Exercise 1

Write a function that takes as input filename and a word, and returns the number of lines in the file that contain this word.

Example:

```
Input word: hello
Input File:
    In any introductory programming course, the course usually starts by i
mplementing
    a  hello world example. This allows you to run your first program and
 display
    a welcome hello message to the user and in particular hello world.
Output: 2
```

Part 2: What if we want to count how many occurrences in the file we have the word hello ?

In [8]:

```
filename = raw_input('Enter filename')
```

```
Enter filenamefile1.txt
file1.txt
```

In [1]:

```
#part 1 solution
def counting_lines(filename, word):
    file1 = open(filename, 'r')

    count = 0
    for line in file1:
        if word in line:
            count += 1
    file1.close()
    return count



filename = raw_input('Enter filename ')
word = raw_input('Enter word ')

count = counting_lines(filename, word)

print('# of occurrences containing '+ word +' in file '+ str(count))
```

```
Enter filename file1.txt
Enter word hello
# of occurrences containing hello in file 2
```

In [33]:

```
#part 2 solution 1
def counting_lines(filename, word):
    file1 = open(filename, 'r')

    count = 0
    for line in file1:
        line_words = line.split()
        for line_word in line_words:
            if word == line_word:
                count += 1
    file1.close()
    return count



filename = raw_input('Enter filename ')
word = raw_input('Enter word ')

count = counting_lines(filename, word)

print('# of occurrences containing '+ word +' in file '+ str(count))
```

```
Enter filename file1.txt
Enter word hello
# of lines containing hello in file 4
```

In [40]:

```
def filter_out_punctuation( string ):
    result = ''
    for letter in string:
        if letter not in [',', '.', '!', '?', ':', ';', '-','\n', '\t']:
            result += letter
        else:
            result += ' '
    return result
```

In [39]:

```
filter_out_punctuation('hello , check!blah? mm')
```

Out[39]:

```
'hello   check blah  mm'
```

In [42]:

```
# part 2 solution 2

def filter_out_punctuation( string ):
    result = ''
    for letter in string:
        if letter not in [',', '.', '!', '?', ':', ';', '-','\n', '\t']:
            result += letter
        else:
            result += ' '
    return result

def counting_lines(filename, word):
    file1 = open(filename, 'r')

    file_content = file1.read()
    print('before cleaning', file_content)
    file_content_cleaned = filter_out_punctuation(file_content)
    print('after cleaning', file_content_cleaned)
    words = file_content_cleaned.split()
    print(words)


    count = 0
    for file_word in words:
        if word == file_word:
            count += 1
    file1.close()
    return count



filename = raw_input('Enter filename ')
word = raw_input('Enter word ')

count = counting_lines(filename, word)

print('# of lines containing '+ word +' in file '+ str(count))
```

```
Enter filename file2.txt
Enter word hello
('before cleaning', 'hello!Everyone, this is a new file\namazing how
,many hello exist\nin this file hello hello???')
('after cleaning', 'hello Everyone  this is a new file amazing how
many hello exist in this file hello hello   ')
['hello', 'Everyone', 'this', 'is', 'a', 'new', 'file', 'amazing',
'how', 'many', 'hello', 'exist', 'in', 'this', 'file', 'hello', 'hel
lo']
# of lines containing hello in file 4
```

Splitting strings vs Joining

In [32]:

```
text = 'hello check bye blah'
words = text.split(' ')
print(words)
```

```
['hello', 'check', 'bye', 'blah']
```

In [28]:

```
' '.join(words)
```

Out[28]:

```
'hello check bye blah'
```

In [16]:

```
'occurrences '+ word
```

Out[16]:

```
'occurrences hello'
```

Checking whether a string contains a specific word (or mor generally a substring)

In [17]:

```
text = 'hello world'

word = 'hello'
if(word in text):
    print('yes')
else:
    print('no')
```

```
yes
```

Exercise 2

In a soccer tournament, we have 4 teams, each played 3 matches. we have a csv file that contains the scores as below

Easy Version

Team	Match1	Match2	Match3
Italy	W	W	W
France	W	D	L
Czech	L	W	L
Romania	L	D	L

Difficult version

Team1	Team2	Score
Italy	France	2-1
Italy	Czech	3-0
Italy	Romania	5-0
France	Czech	2-1
France	Romania	1-1
Czech	Romania	2-1

We would like to know the overall score for each team? (W is a win=> 3 points, D is a draw => 1 point, L is a lose => 0 points)

In [ ]: