

## Project

This application allows teachers to record the students grades for the different courses they teach, and organize them in corresponding files. The application includes two files: *project.py* and *courses.csv*

The *project.py* file includes the application code, and can be run after setting the following requirement:

```
pip install tabulate
```

It starts by offering the user a menu to choose an option to run. Each option is implemented using a corresponding function. After each executed option, the user is offered the menu again to choose a new option or to exit the program.

All data in the program are organized in CSV files:

- File *courses.csv*: includes all the courses assigned to the teacher. Each course is displayed on a separate line as follows:

Course Title , Course ID , Semester

- A CSV file will be created for each course included in the *courses.csv* file upon choosing option 3 in the menu. It will store the students grades as follows:

Year, Student ID, Grade

You are asked to understand the application thoroughly by running each option of the menu separately and checking its corresponding output.

The application code includes some errors, and is missing some important statements. The project consists on improving the application to deliver a correct runnable code. Following are the tasks you need to achieve in your project:

1. Running the options separately results in many errors. Correct them and explain your solution by adding a comment starting with `#CORRECTION`
2. Describe briefly what the modules `re` and `tabulate` are meant for through comments starting respectively with `#RE` and `#TABULATE`
3. Explain lines 78 and 145 (instruction `re.search`) through a comment starting with `#SEARCH`
4. Explain line 96 through a comment starting with `#TABPRINT`
5. Running option 5 generates an error if the grades for a course mentioned in *courses.csv* haven't been filled yet using option 3. Propose and implement a solution to solve this problem.
6. Adding an already existing course using option 2 in file *courses.csv* is not handled by the application. Implement a new function called `checkCourse()`, taking for parameter the course ID, to forbid the addition of an existing course.

7. In your opinion, how can this application be improved/incremented? Propose some additional features without implementing them.