A. Number of Different Substrings

time limit per test: 2 seconds
memory limit per test: 512 megabytes

Count the number of different substrings of the given string s.

Input

Input contains single string s of length n ($1 \le n \le 400\,000$). The string consists of lowercase English letters.

Output

Print the number of different substrings in the given string.

Examples

input	Copy
ababba	

output	Copy
15	

input	Copy
mmuc	

output	Copy
9	

input	Copy
xmnnnuu	

output	Copy
24	

input	Copy
nnnn	

output	Copy
4	

→ **Submit?**

Language: GNU G++20 13.2 (64 bit, win ▾)

Choose file: [Choose File] No file chosen

[Submit]

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