In a town, there are N people labelled 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 trust, an array of pairs trust[i] = [a, b] representing that the person labelled a trusts the person labelled b.

If the town judge exists and can be identified, return the label of the town judge.  Otherwise, return -1.

**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

**Example 4:**

**Input:** N = 3, trust = [[1,2],[2,3]]

**Output:** -1

**Example 5:**

**Input:** N = 4, trust = [[1,3],[1,4],[2,3],[2,4],[4,3]]

**Output:** 3

**Note:**

1. 1 <= N <= 1000
2. trust.length <= 10000
3. trust[i] are all different
4. trust[i][0] != trust[i][1]
5. 1 <= trust[i][0], trust[i][1] <= N