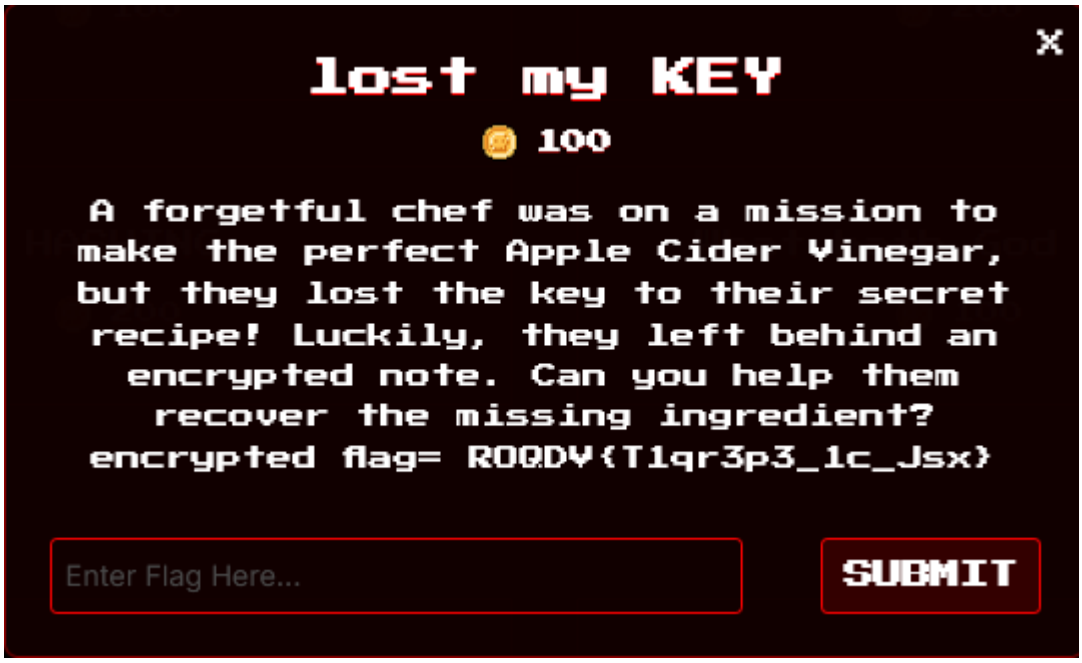
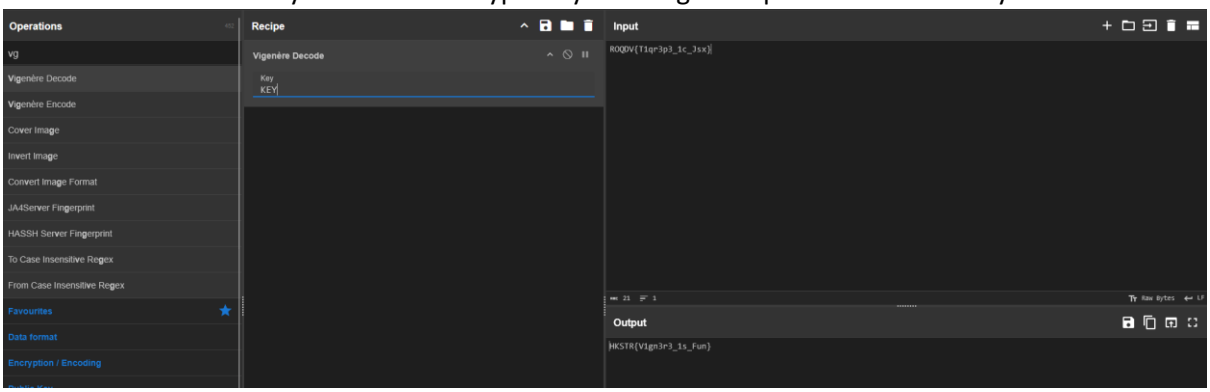
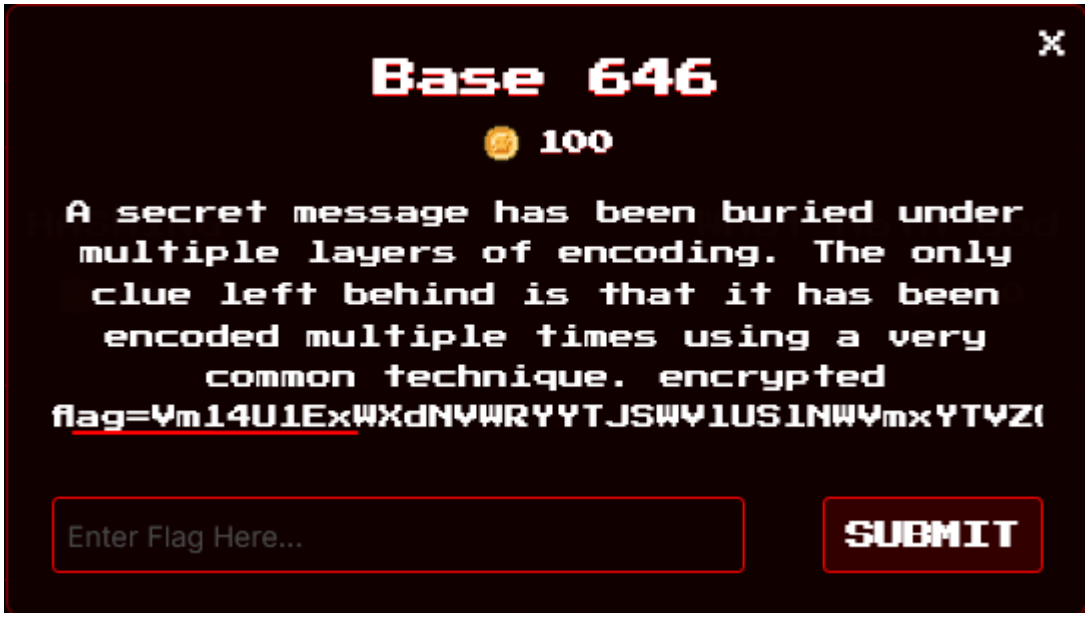
1.lost my KEY



