(Applied) Cryptography Tutorial #3

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1 - Use Python to encrypt a file in CBC mode and decrypt it. Check for success (ref: https://cryptography.io/en/latest/hazmat/primitives/symmetric-encryption/).

2 - Repeat this process with OpenSSL (ref: https://www.openssl.org/docs/man1.1.1/man1/enc.html).

3 - Edit the file to change the value of (but not delete!) one byte and decrypt again.

- 3.1 What happened?
- 3.2 Could you recover a file encrypted with CBC if the IV and the first ciphertext block were corrupted or lost?

3.3 - Could you recover it if during a satellite transmission one bit of the ciphertext is not delivered?

3.4 - Could you modify a byte in the middle of a CBC encrypted file without fully re-encrypting it?

4 - Repeat the exercise with CTR mode. What are the differences?