

LeetCode

Explore

Problems

Interview

Contest

Discuss

Store

Description

Solution

Discuss (318)

Submissions

LeetCode is hiring! Apply NOW.

0

1136. Parallel Courses

Medium

719

21

Add to List

Share

You are given an integer n , which indicates that there are n courses labeled from 1 to n . You are also given an array `relations` where `relations[i] = [prevCoursei, nextCoursei]`, representing a prerequisite relationship between course `prevCoursei` and course `nextCoursei`: course `prevCoursei` has to be taken before course `nextCoursei`.

In one semester, you can take **any number** of courses as long as you have taken all the prerequisites in the **previous** semester for the courses you are taking.

Return the **minimum** number of semesters needed to take all courses. If there is no way to take all the courses, return `-1`.

Example 1:



Input: `n = 3, relations = [[1,3],[2,3]]`
Output: `2`
Explanation: The figure above represents the given graph.
In the first semester, you can take courses 1 and 2.
In the second semester, you can take course 3.

Example 2:



Input: `n = 3, relations = [[1,2],[2,3],[3,1]]`
Output: `-1`
Explanation: No course can be studied because they are prerequisites of each other.

Constraints:

- $1 \leq n \leq 5000$
- $1 \leq \text{relations.length} \leq 5000$
- `relations[i].length == 2`
- $1 \leq \text{prevCourse}_i, \text{nextCourse}_i \leq n$
- `prevCoursei != nextCoursei`
- All the pairs `[prevCoursei, nextCoursei]` are **unique**.

Accepted 42,214 Submissions 68,424

Seen this question in a real interview before?

Companies *i*

Related Topics

Similar Questions

Show Hint 1

Show Hint 2

Show Hint 3

Java

Autocomplete

```
1 class Solution {
2     public int minimumSemesters(int n, int[][] relations) {
3     }
4 }
5
```

Problems

Pick One

< Prev

1135/2290

Next >

Console

Contribute *i*

Run Code ^

Submit

https://leetcode.com/problems/parallel-courses/

1/1