In a town, there are n people labeled from 1 to n. There is a rumor that one of these people is secretly the town judge.

If the town judge exists, then:

1. The town judge trusts nobody.
2. Everybody (except for the town judge) trusts the town judge.
3. There is exactly one person that satisfies properties **1** and **2**.

You are given an array trust where trust[i] = [ai, bi] representing that the person labeled ai trusts the person labeled bi. If a trust relationship does not exist in trust array, then such a trust relationship does not exist.

Return *the label of the town judge if the town judge exists and can be identified, or return* -1 *otherwise*.

**Example 1:**

Input: n = 2, trust = [[1,2]]  
Output: 2

**Example 2:**

Input: n = 3, trust = [[1,3],[2,3]]  
Output: 3

**Example 3:**

Input: n = 3, trust = [[1,3],[2,3],[3,1]]  
Output: -1

**Constraints:**

* 1 <= n <= 1000
* 0 <= trust.length <= 104
* trust[i].length == 2
* All the pairs of trust are **unique**.
* ai != bi
* 1 <= ai, bi <= n