## Crypto CTF 2019

inspired by Harvard's CS50x Puzzle Day

### <u>August 23 – August 25, 2019</u>

- This packet contains 7 puzzles, each of which is independent of the others.
- The answer to each puzzle is a single word or name in English or Bahasa Melayu, unless otherwise specified.
- You may use the Internet and any other resources at your disposal.
- You are encouraged to work on a team, either in person or online. Discussion between teams is however forbidden.
- Have fun and good luck!

## **#1: Currency Exchange**

Your account statement for ¥

$$0+17, 20$$

$$0+17, 36, 20, 000+3$$

Your account statement for £

$$0+3,0000,0+1,1$$

$$13 Y = 11 f$$

$$7 Y = 7 f$$

Ad: Convert all your money to € now!

Still thinking? Do! Not redo. The same goes for remorse.

Answer

# #2: Loop de loop

#### Alice:

Do you know Julius? He got assassinated! He left all these encrypted messages that no one understands.

#### Bob:

That was a long time ago. Think about the not so heavy instead. It takes 8 minutes for it to shift to Earth. How much time do you think it is for Venus?

### Alice:

Well. At least, I know that bicycles have two tyres.

#### Bob:

What about a nona-cycle?

### Julius:

Ocncaukc hnci ku Lcnwt yjcv?

# #4: Little Star

### The answer is in between

"ONE IS TRUE"	Male of Bos Taurus and the short for European barcodes	100109
9.8386542819		A drink with ice cream on the top
International Nautical Territory, India National Theatre similarity	False	The toy kittens love to play

# **#3: Pixels and Places**

<u>Hungary</u>

14.60

**Netherlands** 

21.03

<u>Austria</u>

1.29

<u>Bulgaria</u>

-6.21

**Russia** 

13.76

**Estonia** 

11.56

Germany

19.76

Luxembourg

4.88

<u>Lithuania</u>

3.14

1 0 0	1 1 1	1 0 0
1 1 1	0 0 1	1 1 1
0 0 1	0 1 0	1 0 0
105.83	100.50	103.85
1 0 1	0 0 0	1 1 0
1 1 1	1 0 0	0 1 0
0 1 0	1 1 0	1 0 0
120.98	96.08	101.69
1 0 0	0 0 1	1 1 1
1 1 1	1 1 1	0 1 0
0 0 1	0 0 0	1 0 0
114.9	104.93	106.80

### **#5: Every Square Matters**

"Even a poor plan is better than no plan at all." – Mikhail Chigorin

An activity that one engages in for amusement or fun - **Game** 

### **Undying**

- 1b. Typical answer, nothing special.
- 2a. Protect His Majesty at all costs...or is it?
- 6a. My knight in shining armor has come to fend off the enemy!
- 18a. Are castles and towers important? I guess not! After all, meaningful attacks are better than futile defense.

### Once in a hundred years

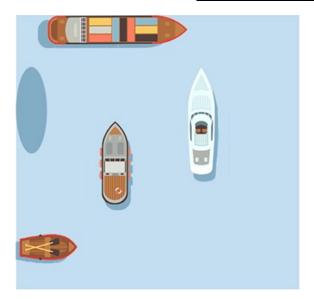
26b. All hope is but lost, but I'll just get an extra piece, yummy.

40a. A last ditch effort to survive?

Answer:			

<sup>&</sup>quot;Those who cannot remember the past are condemned to repeat it." – George Santayana

# #6: Battleship



Α	В	С	D	E	F	G	Н	1	J
K	L	M	N	0	Р	Q	R	S	Т
U	٧	W	Υ	X	Z	Α	В	С	D
Ε	F	G	H	_	J	K	L	М	N
0	P	Q	R	S	Т	U	V	W	X
Y	Z	Α	В	С	D	E	F	G	Н
1	J	K	L	M	N	0	P	Q	R
S	T	U	V	W	X	Y	Z	Α	В
С	D	E	F	G	Н	1	J	K	L
М	N	0	Р	Q	R	S	Т	U	V

Sneaky   boat
Royal Caribbean Ship 🔾
Drax's Ship •
Nimitz's Ship •

Ship where a tyrannical empire ended

Answer:\_\_\_\_\_

## **#7: Twenty Hertz**

Flute	+6	Bassoon +5
Viola	+11	Double Bass +13
Violin	+12	Cello -2
Oboe	+18	Piccolo +9
Piano	0	

Stem	Club	SSIJB

I don't have perfect pitch. I'm glad I don't have perfect pitch because perfect pitch can drive you crazy.

-Billy Eckstine

Answer						