Cryptography Homework

The main part of this homework assignment is focused around reinforcing the cryptography topics covered in class this week.

We have also included a reminder about Career Services and completing milestones. Make sure to complete your milestone to become employer competitive.

Cryptography Homework: Ransomware Riddles

Background

In this homework assignment, you will play the role of a cybersecurity analyst at Nakatomi Hospital.

- Unfortunately, one of the hospital's doctors opened up an email containing ransomware.
- This ransomware spread throughout the hospital and encrypted all of the Patient Records.
- The ransomware has given you two options to decrypt and retrieve the patient records: Either pay 100 bitcoins or solve six riddles.
- Since you refuse to pay off any ransom, you'll have to solve six cryptographic riddles. Act fast: the doctors need to access the patient records as lives are at stake!

Additionally, a **Career Service Milestone** is located at the end of this file. Complete it to learn how to become more *Employer Ready*.

Topics Covered in Your Assignments

- Encryption
- Decryption
- Caesar Cipher
- Encoding and Decoding
- Binary
- Symmetric and Asymmetric Encryption
- Open SSL
- Key/IV
- Public/Private Keys
- Key Distribution

- Hashing
- Hashing Algorithms
- Hashcat
- Steganography
- Steghide

Files Required

The entire homework assignment can be completed on a publicly available website linked below. If for any reason, the website has issues or is unavailable, an offline copy has also been provided.

- **Website:** https://sites.google.com/view/cryptobreakout/

- **Offline Copy:** Crypto_Homework

    - *If you complete the offline version, you will simply need to submit your answers to the instructor.*

Instructions:

In order to solve each riddle, you will need to apply cryptographic concepts covered in the past three lessons. concepts will need to be applied.

- Once the riddle has been solved, submit your answer on the bottom of each Riddle Page.

- If you are correct, you will receive a **key**. Save this key in your notes.

- Once you have collected all six keys, select the Ransomware Decrypted header on the website and enter all your keys.

- If all the six keys are correct, the ransomware will be removed and the data will be decrypted.

- You will need to **submit a screenshot** as proof that the ransomware has been decrypted.

Good luck and act fast as the Nakatomi Patients are counting on you!

- Key 1 - 6skd8s
    - Gruber was the decrypted code
- Key 2 - cy8snd2
    - Gennero was the decrypted code
- Key 3 - ud6s98n
    - Takagi was the decrypted code
- Key 4 - 7gsn3nd2
- Key 5 - ajy39d2
    - Argyle was the decrypted code
- Key 6 - 7skahd6
    - Mcclane was the decrypted code