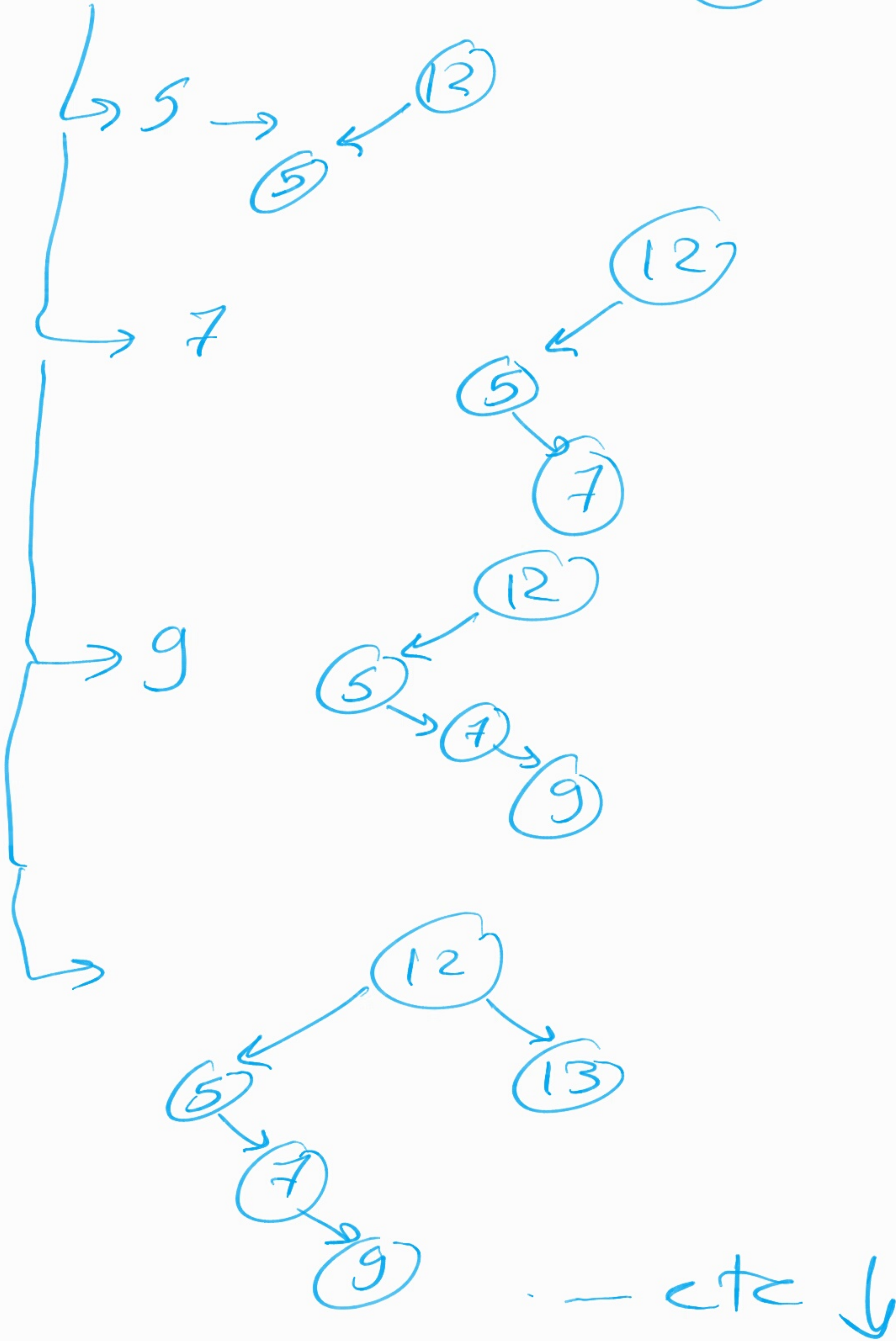
