## Binary Tree Nodes

You are given a table, $B S T$, containing two columns: $N$ and $P$, where $N$ represents the value of a node in Binary Tree, and $P$ is the parent of $N$.

| Column |  |
| :--- | :--- |
| $N$ | Type |
| $P$ | Integer |
|  | Integer |

Write a query to find the node type of Binary Tree ordered by the value of the node. Output one of the following for each node:

- Root: If node is root node.
- Leaf: If node is leaf node.
- Inner: If node is neither root nor leaf node.


## Sample Input

| $N$ |  |
| :--- | :--- |
| 1 | 2 |
| 3 | 2 |
| 6 | 8 |
| 9 | 5 |
| 2 | 5 |
| 8 | null |
| 5 |  |

## Sample Output

```
Leaf
Inner
Leaf
5 \text { Root}
Leaf
Inner
Leaf
```


## Explanation

The Binary Tree below illustrates the sample:


