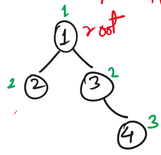
Binary Trees Important Interview Questions for Placements :→

Important Note : 80% of questions on trees can be solved using "Recursion".

Question 1 : Find the "Height" of a given binary tree.

Companies [Visa / TCS / Capgemini / Accenture / DXC / Standard Chartered]

Height = 3



Definition :→ Maximum number of nodes from the root node to any of its descendant nodes or children nodes.

Recursion Summary : Call Stack (DRY RUN)

findHeight(1)

findHeight(2)

findHeight(null) → 0

findHeight(null) → 0

→ returns → 1

findHeight(3) → root

findHeight(null) → 0

findHeight(4)

fH(null) → 0

fH(null) → 0

returns 1

returns 2

2 + 1 = 3

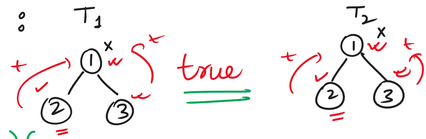
Recursion Tree

DP

lh + rh + 1

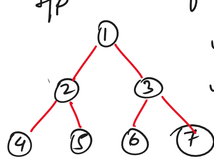
(2, 1) = (2)

(2) Identical Trees :

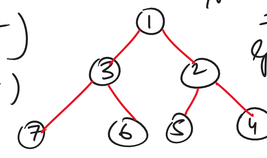



```
boolean areIdentical(T1, T2){
    return True or False;
}
```

* Mirror of a Binary Tree (Amazon)




```
mirror(root)
inorder(root)
```



Binary Tree

Generic Binary Tree <T>

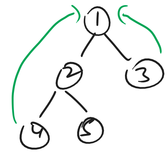
```
int t = a
a = b
b = t
Node temp = r.l
r.l = r.r
r.r = temp;
```

In order:

4 2 5 1 6 3 7

7 3 6 1 5 2 4

LCA → Lowest Common Ancestor ***



LCA of (4, 5) → 2

(4, 3) → 1

(2, 3) → 1

1 → 1

Feedback :→ 14164

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