

# Graph Concepts & Qns

video-45

Leetcode  
- 3203  
Hard



Facebook  
Instagram } → code story with MIK  
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code story with MIK → 



Motivation:-

Success isn't given,  
it's earned by those who  
refuse to give up, no



MIK...

8 0  
matter the obstacles in  
their way...

## 3203. Find Minimum Diameter After Merging Two Trees

Hard

Topics

Companies

Hint

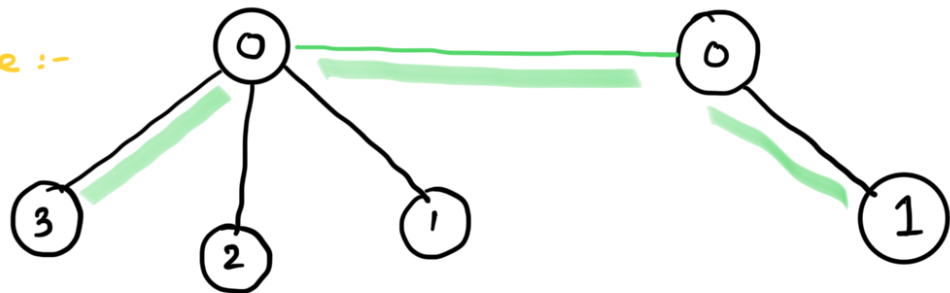
There exist two **undirected** trees with  $n$  and  $m$  nodes, numbered from  $0$  to  $n - 1$  and from  $0$  to  $m - 1$ , respectively. You are given two 2D integer arrays `edges1` and `edges2` of lengths  $n - 1$  and  $m - 1$ , respectively, where `edges1[i] = [ai, bi]` indicates that there is an edge between nodes  $a_i$  and  $b_i$  in the first tree and `edges2[i] = [ui, vi]` indicates that there is an edge between nodes  $u_i$  and  $v_i$  in the second tree.

You must connect one node from the first tree with another node from the second tree with an edge.

Return the minimum possible diameter of the resulting tree.

The **diameter** of a tree is the length of the longest path between any two nodes in the tree.

Example :-



Output :- 3

video link in the Description below...

