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!

Career Services: Developing Your Resume and LinkedIn Profile

You are nearly halfway through the boot camp; now is a great time to tackle another career service milestone.

In order to stand out in the job market, you'll need to pair the tools and skills you've learned so far with polished and up-to-date materials that highlight your experience, skills and connections. In this milestone, you will become more employer-competitive by strengthening your resume.

To meet the submission criteria for the milestone: - Polish your resume using the resources via [BootcampSpot](#) (select 'Career Services' in the left panel menu). - [Submit Milestone: Develop Your Resume to the Career Services](#) team for feedback.

Still have earlier milestones you'd like to complete? You can complete them by visiting the Career Services Homepage via [BootcampSpot](#).