1A	97	59	11	21	63	79	47	99	96	89	44	58
1	Student 7 1A	93	56	18	19	3	56	42	15	67	29	51	43
1	Student 8 1A	54	41	21	60	0	29	79	58	36	5	73	57
1	Student 9 1A	90	99	83	50	0	90	84	15	83	92	89	88
1	Student 10 1A	8	58	28	43	73	58	82	56	42	100	53	6
1	Student 11 1A	55	33	95	71	40	42	17	45	78	61	98	87
1	Student 12 1A	63	67	43	12	67	3	41	99	89	23	82	26
1	Student 13 1A	12	21	74	2	97	53	95	48	3	81	45	69
1	Student 14 1A	6	2	15	65	20	9	48	73	53	37	86	24
1	Student 15 1A	68	99	67	8	13	68	64	42	60	29	60	26
1	Student 16 1A	13	81	20	34	59	72	29	4	15	2	52	38
1	Student 17 1A	73	85	80	71	34	6	91	76	47	50	65	88
1	Student 18 1A	75	66	63	12	8	45	32	52	32	27	27	62
1	Student 19 1A	52	25	69	23	72	4	29	23	77	85	69	2
1	Student 20 1A	71	33	35	10	50	26	77	4	85	45	72	46
1	Student 21 1A	33	57	12	71	64	14	49	27	59	85	29	81
1	Student 22 1A	66	80	99	64	90	56	92	91	97	28	63	0
1	Student 23 1A	82	35	7	69	10	48	62	16	56	18	77	30
1	Student 24 1A	64	87	4	41	91	37	2	10	62	57	33	97
1	Student 25 1A	75	38	17	63	92	23	1	35	77	28	91	17
1	Student 26 1A	99	74	64	91	19	73	56	78	16	75	16	28
1	Student 27 1A	13	75	34	56	36	63	76	88	21	60	70	56
1	Student 28 1A	42	9	3	87	48	82	5	11	62	45	98	85
1	Student 29 1A	15	65	100	62	57	100	35	53	65	18	4	52
1	Student 30 1A	95	6	84	4	17	79	15	78	40	97	84	43

2. Make sure to save on the same format.



Evidence

User tests

At the end of the document are the tests performed by the users: professors and principal, from four different schools. The way the test was made was that a task was asked to perform, then the user tried to do it, if it takes some time to complete the task, a small help is given. Here are the values for success:

- 1 : The user was able to perform the task successfully.
- 1V : The user was able to perform the task with some help.
- 0 : The user wasn't able to perform the task.

After the test, every professor and principal who had problems, was taught how to use the program efficiently, as well as some tips on how to copy data into the csv file more quickly and easily.

School	Carlos A. Carrillo		
Grade	1	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1	Had small trouble locating filters.	
Export	1		

School	Carlos A. Carrillo		
Grade	1	**Group**	B
Activity	**Success**	**Notes**	
Import	1V	Didn’t understand the overwrite option.	
Consult	1		
Export	1		

School	Carlos A. Carrillo		
Grade	2	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1		

School	Carlos A. Carrillo		
Grade	2	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1V	Small confusion with table filters.	
Export	1		

School	Carlos A. Carrillo		
Grade	3	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1V	Small trouble locating csv files.	

School	Carlos A. Carrillo		
Grade	3	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	0	Couldn’t locate the csv files.	

School	Carlos A. Carrillo		
Grade	4	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	0	Confused pl files with csv files.	

School	Carlos A. Carrillo		
Grade	4	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1		

School	Carlos A. Carrillo		
Grade	5	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1V	Small trouble sorting the table.	
Export	1		

School	Carlos A. Carrillo		
Grade	5	**Group**	B
Activity	**Success**	**Notes**	
Import	0	Trouble understanding overwrite option.	
Consult	0	Trouble using table sorts.	
Export	0	Couldn’t locate csv files.	

School	Carlos A. Carrillo		
Grade	6	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1V	Trouble understanding filters.	
Export	1		

School	Carlos A. Carrillo		
Grade	6	**Group**	B
Activity	**Success**	**Notes**	
Import	1V		
Consult	1V	Trouble finding the return button.	
Export	1V		

School	Juan Antonio De Urrutia		
Grade	1	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1V	Didn’t understand how to use filters.	
Export	1		

School	Juan Antonio De Urrutia		
Grade	1	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	0	Tried to open pl files instead of csv.	

