Problem 1733: Minimum Number of People to Teach

Problem Information

Difficulty: Medium
Acceptance Rate: 67.75%
Paid Only: No
Tags: Array, Hash Table, Greedy

Problem Description

On a social network consisting of `m` users and some friendships between users, two users can communicate with each other if they know a common language.

You are given an integer `n`, an array `languages`, and an array `friendships` where:

* There are `n` languages numbered `1` through `n`, * `languages[i]` is the set of languages the `i█████████th`████ user knows, and * `friendships[i] = [u████████i███, v███████i]` denotes a friendship between the users `u█████████████i`█████ and `vi`.

You can choose **one** language and teach it to some users so that all friends can communicate with each other. Return _the_ _**minimum** __number of users you need to teach._

Note that friendships are not transitive, meaning if `x` is a friend of `y` and `y` is a friend of `z`, this doesn't guarantee that `x` is a friend of `z`.

Example 1:

Input: n = 2, languages = [[1],[2],[1,2]], friendships = [[1,2],[1,3],[2,3]] **Output:** 1
Explanation: You can either teach user 1 the second language or user 2 the first language.

Example 2:

Input: n = 3, languages = [[2],[1,3],[1,2],[3]], friendships = [[1,4],[1,2],[3,4],[2,3]] **Output:** 2 **Explanation:** Teach the third language to users 1 and 3, yielding two users to teach.

Constraints:

* `2 <= n <= 500` * `languages.length == m` * `1 <= m <= 500` * `1 <= languages[i].length <= n` * `1 <= languages[i][j] <= n` * `1 <= u■■■■■■■i < v■■■■■■i <= languages.length` * `1 <= friendships.length <= 500` * All tuples `(u■■■■■i, v■■■■■■i)` are unique * `languages[i]` contains only unique values

Code Snippets

C++:

```cpp
class Solution {
public:
int minimumTeachings(int n, vector<vector<int>>& languages,
vector<vector<int>>& friendships) {


}
};
```

Java:

```java
class Solution {
public int minimumTeachings(int n, int[][] languages, int[][] friendships) {


}
}
```

Python3:

```python
class Solution:
def minimumTeachings(self, n: int, languages: List[List[int]], friendships:
List[List[int]]) -> int:
```