Problem E. Ketek Counting

Input file:	*standard input*
Output file:	*standard output*
Time limit:	8 seconds
Memory limit:	64 mebibytes

Note the unusual Memory Limit value for this task

Define a Ketek to be a sentence that reads the same forwards and backward, by word. For example, 'fall leaves after leaves fall' is a Ketek since the words in reverse order are the same as the original order.

Given a string consisting of lower-case letters and the character '`?`', count the number of distinct Keteks you can make by replacing every '`?`' with lower-case letters (one letter per '`?`'), and optionally adding spaces between any letters. Note that a Ketek cannot contain any `?`'s; they all must be replaced exclusively by lower-case letters.

For example, if we start with the string '`ababa`', we can form 3 different Keteks: '`ababa`', '`a bab a`' and '`a b a b a`'.

If we start with the string '`?x?z`' instead, we can form 703 different Keteks:

- There are $26^2 = 676$ ways to replace the `?`'s and form a one-word Ketek.
- Add spaces to form '`? x? z`'. There are 26 ways to form a Ketek (the first '`?`' must be `z`; the other can be any lower-case letter).
- Add a space to form '`?x ?z`'. There is no way to form a Ketek.
- Add spaces to form '`? x ? z`'. There is one way to form a Ketek (the first '`?`' must be `z`; the second must be `x`).

The total is $676 + 26 + 0 + 1 = 703$.

Two Keteks are different if they have a different number of words, or there is some word index where the words are not the same.

Input

The single line of input contains a string s ($1 \le |s| \le 30\,000$), which consists of lower-case letters ('`a`' – '`z`') and the character '`?`'.

Output

Output the number of distinct Keteks that can be formed by replacing the `?`'s with lower-case letters and adding spaces. Since this number may be large, output it modulo 998 244 353.

Examples

standard input	standard output
ababa	3
?x?z	703