

## C. Vanya and Label

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

While walking down the street Vanya saw a label "Hide&Seek". Because he is a programmer, he used **&** as a bitwise AND for these two words represented as integers in base **64** and got new word. Now Vanya thinks of some string **S** and wants to know the number of pairs of words of length  $|S|$  (length of **S**), such that their bitwise AND is equal to **S**. As this number can be large, output it modulo  $10^9 + 7$ .

To represent the string as a number in numeral system with base **64** Vanya uses the following rules:

- digits from '0' to '9' correspond to integers from **0** to **9**;
- letters from 'A' to 'Z' correspond to integers from **10** to **35**;
- letters from 'a' to 'z' correspond to integers from **36** to **61**;
- letter '-' correspond to integer **62**;
- letter '\_' correspond to integer **63**.

### Input

The only line of the input contains a single word **S** ( $1 \leq |S| \leq 100\,000$ ), consisting of digits, lowercase and uppercase English letters, characters '-' and '\_'.

### Output

Print a single integer — the number of possible pairs of words, such that their bitwise AND is equal to string **S** modulo  $10^9 + 7$ .

### Examples

<b>input</b>
z
<b>output</b>
3
<b>input</b>
V_V
<b>output</b>
9
<b>input</b>
Codeforces
<b>output</b>
130653412

### Note

For a detailed definition of bitwise AND we recommend to take a look in the corresponding article in Wikipedia.

In the first sample, there are **3** possible solutions:

1.  $z \& \_ = 61 \& 63 = 61 = z$
2.  $\_ \& z = 63 \& 61 = 61 = z$
3.  $z \& z = 61 \& 61 = 61 = z$

### Codeforces Round #355 (Div. 2)

Finished

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### → Problem tags

implementation

No tag edit access

### → Contest materials

- Announcement 
- Tutorial 