

# Binary Search Trees-2

Lecture-56

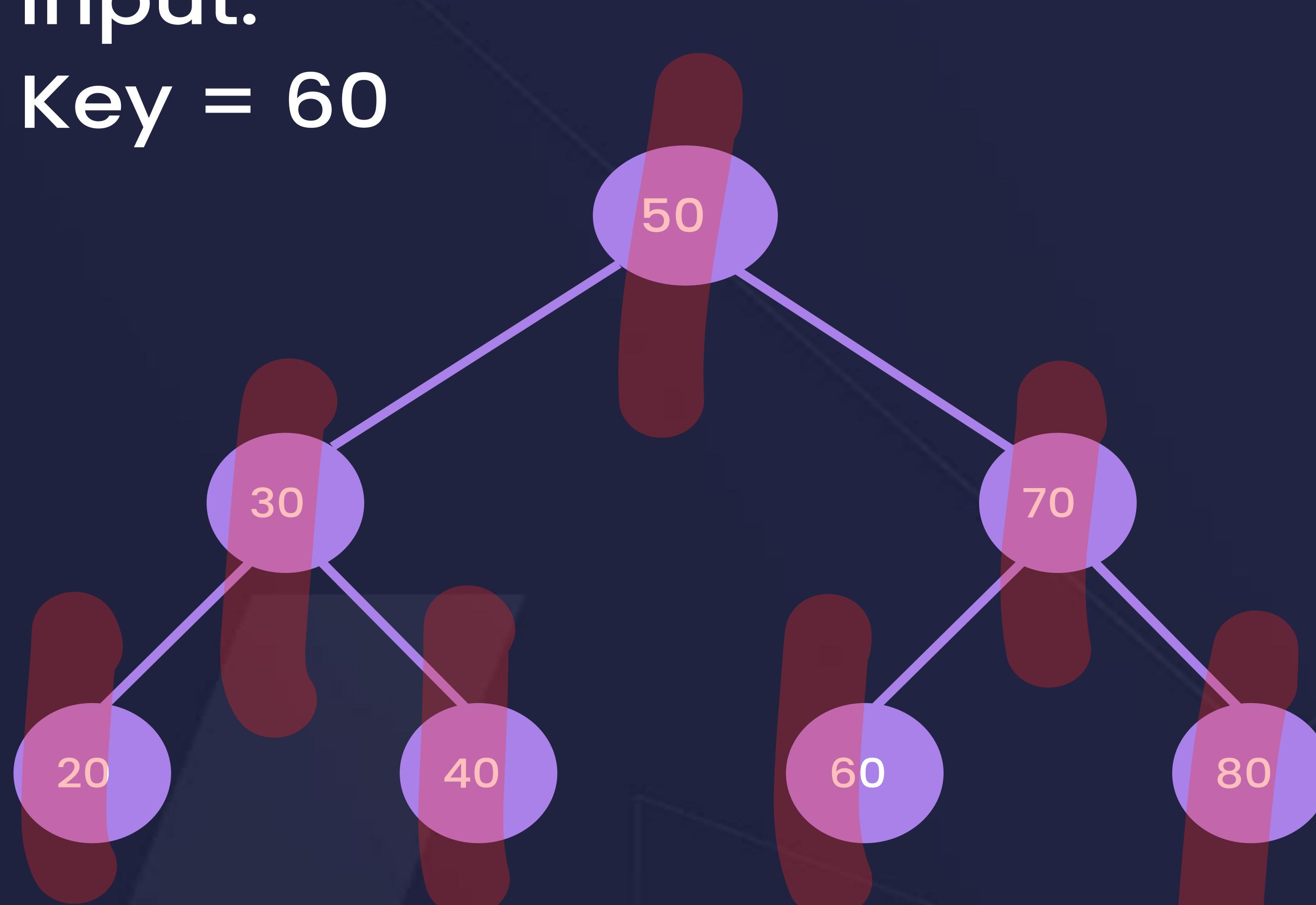
Raghav Garg

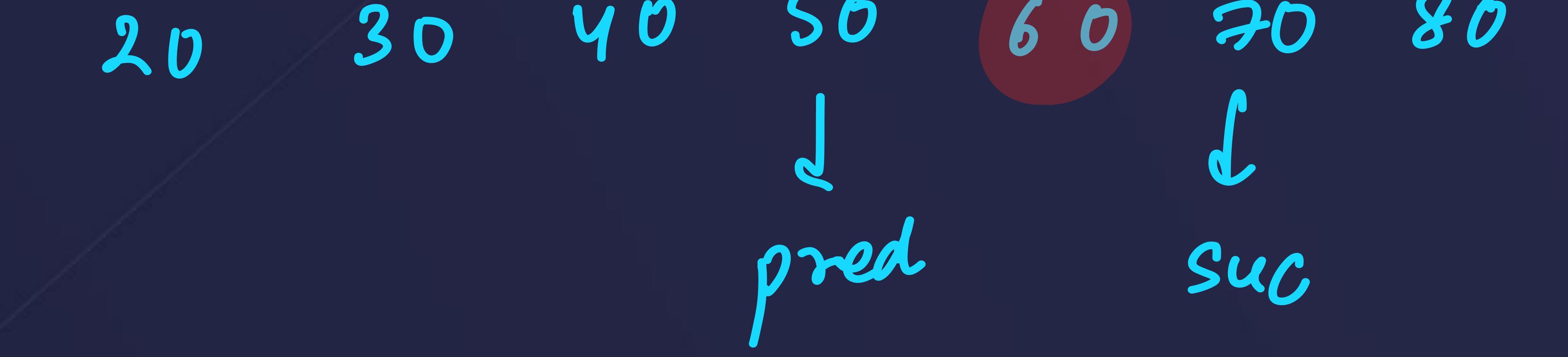


