K.G.C.E.
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Min Max Algorithm :-

Min max algorithm :-

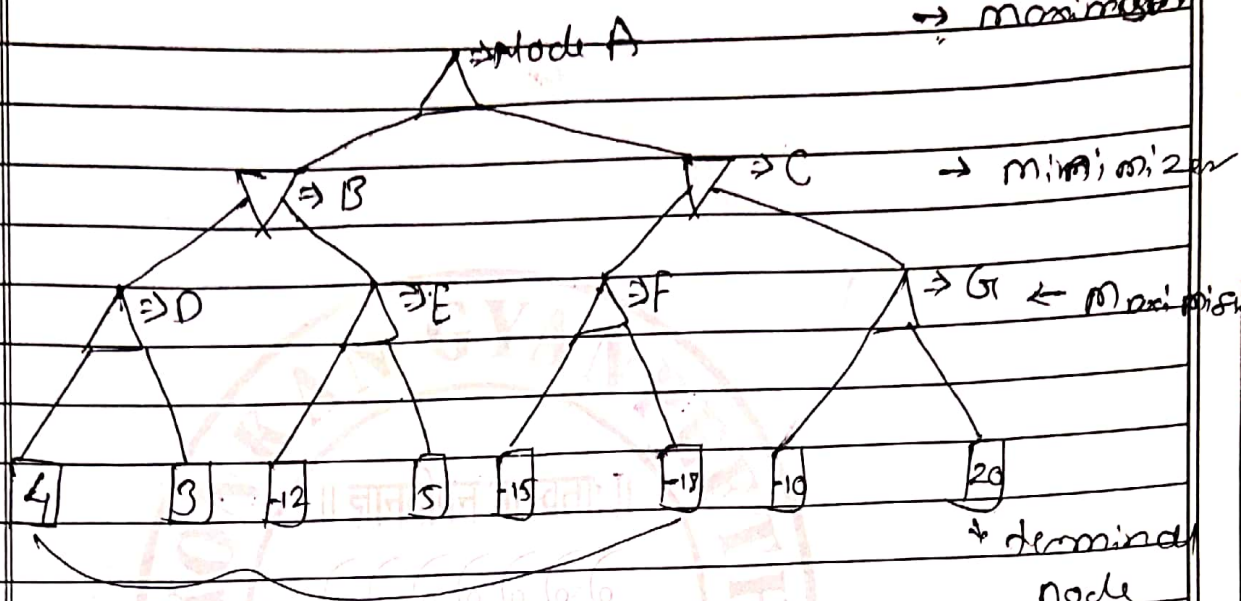
min max algorithm is a recursive a backtracking algo which is used in decision-making and game theory it provides an optimal move to the player assuming that opponent is also playing optimally.

- min max algo uses recursion to search through the game tree
- In this algo two players play the game, one is called MAX and other is called MIN
- min max algo is mostly used for game playing in AI.

- Step 1 :

Lets take A is the initial state of the tree suppose maximiges takes first turn (whom a) which the worst-case initial value = -infinity, and max minimige will take next turn which

has worst-case initial value = +infinity



step 2 ;

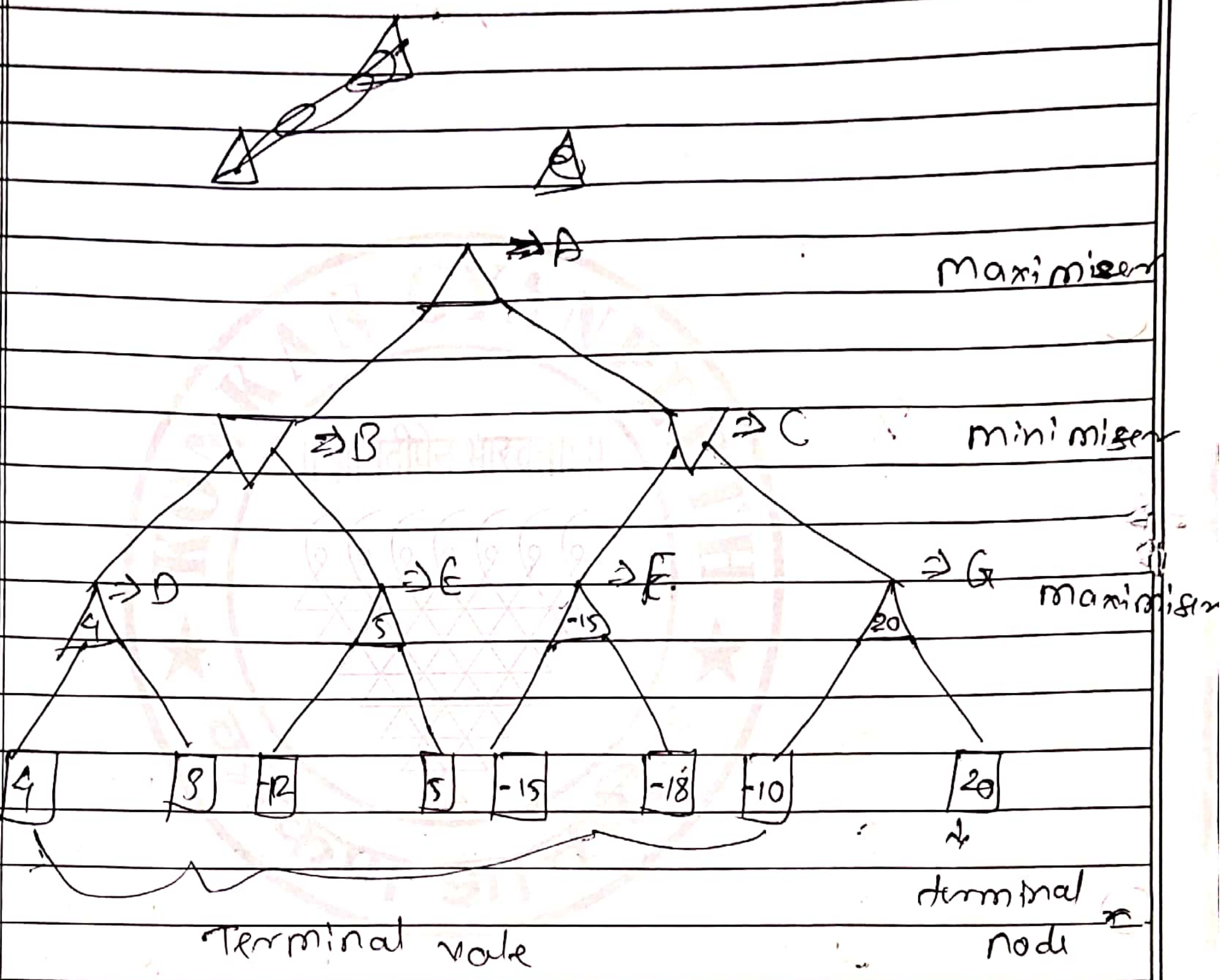
first we find the utilities value for the maximizer its initial value is $-\infty$, so we will compare each value i.e. terminal state with initial value of maximizer and determine the highe nodes values. It will find the maximum among all

