Attacks on Block Cipher Modes of Operation
RPISEC

Avi Weinstock (aweinstock), Adam Freeman (triazo)

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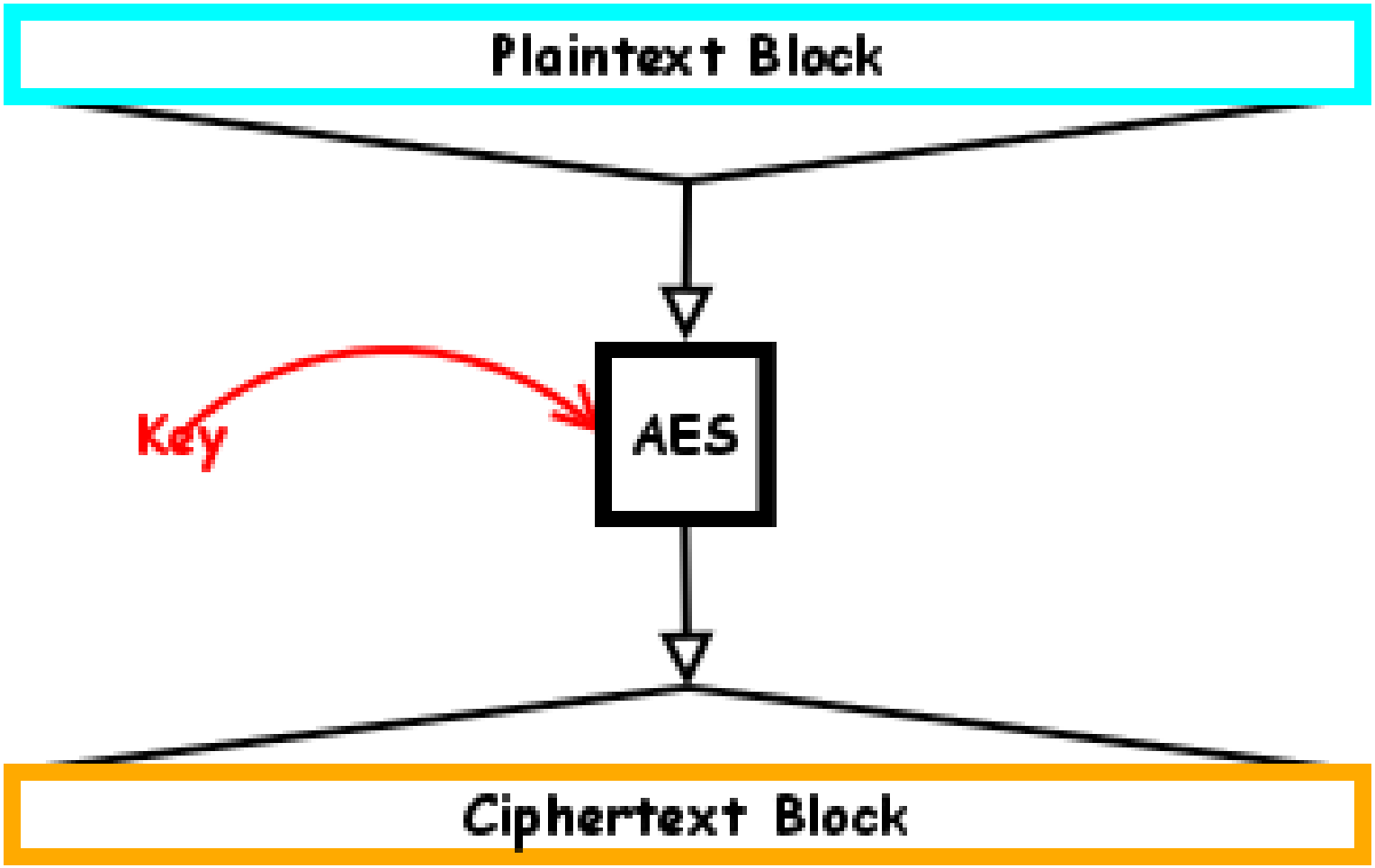
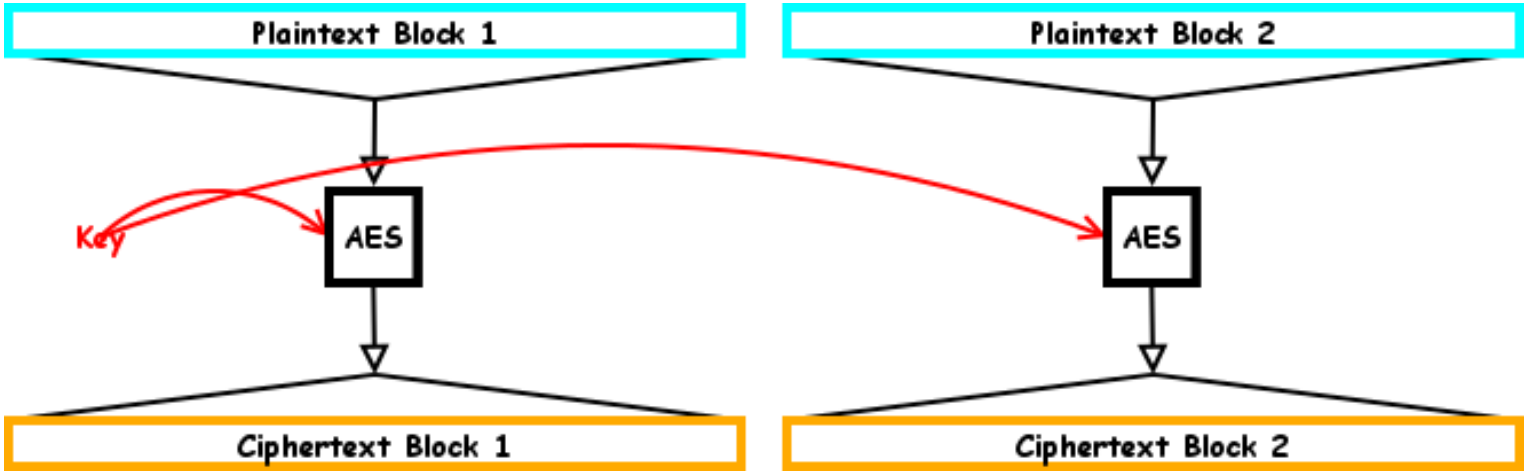
Setup