### Inorder predecessor and successor for a given key in BST

#### Input:

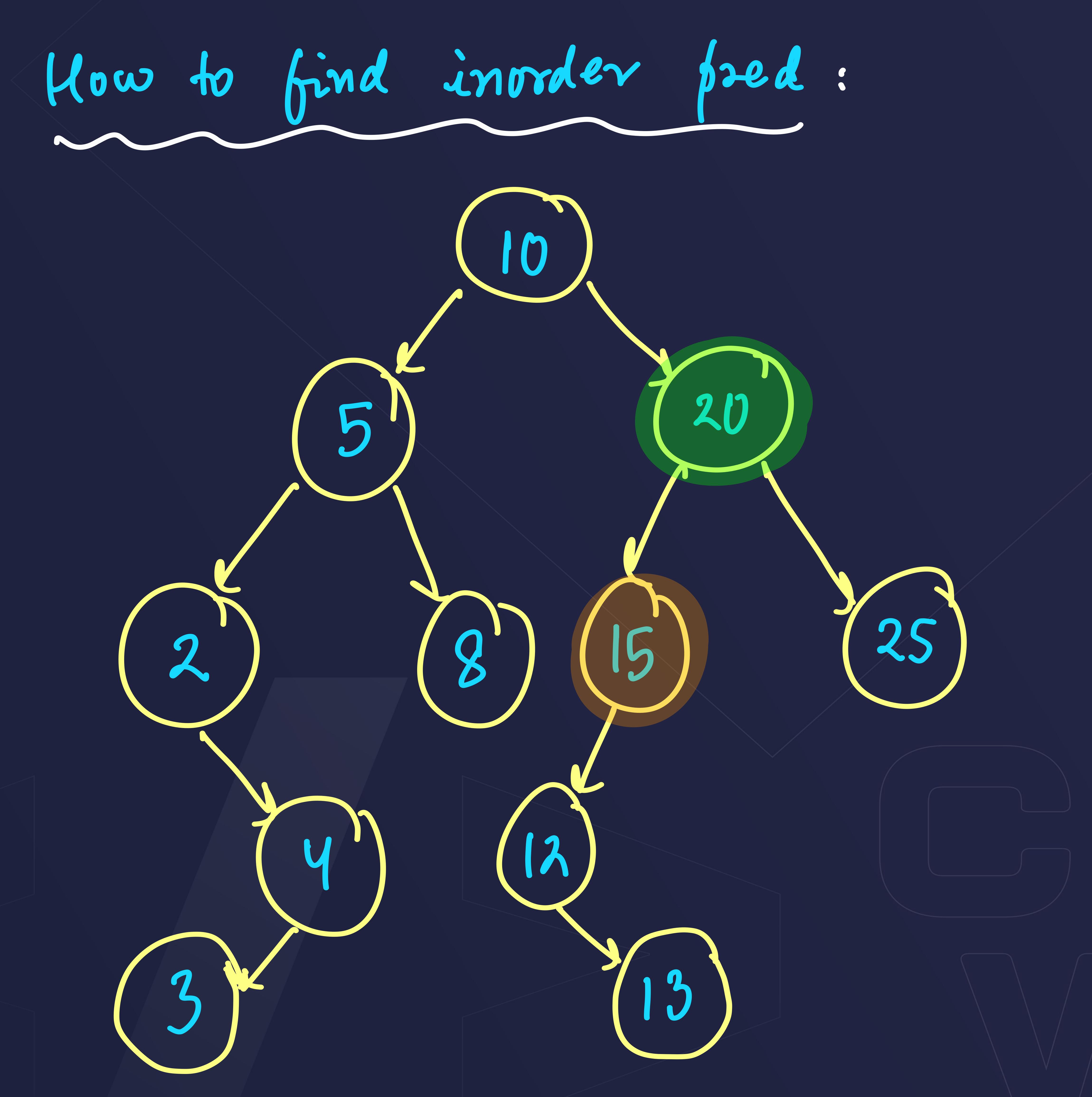
Input:





