

**Begin:**  
2024-08-29  
21:00  
UTC+5.5

☆ Placement Test  
Series - 2

**End:**  
2024-08-29  
23:15  
UTC+5.5

**Elapsed:**  
1:54:31


Running

**Remaining:**  
0:20:28

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**Time limit**
2000 ms

**Mem limit**
1048576 kB

# C - Words in a lab



## Problem Statement

In a research lab, scientists are studying a particular sequence of letters, represented by the string  $T$ . They are interested in finding out how many unique words they can form by rearranging any non-empty, not necessarily contiguous subsequence of  $T$ .

Since the number of possible words could be very large, they need your help to calculate the total number modulo 998244353.

Can you help the researchers determine the number of distinct words?

## Constraints

- $T$  is a string of length 1 and 5000 (inclusive) consisting of lowercase English letters.

## Input

Input is given from Standard Input in the following format:

$T$

## Output

Print the number of different strings that can be obtained as a permutation of a subsequence of  $T$ , modulo 998244353.

## Sample 1

Input	copy	Output	copy
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aab	8
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There are 8 different strings that can be obtained as a permutation of a subsequence of  $T$ : **a** , **b** , **aa** , **ab** , **ba** , **aab** , **aba** , **baa** .

### Sample 2

Input	copy	Output	copy
aaa		3	

### Sample 3

Input	copy	Output	copy
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