

Comprehensive application:

Student Transcript Management System

- When starting the program, display the welcome info along with the menu:
- The user can choose a module by pressing a relevant number;
- A module will be executed according to the user's choice;
- The transcript is demanded to include the following information about a student: Major, ID, Name, Gender, Subject, Score;
- If a specific student is searched, the user can choose to modify or to delete this student's information;
- The transcript will be saved when the system is quitted, and all info will be exported into a file called *student.csv*.
- Execution example of each module:

1. Welcome info:

1. CREATE NEW
2. SHOW ALL
3. QUERY
0. SAVE AND QUIT

2. CREATE NEW Module (the blue parts are given by the user as input):

Create a new student: Please input the aspects of the student by turn:

Major: CST

ID: 2030130209

Name: Marco

Gender: Male

Subject: Intro-Com-Sci

Score: 85

Student info successfully created.

Would you hope to continue to create a new one? Y/N

3. SHOW ALL Module

Major	ID	Name	Gender	Subject	Score
CST	01	Marco	Male	Intro-Com-Sci	85
CST	02	Alessandro	male	Intro-Com-Sci	95
CST	03	Matteo	male	Intro-Com-Sci	85
CST	04	Lorenzo	male	Intro-Com-Sci	95
CST	05	Lucia	female	Intro-Com-Sci	90
CST	06	Paola	female	Intro-Com-Sci	95

Please choose the mode for display:

1. Sort by ID; 2. Sort by Score

Direction: Please choose one kind of data structure to store the data and choose at least two different algorithms to sort, and evaluate the time complexity of the sort algorithm in your report.

4. QUERY Module

Please input the student name for query: [Lorenzo](#)

Major	ID	Name	Gender	Subject	Score
CST	04	Lorenzo	male	Intro-Com-Sci	95

Please choose the operation on this student:

1. Modify; 2. Delete; 0. Back to the menu

5. Modification

To modify the info of Lorenzo, please input the items to be modified;

If you wish to keep the current item without modification, please press Enter.

Input the new value for attribute "Major": [SE](#)

Input the new value for attribute "Subject": [Python Coding](#)

Input the new value for attribute "Score":

Modification is successful!

Major	ID	Name	Gender	Subject	Score
SE	04	Lorenzo	male	Python Coding	95

6. Delete

Please input the student name for query: [Lorenzo](#)

Major	ID	Name	Gender	Subject	Score
CST	04	Lorenzo	male	Intro-Com-Sci	95

Please choose the operation on this student:

1. Modify; 2. Delete; 0. Back to the menu

When 2 is chosen, the entire row will be removed and display all info of the rest students.

7. Quit

When quitting the system, please display:

File successfully saved. Welcome next use!

- student.csv should be created by Python coding, instead of manually operating in Microsoft Excel. The file will be created like (the detailed data can be filled freely, this is just an example):

	A	B	C	D	E	F
	Major	ID	Name	Gender	Subject	Score
	CST	2030130209	Marco	Male	Intro-Com	85
	CST	2030130210	Alessandro	male	Intro-Com	95
	CST	2030130212	Matteo	male	Intro-Com	95
	CST	2030130213	Lorenzo	male	Intro-Com	95
	CST	2030130214	Lucia	female	Intro-Com	90
	CST	2030130215	Paola	female	Intro-Com	95
	CST	2030130216	Elena	female	Intro-Com	80
	CST	2030130217	Giulia	female	Intro-Com	85
	CST	2030130218	Ciro	male	Intro-Com	95
	CST	2030130219	Virginio	male	Intro-Com	95
	CST	2030130220	Giuseppe	male	Intro-Com	95
	CST	2030130221	Mirto	male	Intro-Com	95
	CST	2030130223	Alessandro	female	Intro-Com	85
	CST	2030130224	Mauro	male	Intro-Com	90
	CST	2030130227	Camillo	male	Intro-Com	95
	CST	2030130228	Michelle	male	Intro-Com	90
	CST	2030130232	Leonardo	male	Intro-Com	90
	CST	2030130207	Giorgio	male	Intro-Com	90
	CST	2030130208	Vincenzo	male	Intro-Com	90
	CST	2030130204	Francesca	female	Intro-Com	95
	CST	2030130206	Roberta	female	Intro-Com	95
	CST	2030130202	Sofia	female	Intro-Com	98
	CST	2030130203	Valentino	male	Intro-Com	90

Program Code (List the code for each module for function)

What have you obtained through this experience