GRAPH CONCEPTS & QNS  
 NOW, YOU WILL ALSO BE  
 ABLE TO SOLVE  
 GRAPH QNS  
 IT'S MY GAURANTEE

Likh k lelo

**Diameter Of Undirected Graph**  
 LEETCODE - 2558

**VIDEO-44**

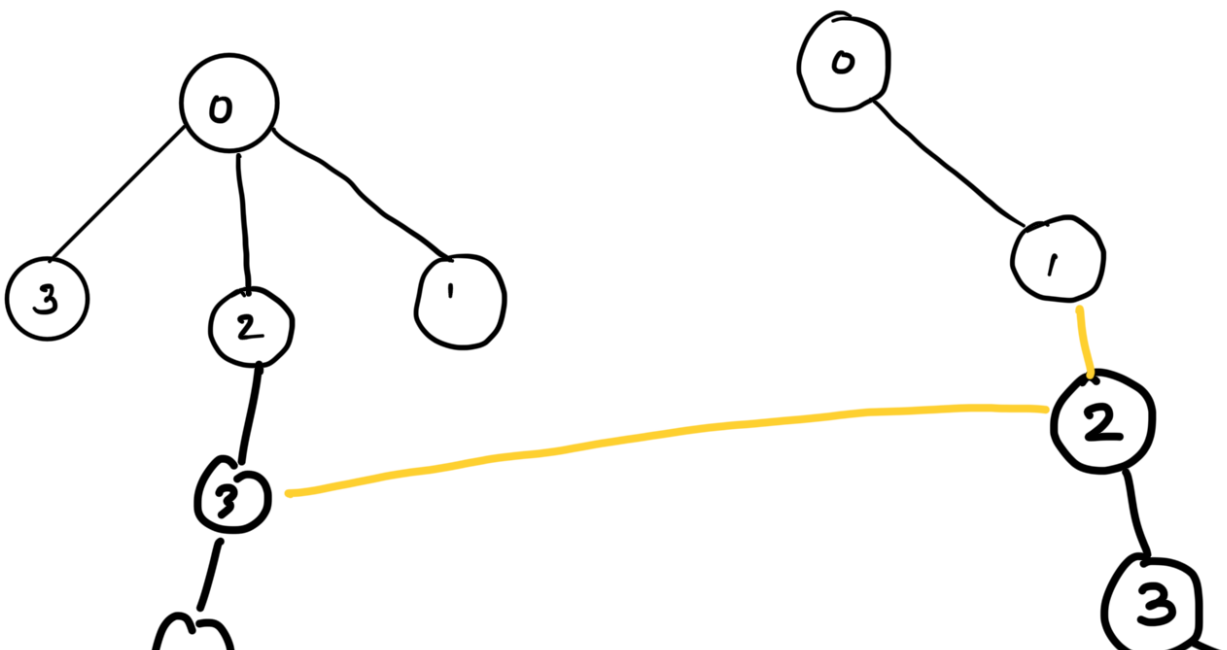
**TREE DIAMETER** 36:19

Diameter Of Undirected Graph | Tree Diameter | Leetcode 1245 | Graph C...

Just uploaded

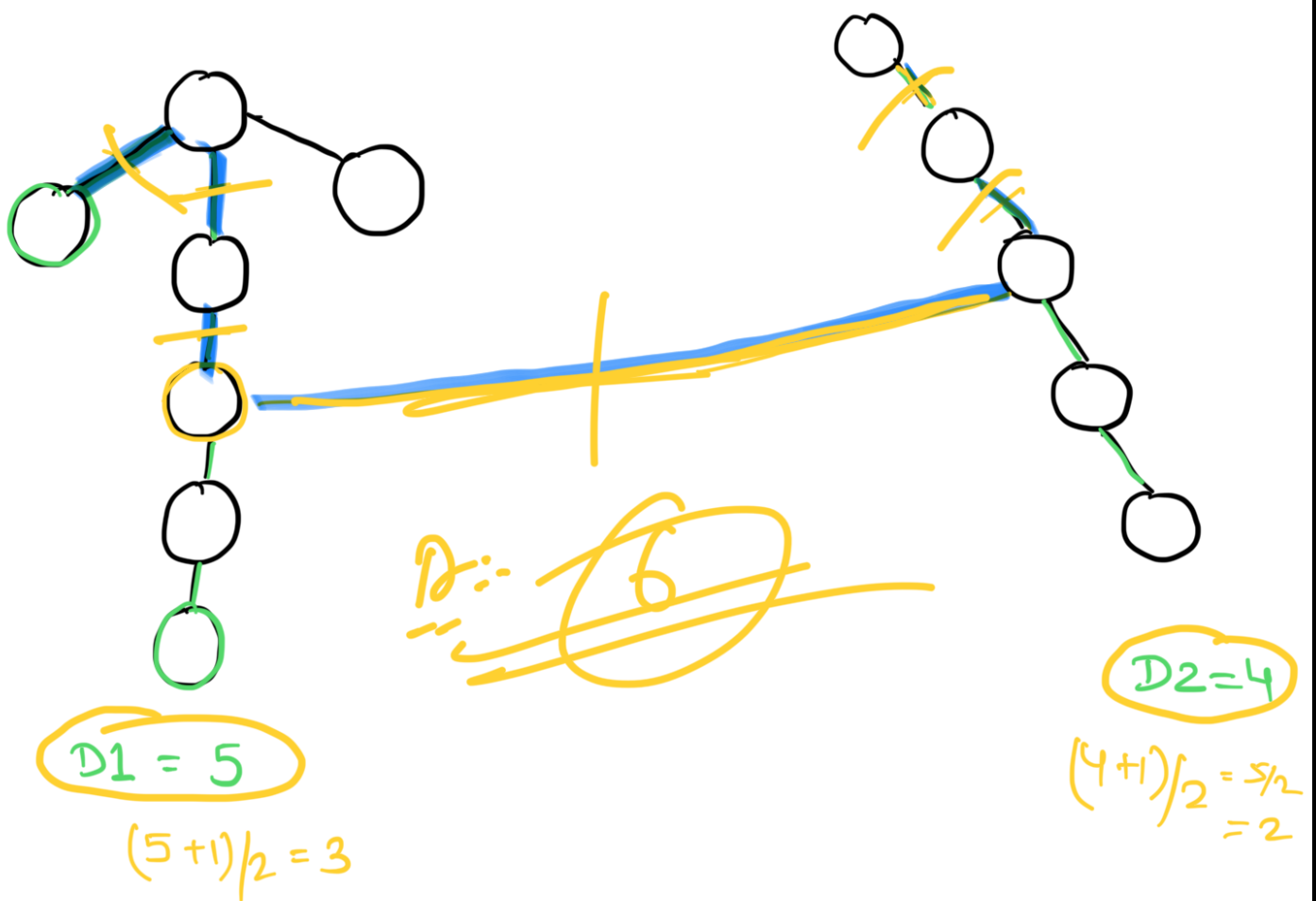
How to find diameter of undirected graph/tree ???

