

# Crypto Challenge Write-Up - The Cursed Parchment

**Layers:** Base92 → Affine Cipher

Given Ciphertext

```
>wufvG.c?dSI?f0wCPR34l\j/7RgVbtb
```

## Step 1 – Identify the Encoding

The ciphertext contains mixed symbols, numbers, uppercase and lowercase letters, indicating it is likely an encoding scheme rather than a simple classical cipher.

**Tool Used:** dcode.fr → Cipher Identifier

**Procedure:**

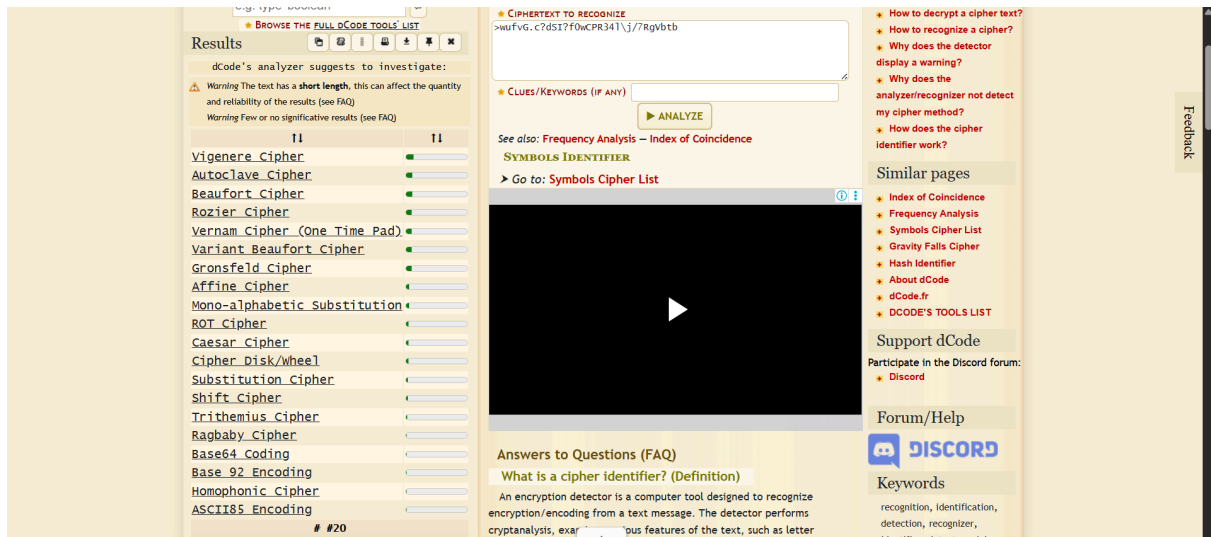
1. Navigate to dcode.fr → Cipher Identifier
2. Paste the ciphertext:

```
>wufvG.c?dSI?f0wCPR34l\j/7RgVbtb
```

3. Run the analysis.

**Result:**

The tool suggests Base92 Encoding as the most probable match.



