

$\text{IntTree} ::= \text{leaf} \mid \text{node} \langle\!\langle \mathbb{N} \times \text{IntTree} \times \text{IntTree} \rangle\!\rangle$

$$\frac{\begin{array}{l} \text{emptyTree} : \text{IntTree} \\ \text{treeDepth} : \text{IntTree} \rightarrow \mathbb{N} \end{array}}{\begin{array}{l} \text{emptyTree} = \text{leaf} \\ \text{treeDepth}(\text{leaf}) = 0 \end{array}}$$