

Requiem for Qingyu

Input file: **standard input**
Output file: **standard output**
Time limit: 1.5 seconds
Memory limit: 1024 megabytes

Little Cyan Fish wakes up from yet another nightmare.

Looking around and touching his forehead, he mutters, "Turns out... nothing happened." He turns on the dim night light and glances at the wall clock — the hands point to 12:42. "Damn... what time even is this... my brain can no longer tell night from day."

That was Little Cyan Fish. And you are a messenger sent to save him. Within Little Cyan Fish's heart lie 13 fragmented memories, and in the following 13 tasks, you must help him recover everything he has lost.

"I remember... hmm... before that, whenever I was haunted by nightmares, I would turn on the phonograph and play a requiem." This requiem is a string S . Little Cyan Fish wants to divide S into several substrings $S = U^{(1)}U^{(2)} \dots U^{(k)}$, and play each $U^{(i)}$ in order as different movements of the requiem. Here, each $U^{(i)}$ must be a non-empty string, and the concatenation of all $U^{(i)}$ gives back the original string S .

However, that's not enough. Little Cyan Fish wants to find a favorite string T from within the requiem. A string T is defined as Little Cyan Fish's favorite if and only if there exists a partition of $S = U^{(1)}U^{(2)} \dots U^{(k)}$ such that every $U^{(i)}$ ($1 \leq i \leq k$) is a prefix of T .

Now, your task is: given a string S , compute how many substrings of S are Little Cyan Fish's favorite. In other words, count the number of pairs (l, r) such that $1 \leq l \leq r \leq |S|$ and the substring $S[l, r]$ is Little Cyan Fish's favorite.

Recall that $S[l, r]$ refers to the substring of S starting from position l to r (inclusive), that is, $S_l S_{l+1} \dots S_r$.

Input

There are multiple test cases. The first line of input contains a single integer T ($1 \leq T \leq 10^5$), indicating the number of test cases. For each test case:

The first line of the input contains a string S ($1 \leq |S| \leq 10^5$), which represents Little Cyan Fish's requiem. The requiem only contains lowercase Latin letters (from "a" to "z", a total of 26 characters).

It is guaranteed that the sum of $|S|$ across all test cases does not exceed 2×10^5 .

Output

For each test case, output a single line contains a single integer, indicating the answer.

Example

standard input	standard output
4	10
aaaa	8
abbaabba	13
abaababa	1
qingyuislittlecyanfish	