

# 1948. Delete Duplicate Folders in System

## Description

Due to a bug, there are many duplicate folders in a file system. You are given a 2D array `paths`, where `paths[i]` is an array representing an absolute path to the `ith` folder in the file system.

- For example, `["one", "two", "three"]` represents the path `"/one/two/three"`.

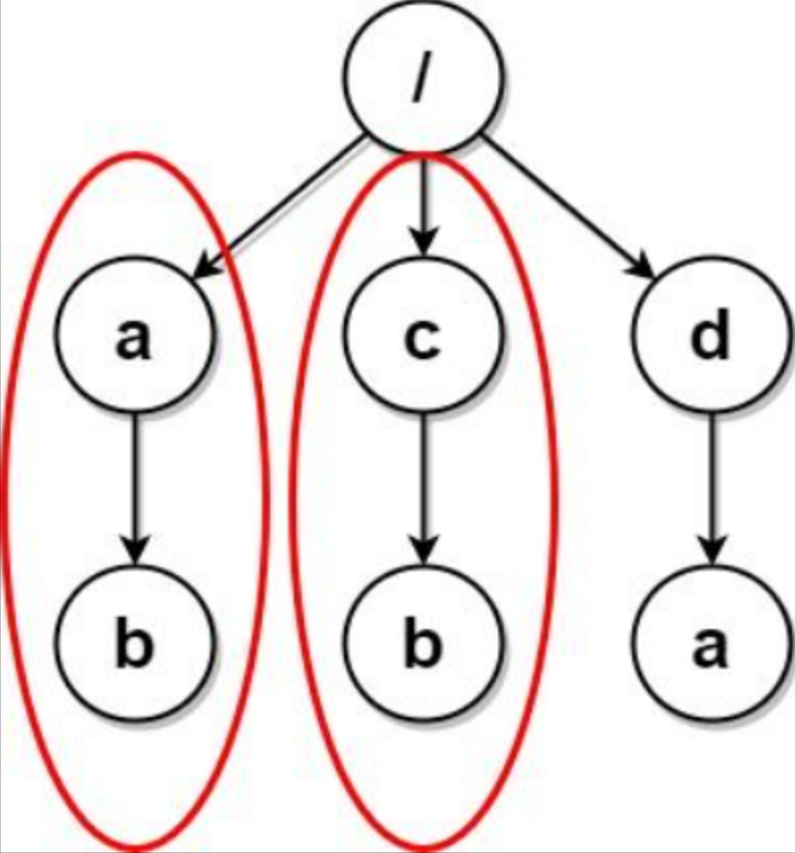
Two folders (not necessarily on the same level) are **identical** if they contain the **same non-empty** set of identical subfolders and underlying subfolder structure. The folders **do not** need to be at the root level to be identical. If two or more folders are **identical**, then **mark** the folders as well as all their subfolders.

- For example, folders `"/a"` and `"/b"` in the file structure below are identical. They (as well as their subfolders) should **all** be marked:
  - `/a`
  - `/a/x`
  - `/a/x/y`
  - `/a/z`
  - `/b`
  - `/b/x`
  - `/b/x/y`
  - `/b/z`
- However, if the file structure also included the path `"/b/w"`, then the folders `"/a"` and `"/b"` would not be identical. Note that `"/a/x"` and `"/b/x"` would still be considered identical even with the added folder.

Once all the identical folders and their subfolders have been marked, the file system will **delete** all of them. The file system only runs the deletion once, so any folders that become identical after the initial deletion are not deleted.

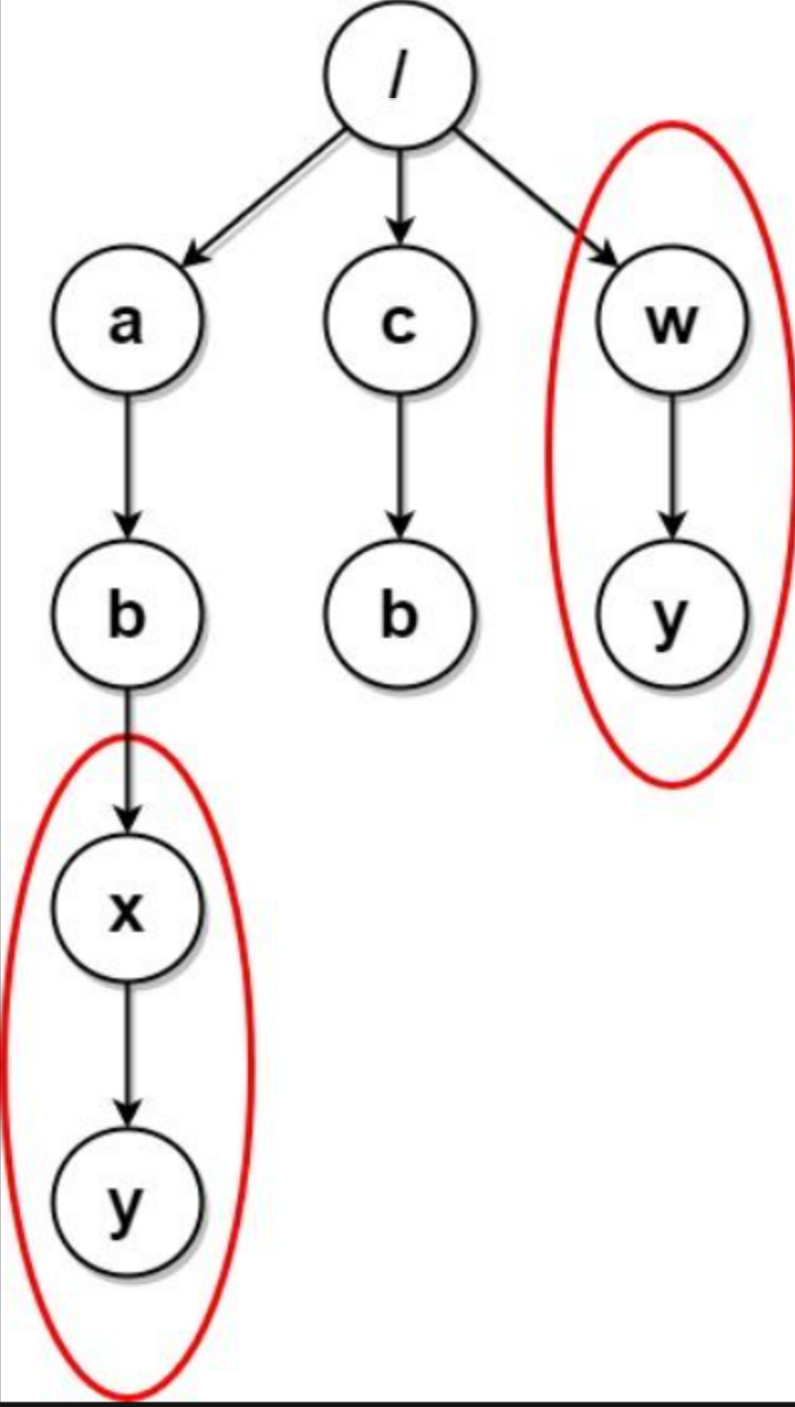
Return *the 2D array `ans` containing the paths of the **remaining** folders after deleting all the marked folders. The paths may be returned in **any** order.*