School	Juan Antonio De Urrutia		
Grade	2	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1		

School	Juan Antonio De Urrutia		
Grade	2	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1V	Trouble sorting the table.	
Export	1		

School	Juan Antonio De Urrutia		
Grade	3	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1V	Confused with sorting the table.	
Export	1		

School	Juan Antonio De Urrutia		
Grade	3	**Group**	B
Activity	**Success**	**Notes**	
Import	1V	Trouble modifying the csv.	
Consult	1		
Export	1		

School	Juan Antonio De Urrutia		
Grade	4	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1V	Trouble using filters.	
Export	1		

School	Juan Antonio De Urrutia		
Grade	4	**Group**	B
Activity	**Success**	**Notes**	
Import	1V		
Consult	1V	Trouble locating the return button.	
Export	1V		

School	Juan Antonio De Urrutia		
Grade	5	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1V	Little trouble using filters.	
Export	1		

School	Juan Antonio De Urrutia		
Grade	5	**Group**	B
Activity	**Success**	**Notes**	
Import	1V		
Consult	1V	Trouble changing between menus.	
Export	1V		

School	Juan Antonio De Urrutia		
Grade	6	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1		

School	Juan Antonio De Urrutia		
Grade	6	**Group**	B
Activity	**Success**	**Notes**	
Import	0	Trouble writing on the csv.	
Consult	1		
Export	1V	Trouble locating csv files.	

School	General Lazaro Cardenas		
Grade	1	**Group**	A
Activity	**Success**	**Notes**	
Import	0	Trouble putting data on the csv.	
Consult	1V	Needed help with filtering and sorting data.	
Export	0	Trouble finding the export.	

School	General Lazaro Cardenas		
Grade	1	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1		

School	General Lazaro Cardenas		
Grade	2	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1		

School	General Lazaro Cardenas		
Grade	2	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1		

School	General Lazaro Cardenas		
Grade	3	**Group**	A
Activity	**Success**	**Notes**	
Import	1V		
Consult	1V	Trouble with the return button.	
Export	1V		

School	General Lazaro Cardenas		
Grade	3	**Group**	B
Activity	**Success**	**Notes**	
Import	1V	Didn’t understand the overwrite option.	
Consult	1V	Problem sorting table.	
Export	0	Trouble finding csv files.	

School	General Lazaro Cardenas		
Grade	4	**Group**	A
Activity	**Success**	**Notes**	
Import	1V		
Consult	1V	Trouble finding the return button.	
Export	1V		

School	General Lazaro Cardenas		
Grade	4	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1V	Trouble finding csv.	

School	General Lazaro Cardenas		
Grade	5	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1V	Trouble sorting table.	
Export	1		

School	General Lazaro Cardenas		
Grade	5	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1V	Trouble finding csv files.	

School	General Lazaro Cardenas		
Grade	6	**Group**	A
Activity	**Success**	**Notes**	
Import	1V	Confusion on how to use the csv to import.	
Consult	1		
Export	1		

School	General Lazaro Cardenas		
Grade	6	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1		

School	Jose Ma Morelos Y Pavon		
Grade	1	**Group**	A
Activity	**Success**	**Notes**	
Import			
Consult			
Export			

School	Jose Ma Morelos Y Pavon		
Grade	1	**Group**	B
Activity	**Success**	**Notes**	
Import	1V		
Consult	1V	Trouble finding the return button.	
Export	1V		

School	Jose Ma Morelos Y Pavon		
Grade	2	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1V	Trouble using filters.	
Export	1V	Trouble finding csv files.	

School	Jose Ma Morelos Y Pavon		
Grade	2	**Group**	B
Activity	**Success**	**Notes**	
Import	1V	Confused with the overwrite option.	
Consult	1		
Export	1		

School	Jose Ma Morelos Y Pavon		
Grade	3	**Group**	A

Activity	**Success**	**Notes**
Import	1	
Consult	1	
Export	1	

School	Jose Ma Morelos Y Pavon		
Grade	3	**Group**	B

Activity	**Success**	**Notes**
Import	1	Small confusion with overwrite option.
Consult	1	
Export	1	

School	Jose Ma Morelos Y Pavon		
Grade	4	**Group**	A

Activity	**Success**	**Notes**
Import	1V	
Consult	1V	Trouble finding the return button.
Export	1V	

School	Jose Ma Morelos Y Pavon		
Grade	4	**Group**	B

Activity	**Success**	**Notes**
Import	1V	Confusion on using the csv to import data.
Consult	1	
Export	1	

School	Jose Ma Morelos Y Pavon		
Grade	5	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1		

School	Jose Ma Morelos Y Pavon		
Grade	5	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1V	Trouble using filters and the sort of the table	
Export	1		

School	Jose Ma Morelos Y Pavon		
Grade	6	**Group**	A
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1		

School	Jose Ma Morelos Y Pavon		
Grade	6	**Group**	B
Activity	**Success**	**Notes**	
Import	1		
Consult	1		
Export	1V	Trouble understanding the exported csv.	

School	Carlos A. Carrillo	
Principal		
Activity	**Success**	**Notes**
Import	1	File management problems.
Consult	1	
Export	1	

School	Juan Antonio De Urrutia	
Principal		
Activity	**Success**	**Notes**
Import	1	
Consult	1V	Trouble with filters and the sort of the table.
Export	1	

School	General Lazaro Cardenas	
Principal		
Activity	**Success**	**Notes**
Import	1	
Consult	1	
Export	1V	Trouble locating csv files.

School	Jose Ma Morelos Y Pavon	
Principal		
Activity	**Success**	**Notes**
Import	1	
Consult	1	
Export	1	