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C. The Number Of Good Substrings

time limit per test: 4 seconds
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

You are given a binary string s (recall that a string is binary if each character is either 0 or 1).

Let $f(t)$ be the decimal representation of integer t written in binary form (possibly with leading zeroes). For example

$f(011) = 3$, $f(00101) = 5$, $f(00001) = 1$, $f(10) = 2$, $f(000) = 0$ and $f(000100) = 4$.

The substring s_l, s_{l+1}, \dots, s_r is good if $r - l + 1 = f(s_l \dots s_r)$.

For example string $s = 1011$ has 5 good substrings: $s_1 \dots s_1 = 1$, $s_3 \dots s_3 = 1$, $s_4 \dots s_4 = 1$, $s_1 \dots s_2 = 10$ and $s_2 \dots s_4 = 011$.

Your task is to calculate the number of good substrings of string s .

You have to answer t independent queries.

Input

The first line contains one integer t ($1 \leq t \leq 1000$) — the number of queries.

The only line of each query contains string s ($1 \leq |s| \leq 2 \cdot 10^5$), consisting of only digits 0 and 1.

It is guaranteed that $\sum_{i=1}^t |s_i| \leq 2 \cdot 10^5$.

Output

For each query print one integer — the number of good substrings of string s .

Example

input	Copy
4 0110 0101 00001000 0001000	
output	Copy
4 3 4 3	

Educational Codeforces Round 72 (Rated for Div. 2)

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→ Submit?

Language: GNU G++11 5.1.0

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→ Problem tags

[binary search](#) [bitmasks](#) [brute force](#) [*1600](#)

No tag edit access

→ Contest materials

- Announcement #1 (en) 
- Announcement #2 (ru) 
- Tutorial #1 (en) 
- Tutorial #2 (ru) 



The only programming contests Web 2.0 platform

Server time: Sep/11/2019 11:36:22^{UTC+8} (e1).

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