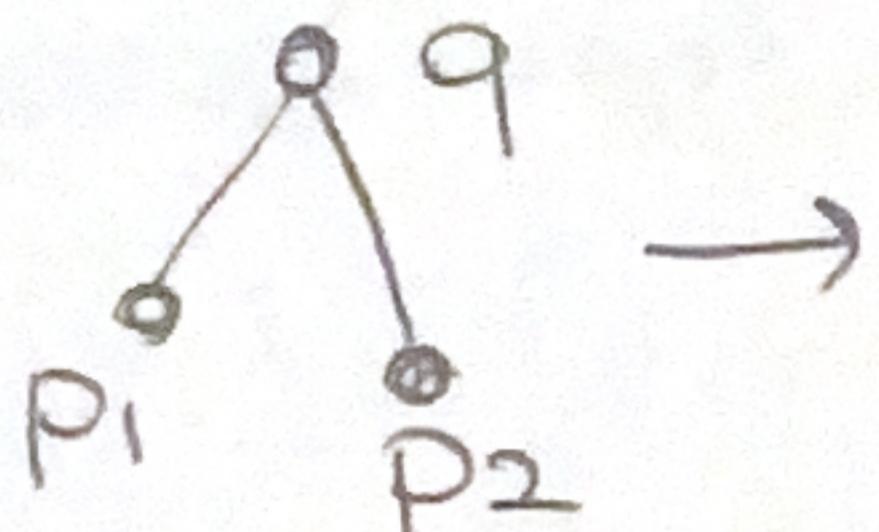
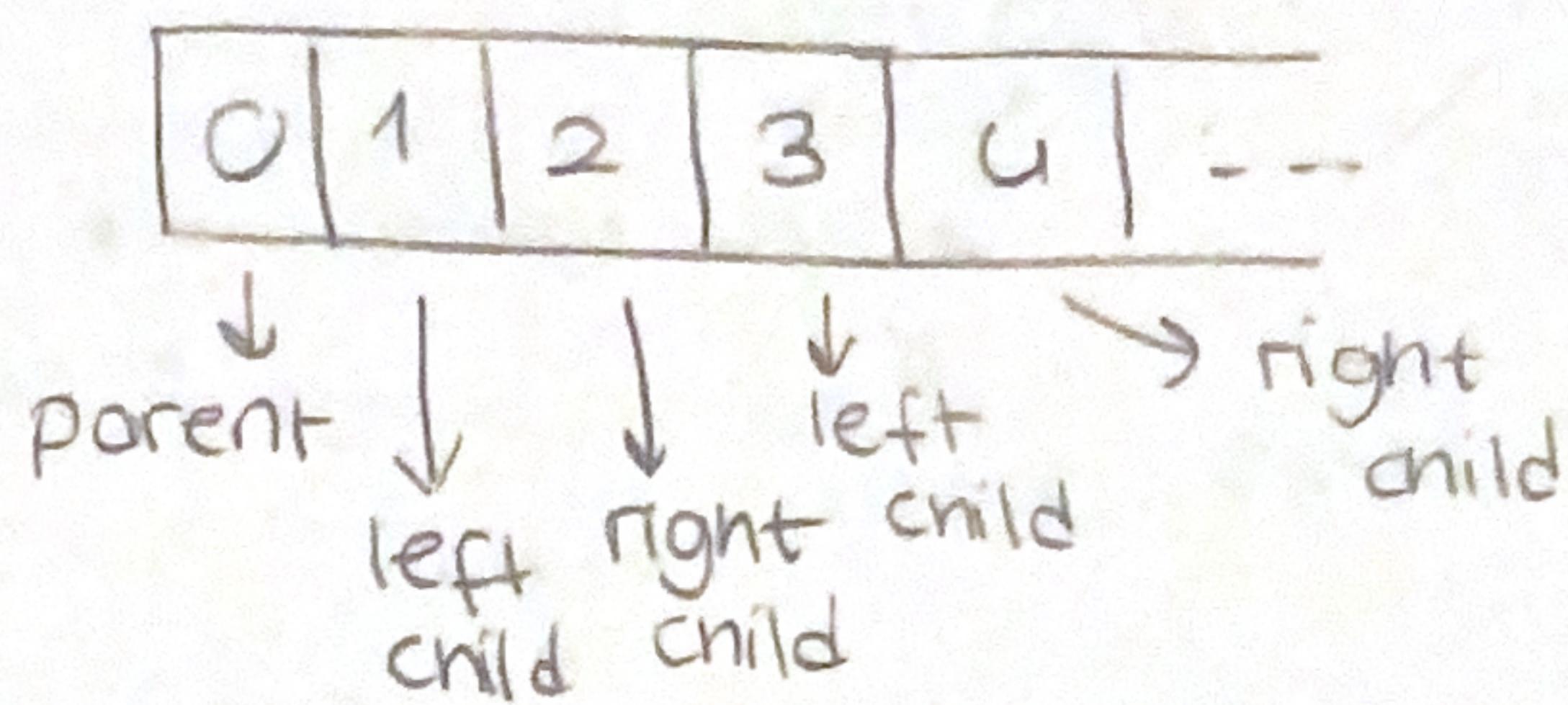
