20200824信息安全实训

面向对象（OO）
类 class （模板） 实例化 对象 object/instance 实例

类方法（函数） 参数

类属性/类字段

重写 __init__()方法

线程 thread

```python
from bs4 import BeautifulSoup
import requests
from urllib.parse import urljoin
from urllib.parse import urlparse
import threading

class HrefFetcher(threading.Thread):

    def __init__(self, url):
        threading.Thread.__init__(self)
        self.url = url
        self.hrefs = set()

    def run(self):

        res = requests.get(self.url, verify=False)

        soup = BeautifulSoup(res.text, 'html.parser')

        for link in soup.find_all('a'):
            href = link.get("href")
            href_parse = urlparse(href)
            if self.url in href:
                self.hrefs.add(href)
            elif href_parse[1] == '' and 'javascript' not in href:
                self.hrefs.add(urljoin(self.url, href))

t = HrefFetcher('https://www.szlanyou.com')
t.start()
t.join()

print(t.hrefs)
```

```
29
30 results = []
31 targets = ['https://www.szlanyou.com',]
32 pool = []
33 while True:
34     if len(pool) < MAX_TH_NUM and len(targets) > 0:
35         t = HrefFetcher(targets.pop())
36         t.start()
37         pool.append(t)
38     elif len(pool) == 0 and len(targets) == 0:
39         break
40
41     for t in pool:
42         if t.is_alive() == False:
43             pool.pop(pool.index(t))
44             for href in t.hrefs:
45                 if href not in results and href not in results:
46                     print(href)
47                     results.append(href)
48                     targets.append(href)
49
50 print("done.")
```

菜鸟教程

python web frame

```
1 from bottle import route, run, template
2
3 @route('/hello/<name>')
4 def index(name):
5     return template('<b>Hello {{name}}</b>!', name=name)
6
7 run(host='0.0.0.0', port=8080)
```

```html
1 <!DOCTYPE html>
2 <html>
3     <head>
4         <title>List</title>
5     </head>
6     <body>
7         <h1>Site List Page</h1>
8         <table>
9             <thead>
10                 <th>ID</th>
11                 <th>Domain name</th>
12             </thead>
13             <tbody>
14                 <tr>
15                     <td>1</td>
16                     <td>https://www.szlanyou.com</td>
17                 </tr>
18             </tbody>
19         </table>
20     </body>
21 </html>
```

```python
1 from bottle import route, run, view
2
3 @route('/list', method='GET')
4 @view('list')
5 def site_list():
6     sites = [
7         (0, 'https://www.szlanyou.con'),
8         (1, 'https://www.szlanyou.con'),
9         (2, 'https://www.szlanyou.con')
10     ]
11     return {'sites': sites}
12
13 run(host='0.0.0.0', port=8000)
```

```html
1 <!DOCTYPE html>
2 <html>
3     <head>
4         <title>List</title>
5     </head>
6     <body>
7         <h1>Site List Page</h1>
8         <table>
9             <thead>
10                 <th>ID</th>
11                 <th>Domain name</th>
12             </thead>
13             <tbody>
14                 % for site in sites:
15                 <tr>
16                     <td>{{ site[0] }}</td>
17                     <td>{{ site[1] }}</td>
18                 </tr>
19                 % end
20             </tbody>
21         </table>
22     </body>
23 </html>
```

```python
1 import bottle
2 import bottle.ext import sqlite
3 from bottle import route, run, view
4
5 app = bottle.Bottle()
6 plugin = sqlite.Plugin(dbfile='./scanner.db')
7 app.install(plugin)
8
9 @app.route('/list', method='GET')
10 @view('list')
11 def site_list(db):
12     sites = [
13         (0, 'https://www.szlanyou.com'),
14         (1, 'https://www.szlanyou.com'),
15         (2, 'https://www.szlanyou.com')
16     ]
17     return {'sites': sites}
18
19 app.run(host='0.0.0.0', port=8080)
```

```python
1 import sqlite3
2
3 create_table_sites = '''
4 create table sites
5 (
6     id integer primary key,
7     url text not null
8 )
9 '''
10
11 conn = sqlite3.connect('./scanner.db')
12
13 cursor = conn.cursor()
14
```

```python
1 import sqlite3
2
3 create_table_sites = '''
4 create table sites
5 (
6     id integer primary key autoincrement,
7     url text not null
8 )
9 '''
10
11
12 conn = sqlite3.connect('./scanner.db')
13
14 cursor = conn.cursor()
15
16 cursor.execute(create_table_sites)
17
18 cursor.execute('insert into sites values (null,"https://www.szlanyou.com")')
19 cursor.execute('insert into sites values (null,"https://www.szlanyou.com")')
20 cursor.execute('insert into sites values (null,"https://www.szlanyou.com")')
21
22 conn.commit()
23
24 for row in cursor.execute('select * from sites'):
25     print(row)
26
27 conn.close()
```

```
 1 import bottle
 2 from bottle.ext import sqlite
 3 from bottle import route, run, template
 4
 5 app = bottle.Bottle()
 6 plugin = sqlite.Plugin(dbfile='./scanner.db')
 7 app.install(plugin)
 8
 9 @app.route('/list', method='GET')
10 def site_list(db):
11     sites = db.execute('select * from sites')
12     return template('list', sites=sites)
13
14 app.run(host='0.0.0.0', port=8000)
```