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Description

Solution

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1557. Minimum Number of Vertices to Reach All Nodes

Medium

1346

60

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Given a **directed acyclic graph**, with n vertices numbered from 0 to $n-1$, and an array `edges` where `edges[i] = [fromi, toi]` represents a directed edge from node `fromi` to node `toi`.

Find the *smallest set of vertices from which all nodes in the graph are reachable*. It's guaranteed that a unique solution exists.

Notice that you can return the vertices in any order.

Example 1:

```
graph LR; 0 --> 1; 0 --> 2; 3 --> 4; 4 --> 2; 4 --> 5; 2 --> 5;
```

Input: `n = 6, edges = [[0,1],[0,2],[2,5],[3,4],[4,2]]`
Output: `[0,3]`
Explanation: It's not possible to reach all the nodes from a single vertex. From 0 we can reach [0,1,2,5]. From 3 we can reach [3,4,2,5]. So we output [0,3].

Example 2:

```
graph LR; 0 --> 1; 3 --> 1; 2 --> 1; 2 --> 4; 1 --> 4;
```

Input: `n = 5, edges = [[0,1],[2,1],[3,1],[1,4],[2,4]]`
Output: `[0,2,3]`
Explanation: Notice that vertices 0, 3 and 2 are not reachable from any other node, so we must include them. Also any of these vertices can reach nodes 1 and 4.

Constraints:

- $2 \leq n \leq 10^5$
- $1 \leq \text{edges.length} \leq \min(10^5, n * (n - 1) / 2)$
- `edges[i].length == 2`
- $0 \leq \text{from}_i, \text{to}_i < n$
- All pairs $(\text{from}_i, \text{to}_i)$ are distinct.

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Submissions 71,353

Seen this question in a real interview before?

Yes

No

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1

class Solution {

2

public List<Integer> findSmallestSetOfVertices(int n, List<List<Integer>> edges) {

3

}

4

}

5

Problems

Pick One

< Prev

1557/2228

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