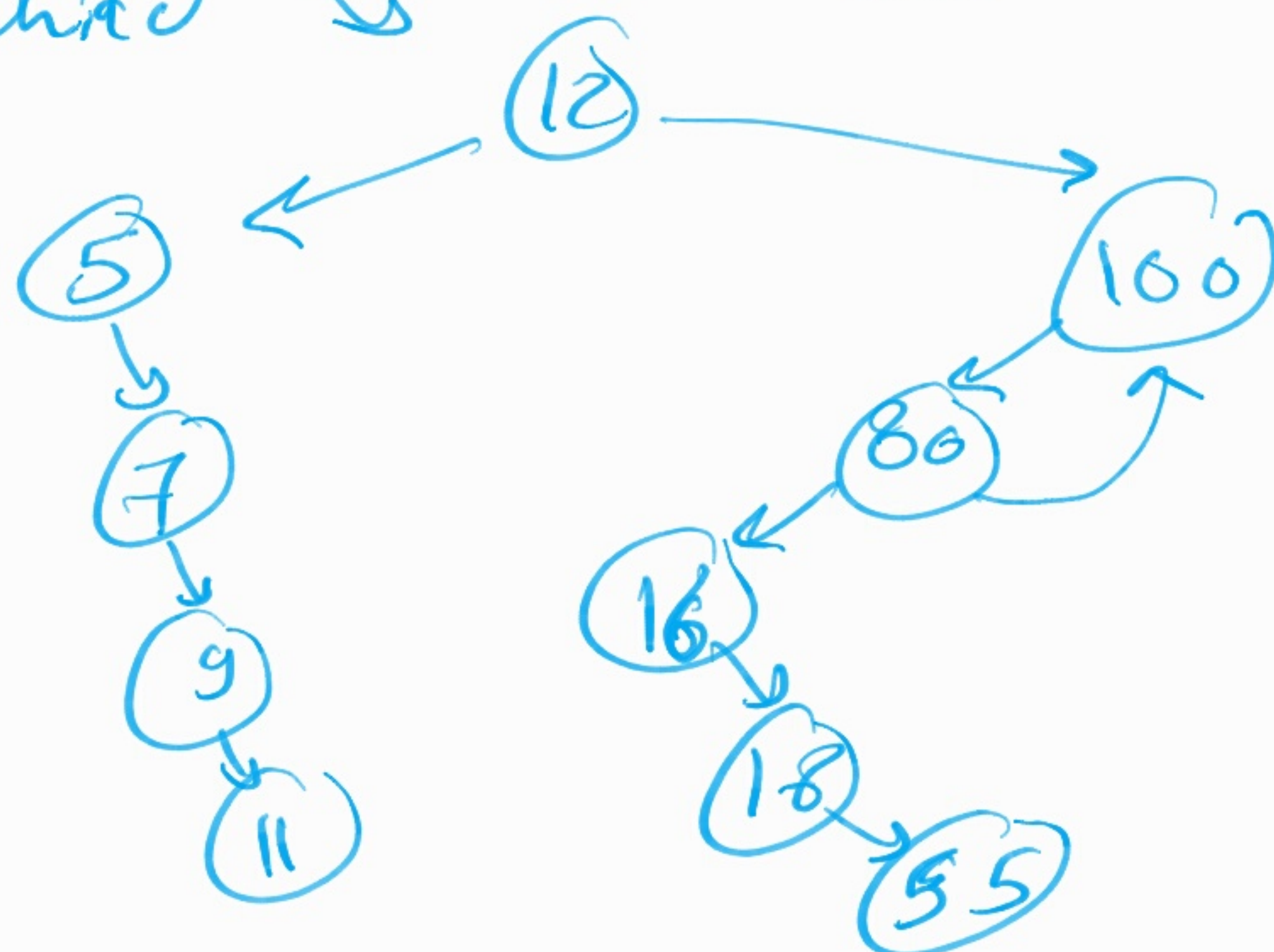
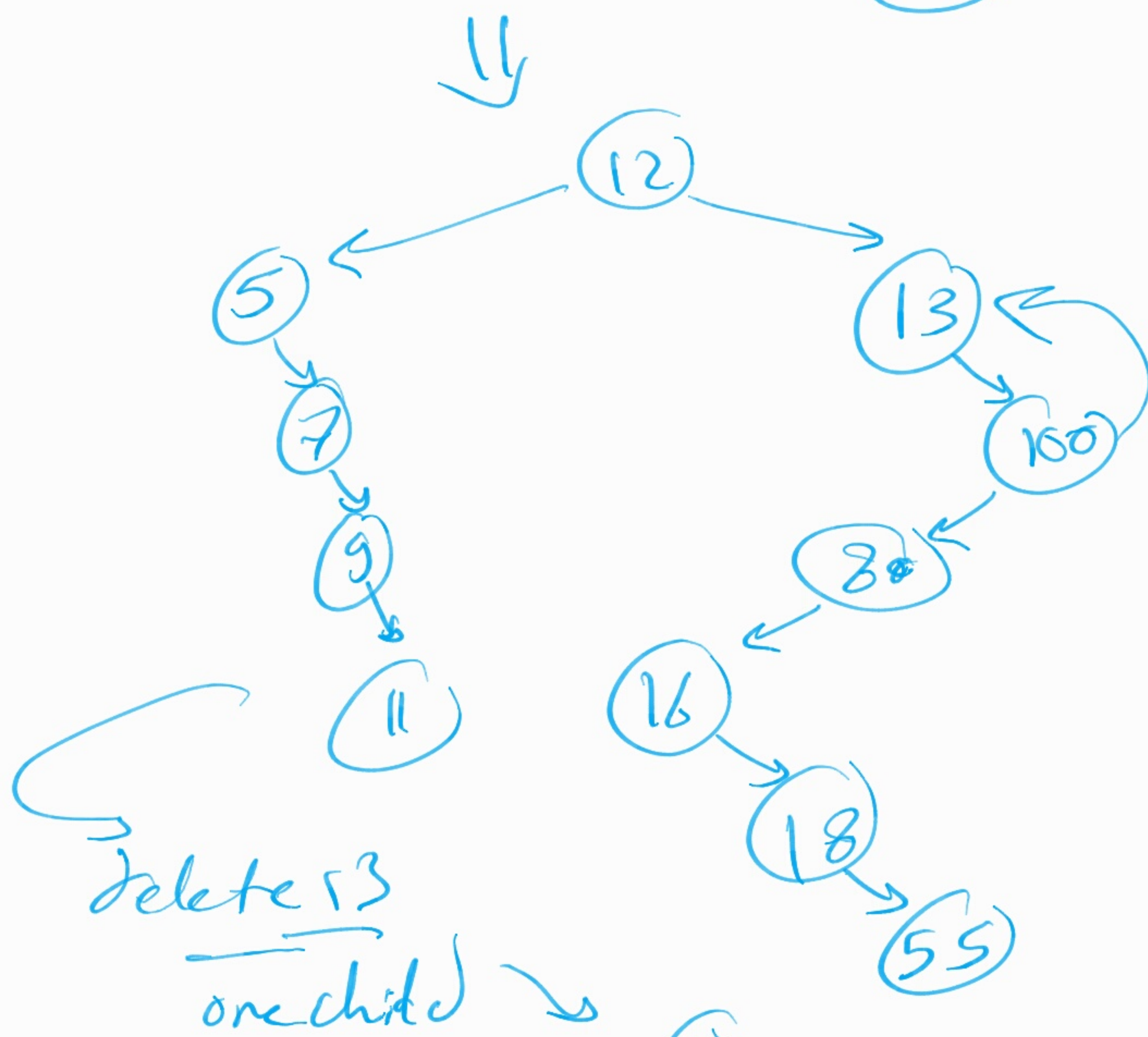