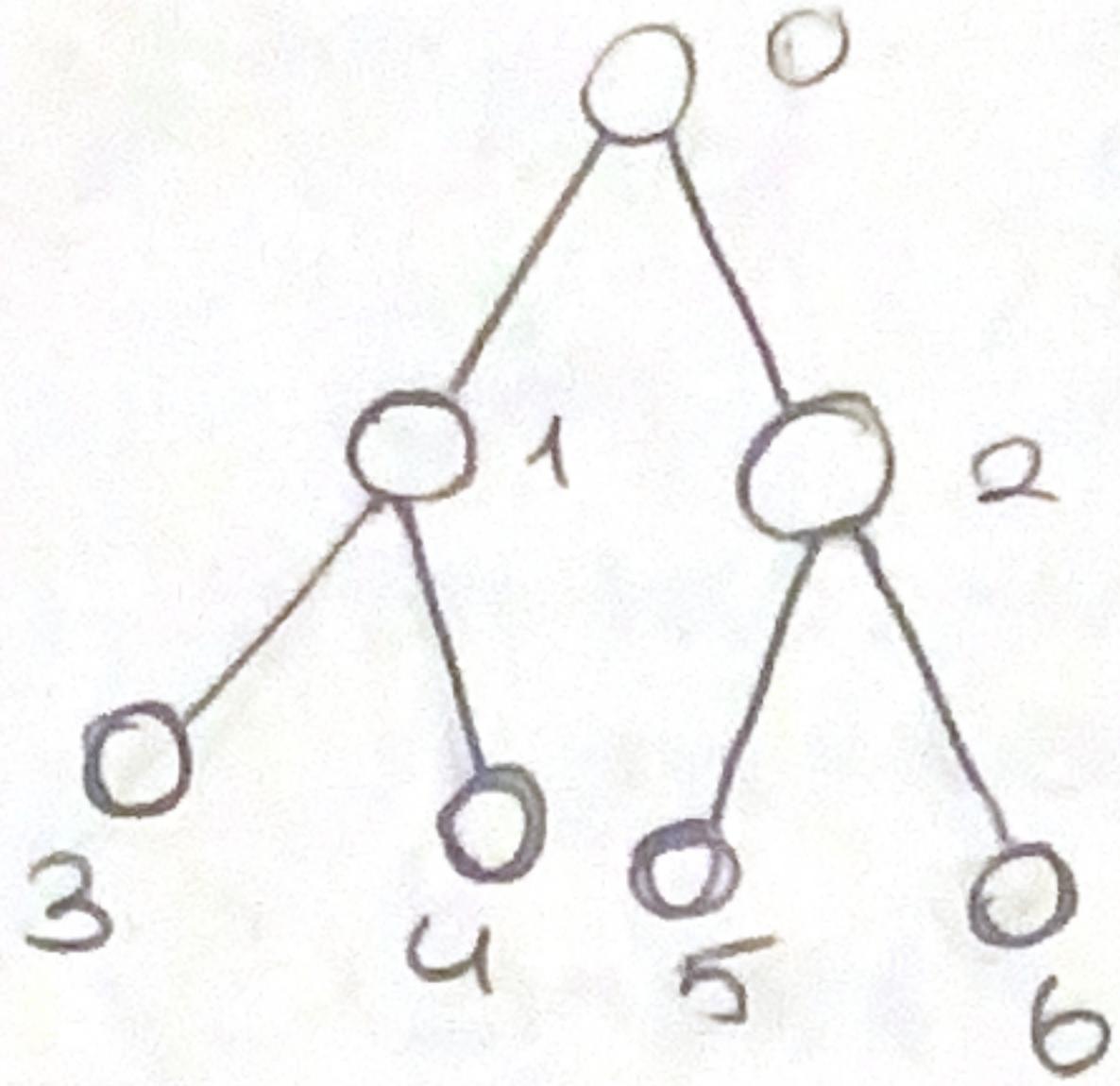


