

String Play

STRING PLAY

Milo has a string S of length L . Tutu picks a random prefix and Mota picks a random suffix of S .

Now, Chotku is given a task of concatenating the two strings that Tutu and Mota have chosen, in respective order. Chotku wonders, how many distinct prefix-suffix concatenation is possible out there of string S .

So you know what to do.. Help Chotku!

Input

Input file contains several lines of text. Each line contains a string, S . End of file marks the end of input.

Output

Output one integer per string, denoting the number of distinct prefix-suffix concatenation of the string.

Constraints

- i. Strings consist of lower-case letters only.
- ii. $1 \leq L \leq 10000006$

Sample Input	Output for Sample Input
abc aab	8 7

Explanation:

For sample #1, the 3 prefixes are "a", "ab", "abc"

The 3 suffixes are "c", "bc", "abc"

And the 8 distinct concatenations are, "ac", "abc", "aabc", "abbc", "ababc", "abcc", "abcbc", "abcabc".