

K. G. C. E.
Karjat - Raigad

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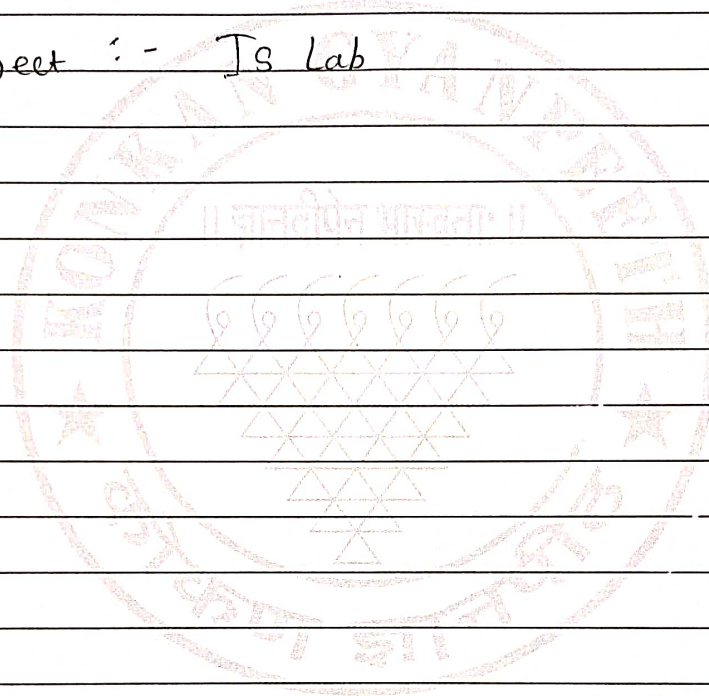
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Class :- B.E / I.T

Roll No :- 27

Subject :- IS Lab



Alpha - Beta Pruning :-

Alpha beta Pruning is a modified reason of the min max algo. It is an optimization technique for the min max to algo

* Alpha (α) = The least (highest value)
- Initial value of alpha is $-\infty$

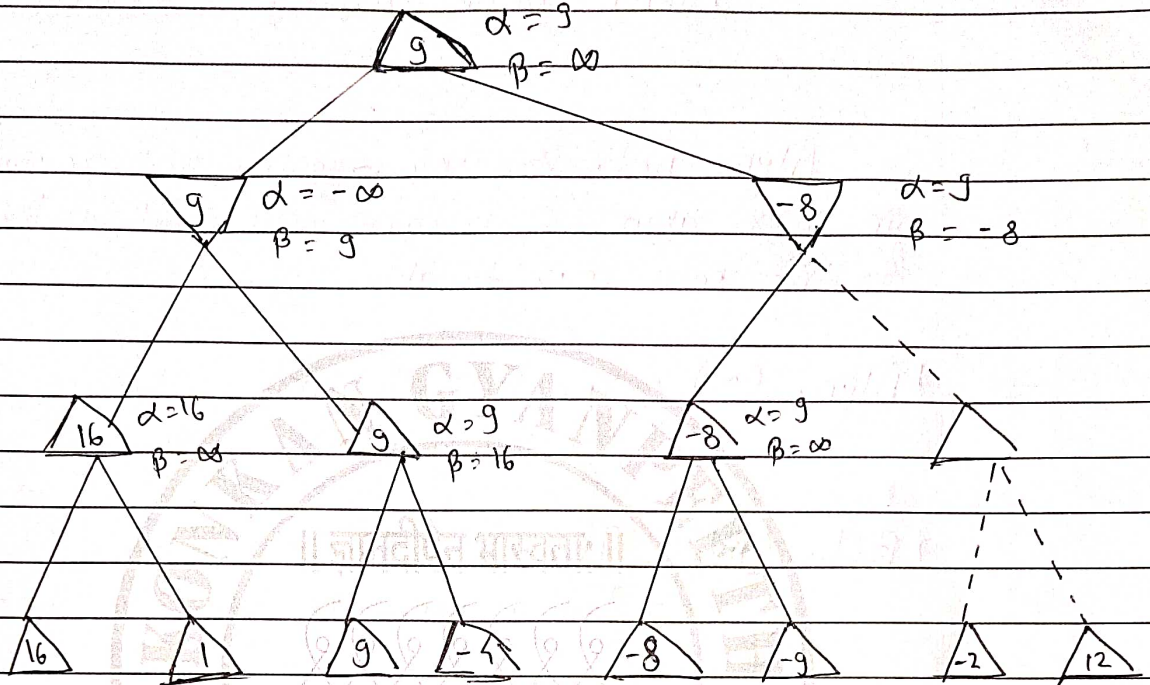
* Beta (β) = The least (highest value)
= Initial value is Beta is $+\infty$

* Rules & condition

- 1) The max player will only update the value of alpha
- 2) The min player will only update the value of β
- 3) We will only pass the alpha, beta values to the child nodes
- 4) Nodes values will be passed to upper node instead of values of alpha and beta

* condition to Prune :- $a \geq b$ or $b \leq a$

* When alpha is greater than or equal to beta

[illegible]

$$1) \alpha (-\infty, 16) \neq 16$$

$$\alpha(-\infty, 1) = 1$$

$$\alpha(16, 1) = 16$$

- Max (Bottom left)

$$2) \beta(\infty, 16) = 16$$

- Plin (left)

3) $\alpha(-\infty, 9) = 9$

$$\alpha(-\infty, -4) = -4$$

$$\alpha(9, -4) = 9$$

- Max (Bottom left)

$$(1 \text{ Pf.} + \text{Mo})_2$$

4) $\alpha(9, -8)$

~ Top (Max)

5) $\beta(16, 9) = 16$

- Min (night)

6) $\beta(-\infty, 9) = 9$

- Max (Bottom Right)

(right node)

7) $\alpha(9, -8) = 9$

$$\alpha(\rightarrow g, -g)(g, -g) = g$$

$$\alpha(-8, -9) = -8$$

8) $\beta(\infty, -9) = -9$

- min (night)

$$\alpha = g$$

$$\beta = -9$$

$\alpha \geq \beta$ So the next node is pruned

g) $\alpha = .9$

Max

$$\beta = \infty$$

$$\alpha(g, -g) = g$$

Solution