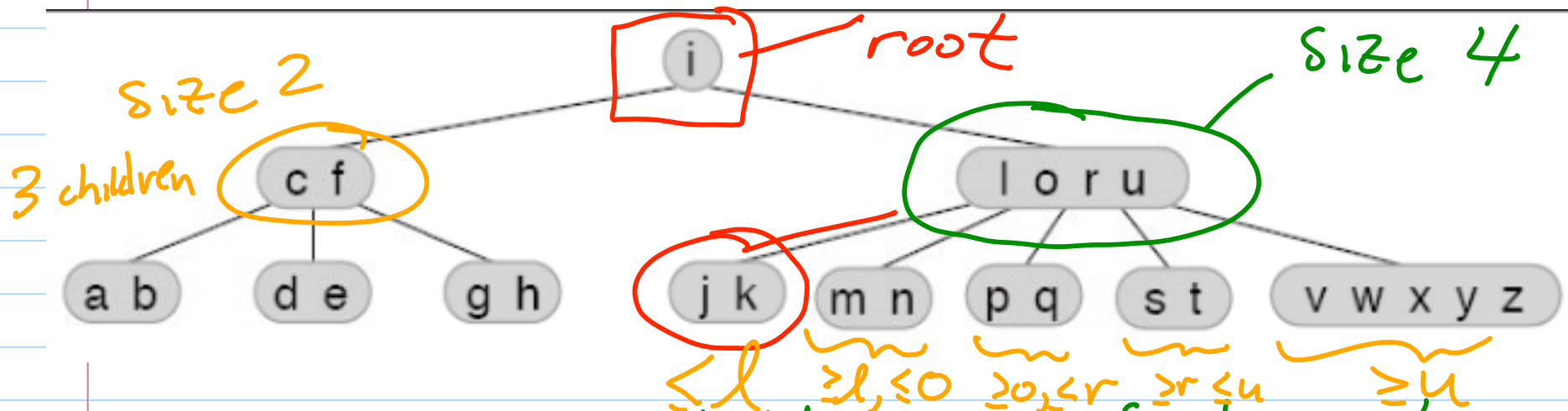


Abstract Search Tree

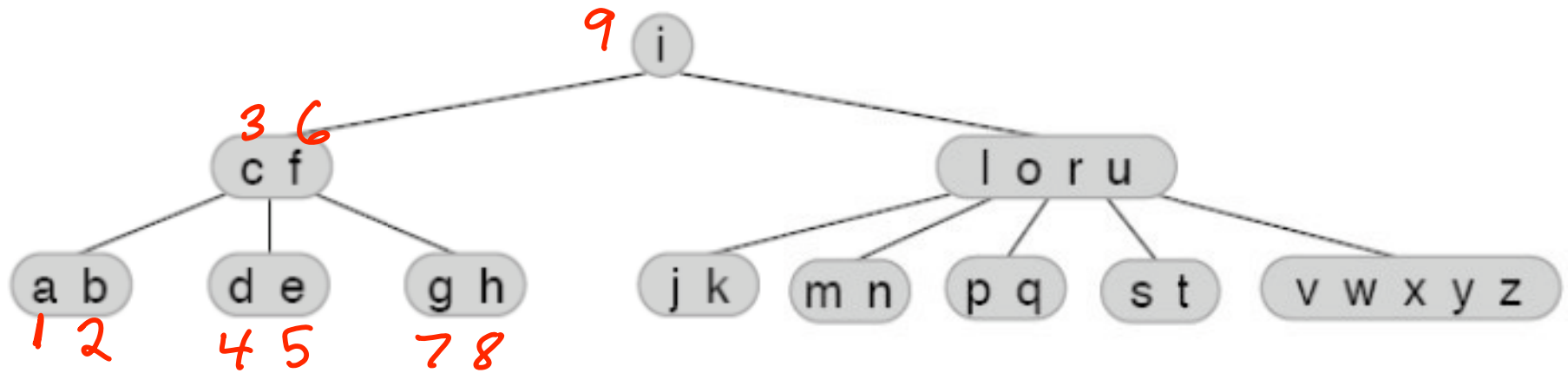


each node can hold any # of elements

Let s be the # elements (size) of a node

Have $s+1$ children (possibly empty)

In order-traversal - Sorted order
linear time



visit(x)

visit(x, child(0))

output element 0

visit(x, child(1))

output element 1

visit(x, child(s))

} loop

Representation Property

INORDER

binary search
tree

$$T(x.\text{Left}) \leq x.\text{data} \leq T(x.\text{right})$$

node

all items in left subtree

$$T(x.\text{child}(0)) \leq x.\text{data}(0) \leq T(x.\text{child}(1)) \leq x.\text{data}(1) \\ \leq \dots \leq x.\text{data}(s-1) \leq T(x.\text{child}(s))$$