*Thought Process*



Try to choose nodes

★ that divides the  
diameters of Tree1 & Tree2.

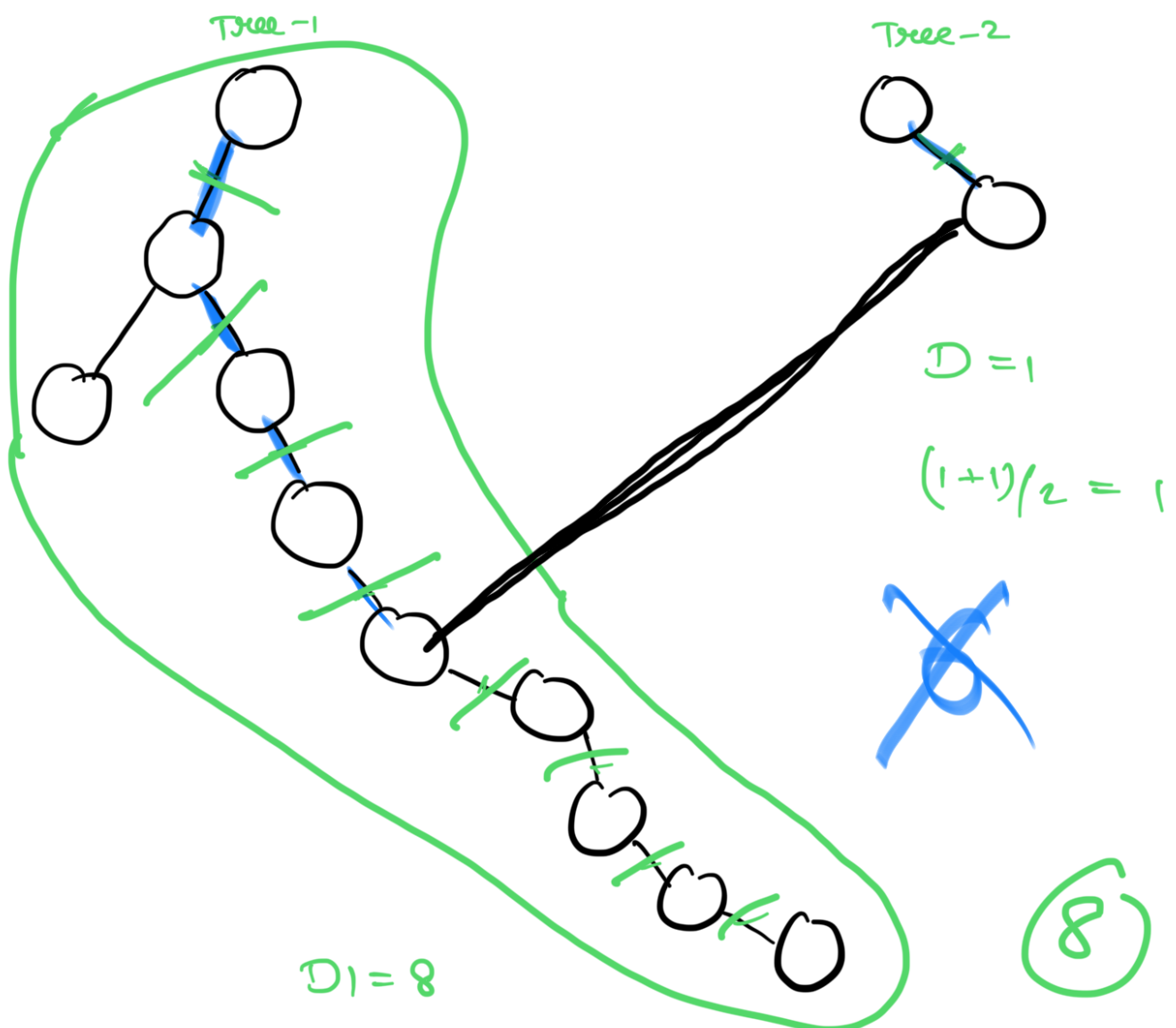


$$(D1+1)/2 + (D2+1)/2 + (1)$$

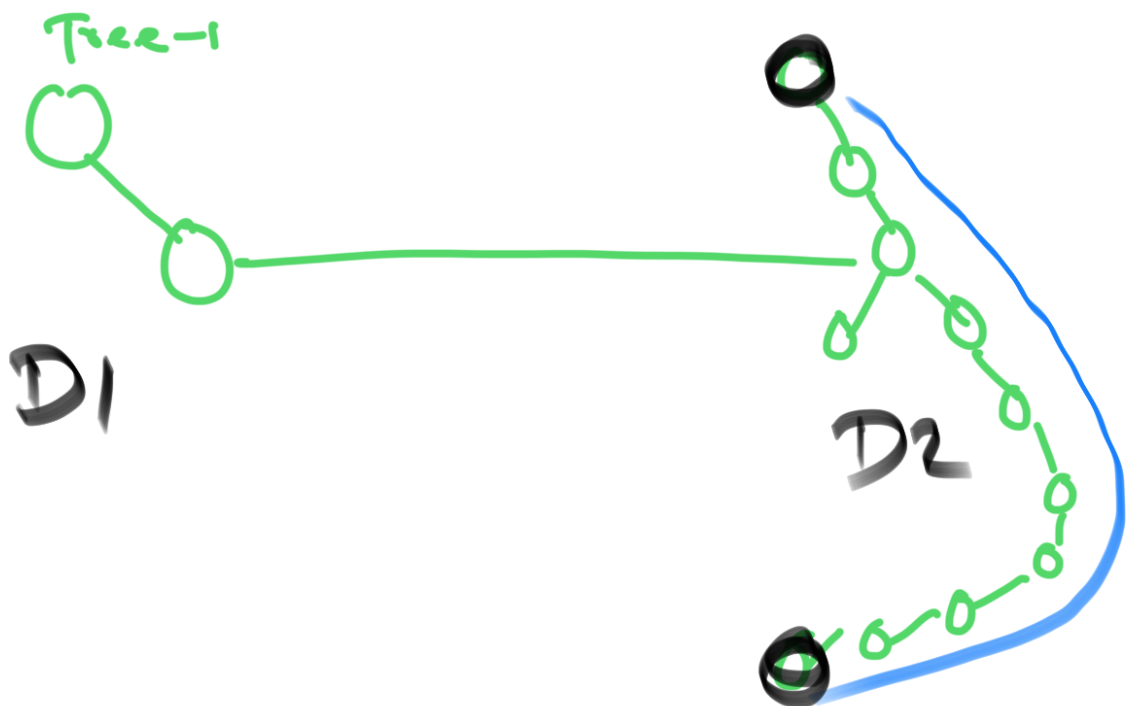
$$\begin{aligned}
 & \frac{(2-1)}{2} + \frac{(2-1)}{2} + \frac{(1-1)}{2} \\
 & = 3 + 2 + 1 \\
 & = 6
 \end{aligned}$$

↑  
Connecting edge.

# Corner Case...



$$\frac{(8+1)}{2} = 4$$



$$\frac{(D1+1)}{2} + \frac{(D2+1)}{2} + 1$$

D1

D2

(\*) D1  $\rightarrow$  Tree 1

(\*) D2  $\rightarrow$  Tree 2

Video-44.

(.)

BFS.

$\int O(V+E)$   
 $\neq O(V+E)$