2737. Find the Closest Marked Node Premium

Medium | Topics | Hint

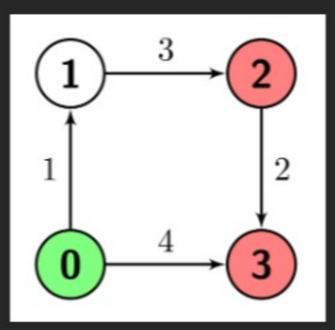
You are given a positive integer `n` which is the number of nodes of a **0-indexed directed weighted** graph and a **0-indexed 2D array** `edges` where `edges[i] = [ui, vi, wi]` indicates that there is an edge from node `ui` to node `vi` with weight `wi`.

You are also given a node `s` and a node array `marked`; your task is to find the **minimum** distance from `s` to **any** of the nodes in `marked`.

Return *an integer denoting the minimum distance from* `s` *to any node in* `marked` *or* `-1` *if there are no paths from s to any of the marked nodes.*

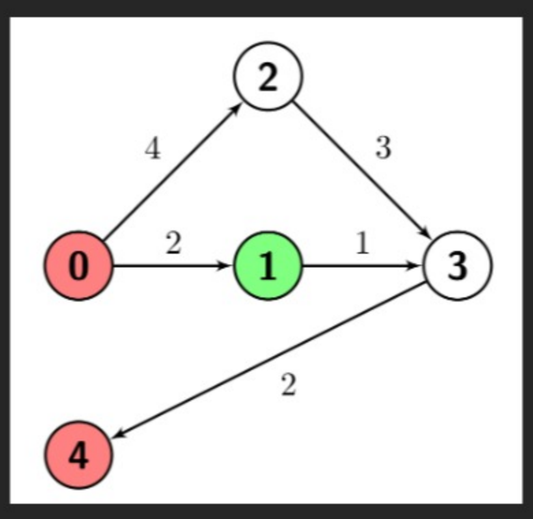
Example 1:

```
Input: n = 4, edges = [[0,1,1],[1,2,3],[2,3,2],[0,3,4]], s = 0, marked = [2,3]
Output: 4
Explanation: There is one path from node 0 (the green node) to node 2 (a red node), which is 0->1->2, and has a distance of 1 + 3 = 4.
There are two paths from node 0 to node 3 (a red node), which are 0->1->2->3 and 0->3, the first one has a distance of 1 + 3 + 2 = 6 and the second one has a distance of 4.
The minimum of them is 4.
```



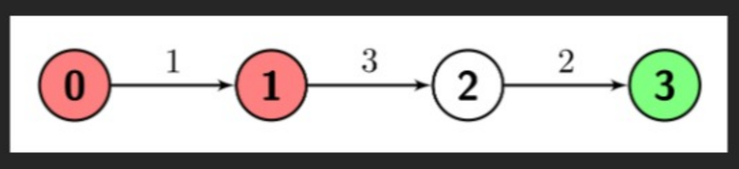
Example 2:

```
Input: n = 5, edges = [[0,1,2],[0,2,4],[1,3,1],[2,3,3],[3,4,2]], s = 1, marked = [0,4]
Output: 3
Explanation: There are no paths from node 1 (the green node) to node 0 (a red node).
There is one path from node 1 to node 4 (a red node), which is 1->3->4, and has a distance of 1 + 2 = 3.
So the answer is 3.
```



Example 3:

```
Input: n = 4, edges = [[0,1,1],[1,2,3],[2,3,2]], s = 3, marked = [0,1]
Output: -1
Explanation: There are no paths from node 3 (the green node) to any of the marked nodes (the red nodes), so the answer is -1.
```



Constraints:

- `2 <= n <= 500`
- `1 <= edges.length <= 10^4`
- `edges[i].length = 3`
- `0 <= edges[i][0], edges[i][1] <= n - 1`
- `1 <= edges[i][2] <= 10^6`
- `1 <= marked.length <= n - 1`
- `0 <= s, marked[i] <= n - 1`
- `s != marked[i]`
- `marked[i] != marked[j]` for every `i != j`
- The graph might have **repeated edges**.
- The graph is generated such that it has no **self-loops**.

Seen this question in a real interview before? 1/5

Yes No

Accepted **1.9K** | Submissions **3.4K** | Acceptance Rate **57.7%**

Topics

Array Graph Heap (Priority Queue) Shortest Path

Hint 1

Find the distance from s to all nodes.

Hint 2

You can use Dijkstra to find them.

Hint 3

Find the minimum distance between marked nodes.

Discussion (3)