

# Challenge: Dangerous Flag (Cryptography)

## HINTS.txt

Description:

So this flag holds a dangerous message.....try at your own risk

it is encoded in a cipher that requires a key

start looking for the right key

G0oD LuCk :)

## Th3 Clue.txt

clue:

NvldNvld

## Try N Hunt the Cipher

O0kf4pgPoP!arg u0g jcqzh hdq jz4c!! Zsk pT4ry X3ksbYq MTUWCY HAP

## Step 1: Identifying the cipher used to encrypt the flag

From the description we know that a cipher is being used to encrypt the flag therefore we need to identify the cipher first

Using a cipher identifier it is found that the flag has a high chance of being encrypted in **Vigenere Cipher**.



The screenshot shows the dCode website interface. On the left, a search bar labeled "Search for a tool" contains the text "e.g. type 'boolean'". Below it, a "No Result" message states "Nothing found?" and provides links to "Need to decrypt a message? Try our cipher identifier!", "Browse the full dCode's tools list", and "Describe your needs, write us!". The "Results" section shows "dCode's analyzer suggests to investigate:" followed by "Vigenere Cipher". On the right, the "CIPHER IDENTIFIER" section displays the encrypted message "O0kf4pgPoP!arg u0g jcqzh hdq jz4c!! Zsk pT4ry X3ksbYq MTUWCY HAP" and a button labeled "ANALYZE". Below the button, it says "See also: Frequency Analysis - Index of Coincidence" and "SYMBOLS IDENTIFIER".

## Step 2: Looking for the key

Vigenere Cipher needs a key to be decrypted therefore we look for a valid key. From the file Th3 Clue.txt, we find a group of letters that itself seem to encrypted “NvldNvld”. We notice that the word is repeating twice and is most probably case sensitive.

Initially we try simpler ciphers and substitution

(Using Cipher Disk to rotate and substitute the letters of inner ring to align with the letters of outer ring such that they generate a meaningful key)

The screenshot shows the 'CIPHER DISK/WHEEL' web application. On the left, there is a search bar with the text 'e.g. type 'boolean'' and a link to 'BROWSE THE FULL dCODE TOOLS' LIST'. Below this is a 'Results' section with a table of cipher tools. The table has two columns: '↑↓' and '↑↓'. The first row is highlighted in blue and shows '↕ ↔0 (↔26)' and 'MEOWMEOW'. The second row shows '↔0 (↔26)' and 'MEOWMEOW'. The third row shows '↕ ↔4 (↔22)' and 'IAKSIAKS'. The fourth row shows '↔22 (↔4)' and 'IAKSIAKS'. The fifth row shows '↕ ↔22 (↔4)' and 'QISAQISA'. The sixth row shows '↔4 (↔22)' and 'QISAQISA'. The seventh row shows '↕ ↔12 (↔14)' and 'ASCKASCK'. The eighth row shows '↔14 (↔12)' and 'ASCKASCK'. The ninth row shows '↕ ↔18 (↔8)' and 'UMWEUMWE'. The tenth row shows '↔8 (↔18)' and 'UMWEUMWE'. The eleventh row shows '↕ ↔10 (↔16)' and 'CUEMCUEM'. The twelfth row shows '↔16 (↔10)' and 'CUEMCUEM'. The thirteenth row shows '↕ ↔8 (↔18)' and 'EWGOEWGO'. The fourteenth row shows '↔18 (↔8)' and 'EWGOEWGO'. On the right, the 'DISK CIPHER DECODER' section is visible. It has a 'DISK CIPHERTEXT' input field with the text 'NvldNvld'. Below this are two input fields for 'OUTER ALPHABET (ALPHANUMERIC ONLY)' and 'INNER ALPHABET (ALPHANUMERIC ONLY)'. The outer alphabet is 'ABCDEFGHIJKLMNOPQRSTUVWXYZ' and the inner alphabet is 'ZYXWVUTSRQPONMLKJIHGFEDCBA'. There are also radio buttons for 'WHEEL SELECTION' and 'SHIFT'. The 'WHEEL SELECTION' options are 'AUTOMATIC DETECTION (BRUTE-FORCE) (?)', 'INNER = PLAIN ALPHABET, OUTER = CIPHER ALPHABET', and 'OUTER = PLAIN ALPHABET, INNER = CIPHER ALPHABET (↕)'. The 'SHIFT' options are 'AUTOMATIC DETECTION (BRUTE-FORCE) (?)', 'BY A VALUE/ NUMBER: [ ]', and 'WITH A KEY (INNER-OUTER LETTERS OR A=B): [ ]'. A 'DECRYPT' button is at the bottom right.

↑↓	↑↓
↕ ↔0 (↔26)	MEOWMEOW
↔0 (↔26)	MEOWMEOW
↕ ↔4 (↔22)	IAKSIAKS
↔22 (↔4)	IAKSIAKS
↕ ↔22 (↔4)	QISAQISA
↔4 (↔22)	QISAQISA
↕ ↔12 (↔14)	ASCKASCK
↔14 (↔12)	ASCKASCK
↕ ↔18 (↔8)	UMWEUMWE
↔8 (↔18)	UMWEUMWE
↕ ↔10 (↔16)	CUEMCUEM
↔16 (↔10)	CUEMCUEM
↕ ↔8 (↔18)	EWGOEWGO
↔18 (↔8)	EWGOEWGO

We found the “**MeowMeow**” which most likely seems to be the key.

## Step 3: Decrypting Vigenere

Using tools like cyberchef, decode.fr, etc we find the final flag after decrypting the vigenere cipher text

“O0kf4pgPoP!arg u0g jcqzh hdq jz4c!! Zsk pT4ry X3ksbYq MTUWCY HAP”

Recipe

Vigenère Decode

Key  
MeowMeow

STEP

BAKE!

Auto Bake

Input

O0kf4pgPoP!arg u0g jczh hdq jz4c!! Zsk pT4ry X3ksbYq MTUWCY HAP

Output

C0gr4tuLaT!ons y0u found the f14g!! Now tH4nk B3yonCe IFYKYK LOL

The final flag is :

**C0gr4tuLaT!ons y0u found the f14g!! Now tH4nk B3yonCe IFYKYK LOL**

( If you have seen this flag , Thank Beyonce LOL ;D )