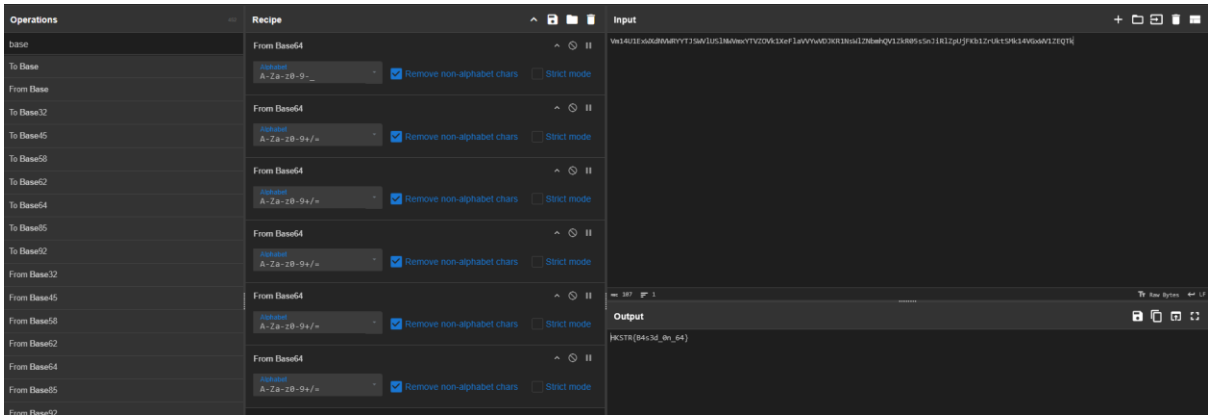
- The word 'vinegar' hints at the Vigenère cipher.
- But vigenere cipher needs a key to decrypt it ,
  so the key =”KEY” as in the title word KEY is highlighted out.
- Use an online tool like CyberChef to decrypt it by entering the ciphertext and the key



