Write-up : sIPc3D_Chall / level:medium

Our challenge

sIPc3D_chall contains :

- **Discover script.**
- **3 images contain a hidden keys encrypted.**
- **Hints.**

Step1: using discover script to extract hidden keys :

```
┌──(kali㉿kali)-[~/Desktop]
└─$ cd sIPc3D_Chall

┌──(kali㉿kali)-[~/Desktop/sIPc3D_Chall]
└─$ python3 discover.py
img1.png
the secret key is :  y1oo_jklz

┌──(kali㉿kali)-[~/Desktop/sIPc3D_Chall]
└─$ python3 discover.py
img3.png
the secret key is :  AS@GqAS@G

┌──(kali㉿kali)-[~/Desktop/sIPc3D_Chall]
└─$ python3 discover.py
img2.png
the secret key is :  ppwqq$(>@

┌──(kali㉿kali)-[~/Desktop/sIPc3D_Chall]
└─$
```

After reading the hints file we now know that:

- *The key1 hidden in the first image is encrypted by a substitution cipher with a text cipher and numbers (12…..90) + letters of a keyboard type (qwerty).*
- *The key2 hidden in the 2sd image is encrypted using a XOR cipher / pass2 = pass(i) ⊕ C2.*
- *The key3 hidden in the 3rd image is encrypted using a XOR cipher / pass2 = pass(i) ⊕ C3.*

Step2: decrypt the hidden keys using the right combinations:

pass1 -----> pass2 -----> pass3 (maybe is the flag)

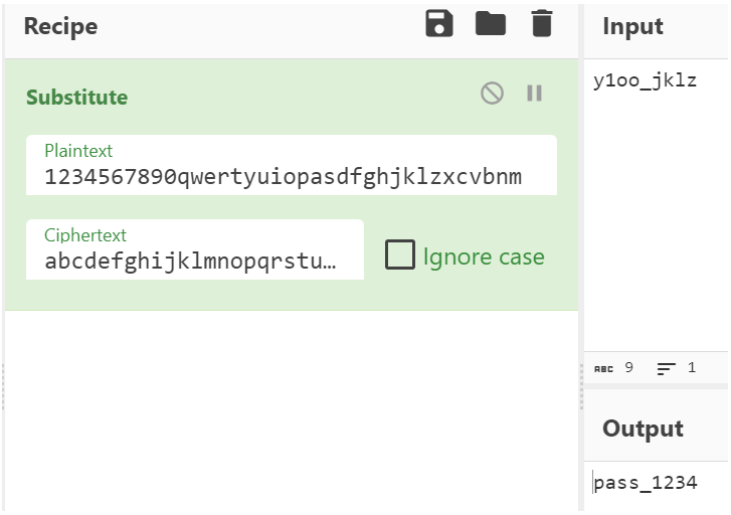
pass3 -----> pass2 -----> pass1 (maybe is the flag)

pass1 -----> pass3 -----> pass2 (maybe is the flag) *(the right one)*

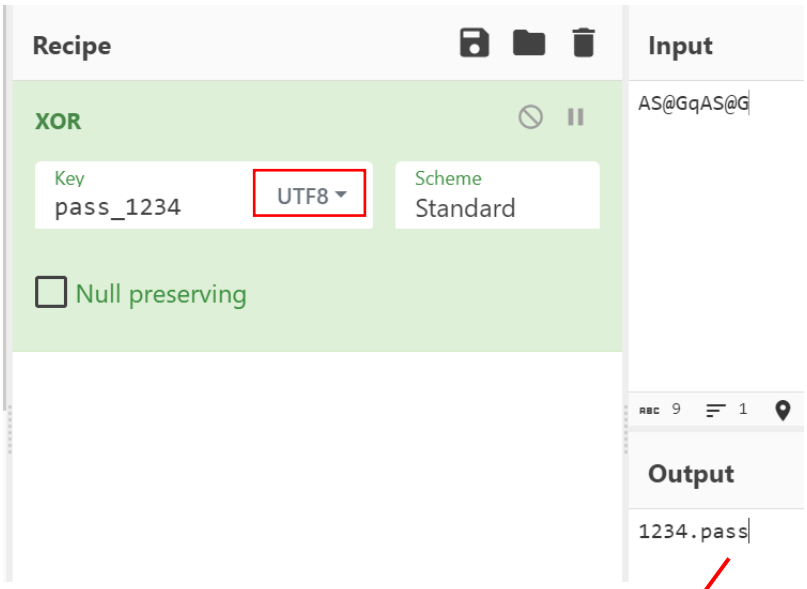
pass3 -----> pass1 -----> pass2 (maybe is the flag)

pass2 -----> pass3 -----> pass1 (maybe is the flag)

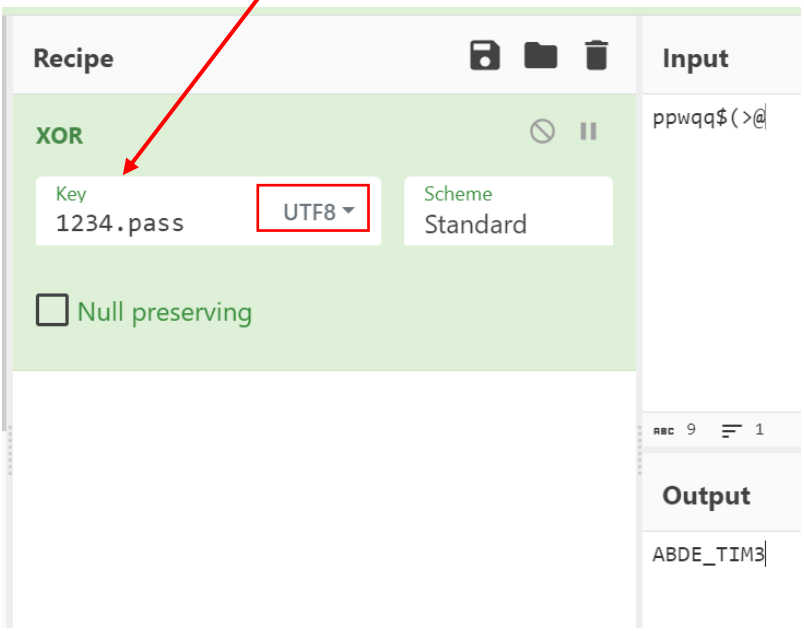
key1:



Key3:



Key2 = the flag:



The flag is DEFENSYS{ABDE_TIM3}