

3142. Longest Unequal Adjacent Groups Subsequence II

Difficulty : Medium

<https://leetcode.com/problems/longest-unequal-adjacent-groups-subsequence-ii>

You are given a string array `words`, and an array `groups`, both arrays having length `n`.

The **hamming distance** between two strings of equal length is the number of positions at which the corresponding characters are **different**.

You need to select the **longest** subsequence from an array of indices $[0, 1, \dots, n - 1]$, such that for the subsequence denoted as $[i_0, i_1, \dots, i_{k-1}]$ having length `k`, the following holds:

- For **adjacent** indices in the subsequence, their corresponding groups are **unequal**, i.e., `groups[ij] != groups[ij+1]`, for each `j` where $0 < j + 1 < k$.
- `words[ij]` and `words[ij+1]` are **equal** in length, and the **hamming distance** between them is 1, where $0 < j + 1 < k$, for all indices in the subsequence.

Return a string array containing the words corresponding to the indices (**in order**) in the selected subsequence. If there are multiple answers, return *any of them*.

Note: strings in `words` may be **unequal** in length.

Example 1:

Input: `words = ["bab","dab","cab"], groups = [1,2,2]`

Output: `["bab","cab"]`

Explanation: A subsequence that can be selected is $[0, 2]$.

- `groups[0] != groups[2]`
- `words[0].length == words[2].length`, and the hamming distance between them is 1.

So, a valid answer is `[words[0], words[2]] = ["bab", "cab"]`.

Another subsequence that can be selected is $[0, 1]$.

- `groups[0] != groups[1]`
- `words[0].length == words[1].length`, and the hamming distance between them is 1.

So, another valid answer is `[words[0], words[1]] = ["bab", "dab"]`.

It can be shown that the length of the longest subsequence of indices that satisfies the conditions is 2.

Example 2:

Input: `words = ["a","b","c","d"], groups = [1,2,3,4]`

Output: `["a","b","c","d"]`

Explanation: We can select the subsequence $[0, 1, 2, 3]$.

It satisfies both conditions.

Hence, the answer is `[words[0], words[1], words[2], words[3]] = ["a", "b", "c", "d"]`.

It has the longest length among all subsequences of indices that satisfy the conditions.

Hence, it is the only answer.

Constraints:

- $1 \leq n == words.length == groups.length \leq 1000$
- $1 \leq words[i].length \leq 10$
- $1 \leq groups[i] \leq n$

- words consists of **distinct** strings.
- words[i] consists of lowercase English letters.