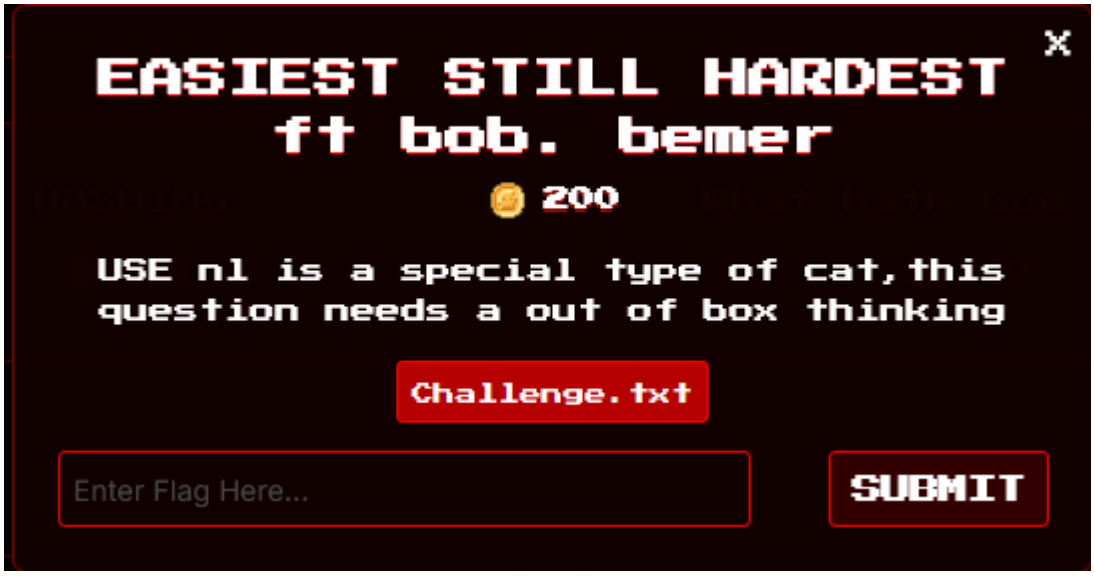
2.Base 646



- Here the title name is base 6 4 6 ,
- As base 64 is a encoding scheme so,
- Base 64 * 6 times will solve the question



3.easiest still hardest



This question requires out-of-the-box thinking,as in CTF question can be created in any new or old way.

In this challenge the word bob bemer depicts the person who invented ASCII system.

Now the command “nl” is a special command in linux to list the content in file like cat command but with line number ,

Now after opening the file with nl commad we will get this type of view

```
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7,11,19
3
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16
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18
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.
.
.
.
.
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12
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2,15
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.
5
.
.
4
.
.
.
.
.
1,9,14
8
.
.
20
.
.
.
.
.
.
6,10,13,17
```

In this the

number 1 is written at 84

number 2 is written at 72

number 3 is written at 49

number 4 is written at 78

number 5 is written at 75

number 6 is written at 95

number 7 is written at 48

number 8 is written at 85

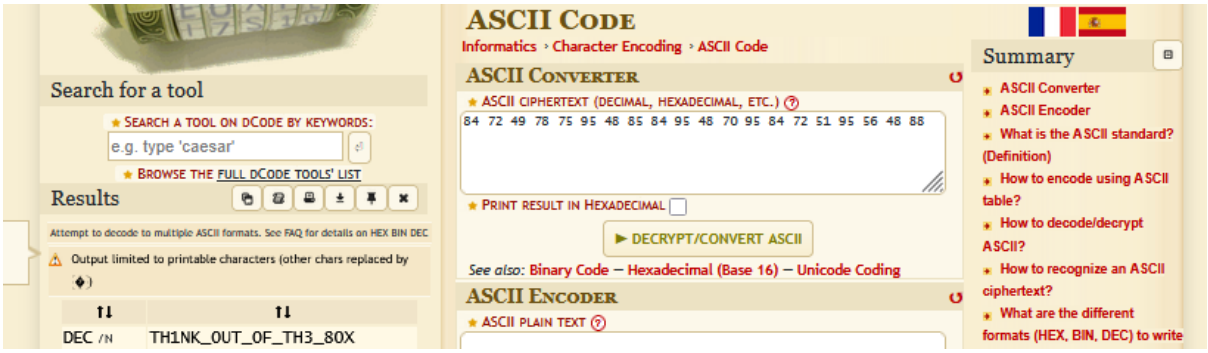
number 9 is written at 84

number 10 is written at 95

number 11 is written at 48

and so on…
making it all together “84 72 49 78 75 95 48 85 84 95 48 70 95 84 72 51 95 56 48 88”

