网络爬虫 实验报告

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一、 实验目的

- 1. 熟悉网络爬虫的工作原理
- 2. 熟悉网络爬虫的基础语法
- 3. 能够编写一个简单的网络爬虫

二、 实验内容

实验要求:

- 1. 掌握 requests 模块的安装使用;
- 2. 掌握 Beautiful Soup 模块的安装使用;
- 3. 掌握 html 的基本知识;

三、 实验结果

完成实验并截图说明每个步骤

1. 安装 requests、BeautifulSoup4

```
PS C:\Users\cqucxt\PycharmProjects\Webpachong> pip list
 -----
 beautifulsoup4
                 4.12.2
                  2023.5.7
 certifi
 charset-normalizer 3.2.0
 idna
pip
                 23.1.2
                 2.31.0
requests
setuptools
                 68.0.0
soupsieve
                 2.4.1
g urllib3
                 2.0.3
wheel
                  0.40.0
DC C.\ ||conclosurev+\ DvohonmDnoico+c\ Wohnochong>
```

代码: (使用 mysql 存储)

```
import psycopg2 as psycopg2
import pymysql as pymysql
import requests
from bs4 import BeautifulSoup
```

```
import sqlite3
def wirte txt(txt):
   with open('news.txt',"w",encoding='utf-8')as file:
       file.write(txt)
def wirte sqlite(sql):
   conn = sqlite3.connect('news.db')
   cursor=conn.course()
   cursor.execute(sql)
   conn.commit()
   cursor.close()
def res(url):
   headers={
       'user-agent': "Mozilla/5.0 (Windows NT 10.0; Win64; x64)
AppleWebKit/537.36 (KHTML, like Gecko) Chrome/113.0.0.0 Safari/537.36
Edg/113.0.1774.50"
   res = requests.get(url,headers=headers)
   res.encoding = res.apparent encoding
   return res.text
conn = pymysql.connect(host='localhost', user='root',
password='123456xx',db='news')
conn=psycopg2.connect(database="db 2020 01",user="db user2020 271",pa
ssword="db user@123", host="116.205.157.173", port=8000)
b = conn.cursor()
url = 'https://news.cqu.edu.cn/newsv2/news-130.html'
txt = res(url)
# print(txt)
soup = BeautifulSoup(txt, 'lxml')
lst = soup.find('div',class ="lists")
itm = lst.find all('div',class ="item")
# page=soup.find('div',class ="page").find all('a')[-1]['href']
# print(page[-1]['href'])
# i=itm[0]
num=5
while num!=0:
   # print(0)
   num=num-1
   for i in itm:
```

```
url1 = i.find('a')['href']
      url2="https://news.cqu.edu.cn"+format(url1)
       # print(url)
      txt1=res(url2)
       # print(txt1)
      soup1 = BeautifulSoup(txt1, 'lxml')
      title=soup1.find('h1',class ="dtitle").text
      date=soup1.find('div',class_="ibox").find_all('span')[-1].text
      detail=soup1.find('div',class ="adetail").text
      content=soup1.find('div',class ="acontent").text
       # sql = 'INSERT INTO new (title, date, detail, content) values
(%s, %s, %s, %s);'
       # param = (title, date, detail, content)
       # print("test1")
      b.execute("INSERT INTO new (title, date, detail, content) values
(%s, %s, %s, %s)", (format(title), format(date), format(detail),
format(content)))
      # print(content)
       # print("test2")
   page = soup.find('div', class_="page").find_all('a')[-1]['href']
   url3="https://news.cqu.edu.cn"+format(page)
   txt = res(url3)
   # print(txt)
   soup = BeautifulSoup(txt, 'lxml')
   lst = soup.find('div', class ="lists")
   itm = lst.find all('div', class ="item")
   # print(url3)
conn.commit()
b.close()
print("ok")
```

select * from new

```
| title | date | detail | content
```

四、 实验总结

(在实验中遇到的问题及解决方法、收获是什么)

安装 Beautiful Soup 遇到问题,改为安装 Beautiful Soup 4

```
PS C:\Users\cqucxt\PycharmProjects\Webpachong> pip install beautifulsoup
         Collecting beautifulsoup
                  Using cached BeautifulSoup-3.2.2.tar.qz (32 kB)
                Preparing metadata (setup.py) ... error
                  error: subprocess-exited-with-error
                  * python setup.py egg_info did not run successfully.
                   exit code: 1
                            -> [7 lines of output]
                                     Traceback (most recent call last):
                                              File "<string>", line 2, in <module>
                                              File "<pip-setuptools-caller>", line 34, in <module>
                                              \textbf{File } \ \ \underline{\text{C:}} \ \ \underline{\text
                                                          "You're trying to run a very old release of Beautiful Soup under Python 3. This will not work."<>"Please use Beautiful Soup 4, av
                                     SyntaxError: invalid syntax
                                     [end of output]
                  note: This error originates from a subprocess, and is likely not a problem with pip.
       error: metadata-generation-failed
         * Encountered error while generating package metadata.
          └> See above for output.
note: This is an issue with the package mentioned above, not pip.
```