

## 5188. 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 where  $\text{parent}[i]$  is the parent of node  $i$ . The root of the tree is node  $0$ .

Implement the function `getKthAncestor(int node, int k)` to return the  $k$ -th ancestor of the given node. If there is no such ancestor, return  $-1$ .

The  $k$ -th ancestor of a tree node is the  $k$ -th node in the path from that node to the root.

User Accepted: 0

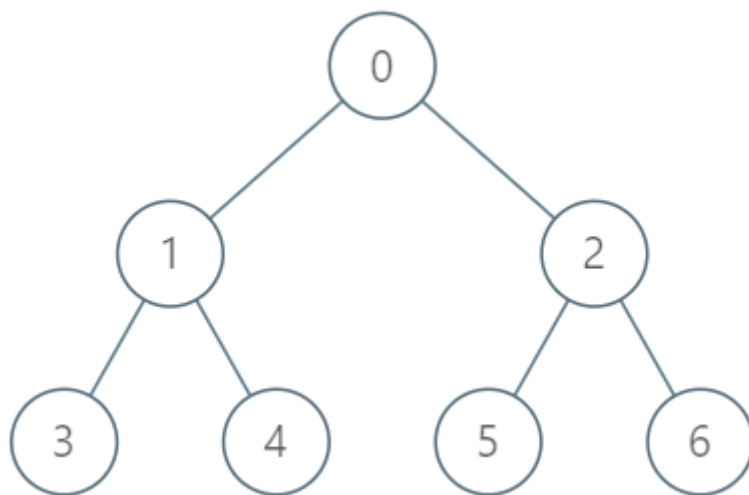
User Tried: 0

Total Accepted: 0

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Difficulty: **Hard**

**Example:**



**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:**

- $1 \leq k \leq n \leq 5 \cdot 10^4$
- $\text{parent}[0] == -1$  indicating that 0 is the root node.
- $0 \leq \text{parent}[i] < n$  for all  $0 < i < n$
- $0 \leq \text{node} < n$
- There will be at most  $5 \cdot 10^4$  queries.

JavaScript



```
1 /**
2  * @param {number} n
3  * @param {number[]} parent
4  */
5 var TreeAncestor = function(n, parent) {
6
7 };
8
9 /**
10 * @param {number} node
11 * @param {number} k
12 * @return {number}
13 */
14 TreeAncestor.prototype.getKthAncestor = function(node, k) {
15
16 };
17
18 /**
19 * Your TreeAncestor object will be instantiated and called as such:
20 * var obj = new TreeAncestor(n, parent)
21 * var param_1 = obj.getKthAncestor(node,k)
22 */
```

☐ Custom Testcase

Use Example Testcases

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