

## Que 6 - <sup>Minimum</sup>~~Maximum~~ Falling Path Sum

Que. 1 Why ~~are~~ we not applying Greedy?

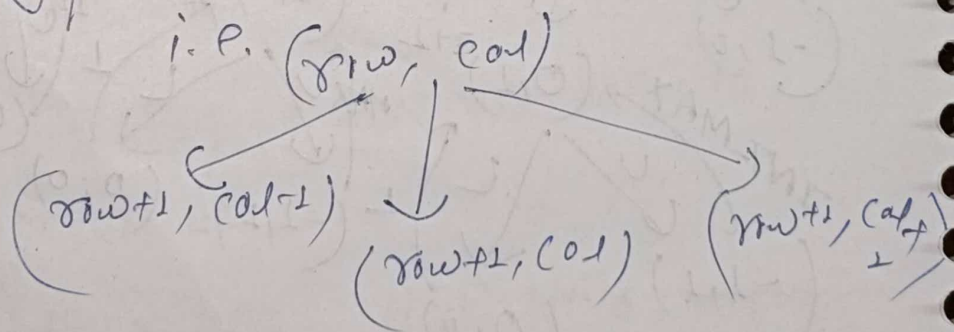
$\Rightarrow$  Bcz the law of uniformity. i.e. in greedy approach we missed out some overall optimal answer getting subproblems.

Que. 2 Why are we apply recursion?

$\Rightarrow$  Bcz we have to try all the possible ways.

Step 1: Represent in the term of index

Step 2: Try / Do all stuffs on that index



Step 3: If question ask get max/min then take max/min of all stuff

$$\max \left( (row+1, col-1), (row+1, col), (row+1, col+1) \right)$$

# Recursive Tree :-

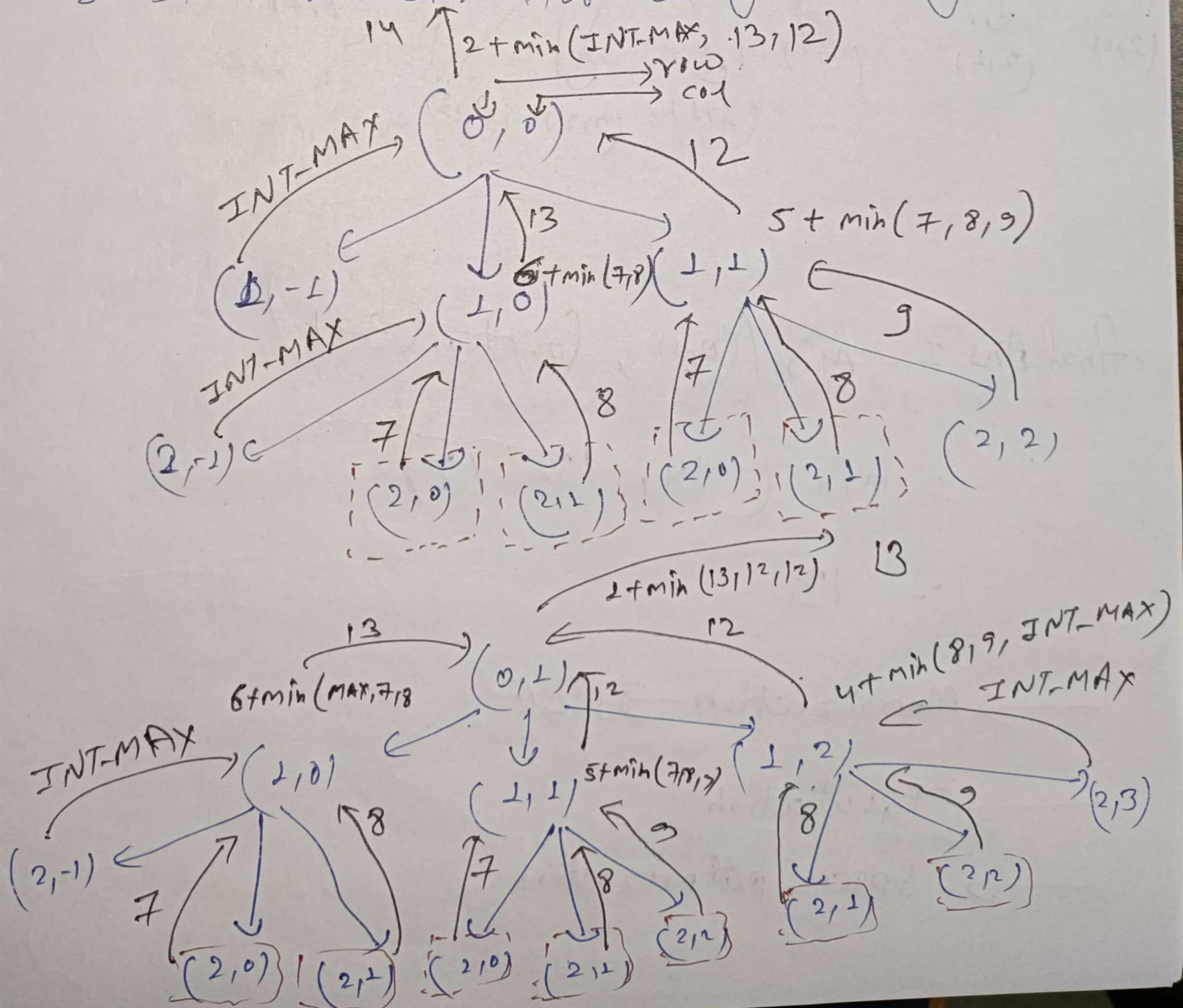
Recursive Tree is always Top-Down Bcz from top we go down.

