

Rabin Karp

Time Limit: 1 Second
Memory Limit: 256 MB

Given a string s , count the number of pairs of equal substrings. More formally, count the number of tuples (i, j, l) such that $1 \leq i < j \leq |s|$, $0 \leq l \leq n - j$, and $s_{i:i+l} = s_{j:j+l}$.

Input

The only line of input contains a single string s ($1 \leq |s| \leq 2000$) - the given string. s only contains lowercase letters.

Output

Output a single integer denoting the number of pairs of equal substrings.

Sample Inputs

abcbabcba

Sample Outputs

20