for node D : $\max(4, -\infty) \Rightarrow \max(4, 3) = 4$

for node E : $\max(-12, -\infty) \Rightarrow \max(-12, 5) = 5$

for node F : $\max(-15, -\infty) \Rightarrow \max(-15, -18) = -15$

for node G = max (-10, -∞) ⇒ max (-10, 20) = 20

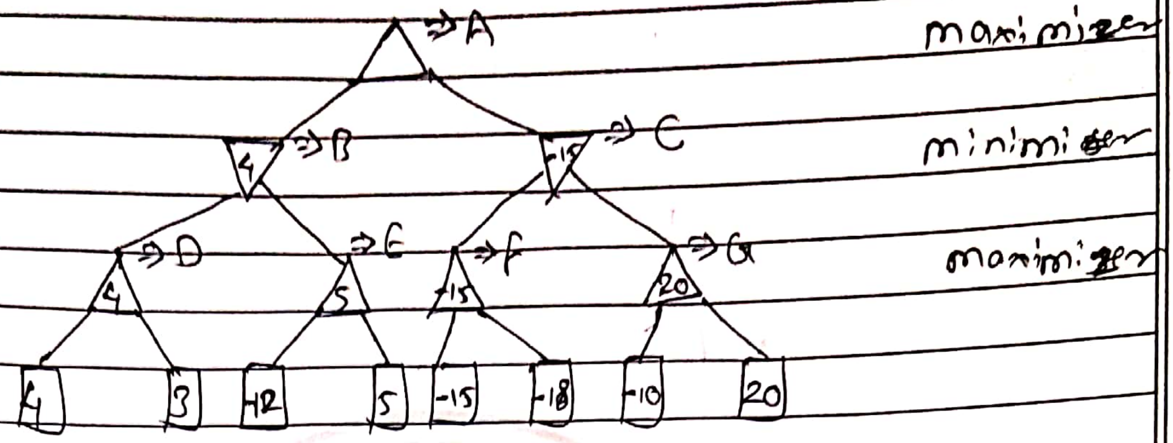


step 3 :

In the next steps, its a turn for minimiger, so it will compare all nodes value with two, and will find the 3rd layer node value

for node B - min (4, 5) = 4

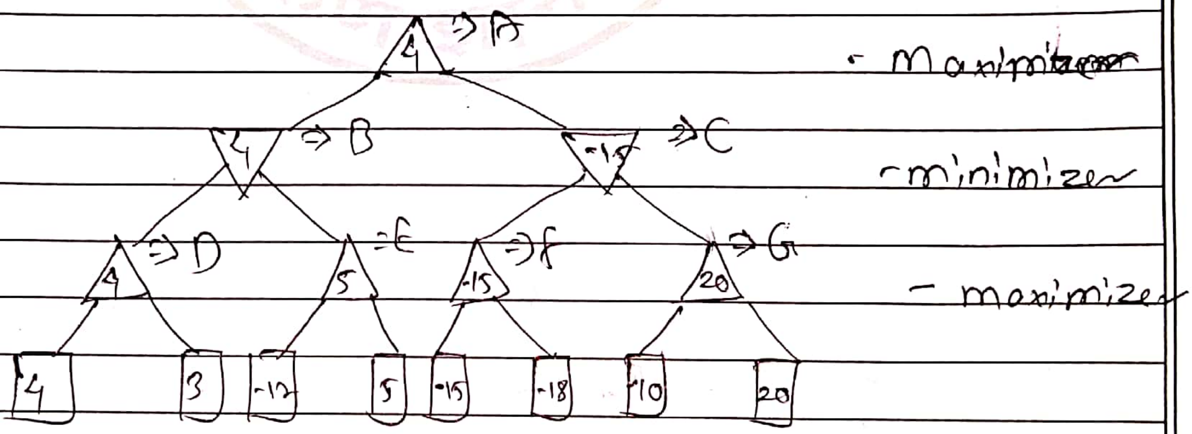
for node C - min (-15, 20) = -15



Step 4 :-

Now its a turn for maximiser and it will again choose the maximum of all nodes values and find the maximum value for the root nodes

for node A = max (4, -15) = 4



Hence it was the complete work flow of the minimax algorithm with two player game