Problem 269: Alien Dictionary

Problem Information

Difficulty: Hard
Acceptance Rate: 36.93%
Paid Only: Yes
Tags: Array, String, Depth-First Search, Breadth-First Search, Graph, Topological Sort

Problem Description

There is a new alien language that uses the English alphabet. However, the order of the letters is unknown to you.

You are given a list of strings `words` from the alien language's dictionary. Now it is claimed that the strings in `words` are **sorted lexicographically** by the rules of this new language.

If this claim is incorrect, and the given arrangement of string in `words` cannot correspond to any order of letters, return `"".`

Otherwise, return _a string of the unique letters in the new alien language sorted in**lexicographically increasing order** by the new language's rules_ _._ If there are multiple solutions, return _**any of them**_.

Example 1:

Input: words = ["wrt","wrf","er","ett","rftt"] **Output:** "wertf"

Example 2:

Input: words = ["z","x"] **Output:** "zx"

Example 3:

Input: words = ["z","x","z"] **Output:** "" **Explanation:** The order is invalid, so return "".

Constraints:

* `1 <= words.length <= 100` * `1 <= words[i].length <= 100` * `words[i]` consists of only lowercase English letters.

Code Snippets

C++:

```cpp
class Solution {
public:
string alienOrder(vector<string>& words) {


}
};
```

Java:

```java
class Solution {
public String alienOrder(String[] words) {


}
}
```

Python3:

```python
class Solution:
def alienOrder(self, words: List[str]) -> str:
```