Problem 990: Satisfiability of Equality Equations

Problem Information

Difficulty: Medium
Acceptance Rate: 51.37%
Paid Only: No
Tags: Array, String, Union Find, Graph

Problem Description

You are given an array of strings `equations` that represent relationships between variables where each string `equations[i]` is of length `4` and takes one of two different forms: `"xi==yi"` or `"xi!=yi"`.Here, `xi` and `yi` are lowercase letters (not necessarily different) that represent one-letter variable names.

Return `true` _if it is possible to assign integers to variable names so as to satisfy all the given equations, or_`false` _otherwise_.

Example 1:

Input: equations = ["a==b","b!=a"] **Output:** false **Explanation:** If we assign say, a = 1 and b = 1, then the first equation is satisfied, but not the second. There is no way to assign the variables to satisfy both equations.

Example 2:

Input: equations = ["b==a","a==b"] **Output:** true **Explanation:** We could assign a = 1 and b = 1 to satisfy both equations.

Constraints:

* `1 <= equations.length <= 500` * `equations[i].length == 4` * `equations[i][0]` is a lowercase letter. * `equations[i][1]` is either `'='` or `'!'`. * `equations[i][2]` is `'='`. * `equations[i][3]` is a lowercase letter.

Code Snippets

C++:

```
class Solution {
public:
bool equationsPossible(vector<string>& equations) {

}
};
```

Java:

```
class Solution {
public boolean equationsPossible(String[] equations) {

}
}
```

Python3:

```
class Solution:
def equationsPossible(self, equations: List[str]) -> bool:
```