- Python libraries: `sudo pip install pycrypto pwntools`
- `pycrypto` is practically required, `pwntools` is merely recommended.
- `triazo` is currently hosting the challenges at `http://blackbox.rpi.rip/`
- You can get an offline copy of the challenges from `https://github.com/pbiernat/BlackBox`

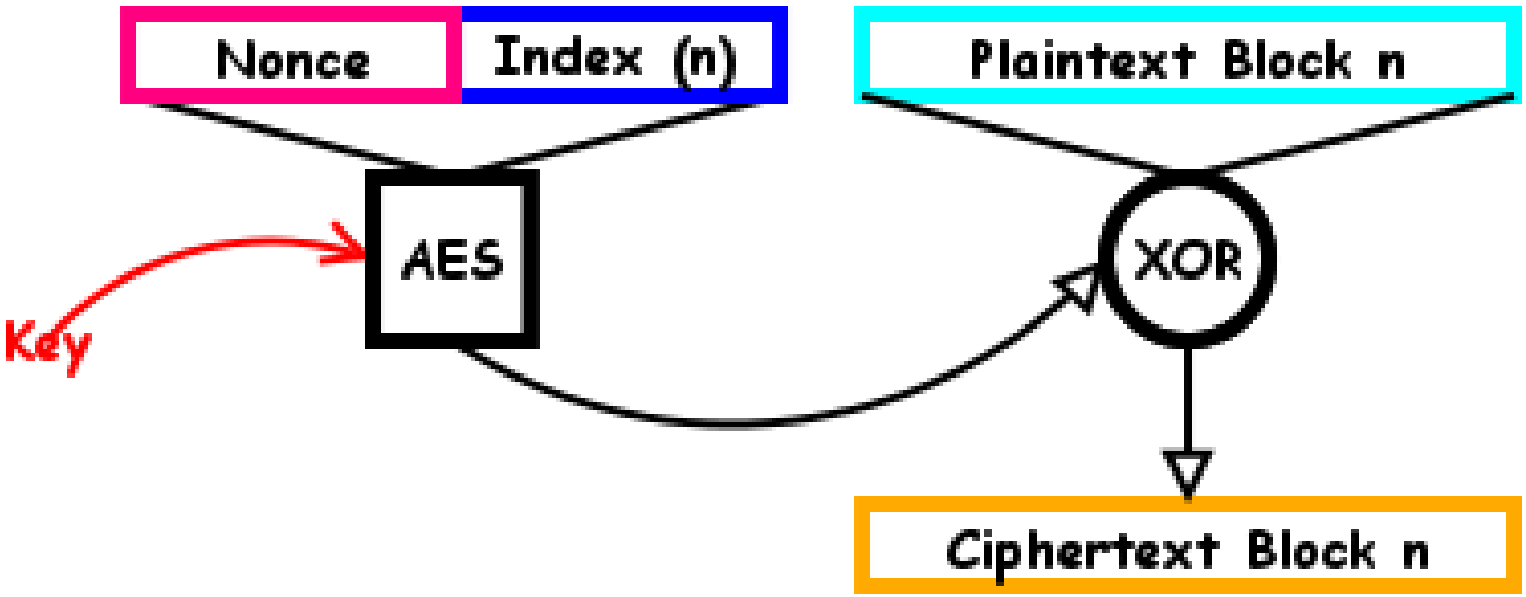
What is a Block Cipher?



