

Indivisible Partition

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 32 megabytes

Please note the unusual memory limit.

Eva calls a string S of length n (indexed from 0 to $n - 1$) **divisible** if both of the following conditions hold:

- $n > 1$, and
- there exists an integer $k \in [1, n)$ such that $k \mid n$ and $S_i = S_{i \bmod k}$ for every integer $i \in [0, n)$.

Here S_i denotes the character of S at index i . For example, if $S = \text{abcde}$, then $S_0 = \text{a}$ and $S_1 = \text{b}$.

A string is **indivisible** if it is not divisible. For example, **abcde** and **a** are indivisible, whereas **aa** is divisible.

Colin defines an **indivisible partition** of a string S of length n as a sequence of integers $\{p_1, p_2, \dots, p_k\}$ ($k \geq 2$) satisfying:

- $p_1 = 0$ and $p_k = n$, and
- for every integer $i \in [2, k]$, $p_{i-1} < p_i$ and the substring $S[p_{i-1} : p_i - 1]$ is indivisible.

Here $S[l : r]$ denotes the substring of S from index l through index r , inclusive. For example, if $S = \text{abcde}$, then $S[1 : 3] = \text{bcd}$.

Given a string S , count its distinct indivisible partitions modulo 998244353.

Two partitions $\{p_1, p_2, \dots, p_{k_1}\}$ and $\{p'_1, p'_2, \dots, p'_{k_2}\}$ are considered different if $k_1 \neq k_2$, or if there exists an integer $i \in [1, k_1]$ such that $p_i \neq p'_i$.

Input

The input contains a string S ($1 \leq |S| \leq 5 \times 10^3$) consisting of lowercase English letters.

Output

Output a single integer: the number of distinct indivisible partitions of S , modulo 998244353.

Example

standard input	standard output
aab	3

Note

The three distinct indivisible partitions of **aab** are:

1. $\{0, 1, 2, 3\}$, which divides the string into **a** + **a** + **b**;
2. $\{0, 1, 3\}$, which divides the string into **a** + **ab**;
3. $\{0, 3\}$, because **aab** itself is indivisible.