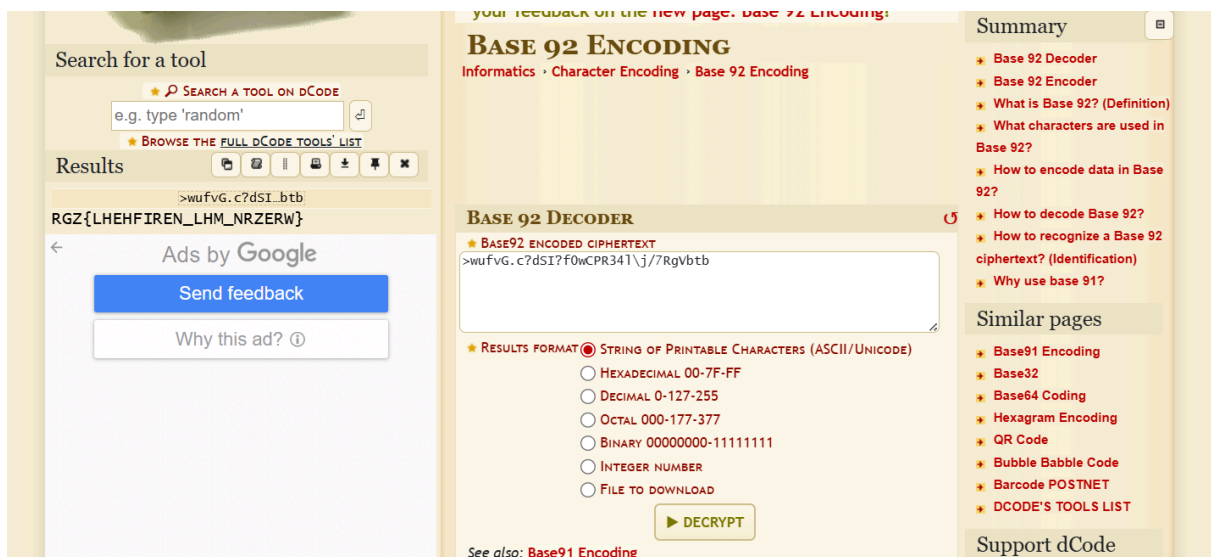
## Step 2 – Decode Base92

**Tool Used:** dcode.fr → Base92 Decoder

**Procedure:**

- Paste the ciphertext into the Base92 decoder.
- Click Decrypt.

**Output:**



RGZ{LHEHFIREN\_LHM\_NRZERW}

The output:

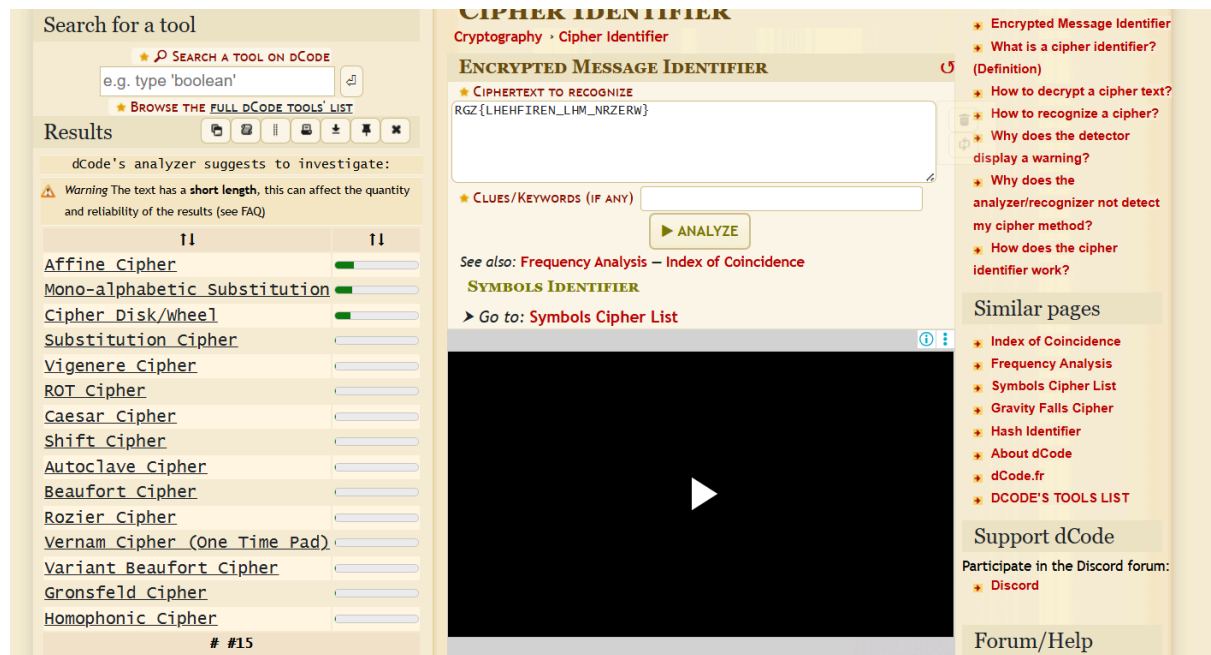
- Contains only uppercase letters

- Resembles a structured flag format
- Indicates another encryption layer

## Step 3 – Identify the Second Cipher

The decoded text resembles a substitution cipher.

Based on the structure and challenge hint, it is identified as an Affine Cipher.



