Given a binary string S (a string consisting only of '0' and '1's) and a positive integer N, return true if and only if for every integer X from 1 to N, the binary representation of X is a substring of S.

**Example 1:**

**Input:** S = "0110", N = 3

**Output:** true

**Example 2:**

**Input:** S = "0110", N = 4

**Output:** false

**Note:**

1. 1 <= S.length <= 1000
2. 1 <= N <= 10^9