



Agenda

- Google XSS Level 5 solution
- Cryptography
 - Quick introduction
 - Activity

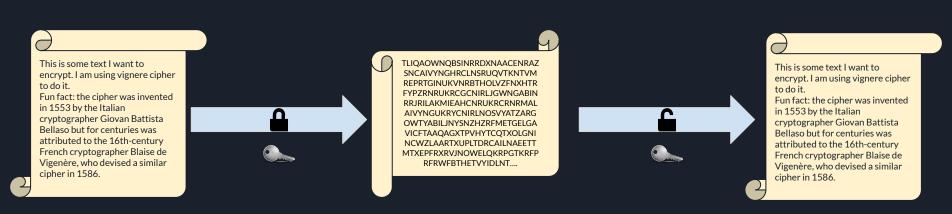


Google XSS Level 5 solution

https://xss-game.appspot.com/level6

Cryptography

- **Encryption**: encoding information; converting original representation of info into an alternative form known as ciphertext.
- Decryption: decoding information; converting encrypted info back in its original representation.



Caesar cipher

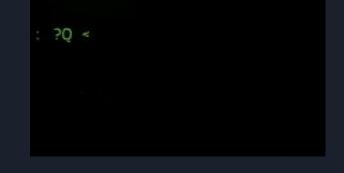
Definition: type of substitution cipher in which each letter in the plaintext is replaced by a letter some fixed number of positions down the alphabet.

Advantages:

- Easy to implement
- Requires only a few computing resources
- One short key is used in the entire process

Disadvantages:

- Can be easily broken
- Provides very little security



Xor cipher

Definition: simple additive cipher technique that uses the XOR (exclusive OR) operation for encoding and decoding.

Advantages:

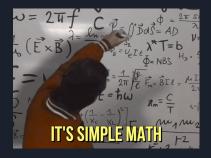
- Easy to understand and implement.
- Fast and efficient making it suitable for simple encryption tasks.

Disadvantages:

- Vulnerability to Frequency Analysis
- Inadequate for Strong Security



linear congruential generator



Definition: A basic pseudo-random number generator (PRNG) that relies on a linear recurrence relation using a modular arithmetic approach to produce a sequence of pseudo-random numbers.

Advantages:

- Simple to understand and implement.
- Efficient in terms of computational resources.
- Deterministic sequences are produced, making it useful for debugging and simulations.

Disadvantages:

- LCGs are not suitable for cryptographic or security-sensitive applications due to their inherent predictability.
- Poor statistical quality: The randomness quality depends on the choice of parameters; poorly chosen parameters can result in non-random patterns in the generated sequence.

Activity



Caesar cipher: nc chal.gopherhack.club 5010

Caesar cipher: nc chal.gopherhack.club 5011

Xor cipher: nc chal.gopherhack.club 5012

LCG: nc chal.gopherhack.club 5013