Introduction

This level uses the Nihilist Cipher, a polyalphabetic substitution cipher that builds on the Polybius square and a numerical key. It was historically used for secure communication due to its layered encryption approach.

Solution

1.

Convert each letter of the keyword into numbers using its (Y, X) coordinates from the Polybius square.

E	**D**	V	I	N
A	S	B	**C**	F
G	H	K	L	M
O	**P**	Q	**R**	**T**
U	W	X	**Y**	Z

DECRYPTO

$$C_{YX} = P_{YX} + K_{YX}$$

D	E	C	R	Y	P	T	O
↓	↓	↓	↓	↓	↓	↓	↓
12	**11**	**24**	**44**	**54**	**42**	**45**	**41**

2.

Subtract the keyword values from the corresponding encrypted values to retrieve the original Polybius coordinates.

	27	**25**	**56**	**58**	**88**	**XX**	**XX**	**XX**
−	**12**	**11**	**24**	**44**	**54**	**42**	**45**	**41**
	15	**14**	**32**	**14**	**34**	**XX**	**XX**	**XX**

3.

Convert the resulting coordinates back into letters using the Polybius square.

E	D	V	**I**	**N**
A	S	B	C	F
G	**H**	K	**L**	M
O	P	Q	R	T
U	W	X	Y	Z

15	14	32	14	34
↓	↓	↓	↓	↓
N	**I**	**H**	**I**	**L**