Can You Make It Empty 2

You are given a string S with only 0 and 1. You can delete the string 100 from any position of S an infinite number of times and obtain a new S after concatenation. Is it possible to make the string empty?

As for example, if S=101000 then 101000->100->empty

If S=1010001 then 10**100**01->**100**1->1->not empty

Input

Input starts with an integer **T** (≤ **100**), denoting the number of test cases.

Each case contains a string S. The size of string is at most 120000.

Output

For each test case, print the case number and "yes" if it is possible to make the string S empty, print "no" otherwise.

Sample Input

Output for Sample Input

101000

Case 1: yes Case 2: no

1010001

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