now we can decode it using any ascii converter ,

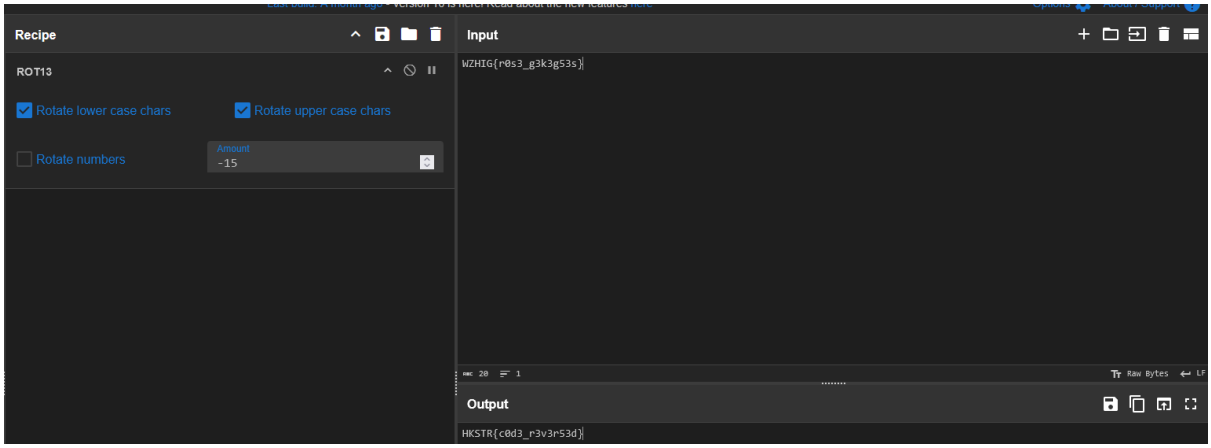


4. Reverse Gear

This question name tells that we need to reverse the code ,but there is also a hint that it is a rot15

As by analysing the code you can know it ,or by the word “R15” so to reverse it we need to reverse it by -15.

Solution:



Or by

Writing the code or modifying the code:

```cpp
#include <iostream>
using namespace std;

int main() {
    string text;
    int shift;

    cout << "Text: ";
    getline(cin, text);
    cout << "Shift: ";
    cin >> shift;

    for (char &c : text)
        if (isalpha(c))
            c = (c - (isupper(c) ? 'A' : 'a') + shift) % 26 + (isupper(c) ? 'A' : 'a');

    cout << "Encrypted: " << text << endl;
    return 0;
}
```

Into

```cpp
#include <iostream>
using namespace std;

int main() {
    string text;
    int shift;

    cout << "Text: ";
    getline(cin, text);
    cout << "Shift: ";
    cin >> shift;

    for (char &c : text)
        if (isalpha(c))
            c = (c - (isupper(c) ? 'A' : 'a') - shift +26) % 26 + (isupper(c) ? 'A' : 'a');

    cout << "Encrypted: " << text << endl;
    return 0;
}
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  COMMENTS

Text: WZHIG{r0s3_g3k3g53s}
Shift: 15
Encrypted: HKSTR{c0d3_r3v3r53d}
```

5.Hashing

Here most famous hashing can be sha or md5 like hashes as these are the most famous one so:

Hit and trail for the famous hashing one by one .

Or use tool like hash-identifier.

