

Introduction to Computers and Programming

Homework10 (Week 12)

Due date: 2020/12/17

1.

You will read the “wifi_log.txt” file to answer the following questions.

(1) Read and parse the “inputEAPOLFrame:” lines and pull out the **number** of Received non-key EAPOL frames from the line using **regular expression**, and count the average of the received non-key EAPOL frames in “wifi_log.txt” file.

Sample Line:

```
inputEAPOLFrame: Received non-key EAPOL frame (46)
```

output:

```
average of the received non-key EAPOL frames: 57.517
```

(2) Count number of IPs from each person using a dictionary. After all the data has been read, print the IP by creating a list of (IP, count) tuples from the dictionary.

Sample Line:

```
Local IP: 172.20.10.2 or IPV4 Addr: 172.18.8.109
```

output:

```
{'192.168.50.107': 8, '17.57.145.22': 10, '172.18.11.76': 4, '17.57.145.23': 1, '17.57.145.24': 2, '172.20.10.2': 2, '172.18.14.117': 12, '17.57.145.20': 4, '17.57.145.21': 3, '192.168.1.107': 4, '172.18.8.109': 10}
```

2.

(1) Use urllib or BeautifulSoup to extract and print out all title in the PTT-HCI

(<https://www.ptt.cc/bbs/HCI/index20.html>).

You will find some lines looking like this. (If you don't know how to find it, check out the tutorial in lab 10)

```
<div class="title">  
  <a href="/bbs/MobileComm/M.1539248247.A.3CF.html"> Re: [請益] 請問我能申請到中上的美國 HCI 研究所嗎</a>  
</div>
```

The first 6 lines of the sample output should look like this:

```
/bbs/HCI/M.1498424162.A.BC2.html Re: [請益] 請問我能申請到中上的美國 HCI 研究所嗎  
/bbs/HCI/M.1504981558.A.0AF.html [問題] 請問電腦視覺與深度學習應用於醫療  
/bbs/HCI/M.1510886766.A.A22.html [徵求] 車牌研究-需大量汽車車牌照照片  
/bbs/HCI/M.1512064915.A.9DC.html [分享] GNU/Linux 中文資訊化和開放原始碼生態發展與 24PRs 活動  
/bbs/HCI/M.1516679876.A.DC9.html [徵才]行動基因 招募實習生  
/bbs/HCI/M.1516787203.A.26E.html [徵才] IBM 誠徵 User Experience Intern  
....
```

(2) Using regular expression to extract the category (e.g. [徵才]), then count each category in all titles

The sample outputs base on above answer should look like this:

```
[徵才]: 2  
[請益]: 1  
[問題]: 1  
[分享]: 1  
[徵求]: 1
```