Deletion in BST

100, 70, 120, 140, 110, 90, 60
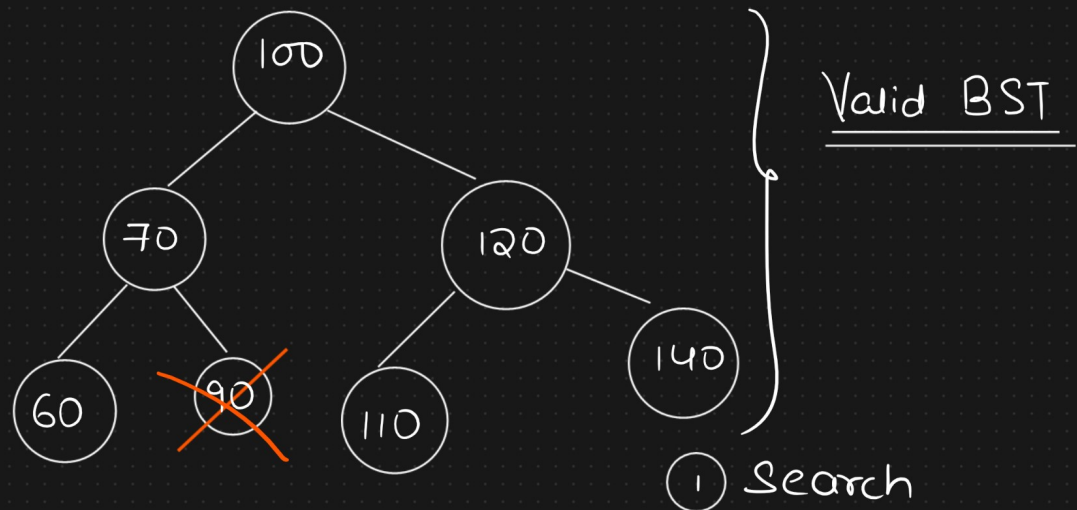
Valid BST

