

Computing Basic

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1 The file

There is a file in Campus Virtual (*schools.csv*) containing some information about schools in our region.

The first line is a headline, with comma separated field names -town, school name, number of students, type of school. The other lines contain values also separated by commas. For instance, these could be some lines of this file (*example.csv*):

```
Town,Shool name,Number of students,Type
A Carida,Jesus Alvarez Valdes,5179,CP
Arriondas,Rio Sella,13450,CP
Aviles,Apolinar Garcia Hevia,1460,CP
Aviles,El Quirinal,22098,CP
Aviles,Enrique Alonso,1435,CEI
```

2 Reading the file (1p)

Write a function `get_info(filename)` that receives one string as parameter, the name of a file. The function should read all the lines but the first included in this file and build a list containing each line as a string, removing newlines at the end of each line. The function must return the list.

Example: `get_info('example.csv')` would return (items in the list are in different lines because of space limitations):

```
['A Carida,Jesus Alvarez Valdes,5179,CP','Arriondas,Rio Sella,13450,CP',
'Aviles,Apolinar Garcia Hevia,1460,CP','Aviles,El Quirinal,22098,CP',
'Aviles,Enrique Alonso,1435,CEI']
```

3 Get the town (1p)

Write the function `get_town(S)` that receives a string `S` containing one line from the list generated by `get_info`. This function returns a string containing the town value.

Example: `print get_town('A Carida,Jesus Alvarez Valdes,5179,CP')` would print `'A Carida'`

4 Get the name of the school (1p)

Write the function `get_name(S)` that receives a string `S` containing one line from the list generated by `get_info`. This function returns the name of the school as a string.

Example: `print get_name('A Carida,Jesus Alvarez Valdes,5179,CP')` would print `'Jesus Alvarez Valdes'`

5 Get schools by town (2p)

Write a function `get_schools_by_town(L, T)` that receives a list `L` with the information returned by `get_info` and a second list `T` containing some strings (town names). This function returns a new list, containing the strings in `L` for those schools in one of the towns in `T`.

Example: `print get_schools_by_town(get_info('example.csv',['Aviles','Gijon']))` would print `["Aviles,Apolinar Garcia Hevia,1460,CP", "Aviles,El Quirinal,22098,CP", "Aviles,Enrique Alonso,1435,CEI"]`

6 Generate a new file (2p)

Write a function `generate_new_file(F, T)` that receives the name of a file, `F`, and a list, `T`, containing some towns (strings).

This function generates a new file, named as the original one but changing the extension by `town`. This new file contains the town and the name of the school, separated by commas, for all those schools located in a town in `T`. One school per line.

Example: `generate_new_file('example.csv',['Oviedo', 'Arriondas'])` will generate a file named `example.town` containing (in any order):

```
Arriondas,Rio Sella
```

7 Write statistics (3p)

Change the previous function to write, at the end of the file, one line per town in `T`, plus the number of schools of this town.

Example: `generate_new_file('example.csv',['Aviles', 'Oviedo', 'Arriondas'])` will generate a file named `example.town` containing (in any order):

```
Arriondas,Rio Sella
Aviles,Apolinar Garcia Hevia
Aviles,El Quirinal
Aviles,Enrique Alonso
Aviles: 3
Oviedo: 0
Arriondas:1
```

7.1 When finish...

Write docstrings in all the functions.

Identify the author in the first lines.

Save your python file named **test2A.py**.

Upload this only file to the corresponding task in Campus Virtual.