1483. Kth Ancestor of a Tree Node

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You are given a tree with n nodes numbered from 0 to $n - 1$ in the form of a parent array `parent` where `parent[i]` is the parent of ith node. The root of the tree is node 0. Find the kth ancestor of a given node.

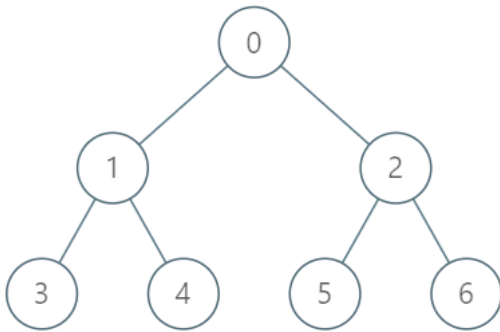The kth ancestor of a tree node is the kth node in the path from that node to the root node.

Implement the `TreeAncestor` class:

- `TreeAncestor(int n, int[] parent)` Initializes the object with the number of nodes in the tree and the parent array.
- `int getKthAncestor(int node, int k)` return the kth ancestor of the given node `node`. If there is no such ancestor, return -1.

User Accepted:	775
User Tried:	3540
Total Accepted:	849
Total Submissions:	9056
Difficulty:	Hard

Example 1:


```
Input
["TreeAncestor", "getKthAncestor", "getKthAncestor", "getKthAncestor"]
[[7, [-1, 0, 0, 1, 1, 2, 2]], [3, 1], [5, 2], [6, 3]]
Output
[null, 1, 0, -1]

Explanation
TreeAncestor treeAncestor = new TreeAncestor(7, [-1, 0, 0, 1, 1, 2, 2]);
treeAncestor.getKthAncestor(3, 1); // returns 1 which is the parent of 3
treeAncestor.getKthAncestor(5, 2); // returns 0 which is the grandparent of 5
treeAncestor.getKthAncestor(6, 3); // returns -1 because there is no such ancestor
```

Constraints:

- $1 <= k <= n <= 5 * 10^4$
- `parent.length == n`
- `parent[0] == -1`
- $0 <= $ `parent[i]` $< n$ for all $0 < i < n$
- $0 <= $ `node` $< n$
- There will be at most $5 * 10^4$ queries.

Discuss (https://leetcode.com/problems/kth-ancestor-of-a-tree-node/discuss)

JavaScript ▼

```
1 ▾ function TreeAncestor(n, p) {
2       return { getKthAncestor }
3 ▾     function getKthAncestor(node, k) {
4 ▾         while (k--) {
5 ▾             if (node == undefined || node == -1) {
6                   return -1;
7 ▾             } else {
8                   node = p[node];
```

```
 9              }
10          }
11          return node;
12      }
13 }
```

☐ **Custom Testcase**   (Use Example Testcases)

⏵ Run   ☁ Submit

Submission Result: Accepted (/submissions/detail/876885571/) ❓   (More Details ❯ (/submissions/detail/876885571/))

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