Array Based Binary Tree



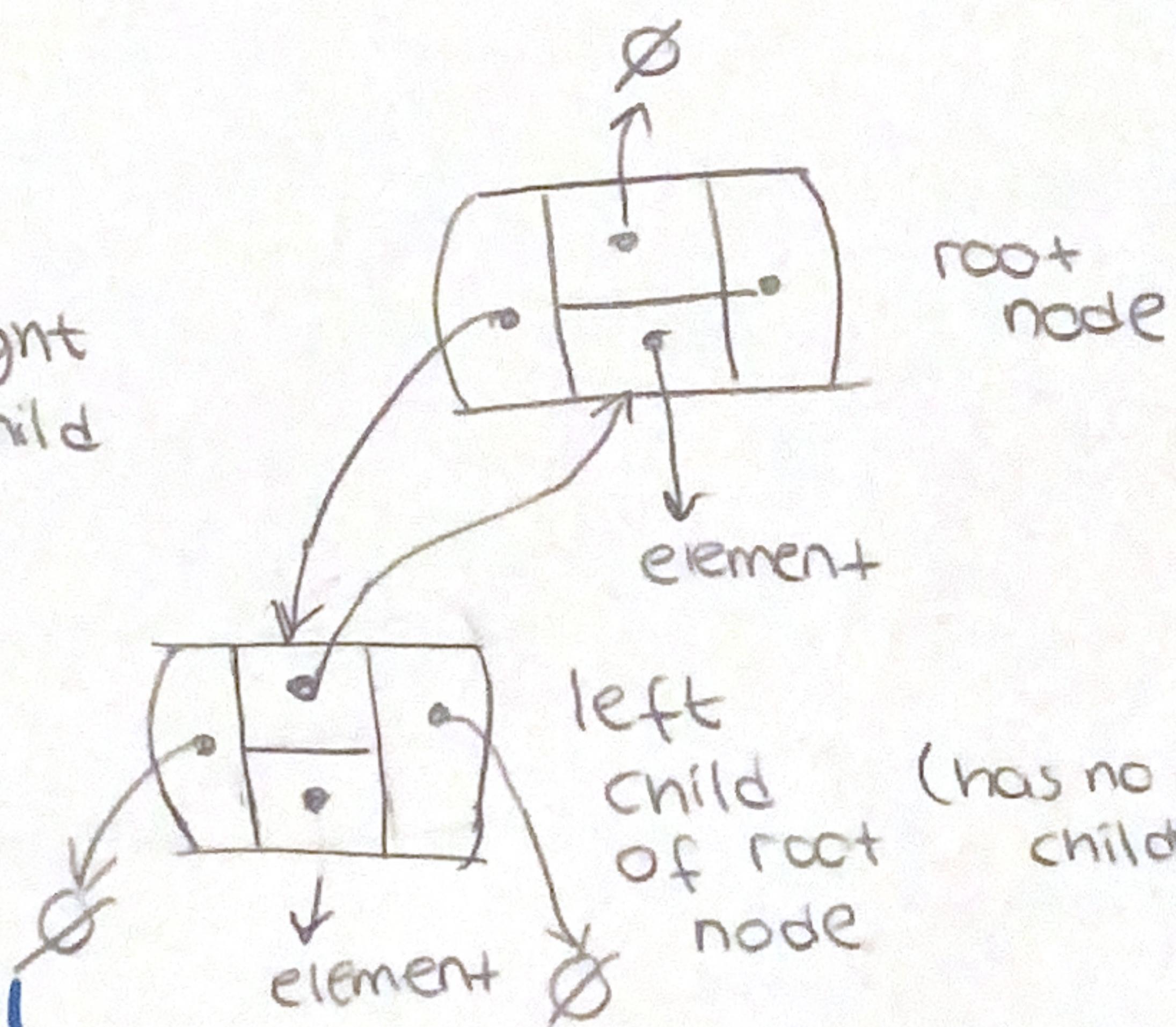
