Complementos Sobre Linguagens de Programação (2019/20)

Python exercises

1. Implement a program to calculate the sum and the average of a list of values saved on a file. Take into consideration that the file has one value in each line, as presented in the following example. The name of the file should be passed as an argument of the script on the command line (explore the use of `sys.argv`).

```
gX.txt
12.39
1.93
7.85
...
```

2. The file `gX.csv` contains a table with the marks obtained by the students of a specific course. Each line contains the information about a student and the columns are separated by a `TAB '\t'`. The first line contains the header with the meaning of each field.

   a. Implement a method to read the content of the file and returns the list of students. Consider the use of a dictionary to represent a student where the key is the number of the student and the value a list of the remaining fields.

   b. Implement a function that given the information about a student returns the final mark of that student, considering the average of the three marks.

   c. Implement a function to calculate the average final mark of all the students.

   d. Using all the above methods, and/or other that you consider necessary, implement a program that reads the content if a file and generate another file with the students sorted by the final mark, respecting the following format:

Numero	Nome	Nota
8540	VÍTOR MANUEL ANICETO PALHINHA	16.3
9419	MÁRIO JORGE MANECAS	8.9