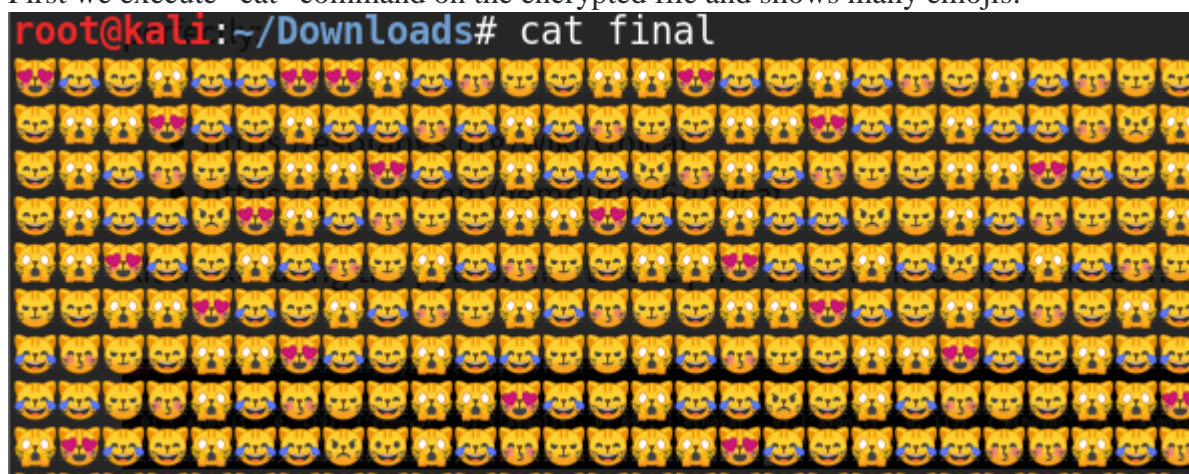# Hackim 2019 WRITE-UP

CHALLENGE DESCRIPTION

Decrypt the file to unlock the door.

Encrypted file is given.

Unicat python interpreter is given in the reference.

SOLUTION

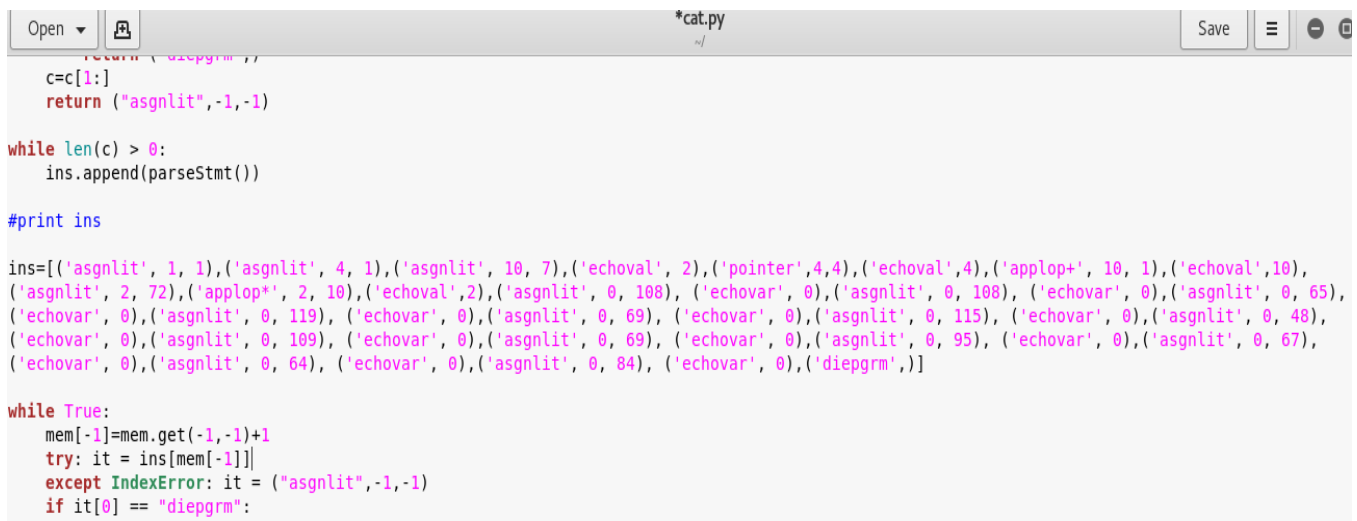First we execute "cat" command on the encrypted file and shows many emojis.

After search we found "unicat" programing language which is fit the encrypted file properties. The "unicat" language uses python script that act as interpreter and it's will convert the emojis into readable string.

By providing the encrypted file as an argument to the python interpreter we got the hidden string.

From the implementation of the python interpreter we found that the script uses the "inputst" for waiting for input and the "diepgrm" to terminate and exit from the application and usually present at the end of the list, so we should remove "inputst" and "diepgrm" then just add "diepgrm" at the end of the list to prevent the application from enter a loop.

We modified python interpreter and add our output string to "ins" variable which will be

used by the interpreter to convert the list into a readable string.

```
Open ▾    *cat.py    Save  ≡  ● ⊡
          ~/

    c=c[1:]
    return ("asgnlit",-1,-1)

while len(c) > 0:
    ins.append(parseStmt())

#print ins

ins=[('asgnlit', 1, 1),('asgnlit', 4, 1),('asgnlit', 10, 7),('echoval', 2),('pointer',4,4),('echoval',4),('applop+', 10, 1),('echoval',10),
('asgnlit', 2, 72),('applop*', 2, 10),('echoval',2),('asgnlit', 0, 108), ('echovar', 0),('asgnlit', 0, 108), ('echovar', 0),('asgnlit', 0, 65),
('echovar', 0),('asgnlit', 0, 119), ('echovar', 0),('asgnlit', 0, 69), ('echovar', 0),('asgnlit', 0, 115), ('echovar', 0),('asgnlit', 0, 48),
('echovar', 0),('asgnlit', 0, 109), ('echovar', 0),('asgnlit', 0, 69), ('echovar', 0),('asgnlit', 0, 95), ('echovar', 0),('asgnlit', 0, 67),
('echovar', 0),('asgnlit', 0, 64), ('echovar', 0),('asgnlit', 0, 84), ('echovar', 0),('diepgrm',)]

while True:
    mem[-1]=mem.get(-1,-1)+1
    try: it = ins[mem[-1]]
    except IndexError: it = ("asgnlit",-1,-1)
    if it[0] == "diepgrm":
```
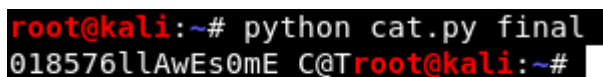
By running the interpreter, we got the flag.

```
root@kali:~# python cat.py final
018576llAwEs0mE_C@Troot@kali:~#
```

Reference

Unicat interpreter https://github.com/gemdude46/unicat