BugKu CTF(解密篇Crypto)---道友不来算一算凶吉？

原创

肖萧然 于 2021-12-28 16:22:55 发布

分类专栏： MyCTF # CRYPTO 文章标签： python crypto base64 编码 加密

本文链接：https://blog.csdn.net/qq_52549196/article/details/122195743

BugKu CTF(解密篇Crypto)—道友不来算一算凶吉？

文章目录

题目

```
半仙我夜观天象，掐指一算，卜出卦象如下，不知道的有无道友可解此卦。

密文:升益艮归妹井萃旅离旅困未济屯未济中孚未济升困噬嗑鼎震巽噬嗑解节井萃离未济蒙归妹大畜无妄解兑临睽升睽未济无妄遁涣归妹

嗯？为什么还有a和b呢？
a=5
b=7
```

```python
# -- coding:UTF-8 --
from secret import flag

def encrpyt5():
    enc=''
    for i in flag:
        enc+=chr((a*(ord(i)-97)+b)%26+97)
    return(enc)

def encrypt4():
    temp=''
    offset=5
    for i in range(len(enc)):
        temp+=chr(ord(enc[i])-offset-i)
    return(temp)
```

题解

编码方式

> 易经有64卦 采用编码 000000 -> 1111111

坤’: ‘000000’

‘剥’: ‘000001’

‘比’: ‘000010’,

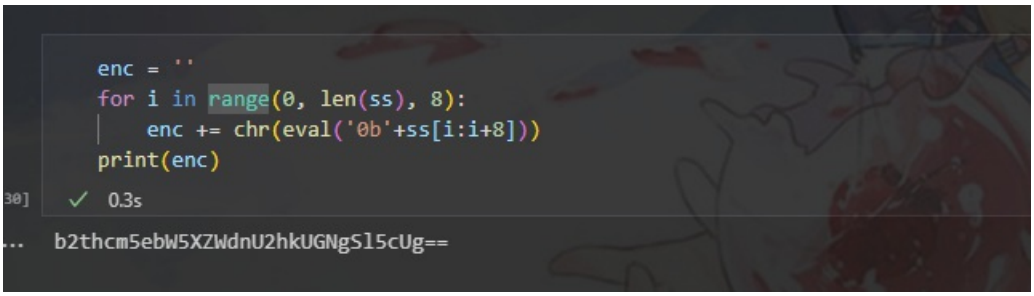
‘观’: ‘000011’

…

‘乾’: ‘111111’

> 利用python的字典 依次替换密文

二进制转字符串

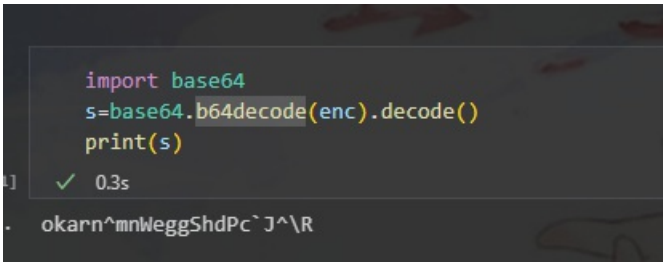


```
    enc = ''
    for i in range(0, len(ss), 8):
        enc += chr(eval('0b'+ss[i:i+8]))
    print(enc)
```

```
30]  ✓ 0.3s
...  b2thcm5ebW5XZWdnU2hkUGNgSl5cUg==
```