ex matrix

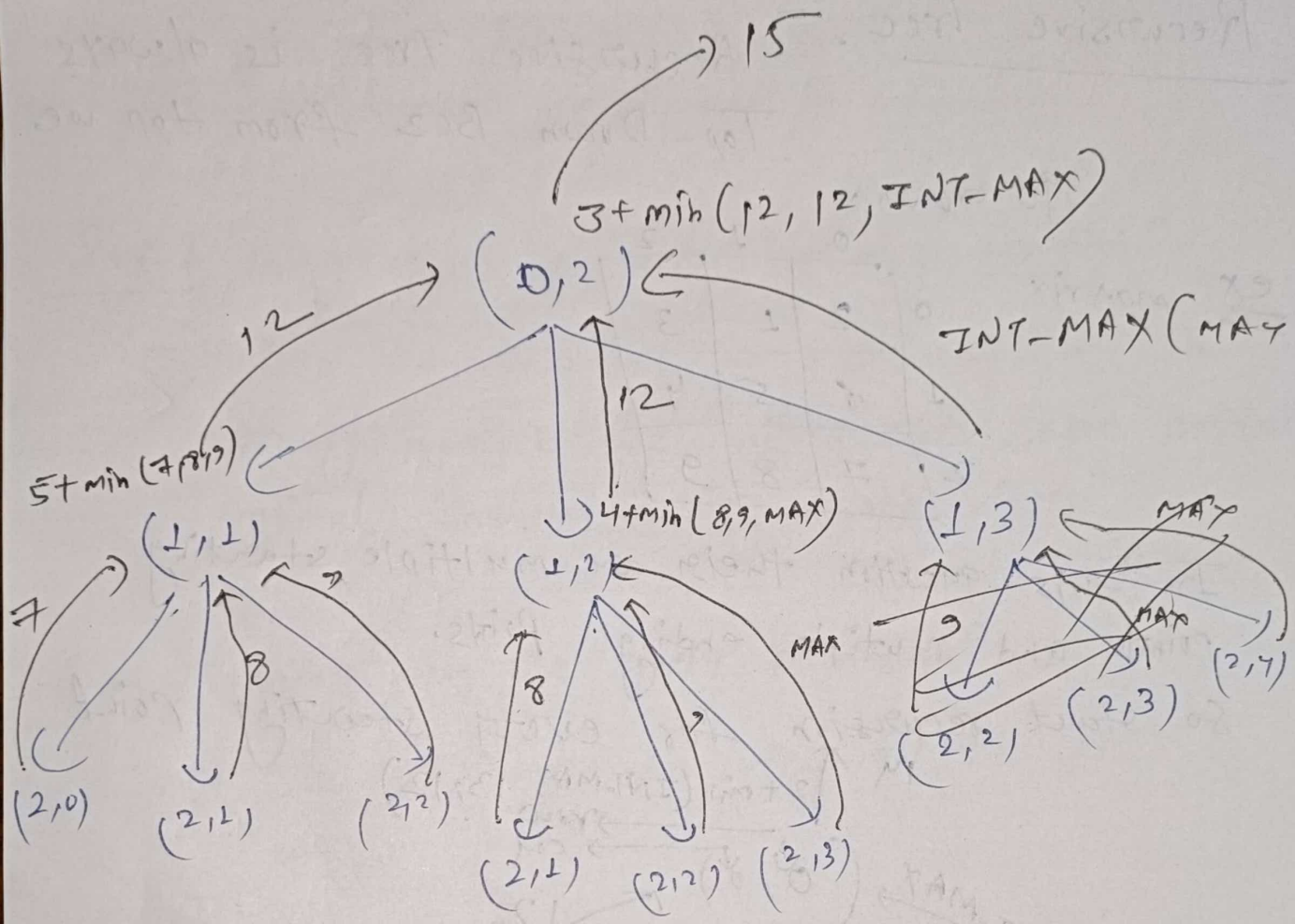
	0	1	2
0	2	1	3
1	6	5	4
2	7	8	9

In this question there are multiple starting points and multiple ending points.

So start recursion for every starting point







$$\begin{aligned} \text{Final Ans} &= \min((0, 1), (0, 2)) \\ &= \min(14, 13, 15) \\ &= 13 \end{aligned}$$

→ Memoization → TLE

→ Tabulation

→ Space Optimization