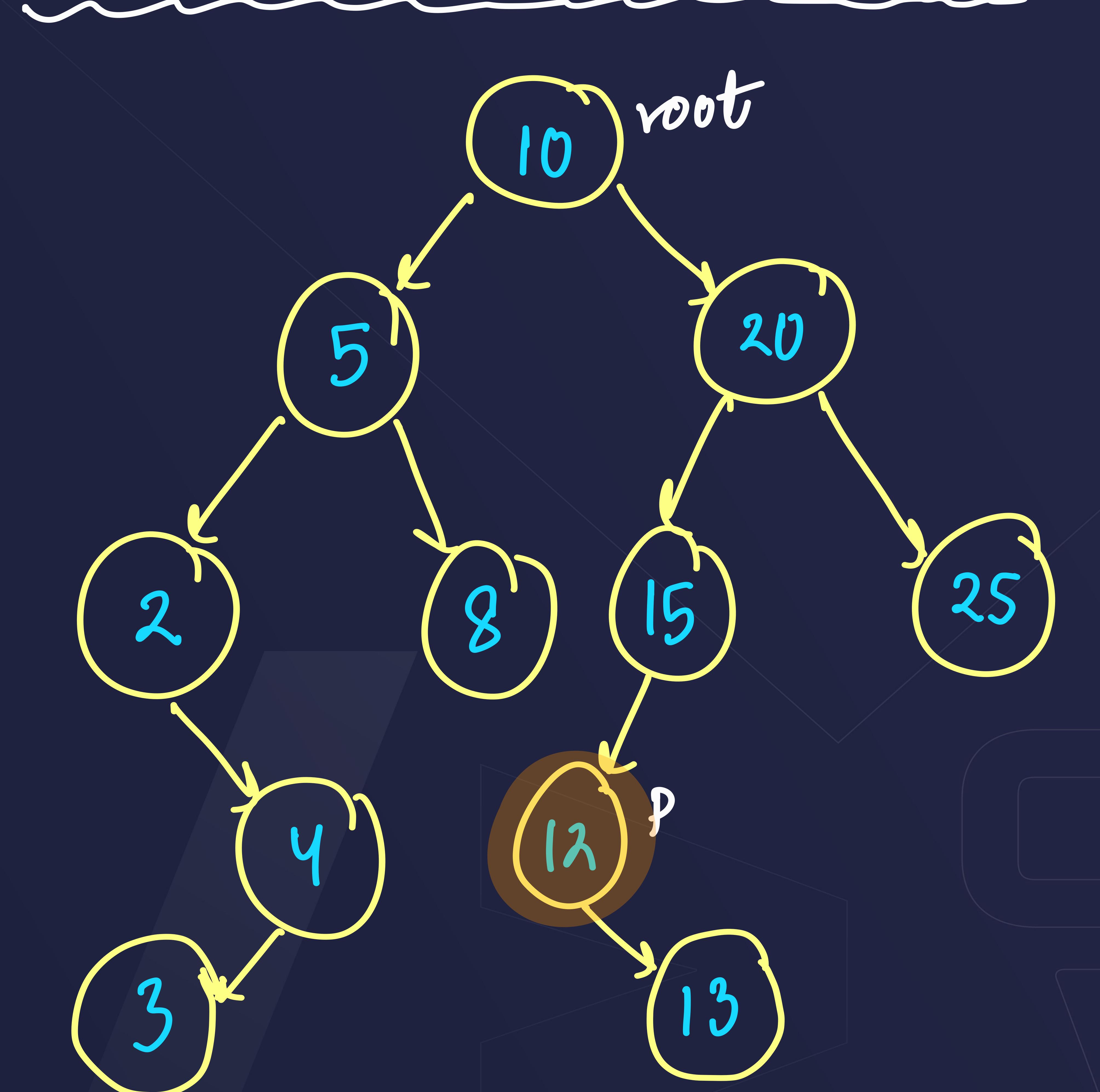
#### Output:

