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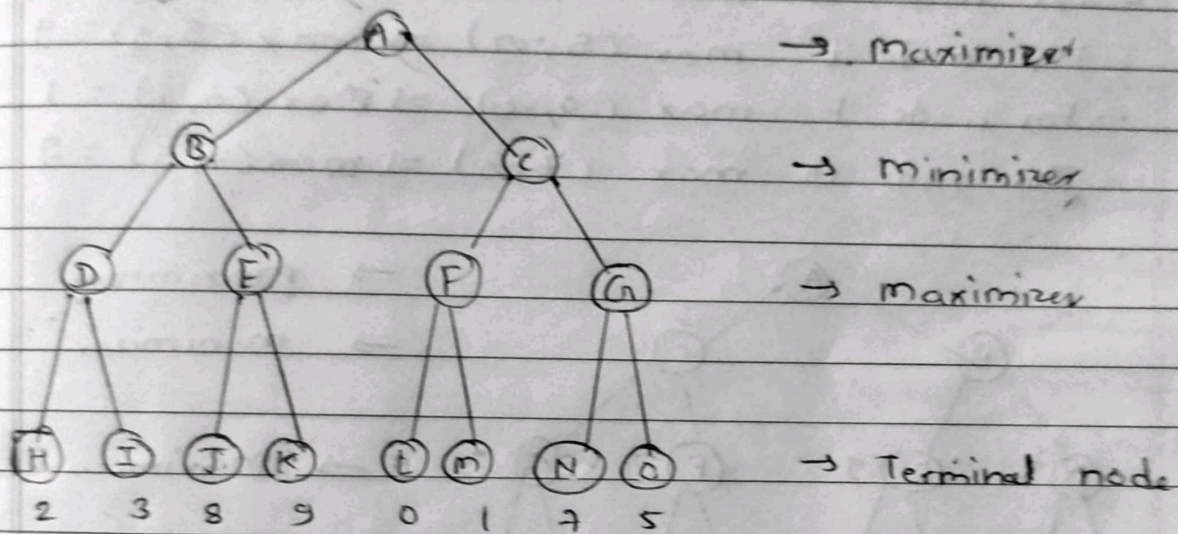
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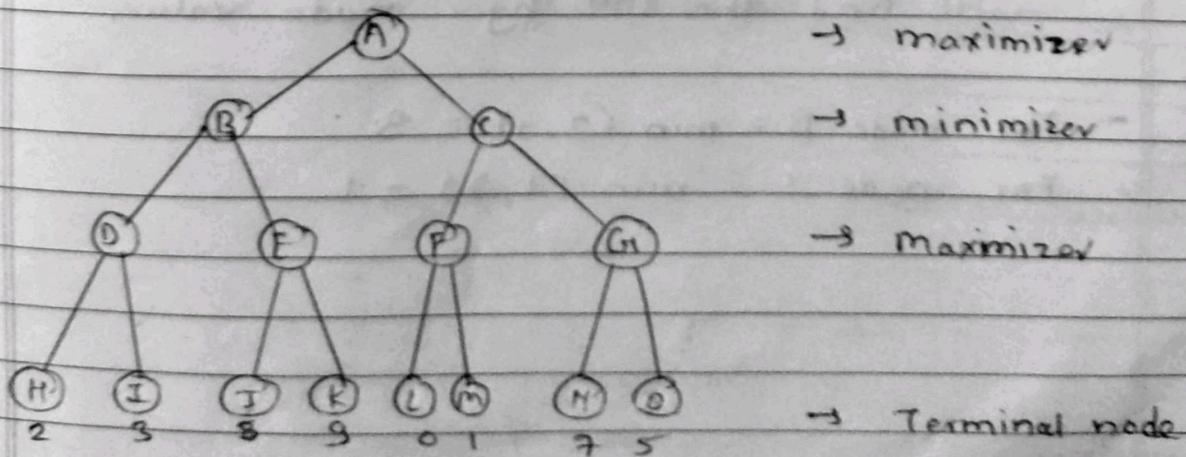
* Min-Max Algorithm

In this example, there are two players one is called maximizer and other is called minimizer

* Example :-

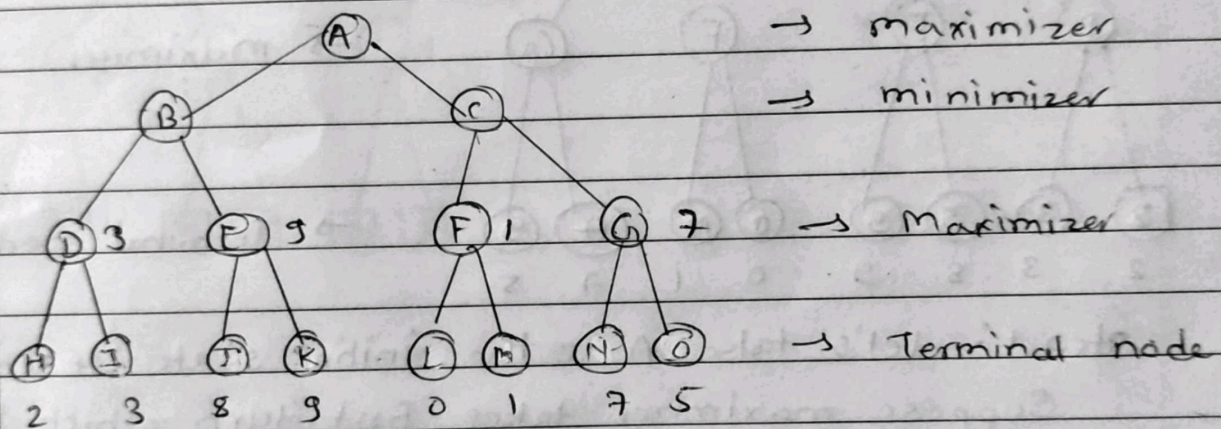


Step 1: Let's take A is the initial state of tree
Suppose maximizer takes first turn which has worst-case initial value = $-\infty$ and minimizer will take next turn which has worst-case initial value = $+\infty$