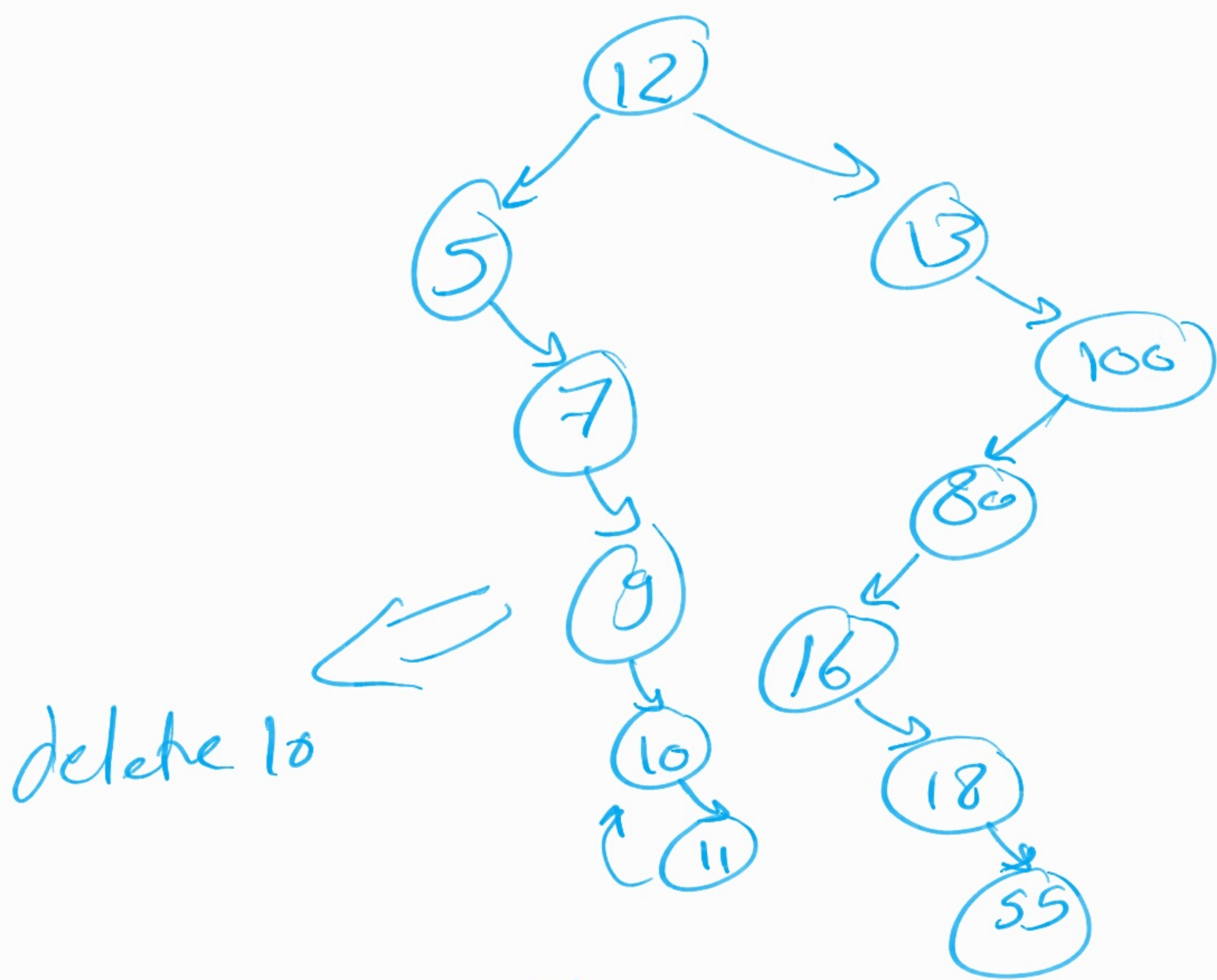


