3112. Minimum Time to Visit Disappearing Nodes

Solved ●

Medium Topics Hint

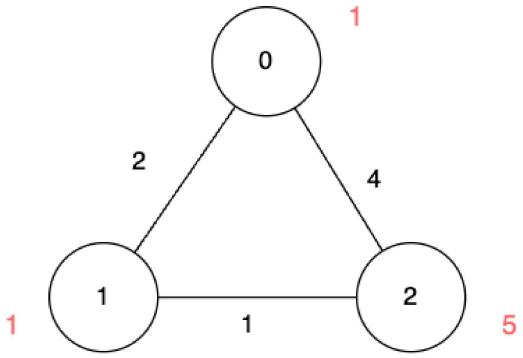
There is an undirected graph of `n` nodes. You are given a 2D array `edges`, where `edges[i] = [$u_i$, $v_i$, $length_i$]` describes an edge between node `$u_i$` and node `$v_i$` with a traversal time of `$length_i$` units.

Additionally, you are given an array `disappear`, where `disappear[i]` denotes the time when the node `i` disappears from the graph and you won't be able to visit it.

Notice that the graph might be disconnected and might contain multiple edges.

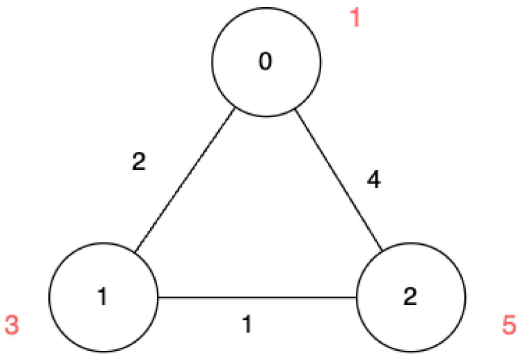
Return the array `answer`, with `answer[i]` denoting the **minimum** units of time required to reach node `i` from node 0. If node `i` is **unreachable** from node 0 then `answer[i]` is `-1`.

Example 1:



> **Input:** n = 3, edges = [[0,1,2],[1,2,1],[0,2,4]], disappear = [1,1,5]
>
> **Output:** [0,-1,4]
>
> **Explanation:**
>
> We are starting our journey from node 0, and our goal is to find the minimum time required to reach each node before it disappears.
>
> - For node 0, we don't need any time as it is our starting point.
> - For node 1, we need at least 2 units of time to traverse `edges[0]`. Unfortunately, it disappears at that moment, so we won't be able to visit it.
> - For node 2, we need at least 4 units of time to traverse `edges[2]`.

Example 2:



> **Input:** n = 3, edges = [[0,1,2],[1,2,1],[0,2,4]], disappear = [1,3,5]
>
> **Output:** [0,2,3]

> **Explanation:**
>
> We are starting our journey from node 0, and our goal is to find the minimum time required to reach each node before it disappears.
>
> - For node 0, we don't need any time as it is the starting point.
> - For node 1, we need at least 2 units of time to traverse `edges[0]`.
> - For node 2, we need at least 3 units of time to traverse `edges[0]` and `edges[1]`.

Example 3:

> **Input:** n = 2, edges = [[0,1,1]], disappear = [1,1]
>
> **Output:** [0,-1]
>
> **Explanation:**
>
> Exactly when we reach node 1, it disappears.

Constraints:

- $1 <= n <= 5 * 10^4$
- $0 <= edges.length <= 10^5$
- $edges[i] == [u_i, v_i, length_i]$
- $0 <= u_i, v_i <= n - 1$
- $1 <= length_i <= 10^5$
- `disappear.length == n`
- $1 <= disappear[i] <= 10^5$

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

Yes No

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Topics

Hint 1

Discussion (19)