# 2444. Longest Ideal Subsequence

# Difficulty : Medium

https://leetcode.com/problems/longest-ideal-subsequence

You are given a string `s` consisting of lowercase letters and an integer `k`. We call a string `t` **ideal** if the following conditions are satisfied:

- `t` is a **subsequence** of the string `s`.
- The absolute difference in the alphabet order of every two **adjacent** letters in `t` is less than or equal to `k`.

Return *the length of the **longest** ideal string*.

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.

**Note** that the alphabet order is not cyclic. For example, the absolute difference in the alphabet order of `'a'` and `'z'` is `25`, not `1`.

### Example 1:

```
Input: s = "acfgbd", k = 2
Output: 4
Explanation: The longest ideal string is "acbd". The length of this string is 4, so 4 is returned.
Note that "acfgbd" is not ideal because 'c' and 'f' have a difference of 3 in alphabet order.
```

### Example 2:

```
Input: s = "abcd", k = 3
Output: 4
Explanation: The longest ideal string is "abcd". The length of this string is 4, so 4 is returned.
```

### Constraints:

- `1 <= s.length <= 10^5`
- `0 <= k <= 25`
- `s` consists of lowercase English letters.