3054. Binary Tree Nodes Premium

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SQL Schema >   Pandas Schema >

Table: `Tree`

```
+-------------+-------+
| Column Name | Type  |
+-------------+-------+
| N           | int   |
| P           | int   |
+-------------+-------+
```
N is the column of unique values for this table.
Each row includes N and P, where N represents the value of a node in Binary Tree, and P is the parent of N.

Write a solution to find the node type of the Binary Tree. Output one of the following for each node:

- **Root**: if the node is the root node.

- **Leaf**: if the node is the leaf node.

- **Inner**: if the node is neither root nor leaf node.

Return *the result table ordered by node value in **ascending order***.

The result format is in the following example.

Example 1:

```
Input:
Tree table:
+---+------+
| N | P    |
+---+------+
| 1 | 2    |
| 3 | 2    |
| 6 | 8    |
| 9 | 8    |
| 2 | 5    |
| 8 | 5    |
| 5 | null |
+---+------+
Output:
+---+-------+
| N | Type  |
+---+-------+
| 1 | Leaf  |
| 2 | Inner |
| 3 | Leaf  |
| 5 | Root  |
| 6 | Leaf  |
| 8 | Inner |
| 9 | Leaf  |
+---+-------+
Explanation:
- Node 5 is the root node since it has no parent node.
- Nodes 1, 3, 6, and 9 are leaf nodes because they don't have any child nodes.
- Nodes 2, and 8 are inner nodes as they serve as parents to some of the nodes in the structure.
```

Note: This question is the same as 608: Tree Node.

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

Yes   No

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