Binary Search Tree

You are given a table, *BST*, containing two columns: *N* and *P,* where *N* represents the value of a node in *BST*, and *P* is the parent of *N*.

Column	Type
N	Integer
P	Integer

Write a query to find the node type of *BST* 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	P
1	2
3	2
6	8
9	8
2	5
8	5
5	null

Sample Output

```
1 Leaf
2 Inner
3 Leaf
5 Root
6 Leaf
8 Inner
9 Leaf
```

Explanation

The *BST* below illustrates the sample: