Computing Basic

School of Computer Science
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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 in `filename` but the first 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 information from a string (2p)

3.1 Get the name of the school

Write a 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'`

3.2 Get school type

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

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

4 Get schools by type (2p)

Write a function **get_schools_by_type(L, T)** that receives a list `L` returned by `get_info` and a second list `T` containing some strings (school types). This function returns a new list, containing the strings in `L` for those schools of one type in `T`.

Example: `print get_schools_by_type(get_info('example.csv'),['CEI','CRA'])` would print `'Aviles,Enrique Alonso,1435,CEI']`

5 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 school types (strings). This function generates a new file, named as the original one but changing the extension by `type`. This new file contains the name and type of every school in `L` of a type in `T`, separated by commas. One school per line.

Example: `generate_new_file('example.csv',['CP','CRA'])` will generate a file named `example.type` containing (in any order):

```
Jesus Alvarez Valdes,CP
Rio Sella,CP
Apolinar Garcia Hevia,CP
El Quirinal,CP
```

6 Write statistics (3p)

Change the previous function to write, at the end of the file, one line per type plus the number of schools of this type.

```
Jesus Alvarez Valdes,CP
Rio Sella,CP
Apolinar Garcia Hevia,CP
El Quirinal,CP
CP: 4
CRA: 0
```

6.1 When finish...

Write docstrings in all the functions.
Identify the author in the first lines.
Save your python file named **test2B.py**.
Upload this only file to the corresponding task in Campus Virtual.