We came to know that it is a MD5

```
┌──(kali㉿kali)-[~/Downloads]
└─$ hash-identifier 6f0f4d469eaead0ac18da3a460f263b6
   #########################################################################
   #     __  __                     __           ______    _____           #
   #    /\ \/\ \                   /\ \         /\__  _\  /\  _ `\         #
   #    \ \ \_\ \     __      ____ \ \ \___     \/_/\ \/  \ \ \/\ \        #
   #     \ \  _  \  /'__`\   / ,__\ \ \  _ `\      \ \ \   \ \ \ \ \       #
   #      \ \ \ \ \/\ \_\ \_/\__, `\ \ \ \ \ \      \_\ \__ \ \ \_\ \      #
   #       \ \_\ \_\ \___ \_\/\____/  \ \_\ \_\     /\_____\ \ \____/      #
   #        \/_/\/_/\/__/\/_/\/___/    \/_/\/_/     \/_____/  \/___/  v1.2 #
   #                                                             By Zion3R #
   #                                                    www.Blackploit.com #
   #                                                   Root@Blackploit.com #
   #########################################################################
--------------------------------------------------

Possible Hashs:
[+] MD5
[+] Domain Cached Credentials - MD4(MD4(($pass)).(strtolower($username)))

Least Possible Hashs:
[+] RAdmin v2.x
[+] NTLM
[+] MD4
[+] MD2
[+] MD5(HMAC)
[+] MD4(HMAC)
[+] MD2(HMAC)
[+] MD5(HMAC(Wordpress))
[+] Haval-128
[+] Haval-128(HMAC)
[+] RipeMD-128
[+] RipeMD-128(HMAC)
[+] SNEFRU-128
[+] SNEFRU-128(HMAC)
[+] Tiger-128
[+] Tiger-128(HMAC)
[+] md5($pass.$salt)
[+] md5($salt.$pass)
[+] md5($salt.$pass.$salt)
[+] md5($salt.$pass.$username)
[+] md5($salt.md5($pass))
[+] md5($salt.md5($pass))
[+] md5($salt.md5($pass.$salt))
[+] md5($salt.md5($pass.$salt))
[+] md5($salt.md5($salt.$pass))
[+] md5($salt.md5(md5($pass).$salt))
[+] md5($username.0.$pass)
[+] md5($username.LF.$pass)
[+] md5($username.md5($pass).$salt)
[+] md5(md5($pass))
[+] md5(md5($pass).$salt)
```

Now to decode it use any tool like decode fr,

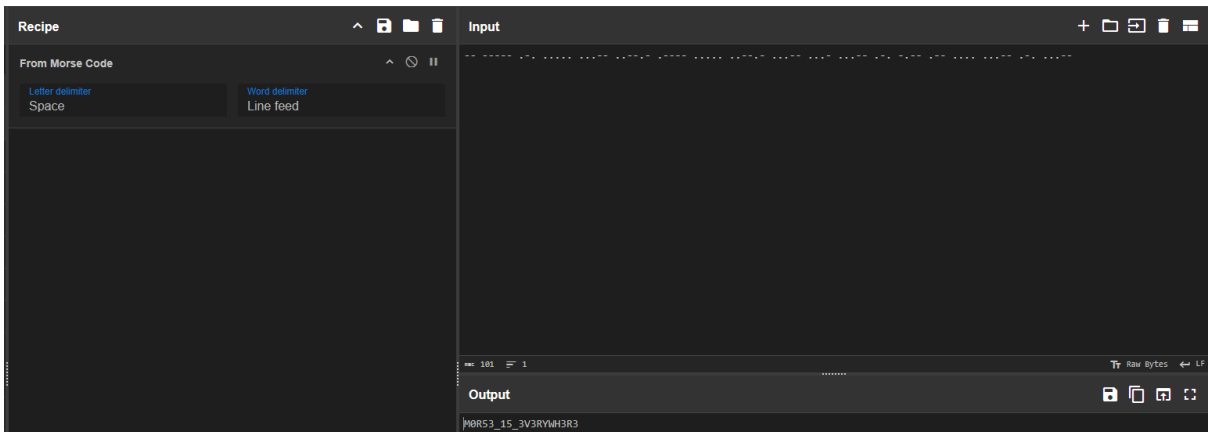
6.What hath God wrought

In this the title :"what hath god wrought"

When we google search this we cam to know that it is the first sentence to be send as morse code.

So it is a morse code .

