Python Functional Programming

Home Project

Assignment 1

Attached, there is a file called `sherlock.txt`. Using elements of Python functional programming, do some processing over this file as it follows:

1. Decode the content of the file by doing the following replacements:
2.

```
1. ! -> s
2. @ -> h
3. # -> e
4. $ -> r
5. % -> l
6. ^ -> o
7. & -> c
8. * -> k
```

2. After decoding the initial file, select all the words starting with the letter "a"
3. Collect all the words above in a list
4. Display that list

Assignment 2

Make a program that will do the following:

   a) read a word from the input console
   b) Creates all anagrams of that word
   c) Compare all anagrams created at the previous step with the words contained in the file `dictionary.txt`, attached to this laboratory (see on the classrooms materials). If the word exists in that dictionary, it means that the word is meaningful and display it.

Important notes:

In order to create the permutations needed in building the anagrams, use the following import:

```
from itertools import permutations
```

Then call that function as follows:

```
result = permutations(word)
```

`result` is an iterator containing a series of tuples with the result of permutations which can be stepped like:

```
for crt_elem in result:
    do_something()
```

Assignment 3

Create a program that manages a list of movies and implement the following functionality:
     1. A movie is defined by a title and a rank (like the one defined in <u>imdb.com</u>)
     2. Create the possibility to add a movie in the list of movies
     3. Create the possibility to display all the movies existing at a certain moment in time
     4. Implement the possibility to search the movies for a specific movie
     5. Create the possibility of removing of a certain movie from the movies list

All these operations will be implemented using the functional programming style, the conventional programming style won't be taken into consideration.