

Contest Duration: 2025-09-27(Sat) 22:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250927T2100&p1=248>) - 2025-09-27(Sat) 23:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250927T2240&p1=248>) (local time) (100 minutes)

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## F - Inserting Process

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Time Limit: 2.5 sec / Memory Limit: 1024 MiB

Score : 500 points

### Problem Statement

You are given a string  $T$  of length  $N$  consisting of lowercase English letters.

Output, modulo 998244353, the number of sequences of strings  $s = (s_0, s_1, \dots, s_N)$  that satisfy all of the following conditions.

- $s_0$  is an empty string.
- For  $i = 1, 2, \dots, N$ , the string  $s_i$  is obtained by inserting one arbitrary character at an arbitrary position (possibly beginning or end) in  $s_{i-1}$ .
- $s_N = T$

### Constraints

- $1 \leq N \leq 22$
- $N$  is an integer.
- $T$  is a string of length  $N$  consisting of lowercase English letters.

### Input

The input is given from Standard Input in the following format:

2026-01-02 (Fri)  
05:30:56 +11:00

$N$   
 $T$

## Output

Output the answer.

### Sample Input 1

Copy

3  
aab

Copy

### Sample Output 1

Copy

3

Copy

The sequences  $s$  that satisfy the conditions are the following three:

- $s = ("", "a", "aa", "aab")$
- $s = ("", "a", "ab", "aab")$
- $s = ("", "b", "ab", "aab")$

### Sample Input 2

Copy

7  
atcoder

Copy

### Sample Output 2

Copy

5040

Copy

### Sample Input 3

Copy

22  
atcoderbeginnercontest

Copy

### Sample Output 3

Copy

2026-01-02 (Fri)  
05:30:56 +11:00

Copy

115732070

/#telegram)

#url=https%3A%2F%2Fatcoder.jp%2Fcontests%2Fabc425%2Ftasks%2Fabc425\_f%3Flang%3Den&title=F%20-

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2026-01-02 (Fri)  
05:30:56 +11:00