① Search

② Predecessor / Successor

Deletion

$x = 90$

Case 1

→ Deleted Node → Leaf Node

Case 2 — Non-Leaf Node

↓ Deleted Node

Left = null

Right = null
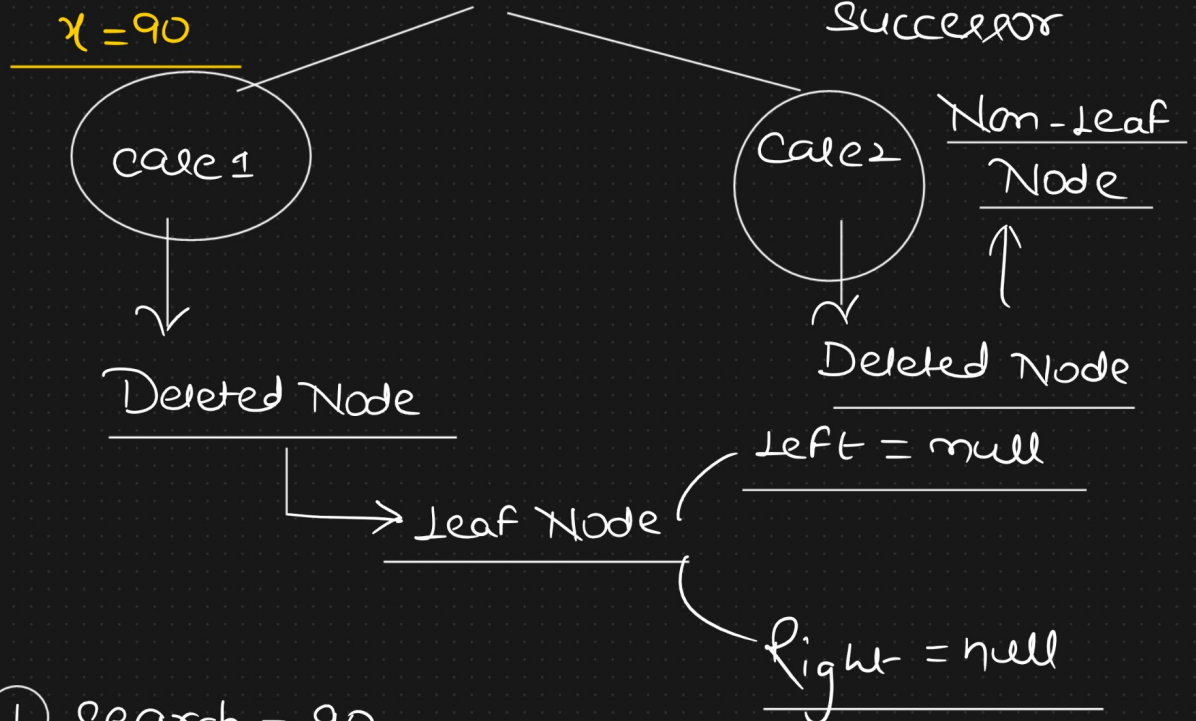
① Search = 90

② Delete that element

Predecessor 70 → 100
110 ─── successor
x = 100

Valid
BST

Valid BST

70
60
①
Successor
↓
Right Subtree
↓
Min val

110
70
60
120
140
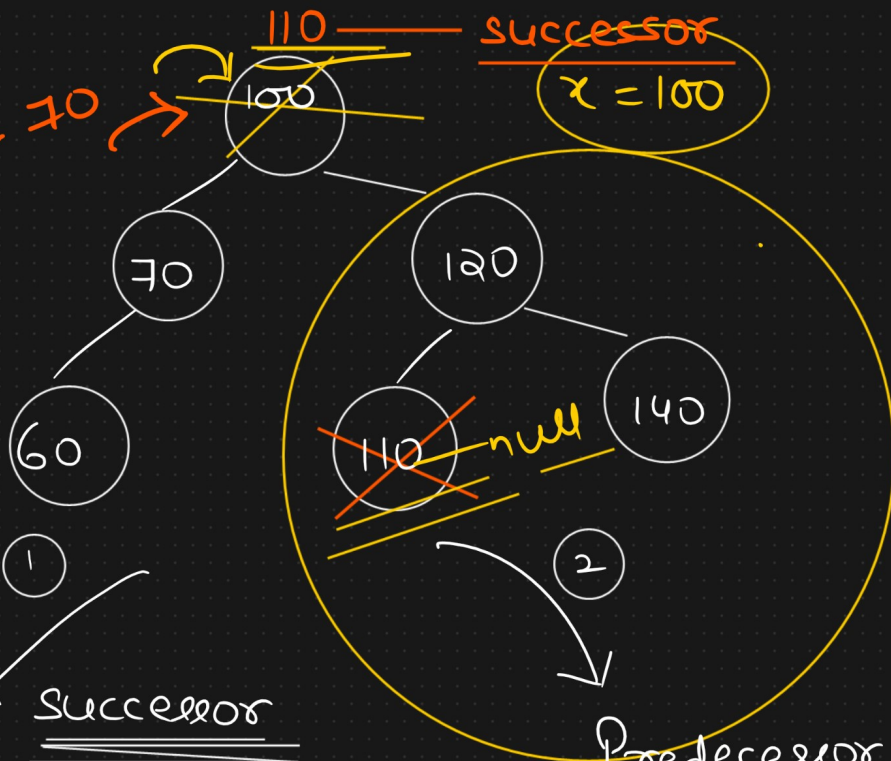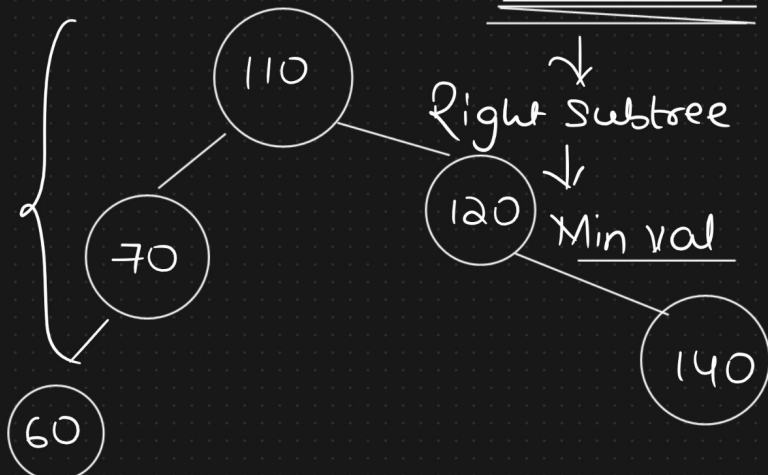
120
110 null 140
②
Predecessor
↓
Left Subtree
↓
Max val

Valid
BST

70
60
120
110
140

$$\underline{\text{complexity}}\atop\underline{\text{analysis}}\Bigg\{\begin{array}{l}\underline{\text{Time complexity}} \longrightarrow \bigcirc(h)\\[1em]\underline{\text{Space complexity}} \rightarrow \bigcirc(h)\end{array}$$