### Question 3

Insertion  $\rightarrow 12 \Rightarrow$   $(12)$

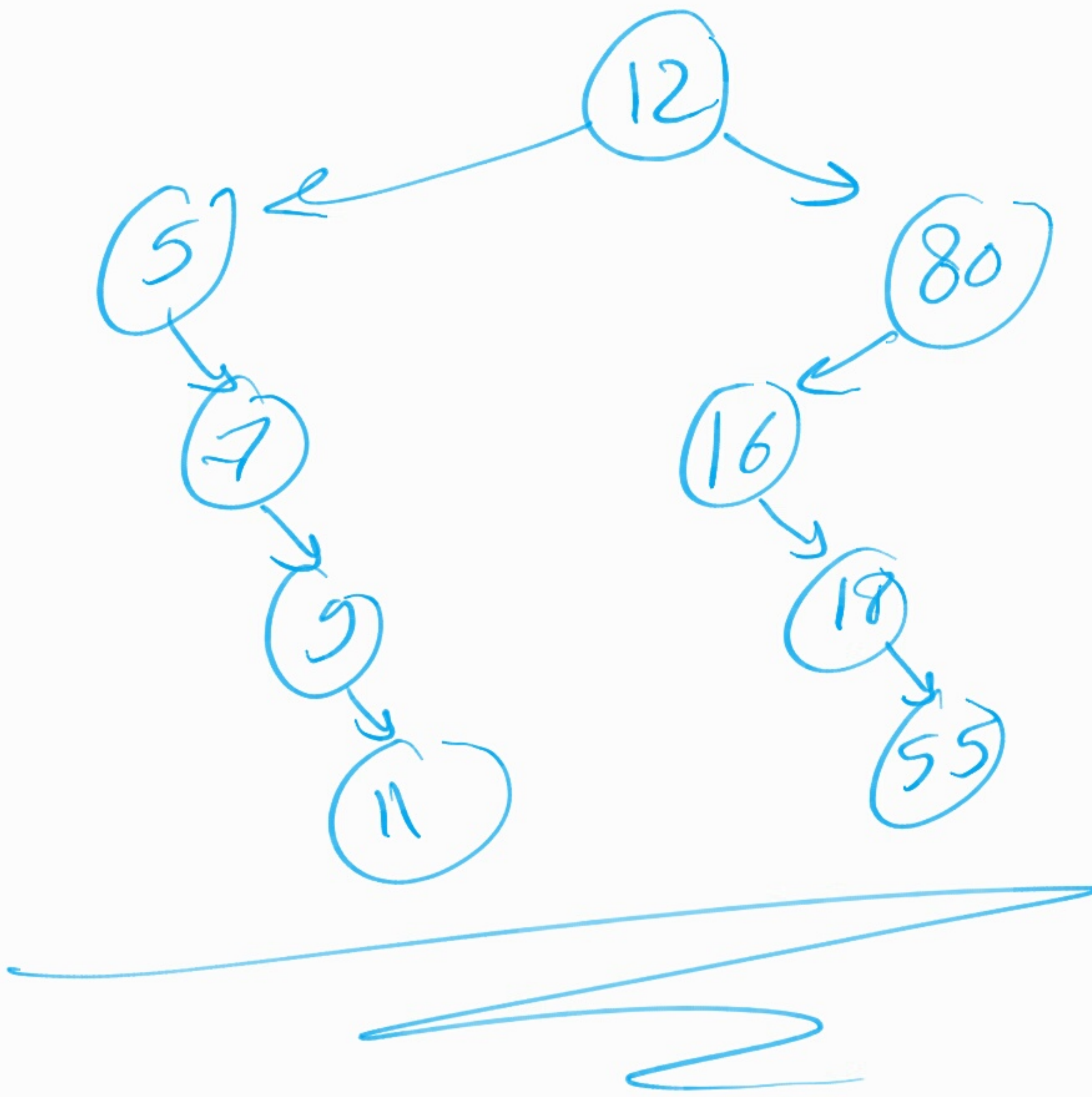








delete 100

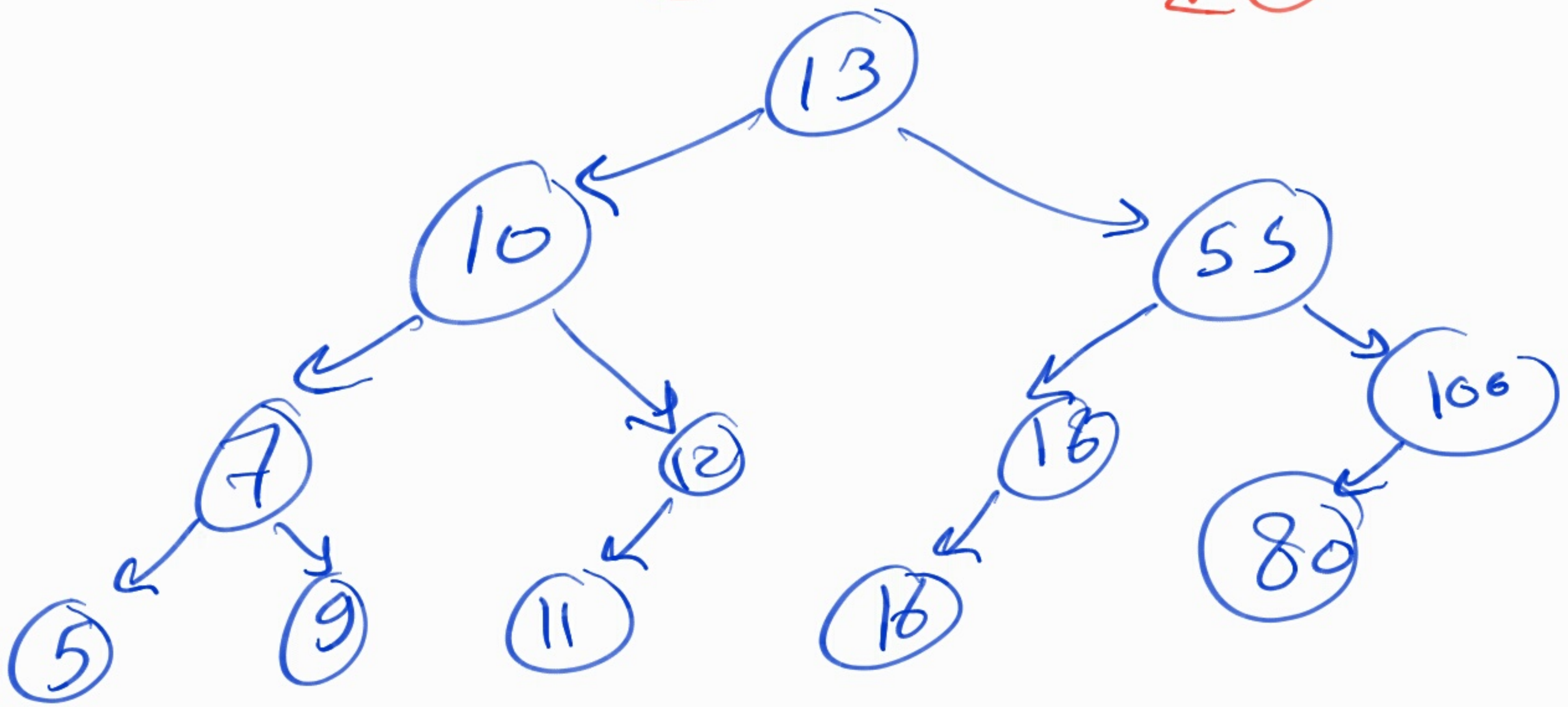


for a different arrangement

First sort

5, 7, 9, 10, 11, 12, 13, 16, 18, 55, 80, 100

Diagram showing the first sort of the array [5, 7, 9, 10, 11, 12, 13, 16, 18, 55, 80, 100]. Red arrows indicate the mapping of elements to their ranks: 5 to 3, 7 to 2, 9 to 4, 10 to root, 11 to 1, 12 to 13, 13 to 16, 16 to 18, 18 to 55, 55 to 80, 80 to 100, and 100 to 1. The ranks are circled in red.





