

2311. Longest Binary Subsequence Less Than or Equal to K

Description

You are given a binary string `s` and a positive integer `k`.

Return *the length of the **longest** subsequence of `s` that makes up a **binary** number less than or equal to `k`*.

Note:

- The subsequence can contain **leading zeroes**.
- The empty string is considered to be equal to `0`.
- A **subsequence** is a string that can be derived from another string by deleting some or no characters without changing the order of the remaining characters.

Example 1:

Input: `s = "1001010"`, `k = 5`

Output: 5

Explanation: The longest subsequence of `s` that makes up a binary number less than or equal to 5 is "00010", as this number is equal to 2 in decimal.

Note that "00100" and "00101" are also possible, which are equal to 4 and 5 in decimal, respectively.

The length of this subsequence is 5, so 5 is returned.

Example 2:

Input: `s = "00101001"`, `k = 1`

Output: 6

Explanation: "000001" is the longest subsequence of `s` that makes up a binary number less than or equal to 1, as this number is equal to 1 in decimal.

The length of this subsequence is 6, so 6 is returned.

Constraints:

- `1 <= s.length <= 1000`
- `s[i]` is either `'0'` or `'1'`.
- `1 <= k <= 109`