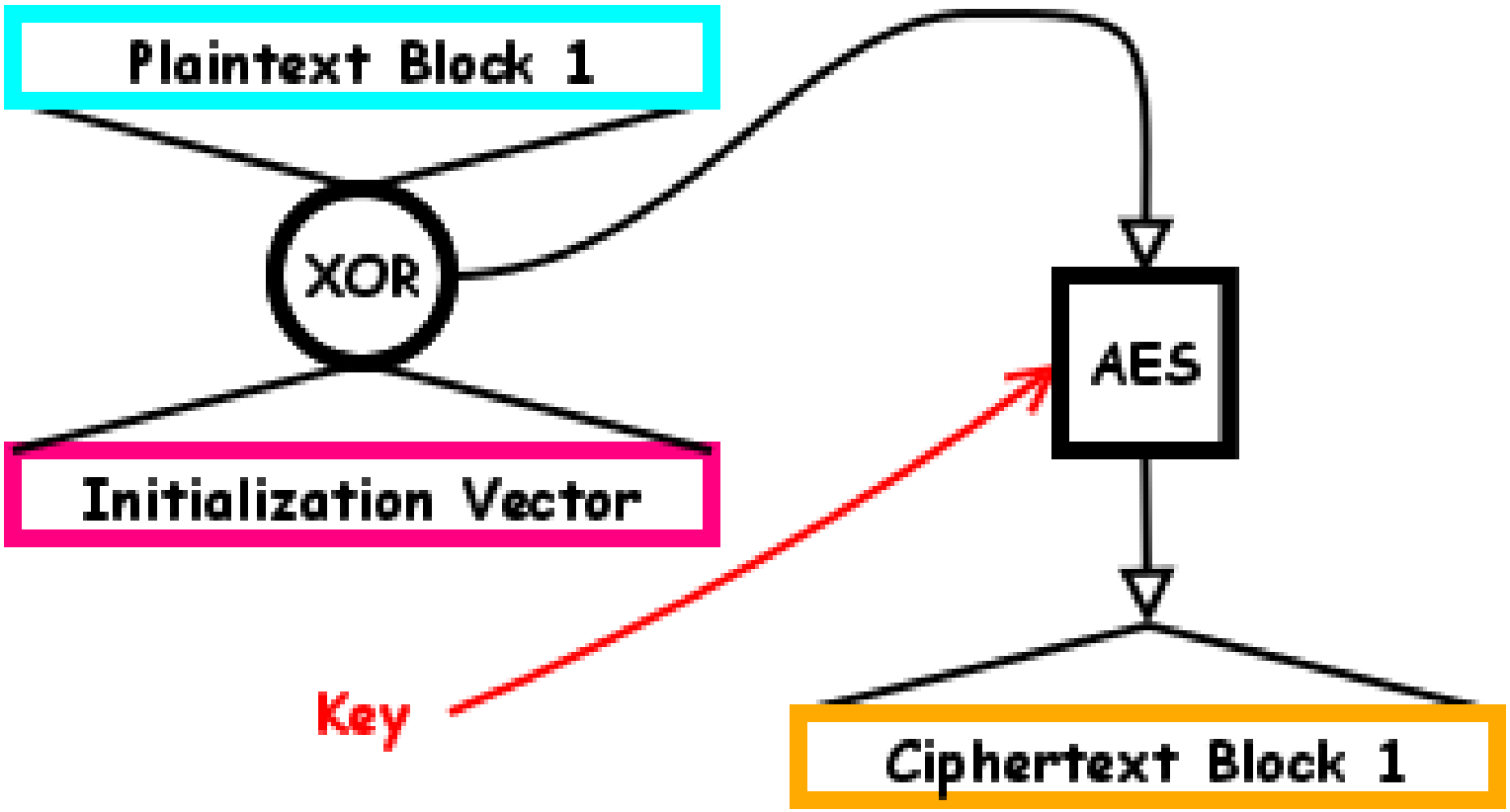
Electronic Code Book (ECB)