Inorder predecessor is 50 Inorder successor is 70



if (root-sleft == NULL) refurn MULL; Node' bred = root-sleft; while (pred s right!=NU2L) pred zned znight; retum bred;

## How to find inorder successor:



Steps: 1) 30 night once

2) keep going legt if possible

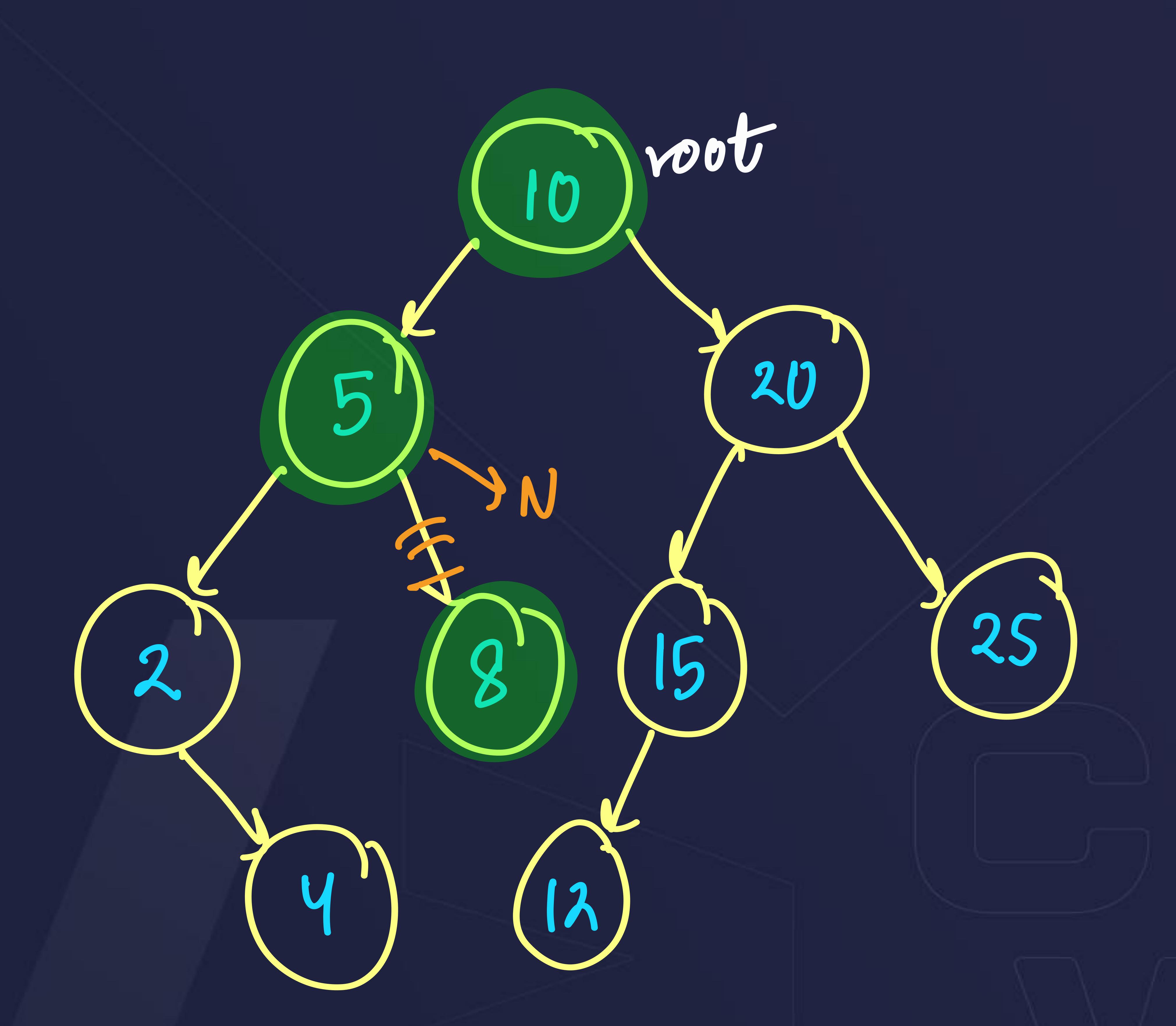
Code: DIY

# How to delete a viode from a BST: (But you have to maintain the property of BST)

- 3 1) It is a leaf mode Rasy
  - 2) It has only one child (either left or night) lasy
  - 3) 9t has 2 duild nodes > Kara