### Example 1:



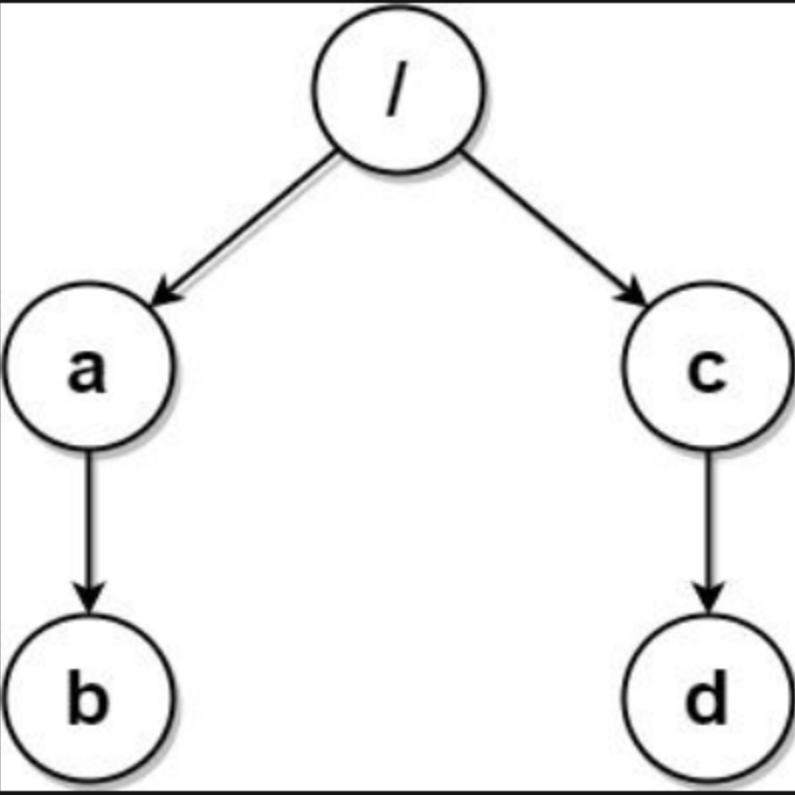
**Input:** `paths = [["a"],["c"],["d"],["a","b"],["c","b"],["d","a"]]`  
**Output:** `[["d"],["d","a"]]`  
**Explanation:** The file structure is as shown. Folders `"/a"` and `"/c"` (and their subfolders) are marked for deletion because they both contain an empty folder named `"b"`.

### Example 2:



**Input:** `paths = [["a"],["c"],["a","b"],["c","b"],["a","b","x"],["a","b","x","y"],["w"],["w","y"]]`  
**Output:** `[["c"],["c","b"],["a"],["a","b"]]`  
**Explanation:** The file structure is as shown. Folders `"/a/b/x"` and `"/w"` (and their subfolders) are marked for deletion because they both contain an empty folder named `"y"`. Note that folders `"/a"` and `"/c"` are identical after the deletion, but they are not deleted because they were not marked beforehand.

### Example 3:



**Input:** `paths = [["a","b"],["c","d"],["c"],["a"]]`  
**Output:** `[["c"],["c","d"],["a"],["a","b"]]`  
**Explanation:** All folders are unique in the file system. Note that the returned array can be in a different order as the order does not matter.

### Constraints:

- `1 <= paths.length <= 2 * 104`
- `1 <= paths[i].length <= 500`
- `1 <= paths[i][j].length <= 10`
- `1 <= sum(paths[i][j].length) <= 2 * 105`
- `path[i][j]` consists of lowercase English letters.
- No two paths lead to the same folder.
- For any folder not at the root level, its parent folder will also be in the input.

