3123. Find Edges in Shortest Paths

Description

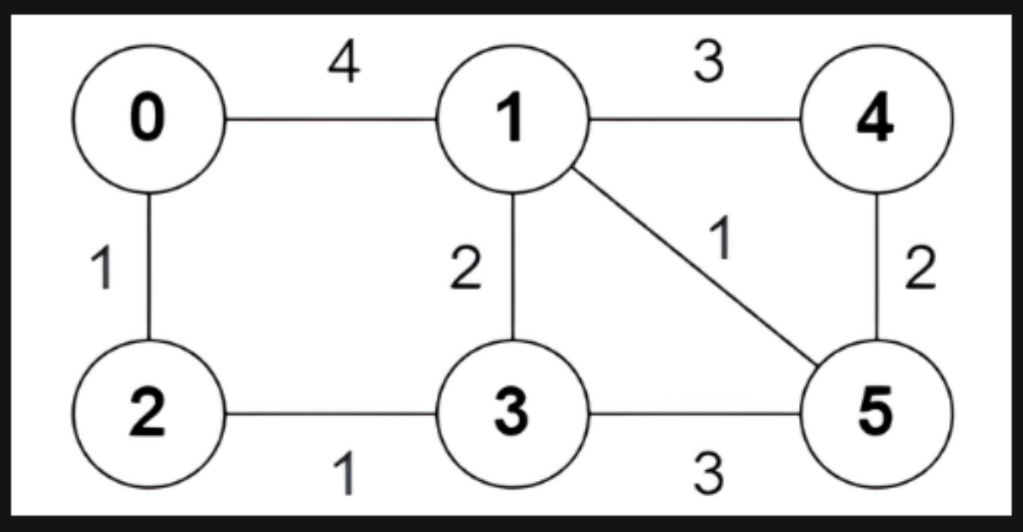
You are given an undirected weighted graph of `n` nodes numbered from 0 to `n - 1`. The graph consists of `m` edges represented by a 2D array `edges`, where $edges[i] = [a_i, b_i, w_i]$ indicates that there is an edge between nodes a_i and b_i with weight w_i.

Consider all the shortest paths from node 0 to node `n - 1` in the graph. You need to find a **boolean** array `answer` where `answer[i]` is `true` if the edge `edges[i]` is part of **at least** one shortest path. Otherwise, `answer[i]` is `false`.

Return the array `answer`.

Note that the graph may not be connected.

Example 1:



Input: n = 6, edges = [[0,1,4],[0,2,1],[1,3,2],[1,4,3],[1,5,1],[2,3,1],[3,5,3],[4,5,2]]

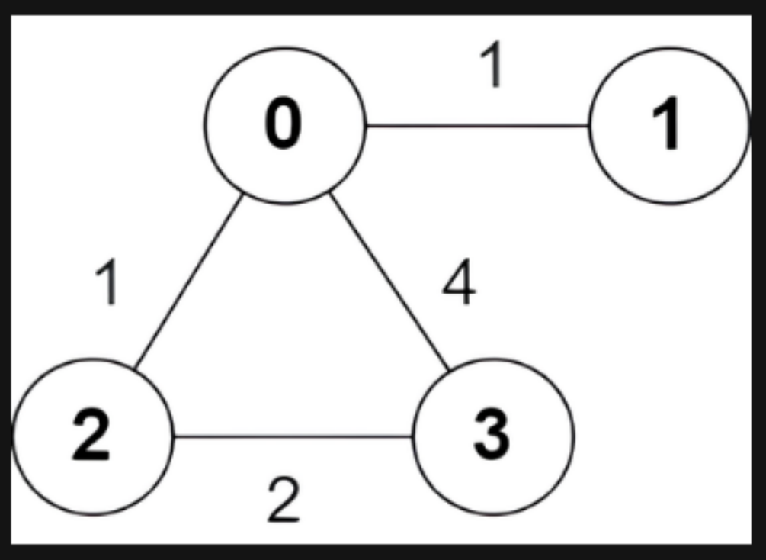
Output: [true,true,true,false,true,true,true,false]

Explanation:

The following are **all** the shortest paths between nodes 0 and 5:

- The path `0 -> 1 -> 5`: The sum of weights is `4 + 1 = 5`.
- The path `0 -> 2 -> 3 -> 5`: The sum of weights is `1 + 1 + 3 = 5`.
- The path `0 -> 2 -> 3 -> 1 -> 5`: The sum of weights is `1 + 1 + 2 + 1 = 5`.

Example 2:



Input: n = 4, edges = [[2,0,1],[0,1,1],[0,3,4],[3,2,2]]

Output: [true,false,false,true]

Explanation:

There is one shortest path between nodes 0 and 3, which is the path `0 -> 2 -> 3` with the sum of weights `1 + 2 = 3`.

Constraints:

- $2 <= n <= 5 * 10^4$
- `m == edges.length`
- $1 <= m <= min(5 * 10^4, n * (n - 1) / 2)$
- $0 <= a_i, b_i < n$
- $a_i != b_i$
- $1 <= w_i <= 10^5$
- There are no repeated edges.