#### Deletion: The node has 0 child



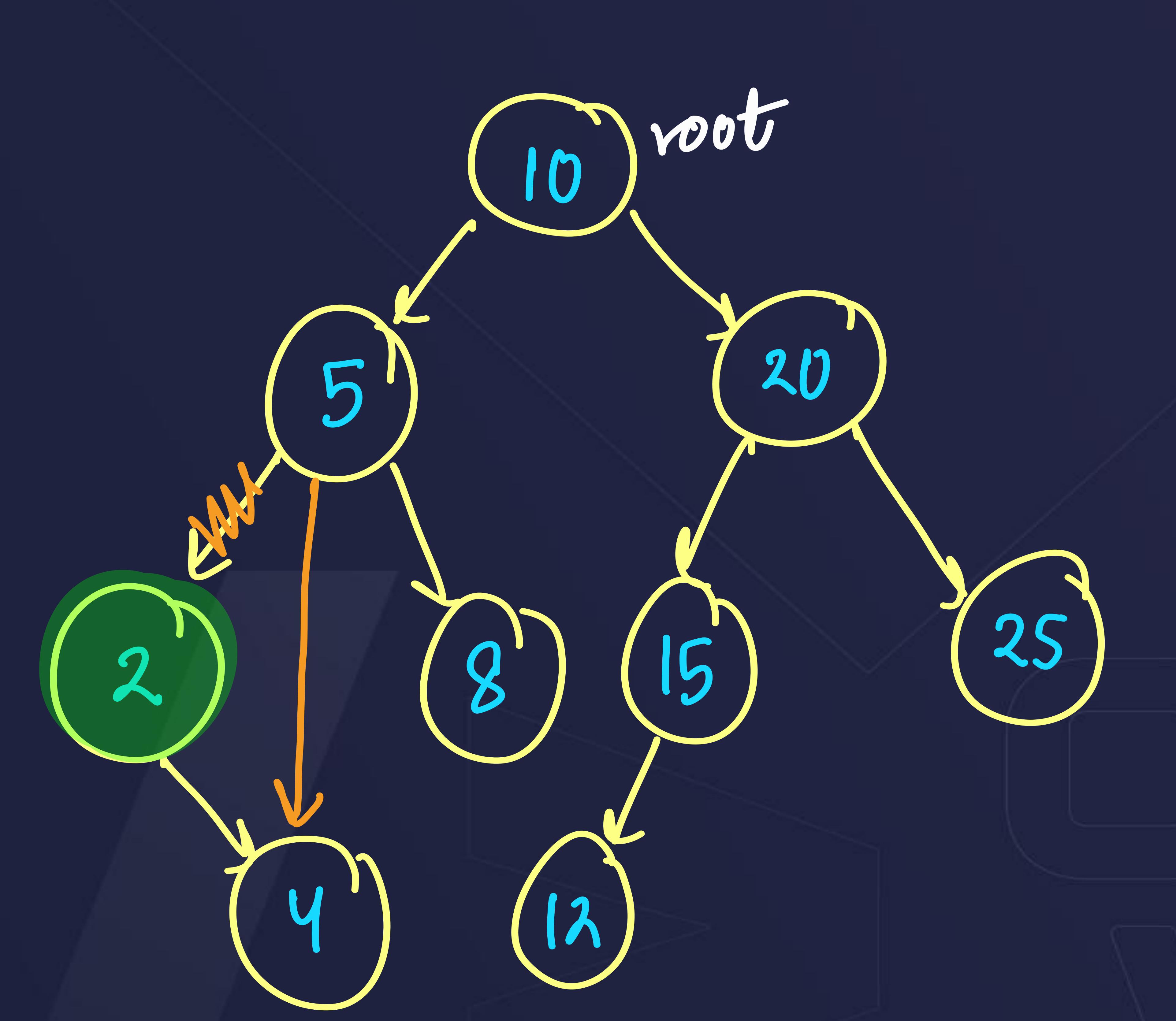


#### Deletion: The node has 0 child