Decode it using any online tool like decode fr ,cyberchef,etc

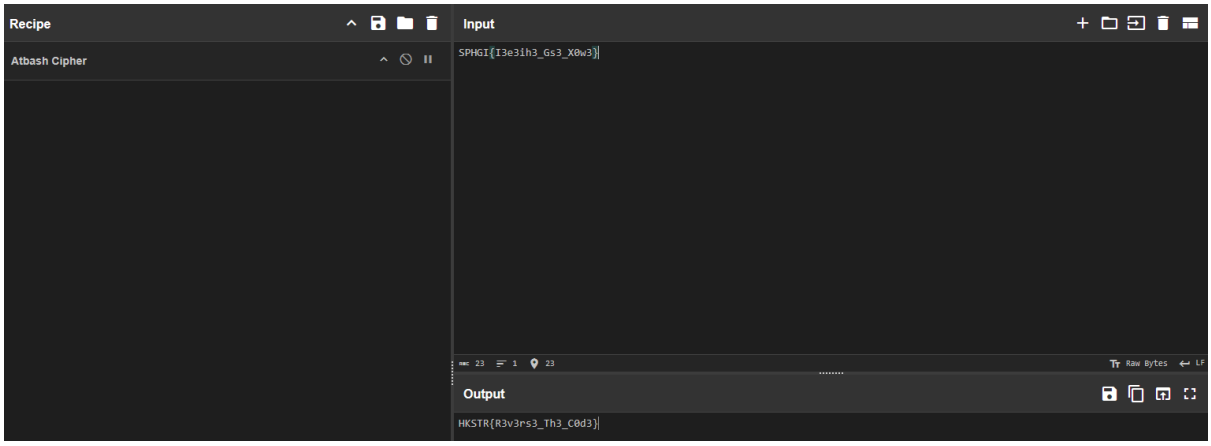


7.Upside Down

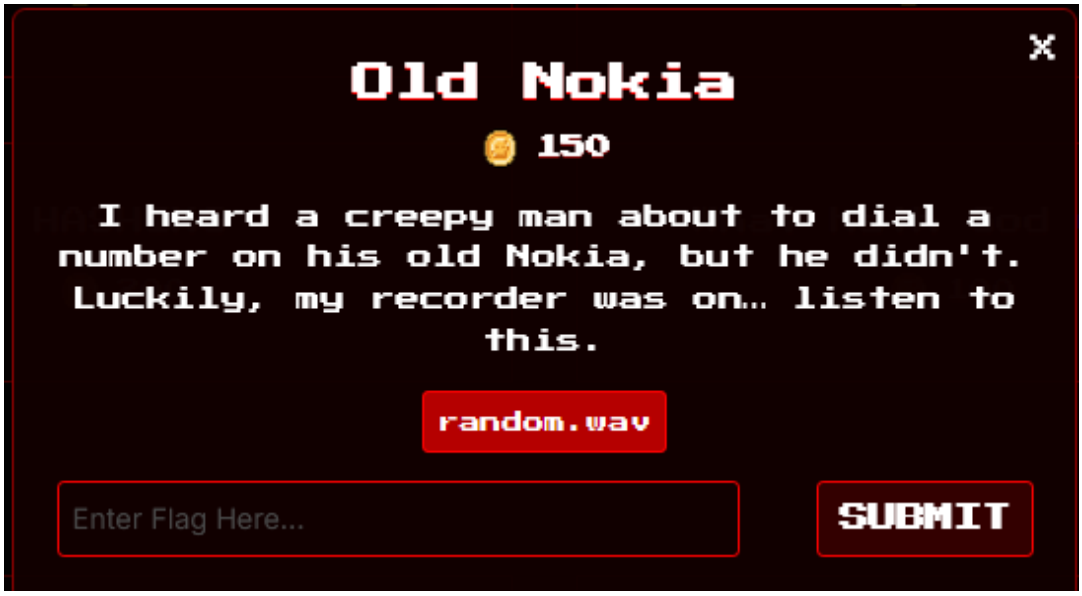
In this question the word upside down indicates towards the reversing like words ,

