Wyly Escape

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Project description:

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BOM:

{max=1 page}

Cyber Storm setup and deployment:

{max=1 page}

Student introduction:

{max=1 page}

Solution:

{max=5 pages}

As the project is split up into 3 separate sections with no cryptographic elements shared across them, the solution will be split into 3 sections too.

Floor 1:

1. Enter ‘go south’
2. Look at items (‘chair’, “caution\_sign’, ’table’)
3. Get ciphertext and key for Vigenere from ‘caution\_sign’ description
   1. Ciphertext: “Zzk wtzip s roiw? Eva ulipazb oarb hgzyo dzcow eck...”
   2. Key: ‘slow’
   3. Plaintext: “How about a game? The caution sign looks loose too…”
4. Enter ‘take caution\_sign’
5. Look at new sticky note item 🡪 ‘look sticky\_note’
6. Enter ‘look keypad’ or ‘use keypad’ and note its presence for later
7. Enter ‘use game\_board’
8. Hope you win the coin flip game, then enter ‘take short\_note’
9. Enter ‘use short\_note’ to read it
10. Take ciphertext “g(7;c9#yk\_5;bvzk” from short\_note description and use Caesar Cipher shift ‘64’ hinted at earlier to decode
    1. Ciphertext: “wqkoapq ue g(7;c9#yk\_5;bvzk
    2. Key: 64mod26 = 12 (or the letter ‘m’ given a=0, z = 25)
    3. Plaintext: keycode is u(7;q9#my\_5;pjny
11. Type ‘enter u(7;q9#my\_5;pjny’ to use the keypad and get notification of keypad\_hints and plaque grabbable
12. Enter ‘take plaque’ and ‘use plaque’ to get message describing password to next floor (and how to use it)

(13ex) If the description is not enough, enter ‘look keypad\_hint<x>’ in order and copy the string of W’s and ?’s for use

(14ex) Change W’s and ?’s to ones and zero’s respectively.

(15ex) decode resulting binary BinaryDecoder –if there is an error, swap zeroes and ones

keypad\_hint plaintext:

We follow in the footsteps of our nourishing mother's first baby bird who flew the nest in MDCCCXCVII.

keypad\_hint<2-4> plaintext:

OneZeroOneOneZeroOneOneOneOneZeroZeroOneOneOneOneZeroOneZeroZeroZeroOneOneZeroOneOneZeroZeroZeroOneOneZeroOneOneZeroZeroZeroZeroOneOneZeroOneZeroOneOneZeroOneOneOneOneZeroZeroOneZeroZeroZeroZeroOneZeroZeroZeroOneZeroZeroZeroOneZeroZeroOneOneOneOneZeroOneZeroZeroZeroOneOneZeroOneOneZeroZeroOneOneZeroOneOne

(16ex) change The word One to ‘1’ and Zero to ‘0’ and then flip the bits to get a new binary string to decode (or make Zeros ‘1’ and Ones ‘0’)

16ex plaintext: HarryHoward

(Final) enter ‘go elevator’ then ‘harryhoward’ (case does not matter) to move to next floor

Floor 2:

Steps for floor two:

1) read the riddle on the note

2) read the book to get the ciphertext in the folder

3) solve the viegnere cipher using the alphabet a-z1-9 and the keyword centennial

4) take the top text out of the key you just created and save the key

5) look at the weird clocktower photo

6) use the thing.py with the weird photo and the key you just generated

a) pip install the Pillow library

b) make sure you change the input files to the correct one

7) look at the created clocktower photo

a) find the code on the cloud

8) return to elevator and enter the code

Floor 3:

Scoring:

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Notes:

Note that this is not an actual section in this document; rather, it provides some details.

Keep the font (TeXGyreAdventor), font size (11 pt), margins (0.79” on all sides), spacing (single), etc, as set in this document. Separate paragraphs with a single blank line. Format any “source code” embedded in this document in 11 pt Courier New font.

The student introduction is a short paragraph/README that will be given to students at Cyber Storm when your challenge is deployed. It should contain a brief introduction to your challenge, its goals, etc, and can contain hints if desired.

If you need an enumerated list, here you go:

1. {item}
2. {item}
3. {item}

If you need a bulleted list, here you go:

* {item}
* {item}
* {item}