3140. Count Visited Nodes in a Directed Graph

Difficulty : Hard

https://leetcode.com/problems/count-visited-nodes-in-a-directed-graph

There is a **directed** graph consisting of `n` nodes numbered from `0` to `n - 1` and `n` directed edges.

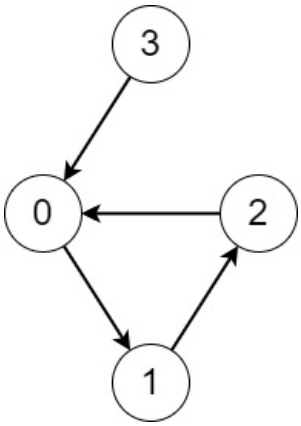
You are given a **0-indexed** array `edges` where `edges[i]` indicates that there is an edge from node `i` to node `edges[i]`.

Consider the following process on the graph:

- You start from a node `x` and keep visiting other nodes through edges until you reach a node that you have already visited before on this **same** process.

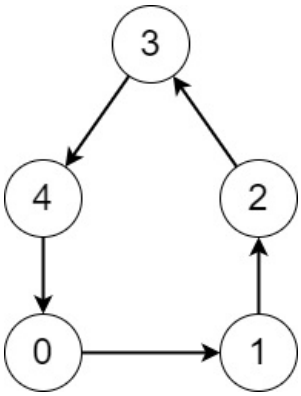
Return *an array* `answer` *where* `answer[i]` *is the number of* ***different*** *nodes that you will visit if you perform the process starting from node* `i`.

Example 1:




```
Input: edges = [1,2,0,0]
Output: [3,3,3,4]
Explanation: We perform the process starting from each node in the following way:
- Starting from node 0, we visit the nodes 0 -> 1 -> 2 -> 0. The number of different nodes we visit is 3.
- Starting from node 1, we visit the nodes 1 -> 2 -> 0 -> 1. The number of different nodes we visit is 3.
- Starting from node 2, we visit the nodes 2 -> 0 -> 1 -> 2. The number of different nodes we visit is 3.
- Starting from node 3, we visit the nodes 3 -> 0 -> 1 -> 2 -> 0. The number of different nodes we visit is 4.
```

Example 2:




```
Input: edges = [1,2,3,4,0]
Output: [5,5,5,5,5]
Explanation: Starting from any node we can visit every node in the graph in the process.
```

Constraints:

- `n == edges.length`
- `2 <= n <= 10^5`

- `0 <= edges[i] <= n - 1`
- `edges[i] != i`