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Date

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D.O.P.	D.O.C.	Marks	Sign

Alpha - Beta Pruning :

→

Alpha-beta pruning - Alpha beta pruning is a modified version for the min max algo. It is an optimization technique for the minmax algo

- Alpha (α) : The best (high +-value)
  = Initial value of alpha is $-\infty$

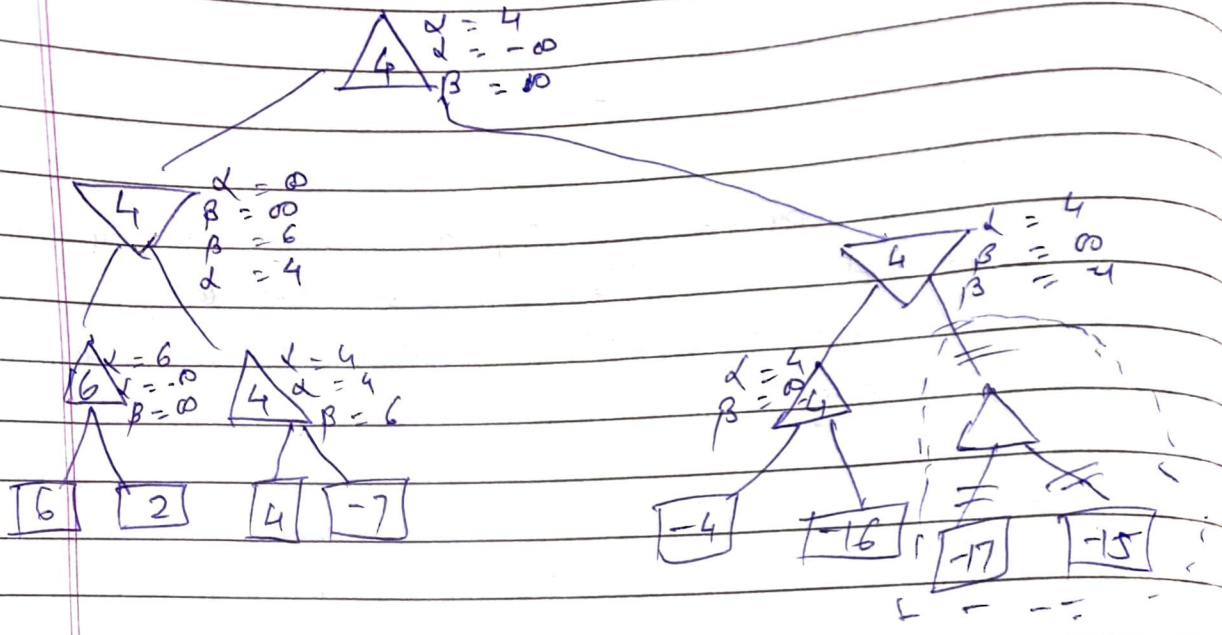
- Beta (β) : The best (Lighest value)
  = Initial value is Beta is $+\infty$

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 the alpha, beta values to the child nodes
4) Node values will be passed to upper node instead of values of alpha & beta.

- Condition to = $a \geq b$ or $b \leq a$

- when alpha is greater than or equal to beta



1) $\alpha(-\infty, 6) = 6$
$\alpha(-\infty, 2) = 2$
$\alpha(6, 2) = 6$

- max (Bottoms left)

2) $\beta(\infty, 6) = 6$

- min (left)

3) $\alpha(-\infty, 4) = 4$
$\alpha(-\infty, -7) = -7$
$\alpha(4, -7) = 4$

- max (Bottoms left) (left) node.

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

- Top (max)

5) $\beta(6, 4) = 4$

- min (right)

6) $\beta(-\infty, 4) = 4$

- max (Bottom right) (right node)

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

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

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

8) $\beta(\infty, -\infty) = -\infty$ - min (right)

$\alpha = 4$

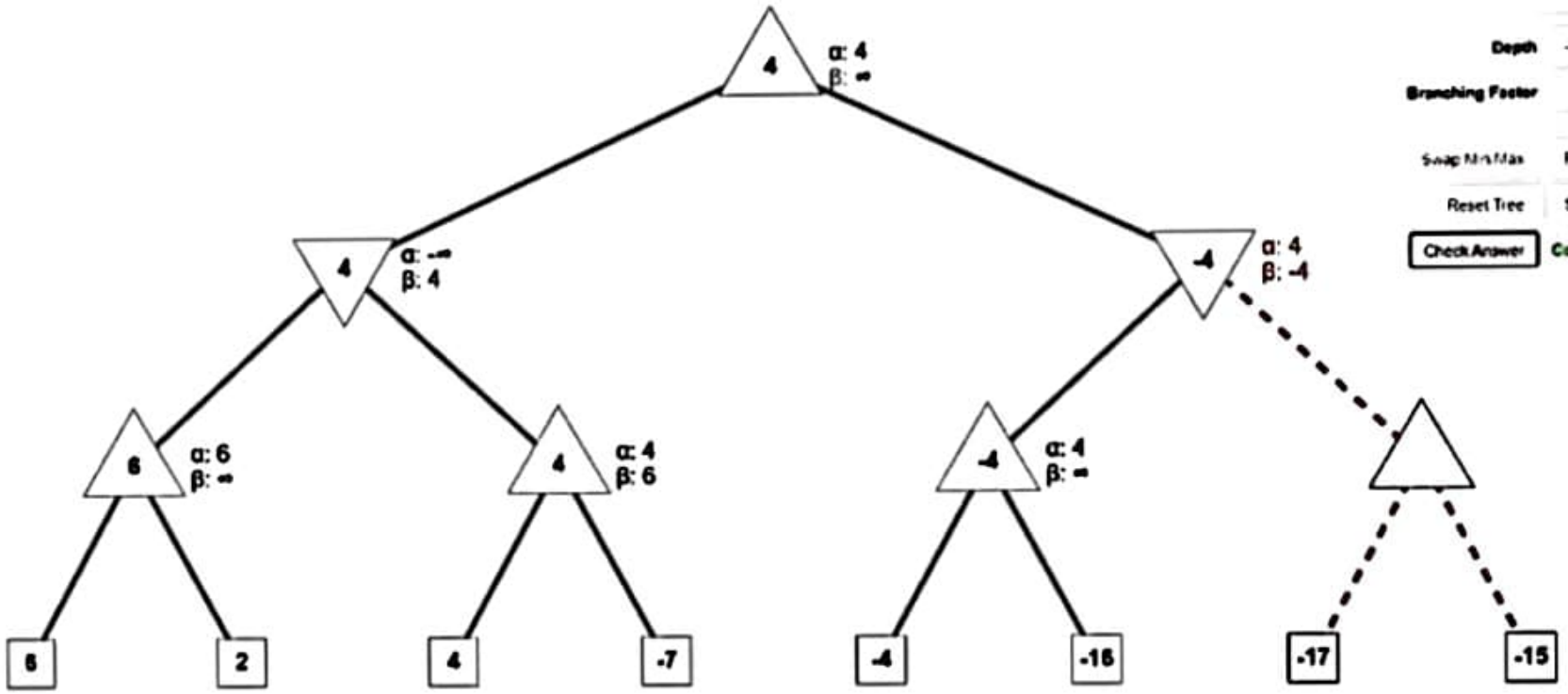
$\beta = -4$

$\alpha \geq \beta$

9) $\alpha = 4$ max

$\beta = \infty$

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



Start Animation

Depth - +

Branching Factor +

Swap Min/Max Regenerate Tree

Reset Tree Show Solution

Check Answer Correct!

Nodes are pruned when