So in description it also says that a cipher that convert A->Z,B->Y, …… etc

It is atbash cipher ,use any tool like decode fr ,cyberchef,cryptii,etc



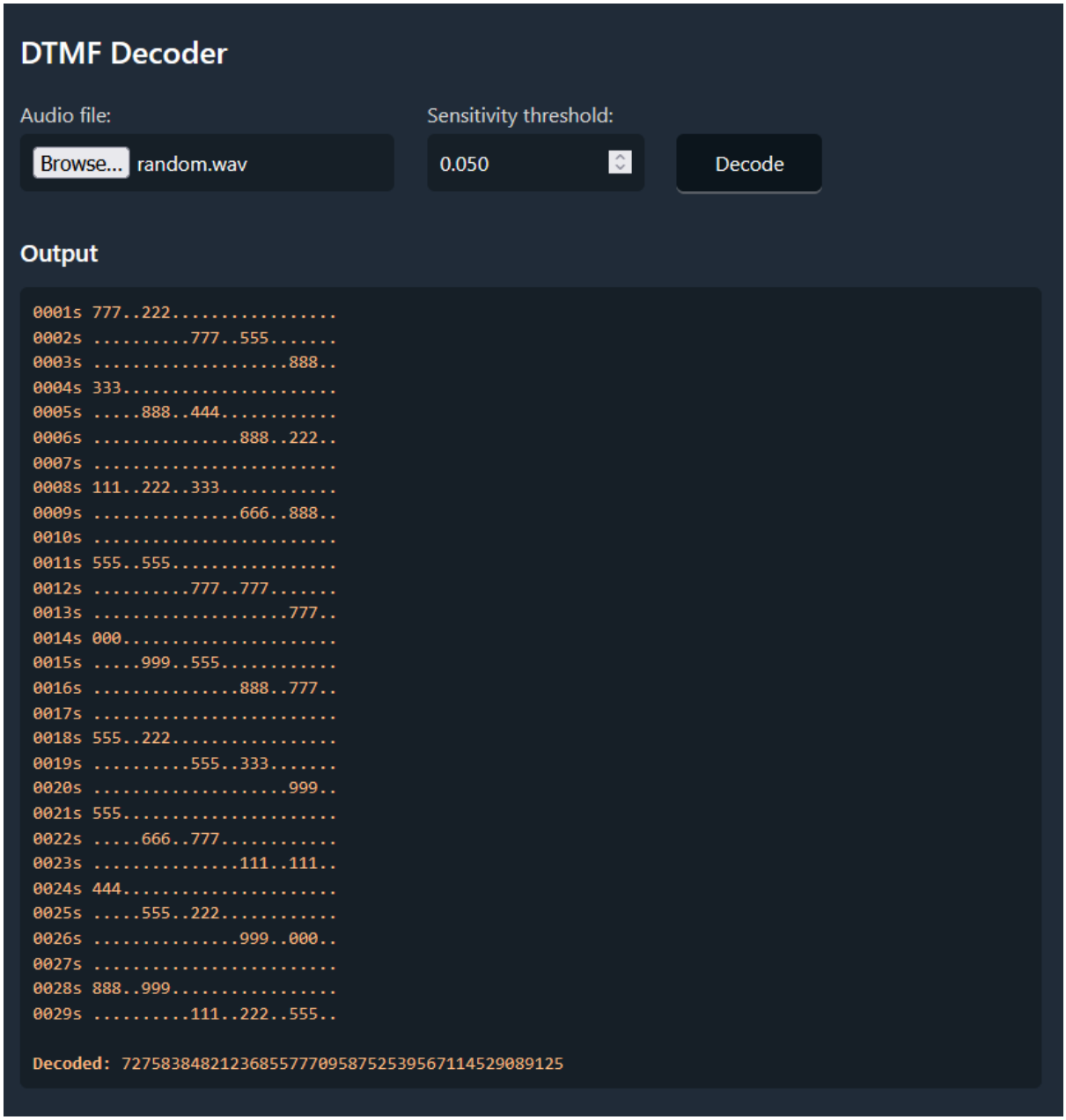
8.Old Nokia



In old nokia phones there was DTMF (dual tone multiple frequency) system,which produces a sound when a key stroke is pressed ,

So the sound and description indicated toward dtmf encoding

So decode it using any online tool like DTMF decorder



It gives ascii number now decode it using any decoder, to get the flag ,DTMF encoding are always decrypted to first ASCII then text.


Search for a tool
SEARCH A TOOL ON DCODE BY KEYWORDS:
e.g. type 'boolean'
BROWSE THE FULL DCODE TOOLS' LIST
Results
Attempt to decode to multiple ASCII formats. See FAQ for details on HEX BIN DEC
Output limited to printable characters (other chars replaced by ◆)
DEC /N
HKSTR{D7MF_W45_Cr4ZY}
ASCII CODE
Informatics › Character Encoding › ASCII Code
ASCII CONVERTER
ASCII CIPHERTEXT (DECIMAL, HEXADECIMAL, ETC.)
72758384821236855777095875253956711452908912 5
PRINT RESULT IN HEXADECIMAL
DECRYPT/CONVERT ASCII
See also: Binary Code — Hexadecimal (Base 16) — Unicode Coding
ASCII ENCODER
ASCII PLAIN TEXT