

1. FB Automation:

- a. Write a python program to list some of your facebook friend and their details using Fb Graph API or any other alternative
- b. Details can be birthday, education , Date of Birth etc.
- c. Read Up on Graph API's and Graph API documentation.

2. Python Source:

- a. In this challenge, you are expected to find a string.
- b. Which when passed as input to program produces the output "You are a Genius"
- c. [Download the python code here](#)

3. Reversed Image:

- a. The given file is a PNG image where the order of the bytes have been reversed.
- b. Also, the nibbles in every byte have also been reversed.
- c. Your objective is to reconstruct the original image using Python
- d. [Download the corrupted image here](#)

4. LSB Encoded Image:

- a. The png image given has been created using the script encrypt.py
- b. You are required to understand the working of the script and extract the relevant information from it.
- c. Read up on the PIL library and understand how pictures are represented as pixels.
- d. [Download the script and the image here](#)

5. Advanced XOR:

- a. Read the encryption script "xor_adv.py" and try to understand how the encryption is really working
- b. You have been given the ciphertext in "ciphertext.txt" which has been encrypted using the script mentioned in Point Number 1
- c. Try finding the key length and then the plaintext to get the flag (You will have to make a python script for this)
- d. After you get the flag, run the script "check_hash.py" and submit your flag there!
- e. [Encryption, Ciphertext and CheckFlag script here](#)

6. Socket Programming

- a. Look into the socket-intro-server and socket-intro-client files and try to understand the code.
- b. Then try writing client program to send and receive data for the other assignment servers.

The example and assignment files can be [found here](#):

Steps to connect the intro-client to intro-server:

- Host the intro-server using one terminal:
`python socket-intro-server.py`
- Connect to the server using the intro-client by giving the host and the port. In this case:
`python socket-intro-client.py localhost 8000`

7. Captcha Breaking

- a. Read up on Tesseract OCR and use it in combination with python PIL to write a script to print the characters in `simple_capt.png`.
- b. Given a png file with two numbers and an operation, write a python script to read the numbers and operation and outputting the result of operation performed on the numbers.

8. Repeated Key XOR

- a. Implement Repeated key XOR
- b. <http://cryptopals.com/sets/1/challenges/5>

9. PPC

1. Take a list of strings, concatenate them 3 at a time, and check if the result is a palindrome. Regular PPC (TWCTF 2017). B-)