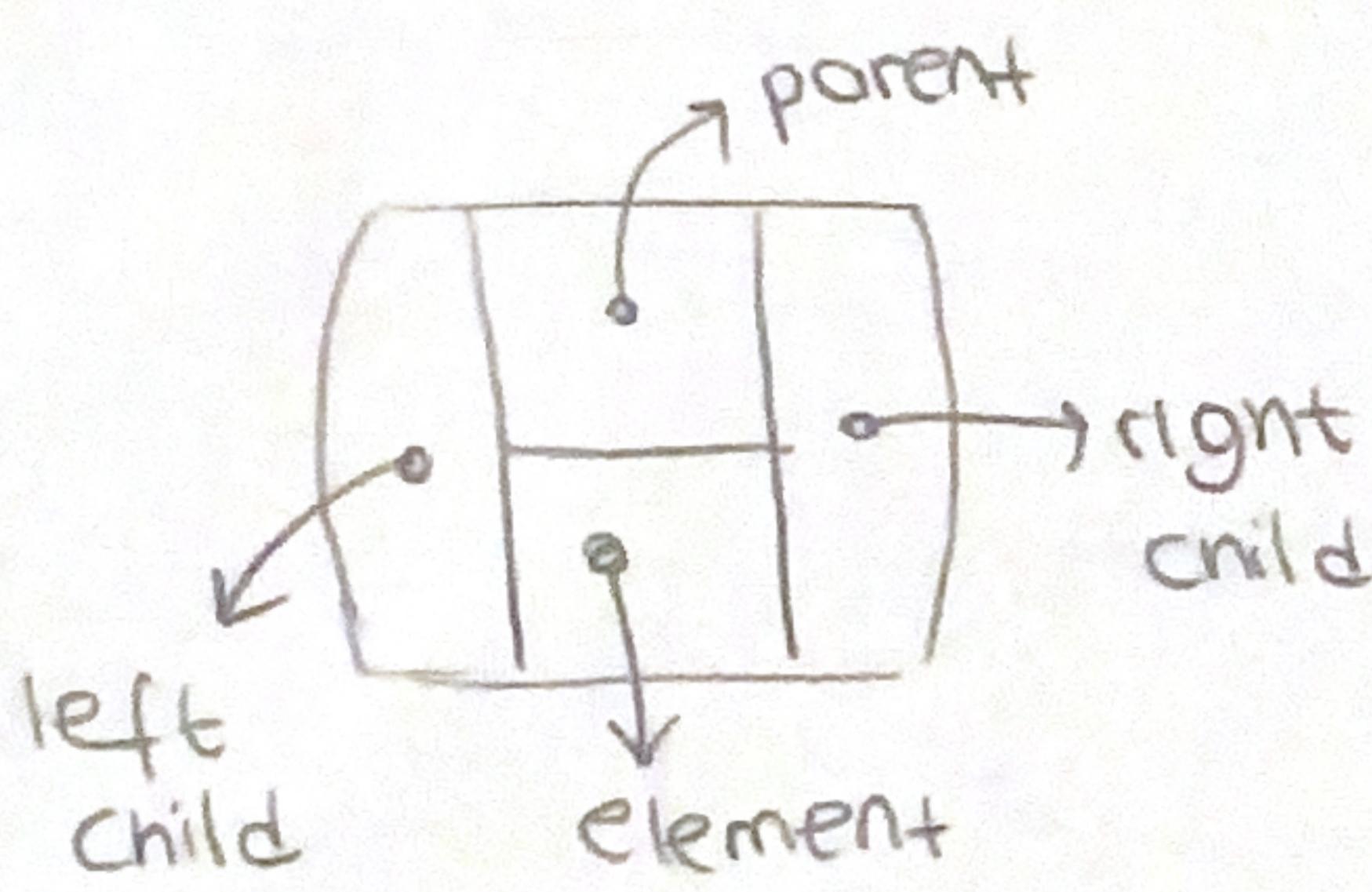
$$f(p_1) = 2f(q) + 1$$

