Playfair Cipher (Part 1)

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Summary

Notes	Screenshots	Bookmarks
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✨ Learn about the classical encryption techniques of substitution and transposition, with a focus on the playfair cipher.

▷ 0:36

Classical Encryption Technique

Substitution	Transposition
❖ Caesar Cipher	❖ Rail Fence
❖ Monoalphabetic Cipher	❖ Row Column Transposition
❖ Playfair Cipher	
❖ Hill Cipher	
❖ Polyalphabetic Ciphers	
❖ One-Time Pad	

✦ The Playfair cipher, also known as the Playfair square or Wheatstone-Playfair cipher, is a manual symmetric encryption technique used in classical encryption.

▷ 0:51

Playfair Cipher

★ Aka Playfair square or Wheatstone-Playfair cipher.
★ Manual symmetric encryption technique.
★ The first literal digram substitution cipher.
★ Invented in 1854 by Charles Wheatstone.
★ Bore the name of Lord Playfair for promoting its use.

✦ The Playfair cipher, named after Lord Playfair, is a multiple letter encryption technique invented by Charles Wheatstone.

▷ 2:14

Playfair Cipher

★ Multiple letter encryption cipher.
★ Digrams.
★ 5 x 5 matrix constructed using a keyword (Ex: Monarchy)

M	O	N	A	R
C	H	Y		

NESO ACADEMY

✦ A 5x5 matrix is being filled with the alphabet, ensuring that each letter only appears once and ignoring repeated letters in a keyword.

▷ 5:15

Playfair Cipher

★ Multiple letter encryption cipher.
★ Digrams.
★ 5 x 5 matrix constructed using a keyword (Ex: Monarchy)

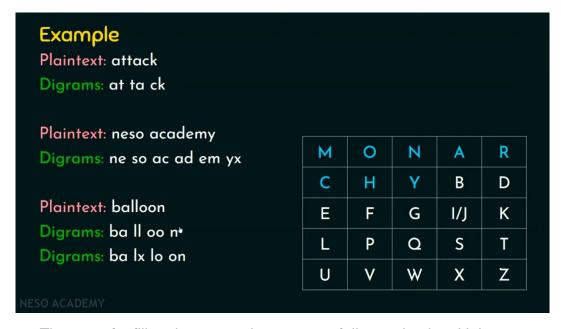| M	O	N	A	R
C	H	Y	B	D
E	F	G	I/J	K
L	P	Q	S	T
U	V	W	X	Z

NESO ACADEMY

✦ The combination of the letters i and j in a 5x5 matrix is necessary to accommodate all 26 English alphabets.

▷ 6:38

Rules for encryption using Playfair Cipher

1. Digrams.
2. Repeating Letters - Filler letter.
3. Same Column | ↓ | Wrap around.
4. Same row | → | Wrap around.
5. Rectangle | ⇆ | Swap

✦ New diagram rules for creating a rectangle of letters explained in detail.

▷ 8:23

Example

Plaintext: attack
Digrams: at ta ck

Plaintext: neso academy
Digrams: ne so ac ad em yx

Plaintext: balloon
Digrams: ba ll oo n⁕
Digrams: ba lx lo on

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

✦ The use of a filler character x has successfully resolved multiple repeating letter problems in text.

▷ 11:24