

# Military CTF

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# Project Description and Logic

- I wanted to use a cipher I had never seen before (Vigenère)
- In this CTF challenge, you are a military commander communicating with your fellow officers. You must use your cryptography skills in order to communicate with one another.
- Must finish first challenge before the second one appears
- The Project is hosted at <http://localhost:63342/Crypto-CTF-Challenge/>
- The GitHub repository can be found here:  
<https://github.com/ggmeiner22/Military-CTF-Challenge>



# Challenge 1

## Challenge 1: Encrypted Military Message

The Military commander sent you a message regarding the upcoming mission. However, he encrypted it so the enemy would not be able to find it useful.

**Message:** Hi Mhglgw Og Oeib!

Reveal Hint

**Hint:** Key: *LEMON*

Enter the decoded message below:

Submit



# Challenge 1 Solution

- The hint “LEMON” is a classic key used in Vigenère cipher examples, strongly suggesting that the encryption method is a Vigenère cipher.
- In a Vigenère cipher, each letter of the plaintext is shifted by a corresponding letter of the key (using a repeating key that aligns with the message).
- The general decryption formula for each letter is:  
 **$\text{Plaintext} = (\text{Ciphertext} - \text{Key} + 26) \bmod 26$**   
(assuming that A = 0, B = 1, ..., Z = 25)



# Challenge 1 Solution

- Write out the key “LEMON” repeatedly beneath the ciphertext so that every letter of the encrypted message aligns with a letter of the key.
  - Ignore spaces and punctuation

For each letter in the ciphertext:

1. Convert both the ciphertext letter and the corresponding key letter to their numerical values (e.g., A = 0, B = 1, ...).
2. Subtract the key's numerical value from the ciphertext numerical value.
3. Use mod 26 to wrap around the alphabet if the result is negative.
4. Convert the resulting number back to a letter.

Work through the text letter by letter. For example, if the first letter is *H* (which is 7 in 0-indexed form) and the first key letter is *L* (11), then:

- $(7 - 11 + 26) \bmod 26 = 22 \Rightarrow$  the letter *W*

Continue for each letter: WE ATTACK AT DAWN!



## Challenge 2

### Challenge 2: Encoded Military Communication

You are receiving a message from the military units on the front lines. Decode it so you can act accordingly...

**Message:** .- . / - . . . . / . . . . . . . . / - . . . / . . - - - . / - . . . / . . - - . . . . . . . . . . !


Reveal Hint

Enter the decoded message below:


Enter decoded message

Submit

# Challenge 2 Solution



## Search for a tool

★ SEARCH A TOOL ON dCODE BY KEYWORDS:  
e.g. type 'boolean' 

★ BROWSE THE [FULL dCODE TOOLS' LIST](#)

## Results

Automatic detection of Morse format (-.␣)

| ↑↓      | ↑↓                                |
|---------|-----------------------------------|
|         | WE NEED HELP AS SOON AS POSSIBLE! |
| (. - ␣) | WENEEHELPAASOONASPOSSIBLE!        |
| (␣ - ␣) | JJP♦GTTE                          |
| (. - ␣) | BBX♦EET                           |
| (- ␣)   | BBNTATTI=TTNTETNEU                |
| (␣ - ␣) | JJAENEEMJEEAEATG                  |
| (- ␣)   | DTATTWCHTYXNOOSSANOXSOOMJYT♦      |

#7

Morse Code - [dCode](#)  
Tag(s) : Telecom, Substitution Cipher

## Share

## dCode and more


dCode is free and its tools are a valuable help in games, maths, geocaching, puzzles and problems to

## MORSE CODE

Communication System › Telecom › Morse Code

### MORSE CODE TRANSLATOR

★ MORSE CIPHERTEXT TO CONVERT (?)



► TRANSLATE AUTOMATICALLY

### MORSECODE CHARACTERS

☒ USE PERIOD '.' FOR SHORT AND DASH '-' FOR LONG

☐ USE THE FOLLOWING CHARACTERS FOR SHORT AND LONG:

★ CHARACTER(S) FOR SHORT/DOT

★ CHARACTER(S) FOR LONG/DASH

### MORSE SPACE MANAGEMENT

☒ THE MESSAGE HAS SPACES BETWEEN EACH MORSE CODE

☐ THE MESSAGE USES THIS SEPARATOR:

☐ THE MESSAGE IS WITHOUT SPACE (⚠️ COMPLICATED TRANSLATION)

★ TRY... (?)

☐ ALL COMBINATIONS (ALPHANUMERIC A-Z0-9) (?)

☐ ALL COMBINATIONS OF LETTERS (A-Z ONLY) (?)


☐ TO INTEGRATE A WORD FROM DICTIONARY (?)

★ DICTIONARY (?)

ENGLISH Common Dictionary (usual words only) ▼

► TRANSLATE MORSE

See also: [Braille Alphabet](#)



## Summary

- ★ Morse Code Translator
- ★ Morse Encoder
- ★ What is Morse Code? (Definition)
- ★ How to encrypt using Morse Code cipher?
- ★ How to decrypt Morse Code cipher?
- ★ How to recognize Morse Code ciphertext?
- ★ How to write Morse Code?
- ★ How to decipher audio MP3 Morse?
- ★ How to decipher Morse without spaces?
- ★ What are the variants of the Morse Cipher?
- ★ What is the mountain Morse code?
- ★ How has the Morse alphabet been created?
- ★ How to learn the Morse alphabet with mnemonics?
- ★ How to send a SOS in Morse?