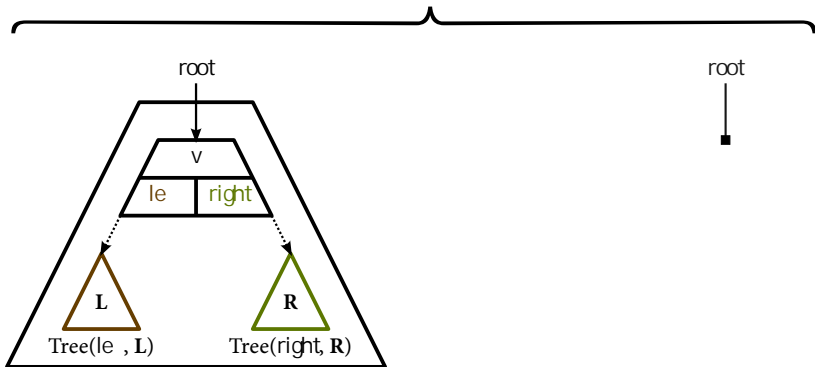


Tree(root, S)



NonEmptyTree(root, S),

where  $S = L \cup \{v\} \cup R$ ,

$\forall l \in L. l < v$ , and

$\forall r \in R. v < r$ .

EmptyTree(root, S),

where  $S = \emptyset$ .