一、查看题目信息

发现是 pyc 文件

1.执行文件，查看输出

```
F:\xx\自出\re\__pycache__>python easy_py.pyc
Please input your flag:1
Your input is illegal
Please input your flag:12345678912345678912345678 9
Your input is illegal
Please input your flag:
```

二、.使用 uncompyle6 反编译，分析代码

```
uncompyle6 -o 1.py ./easy_py.pyc
```

```
F:\xx\自出\re\__pycache__>uncompyle6 -o 1.py ./easy_py.pyc
.\easy_py.pyc --
# Successfully decompiled file
```

得到源码：

```
# uncompyle6 version 3.7.4
# Python bytecode 3.6 (3379)
# Decompiled from: Python 3.6.8 (tags/v3.6.8:3c6b436a57, Dec 24 2018, 00:16:47) [MSC v.1916 64 bit (AMD64)]
# Embedded file name: ./1.py
# Compiled at: 2021-04-28 11:52:30
# Size of source mod 2**32: 1185 bytes
import threading, time

#与顺序进行异或
def encode_1(n):
    global num
    while 1:
        if num >= 0:
            flag[num] = flag[num] ^ num
            num -= 1
            time.sleep(1)
        if num <= 0:
            break
```

```
19
20 #与列表中后一数据进行异或
21 def encode_2(n):
22     global num
23     while 1:
24         if num >= 0:
25             flag[num] = flag[num] ^ flag[(num + 1)]
26             num -= 1
27             time.sleep(1)
28         if num < 0:
29             break
30
31
32 while True:
33     Happy = [
34      39, 109, 8, 109, 51, 70, 21, 65, 11, 112, 22, 111, 33, 82, 93, 124,
3, 72, 77, 125, 115, 74, 27, 98, 23, 87, 0, 95, 18, 115, 117, 42, 122, 18, 1
8, 124, 103, 88]
35     num = 37
36     f = input('Please input your flag:')
37
38  #判断长度
39     if len(f) != 38:
40         print('Your input is illegal')
41         continue
42     flag = list(f)
43     j = 0
44     for i in flag:
45         flag[j] = ord(i)
46         j += 1
47
48     print("flag to 'ord':", flag)
49
50  #创建线程
51     t1 = threading.Thread(target=encode_1, args=(1, ))
52     t2 = threading.Thread(target=encode_2, args=(2, ))
53
54  #开始线程，区分间隔
55  t1.start()
56     time.sleep(0.5)
57     t2.start()
```

```
58
59      t1.join()
60      t2.join()
61
62  #判断
63      if flag == Happy:
64          print('Good job!')
65      else:
66          print('No no no!')
```

可以看到该题是创建了个全局变量，通过两个线程将其进行递减，并进行相关算法：

将输入的数据从后往前（37~0），按照列表顺序，当顺序号为奇数执行 t1 线程算法：

将该数据与顺序进行异或

偶数执行 t2 线程算法：

将该数据与后一个数据进行异或

re.py

```
1  flag=[
2       39, 109, 8, 109, 51, 70, 21, 65, 11, 112, 22, 111, 33, 82, 93, 124,
3, 72, 77, 125, 115, 74, 27, 98, 23, 87, 0, 95, 18, 115, 117, 42, 122, 18, 1
8, 124, 103, 88]
3  j=0
4  for i in flag:
5      if j%2==0:
6          flag[j]=flag[j]^flag[j+1]
7          j+=1
8      else:
9          flag[j]=flag[j]^j
10          j+=1
11
12 for i in range(len(flag)):
13      flag[i]=chr(flag[i])
14 flagstr=''
15 flagstr=''.join(flag)
16
17 print(flagstr)
```

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