Problem K. K

Time limit   2000 ms

Mem limit   262144 kB

You are given a string s consisting of the characters `0`, `1`, and `?`.

Let's call a string **unstable** if it consists of the characters `0` and `1` and any two adjacent characters are different (i. e. it has the form `010101...` or `101010...`).

Let's call a string **beautiful** if it consists of the characters `0`, `1`, and `?`, and you can replace the characters `?` to `0` or `1` (for each character, the choice is independent), so that the string becomes **unstable**.

For example, the strings `0??10`, `0`, and `???` are beautiful, and the strings `00` and `?1??1` are not.

Calculate the number of beautiful contiguous substrings of the string s.

Input

The first line contains a single integer t ($1 \le t \le 10^4$) — number of test cases.

The first and only line of each test case contains the string s ($1 \le |s| \le 2 \cdot 10^5$) consisting of characters `0`, `1`, and `?`.

It is guaranteed that the sum of the string lengths over all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, output a single integer — the number of **beautiful** substrings of the string s.

Examples

Input	Output
3 0?10 ??? ?10??1100	8 6 25