> 每8位->10进制->ascll字符

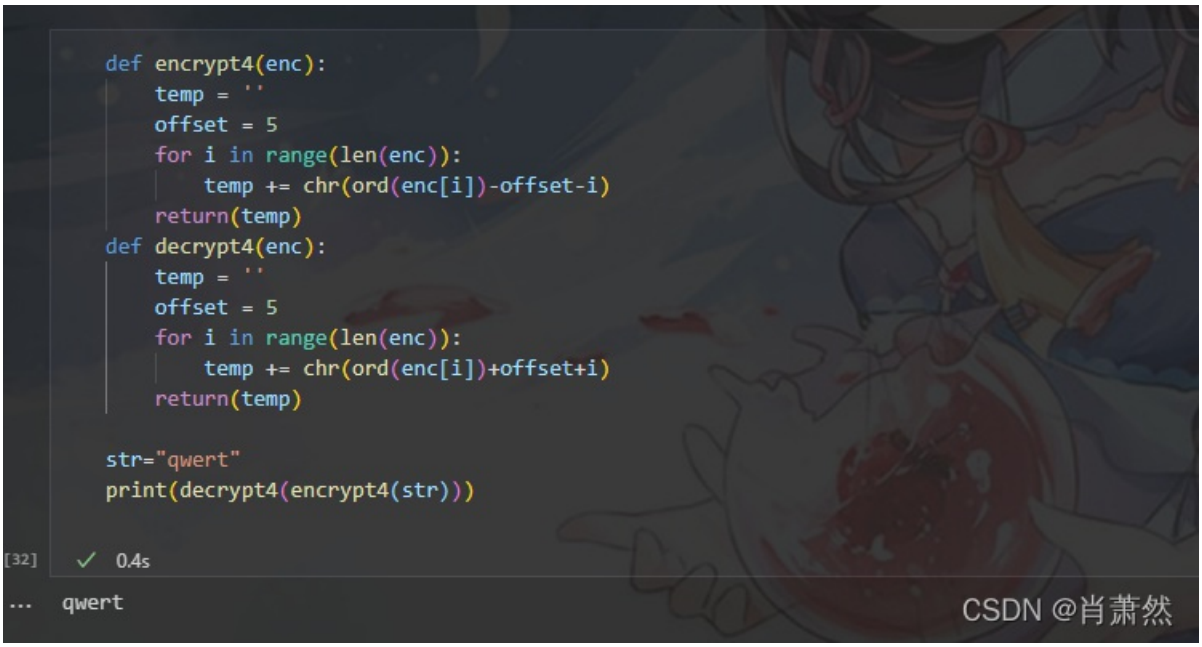
bsae64 解密



```
    import base64
    s=base64.b64decode(enc).decode()
    print(s)
```

```
1]  ✓ 0.3s
.  okarn^mnWeggShdPc`J^\R
```

加密脚本4逆回



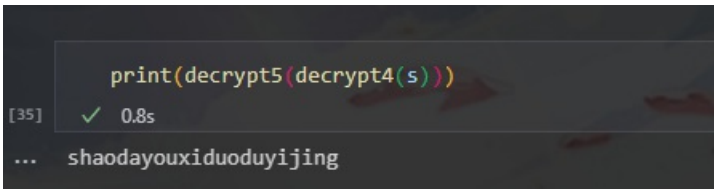
```
def encrypt4(enc):
    temp = ''
    offset = 5
    for i in range(len(enc)):
        temp += chr(ord(enc[i])-offset-i)
    return(temp)
def decrypt4(enc):
    temp = ''
    offset = 5
    for i in range(len(enc)):
        temp += chr(ord(enc[i])+offset+i)
    return(temp)

str="qwert"
print(decrypt4(encrypt4(str)))
```

```
[32]  ✓ 0.4s
...  qwert
```