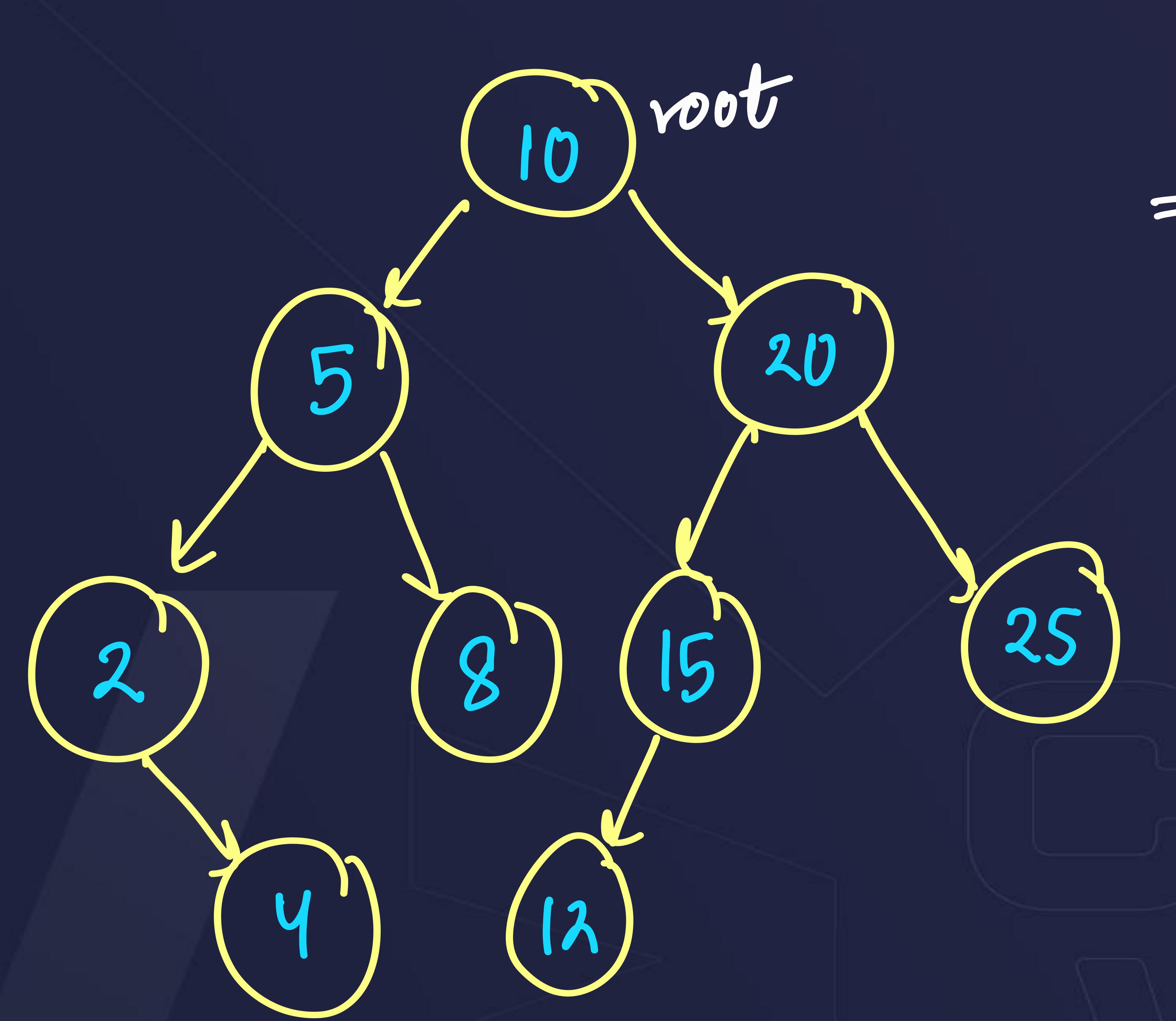


#### Deletion: The node has I child





## Deletion: The node has 2 children Zabardast



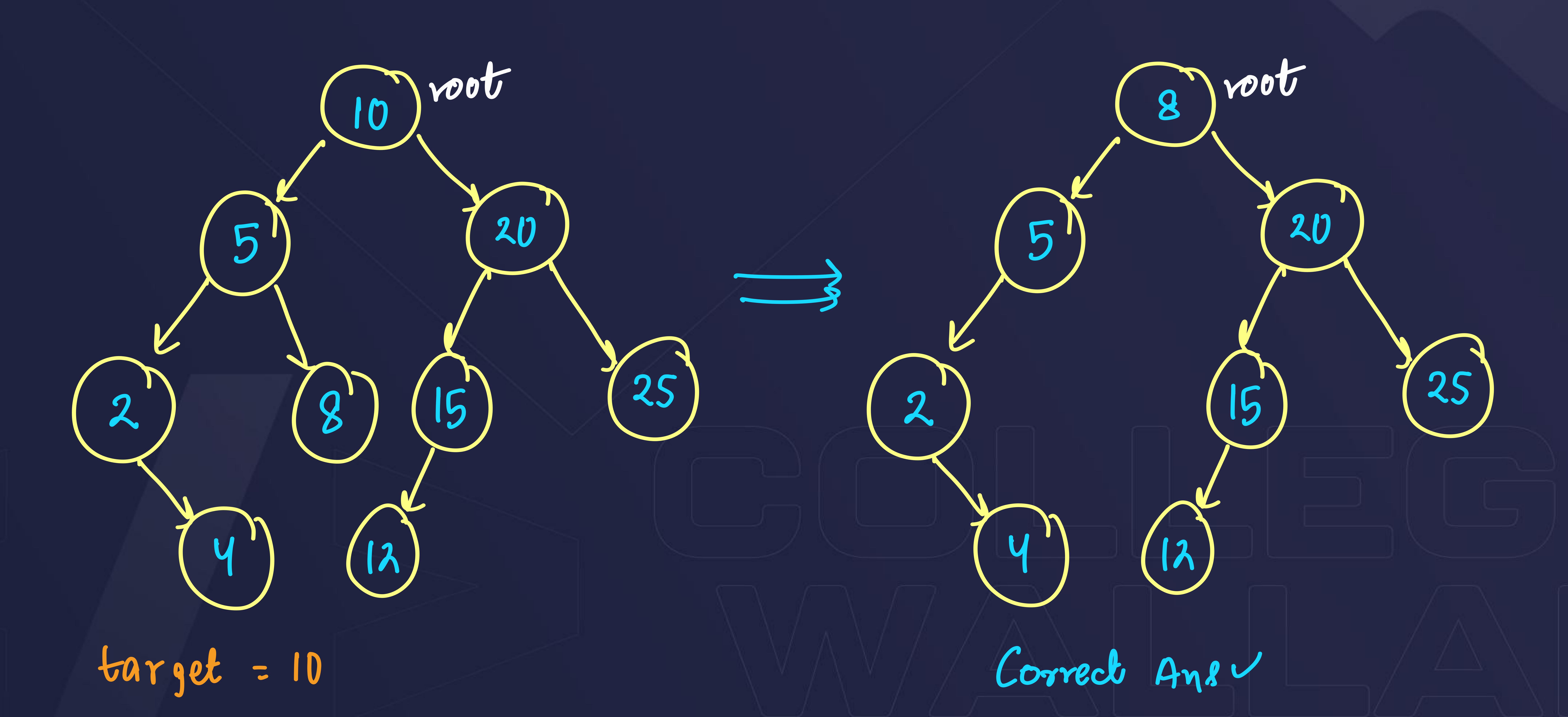
