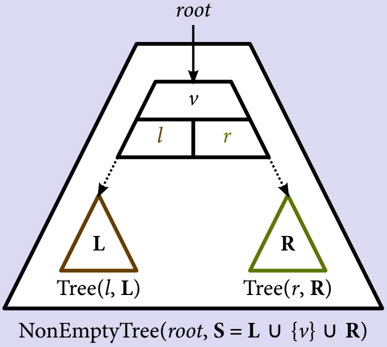
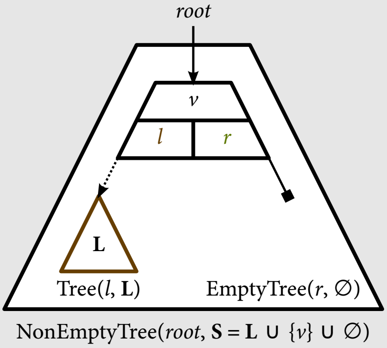
Precondition: *root* points to a non-empty tree.
We will remove the maximum value in **S**.



r = null?

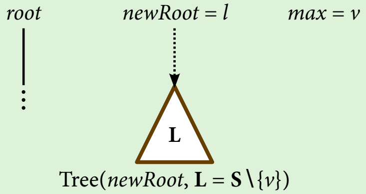
r = null

v is the maximum value in **S**. **L** = **S** \ {v}.



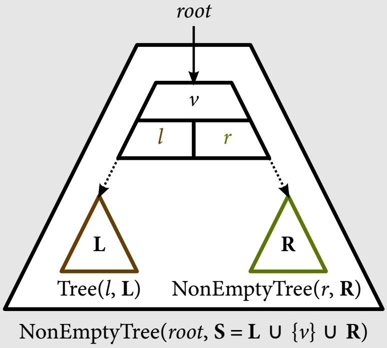
max = *v*; newRoot = *l*; delete *root*;
return (*newRoot*, *max*);

We have retrieved v, the maximum value in **S**, and subtracted it from **S** to give **L** = **S** \ {v}.



$r \neq$ null

r points to a NonEmptyTree. The maximum value of **S** is in **R**.



(*nr*, *max*) = removeMax(*r*);
***root.r* = *nr*; return (*root*, *max*);**

The tree represents **L** ∪ {v} ∪ **R** \ {max}, which = **S** \ {max} because the sets are disjoint.