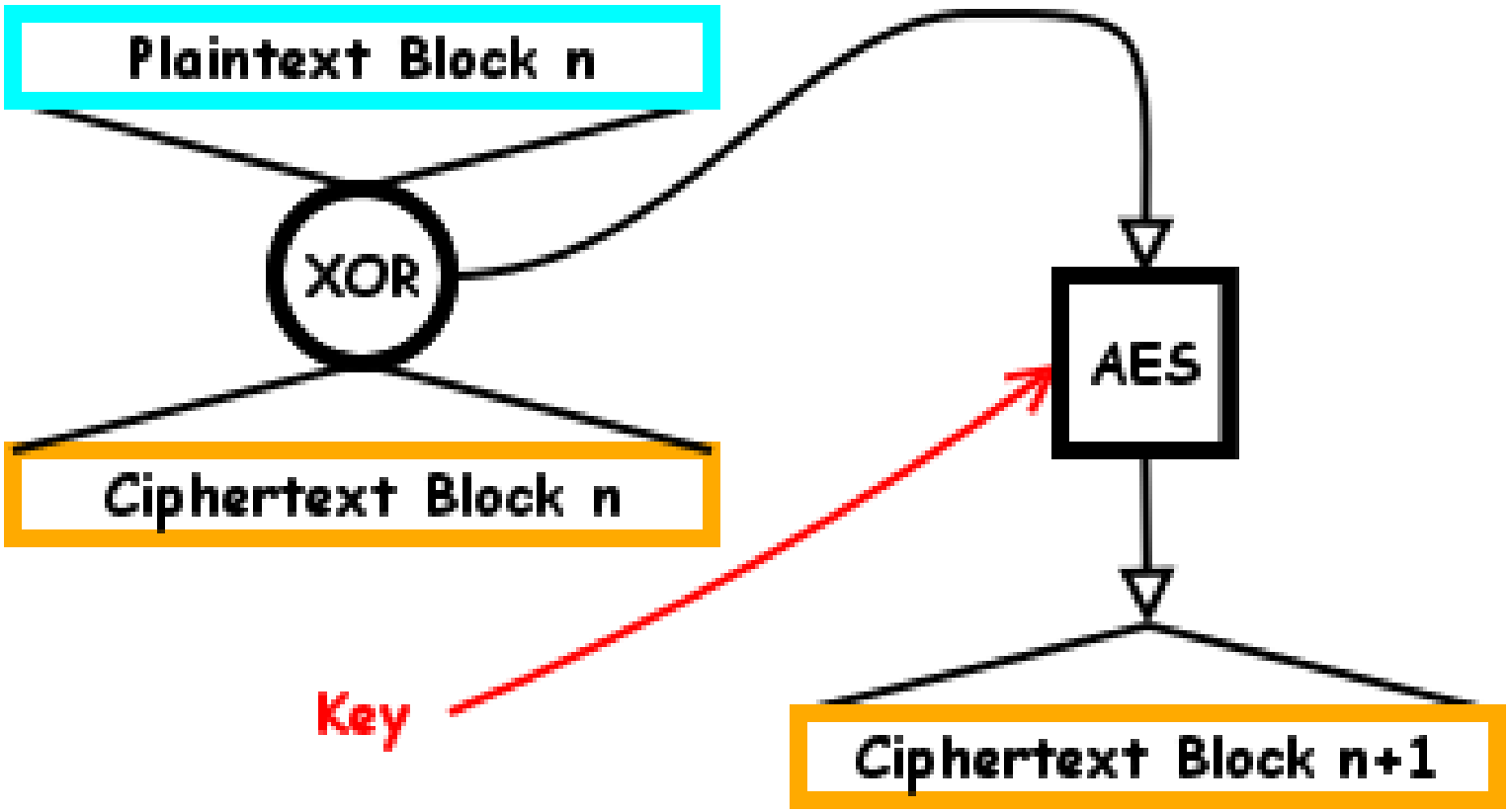
Counter (CTR)


Nonce
Index (n)
Plaintext Block n
AES
XOR
Key
Ciphertext Block n

Cipher Block Chaining (CBC)



Cipher Block Chaining (CBC)



Resources

- https://en.wikipedia.org/wiki/Block_cipher
- https://en.wikipedia.org/wiki/Block_cipher_modes_of_operation
- https://cryptopals.com/