tanget = 10

=> hint: we have to replace the node with something

-> replace the node with its inorder pred/suc

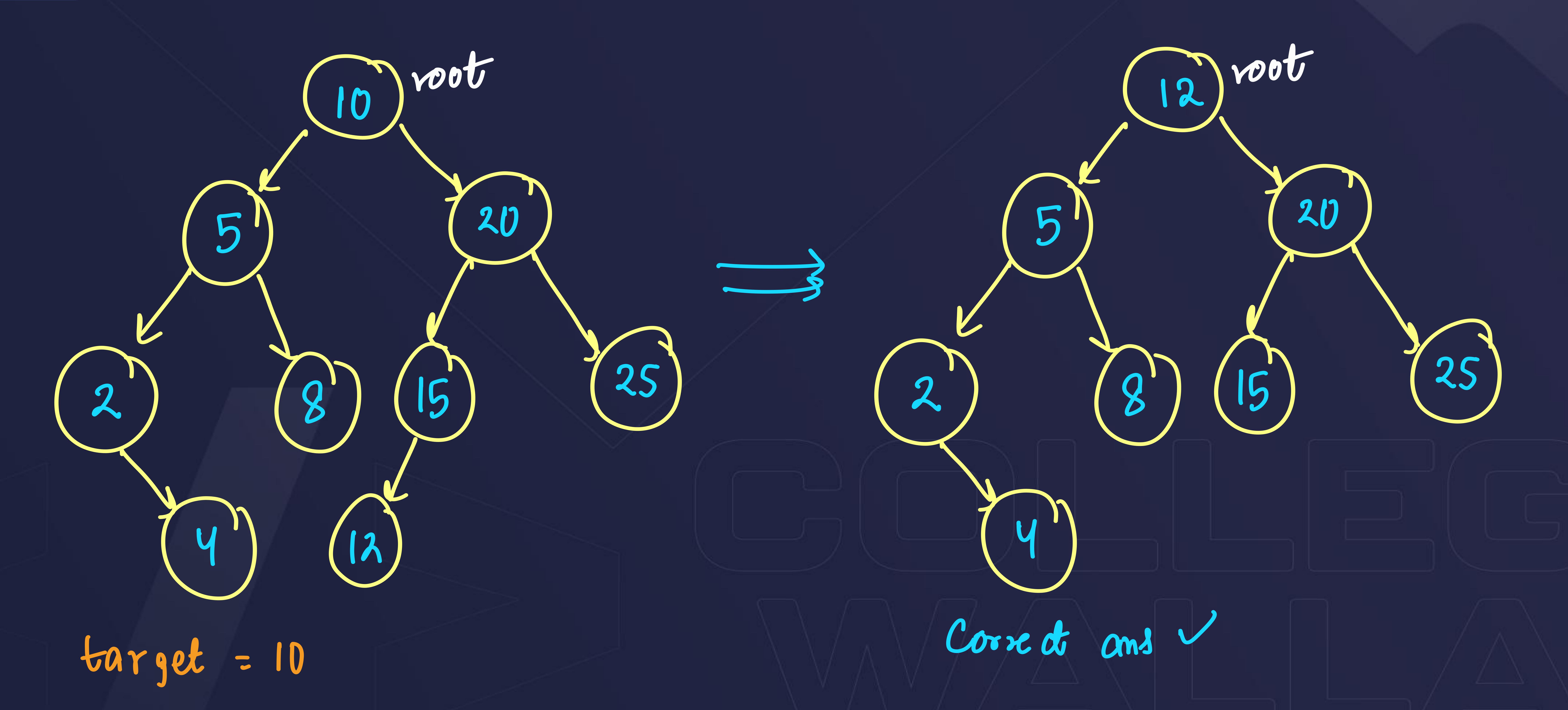


#### Deletion: The node has 2 children





#### Deletion: The node has 2 children





# Thank you!!