Q14

Preorder

root

1 2 4 8 9 10 11 5 3 6 7

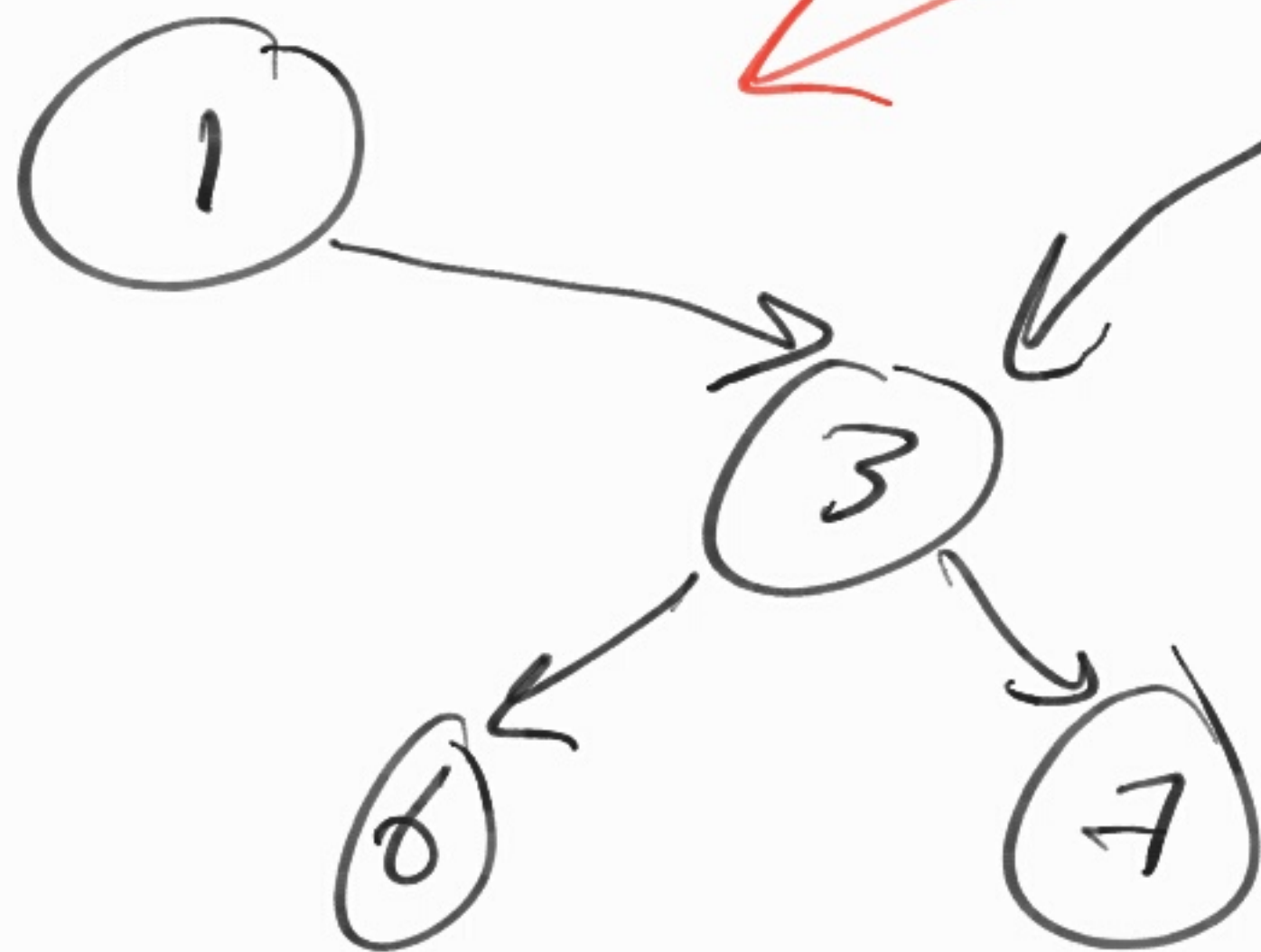
Inorder

8 4 10 9 11 2 5 1 6 3 7

left