## Step 4 – Brute Force Affine Cipher

**Tool Used:** dcode.fr → Affine Cipher Decoder

**Procedure:**

1. Paste:

```
RGZ{LHEHFIREN_LHM_NRZERW}
```

2. Select alphabet: **ABCDEFGHIJKLMNOPQRSTUVWXYZ**

3. Click Automatic Brute Force Decryption

The tool tests all valid combinations of coefficients (a, b).

## Correct Key

$$a = 9, b = 7$$

## Final Decrypted Output:

SEARCH A TOOL ON DCode

e.g. type 'caesar'

BROWSE THE FULL DCode TOOLS LIST

Results

Bruteforce attempt, all coefficients are tried, (statistically) best results are displayed.

ABCDEF

GHIJKL

MNOPQR

STUVWXYZ

A=9, B=7

EXC{MARAUDERS\_MAP\_SECRET}

A=15, B=9

EFI{OMRMYTERC\_OMV\_CEIREN}

A=5, B=25

ORA{SMBMWHOB\_I\_SMN\_IOABOP}

A=15, B=17

ABE{KINIUPANY\_KIR\_YAENA}

A=1, B=25

SHA{MIFIGJSFO\_MIN\_OSAFSX}

A=1, B=13

ETM{YURUSVERA\_YUZ\_AEMRE}

A=17, B=17

AHC{SENEKBANM\_SEP\_MACNAL}

A=11, B=21

CBY{SUPUINCPE\_SUL\_ECYPCT}

A=11, B=7

IHE{YAVAOTIVK\_YAR\_KIEVIZ}

A=5, B=17

ADM{EYNYITANU\_EYZ\_UAMNAB}

A=1, B=19

YNG{SOLOMPYLU\_SOT\_UYGLYD}

A=19, B=11

OXY{AIBIMTOBW\_AIL\_WOYBOR}

A=25, B=25

ITA{OSVSURIVM\_OSN\_MIAVID}

A=23, B=20

BWH{DNONFEBOL\_DNU\_LBHOBI}

A=11, B=25

EDA{UWRWKPERG\_UWN\_GAREV}

A=21, B=11

EBS{AGRWLERK\_AGF\_KESRED}

A=7, B=4

NED{BTATPINA\_FTO\_FNDANK}

A=3, B=1

OTI{MCBCKLOBE\_MCV\_EOIBOH}

A=1, B=3

ODW{IEBECFOBK\_IEJ\_KOWBOT}

A=7, B=23

OFE{CUBUQJOBG\_CUR\_GOEBOL}

AFFINE DECODER

AFFINE CIPHERTEXT

RGZ{LHEHFIREN\_LHM\_NRZERW}

EXPECTED PLAINTEXT LANGUAGE

English

ALPHABET

ABCDEFGHIJKLMNOPQRSTUVWXYZ

AUTOMATIC BRUTE FORCE DECRYPTION

MANUAL PARAMETERS AND OPTIONS

A COEFFICIENT

3

B COEFFICIENT

1

DISPLAY THE DECRYPTED MESSAGE WITH THESE COEFFICIENTS

DISPLAY AFFINE DECODING / DESUBSTITUTION TABLE FOR THESE COEF.

DISPLAY AFFINE CODING / SUBSTITUTION TABLE FOR THESE COEF.

DISPLAY AFFINE COEFFICIENTS BY MODULAR INVERSE

DECRYPT

See also: Hill Cipher – Multiplicative Cipher – Caesar Cipher

AFFINE ENCODER

AFFINE PLAIN TEXT

EXC{MARAUDERS\_MAP\_SECRET}

Affine encoder

What is the Affine cipher? (Definition)

How to encrypt using the Affine cipher?

How to decrypt the Affine cipher?

How to recognize an Affine ciphertext?

What are Affine cipher variants?

How to decipher Affine without coefficients A and B?

How to compute the decryption function?

How to compute A' value?

How to compute B' value?

What are the A' values?

Why is there a constraint on the value of A?

Is it possible to use a key A not coprime with 26?

Does a negative value for A exist?

Is there a limitation on B value?

Why is this encryption so called affine?

When was Affine invented?

Similar pages

EXC{MARAUDERS\_MAP\_SECRET}

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