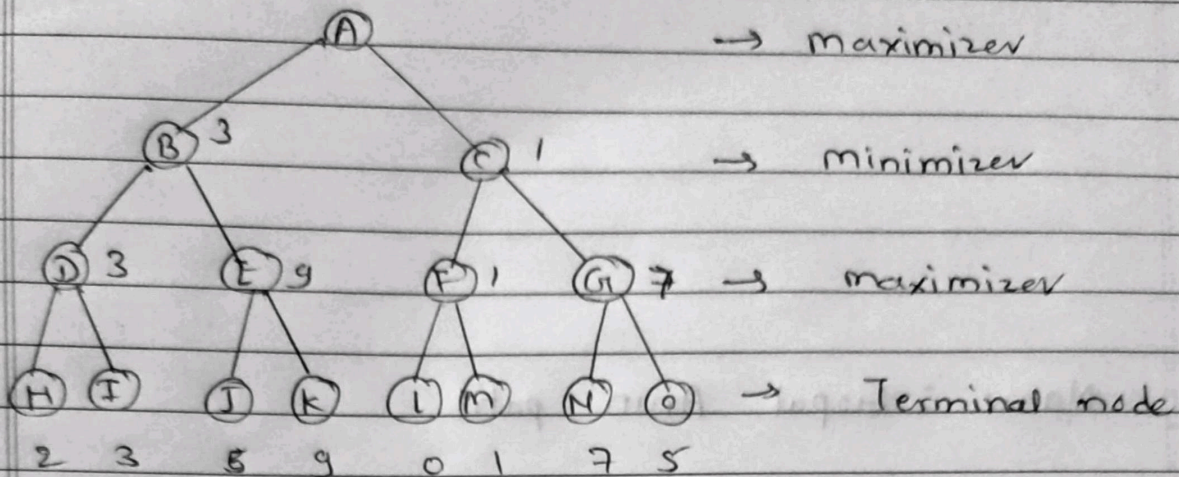
Step 2: Now, first we find the utilities value for maximizer, its initial value is $-\infty$, so we will compare each value in terminal state with initial value of maximizer & determines higher node values. It will find maximum among the all

- For node D $\max(2, -\infty) \Rightarrow \max(2, 3) = 3$
- For node E $\max(5, -\infty) \Rightarrow \max(5, 9) = 9$
- For node F $\max(0, -\infty) \Rightarrow \max(0, 1) = 1$
- For node G $\max(7, -\infty) \Rightarrow \max(7, 5) = 7$



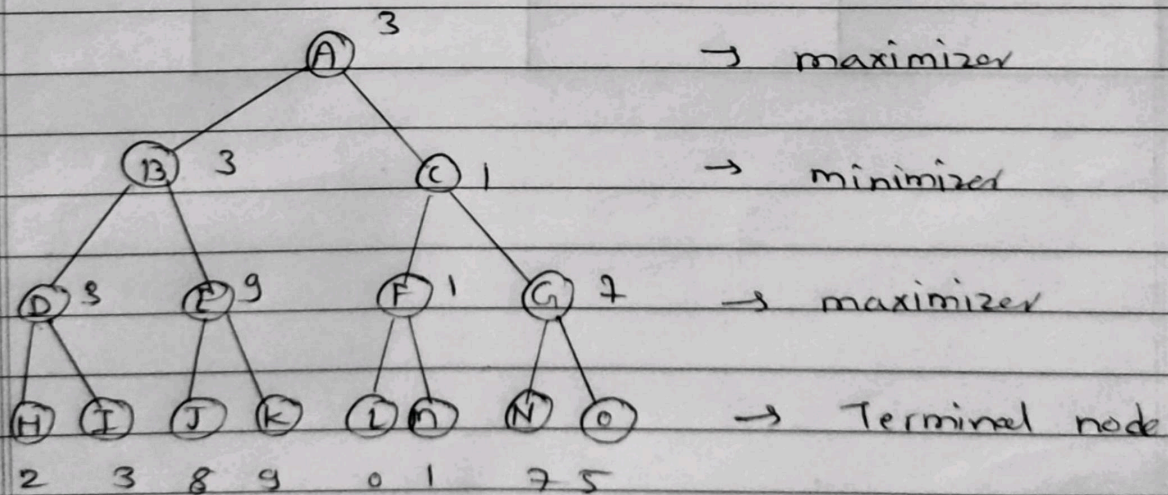
Step 3: In next step, it's a turn for minimizer, so it will compare all nodes values with $+\infty$ & will find the 3rd layer node values

- For node B $= \min(3, 9) = 3$
- For node C $= \min(1, 7) = 1$



Step 4 : Now, its turn for maximizer, & it will again choose the maximum of all nodes value and find maximum value for root node. In this game tree, there are only 4 layers, hence we reach immediately to root node,

For node A $\max(3, 1) = 3$



This is a final solution using minmax algorithm.