

Computer Science 010: Design and Implementation of Solutions to Computational Problems

Episteme 7

This is an assignment that must be done as a pair. Pairs will be assigned via Canvas.

Program #1 (95%)

Write a function that, as parameters, is given a filename and a list of words.

Count how many times each word in the list occurs in the specified file. If the file doesn't exist, catch the exception and inform the user that the words occurred 0 times each.

Make sure that you make the case uniform so that upper and lower case words match. Make sure you close any files that you open.

Below right is a sample test run for the function that you are to write called "wordCounter".

Below left is the output you should get if you have correctly written your function. In this case I am counting words with apostrophe's as a separate word. So "he" is not the same as "he's"

Turn in a file name E_07_01.py that only contains the function definition

```
*****
FrozenScript.txt
    he : 12
    she : 43
    it : 116
    olaf : 21
    anna : 59
*****
InceptionScript.txt
    he : 61
    she : 37
    it : 179
    thoughts : 2
    hallucinating : 1
*****
LesMiserablesScript.txt
    he : 68
    she : 29
    it : 87
    truth : 4
    hear : 15
*****
MaryPoppinsScript.txt
    he : 32
    she : 24
    it : 115
    chim : 59
    sugar : 12
*****
dummy.txt
Could not open the file: dummy.txt
    he : 0
    she : 0
    it : 0
*****

print("*****")
fileName = "FrozenScript.txt"
print(fileName);
wordCounter(fileName,["he","she","it","Olaf","Anna"])

print("*****")
fileName = "InceptionScript.txt"
print(fileName);
wordCounter(fileName,["he","she","it","thoughts","hallucinating"])

print("*****")
fileName = "LesMiserablesScript.txt"
print(fileName);
wordCounter(fileName,["he","she","it","truth","hear"])

print("*****")
fileName = "MaryPoppinsScript.txt"
print(fileName);
wordCounter(fileName,["he","she","it","CHIM","SUGAr"])

print("*****")
fileName = "dummy.txt"
print(fileName);
wordCounter(fileName,["he","she","it"])
```

Challenge Problem #2 (5%)

Write a function that is given a filename as a parameter. Output a list of any word that, by itself, makes up more than 1% of all the words in the file along with its count.

If the file doesn't exist, catch the exception and inform the user that the file doesn't exist.

Make sure that you make the case uniform so that upper and lower case words match. Make sure you close any files that you open.

Below left is a sample test program for the function that you are to write called "wordFilter". To the right is the output you should get if you have correctly written your function. In this case I am counting words with apostrophe's as a separate word. So "he" is not the same as "he's"

Turn in a file name E_07_02.py that only contains the function definition

```
print("*****")
fileName = "FrozenScript.txt"
print(fileName);
wordFilter(fileName)

print("*****")
fileName = "InceptionScript.txt"
print(fileName);
wordFilter(fileName)

print("*****")
fileName = "LesMiserablesScript.txt"
print(fileName);
wordFilter(fileName)

print("*****")
fileName = "MaryPoppinsScript.txt"
print(fileName);
wordFilter(fileName)

print("*****")
fileName = "dummy.txt"
print(fileName);
wordFilter(fileName)
```

```
*****
FrozenScript.txt
    of : 84
    and : 132
    a : 143
    the : 206
    it : 116
    to : 177
    i : 243
    is : 90
    you : 294
    me : 98
    no : 129

*****
InceptionScript.txt
    we : 154
    a : 212
    the : 359
    this : 121
    and : 128
    you : 504
    to : 357
    i : 274
    what : 122
    is : 143
    it : 179
    in : 141
    of : 126
    that : 185

*****
LesMiserablesScript.txt
    in : 158
    the : 495
    you : 337
    and : 238
    to : 252
    my : 147
    i : 310
    me : 165
    a : 267
    is : 155
    of : 187

*****
MaryPoppinsScript.txt
    a : 274
    you : 266
    and : 182
    the : 375
    i : 207
    to : 165
    in : 140
    of : 132
    it : 115

*****
dummy.txt
Could not open the file: dummy.txt
```