$$f(p_2) = 2f(q) + 2$$

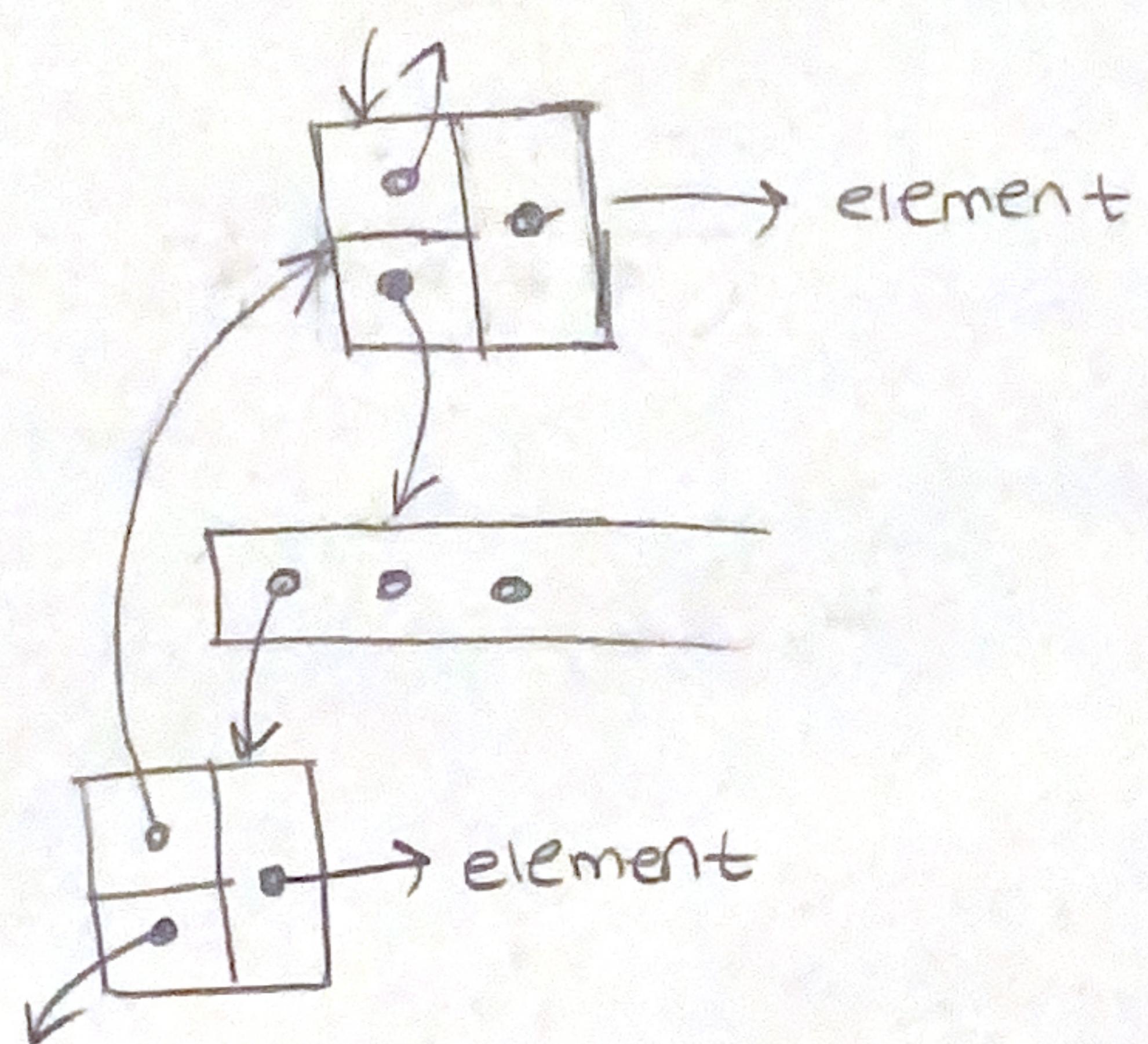
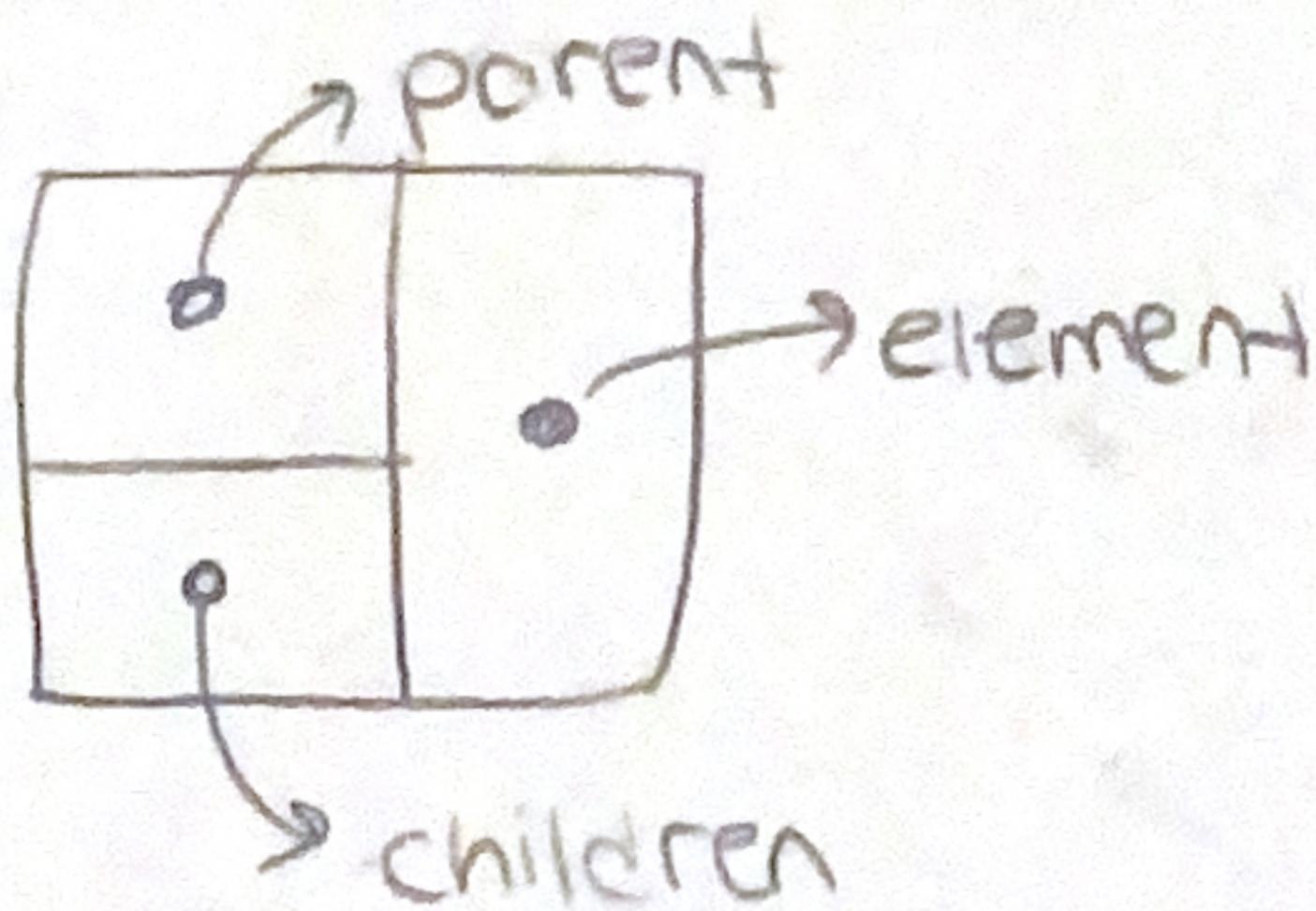
$$f(g) = \lfloor (f(p)-1)/2 \rfloor$$

Link Based Binary Tree

→ aṣaḡı
γυναικα



Link Based General Tree



Complexity of Linked Binary Tree

len

is_empty

root

parent

left

right

sibling

children

add_root

is_root

is_leaf

num_children

add_left . attach

add_right

replace

delete

depth(p) $\rightarrow O(dp+1)$

height $\rightarrow O(n)$

space usage : $O(n)$

Complexity of Linked General Tree

Same with children(p) = $O(cp+1)$

space usage = $O(n)$