加密脚本5逆回

> %的不确定 ,需用加 26*k 判断

解出flag

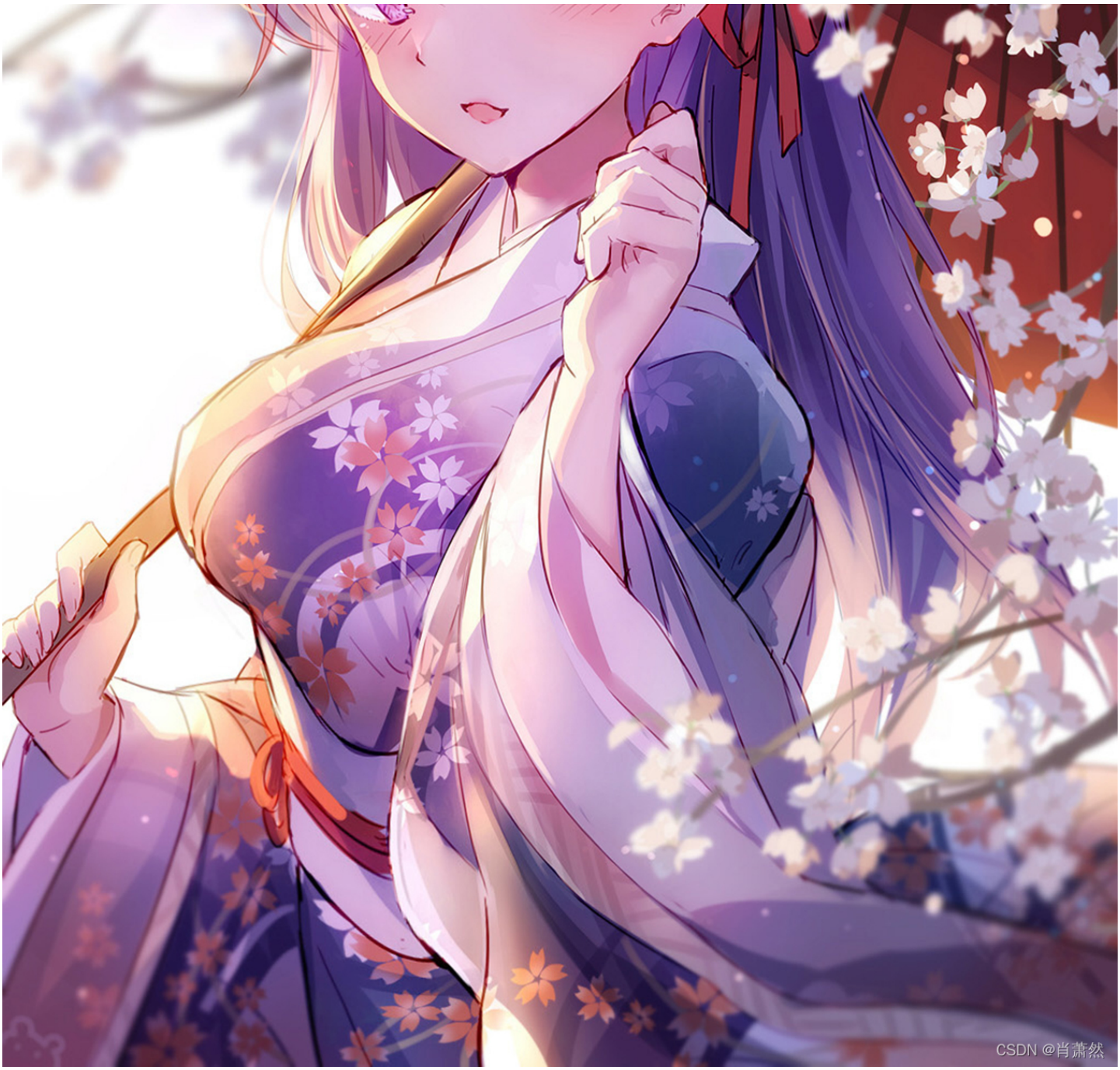


总结

```
import base64
s = '升益艮归妹井萃旅离旅困未济屯未济中孚未济升困噬嗑鼎震巽噬嗑解节井萃离未济蒙归妹大畜无妄解兑临睽升睽未济无妄遁涣归妹'
dic = {'坤': '000000', '剥': '000001', '比': '000010', '观': '000011', '豫': '000100', '晋': '000101', '萃': '000
110', '否': '000111', '谦': '001000', '艮': '001001', '蹇': '001010', '渐': '001011', '小过': '001100', '旅': '001
101', '咸': '001110', '遁': '001111', '师': '010000', '蒙': '010001', '坎': '010010', '涣': '010011', '解': '0101
00', '未济': '010101', '困': '010110', '讼': '010111', '升': '011000', '蛊': '011001', '井': '011010', '巽': '0110
11', '恒': '011100', '鼎': '011101', '大过': '011110', '姤': '011111',
       '复': '100000', '颐': '100001', '屯': '100010', '益': '100011', '震': '100100', '噬嗑': '100101', '随': '10
0110', '无妄': '100111', '明夷': '101000', '贲': '101001', '既济': '101010', '家人': '101011', '丰': '101100', '离
': '101101', '革': '101110', '同人': '101111', '临': '110000', '损': '110001', '节': '110010', '中孚': '110011', '
归妹': '110100', '睽': '110101', '兑': '110110', '履': '110111', '泰': '111000', '大畜': '111001', '需': '111010',
 '小畜': '111011', '大壮': '111100', '大有': '111101', '夬': '111110', '乾': '111111'}
l = []
k = 0  # 两个字符的标志位
for i in range(len(s)):
    if k == 1:
        k = 0
        continue
```

```
    try:
        l.append(dic[s[i]])
    except:
        l.append(dic[s[i]+s[i+1]])
        k = 1

ss = ''.join(l)

# print(ss)

enc = ''
for i in range(0, len(ss), 8):
    enc += chr(eval('0b'+ss[i:i+8]))

# print(enc)

s = base64.b64decode(enc).decode()

# print(s)


def encrypt4(enc):
    temp = ''
    offset = 5
    for i in range(len(enc)):
        temp += chr(ord(enc[i])-offset-i)
    return(temp)


def decrypt4(enc):
    temp = ''
    offset = 5
    for i in range(len(enc)):
        temp += chr(ord(enc[i])+offset+i)
    return(temp)


a, b = 5, 7


def encrpyt5(flag):
    enc = ''
    for i in flag:
        enc += chr((a*(ord(i)-97)+b) % 26+97)
    return(enc)


def decrypt5(flag):
    enc = ''
    for i in flag:
        for k in range(20):
            if (ord(i) - 97 - b+26*k) % a == 0:
                enc += chr((ord(i) - 97 - b + 26 * k) // a + 97)
                break
    return(enc)


print(decrypt5(decrypt4(s)))
```


扣1？扣2？ 从不打输？ 运气问题？


CSDN @肖萧然