

Information Retrieval Program Assignment 1

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1. 執行環境

Mac OS X 10.9.5 with Python 2.7.5

2. 設計

```
import re
import porter_algorithm

p = porter_algorithm.PorterStemmer()

f = open('IRPA1text.txt', 'r')

stop_words_file = open('stop_words.txt', 'r')
stop_words = stop_words_file.read().split()

result = re.sub("[^A-Za-z]", " ", f.read().lower()).split()
stop = filter(lambda x: not(x in stop_words), result)
stemmed = map(lambda x: p.stem(x, 0, len(x)-1), stop)

solution = open('result.txt', 'w')
solution.write('\n'.join(stemmed))

f.close()
stop_words_file.close()
solution.close()
```

1. 載入Porter's algorithm
2. 開啓需要處理的文章
3. 載入stop words list(網路預先下載)，並且將每個字斷開成為一個list
4. 將要處理的文章讀入，用regular expression拿掉非字母符號，小寫化，並且以空白將文章分隔成單字list(tokenization)
5. 將stop word過濾(以filter)
6. 使用porter algorithm處理每一個token(以map)
7. 將處理好的list以換行連接，輸出至檔案

3. 問題與解決方案

1. 沒有Python開發經驗：不斷的Google
2. 使用Porter algorithm：問同學
3. 演算法設計：使用過去haskell的functional language經驗

4. 執行結果

Information Retrieval Program Assignment 1 at [GitHub](#)

執行過程無顯示輸出，直接讀入檔案，處理後輸出至result.txt

```
Cloud@ThomastekiMacBook-Air: ~/Documents/IRPA1 — ..cuments/IR...
→ IRPA1 git:(master) python --version
Python 2.7.5
→ IRPA1 git:(master) ls
IRPA1.py          porter_algorithm.py  result.txt
IRPA1text.txt    porter_algorithm.pyc stop_words.txt
→ IRPA1 git:(master) python IRPA1.py
→ IRPA1 git:(master)
```

```
result.txt
OPEN FILES
reportTestData.txt
DPLabAccumulateData.json
IRPA1.py
× result.txt
stop_words.txt

1 yugoslav
2 author
3 plan
4 arrest
5 eleven
6 coal
7 miner
8 opposit
9 politician
10 suspicion
11 sabotag
12 connect
13 strike
14 action
15 presid
16 slobodan
17 milosev
18 listen
19 bbc
20 new
21 world
```