left of 3

right



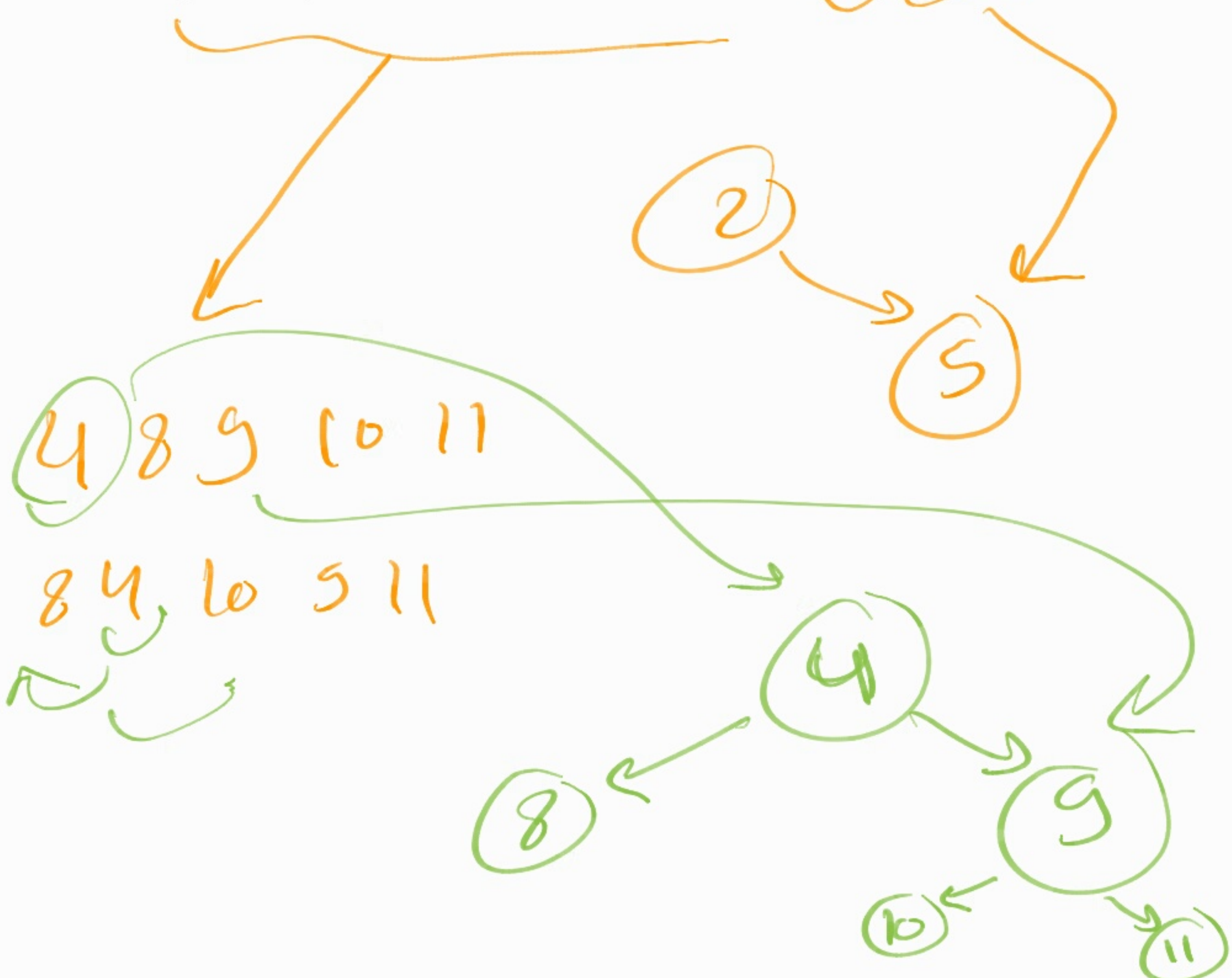
Right subtree

Pre

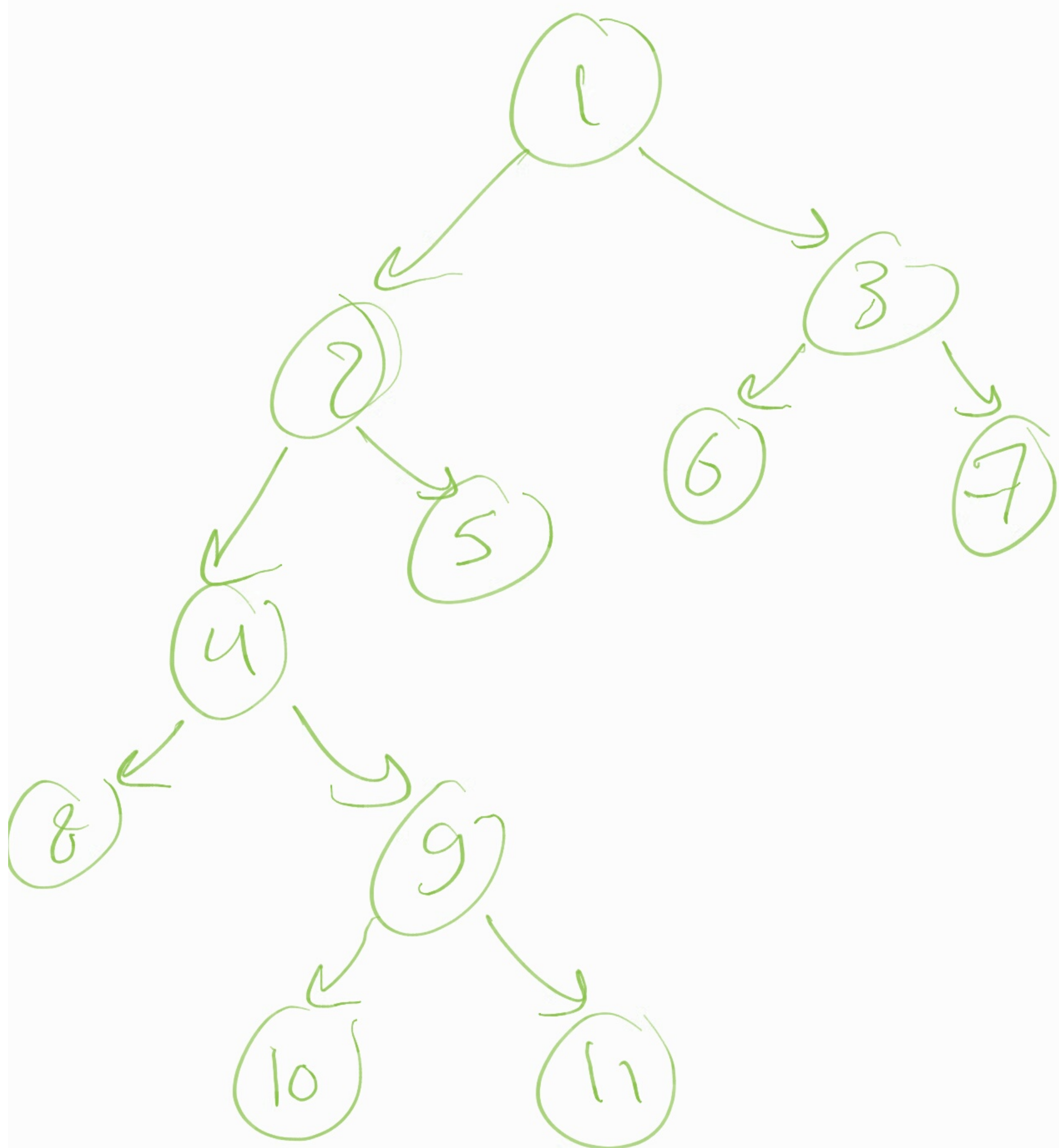
2 4 8 9 10 11 5

In-order

8 4 10 9 11 2 5







Validate

Inorder

8 4 10 9 11 2 5 1 6 3 7

preorder

1 2 4 8 9 10 11 5 3 6 7