Name : Devang p shinde

class :- BE - IT

Roll No :- 61

Subject :- Is lab

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Alpha - Beta prunning :-

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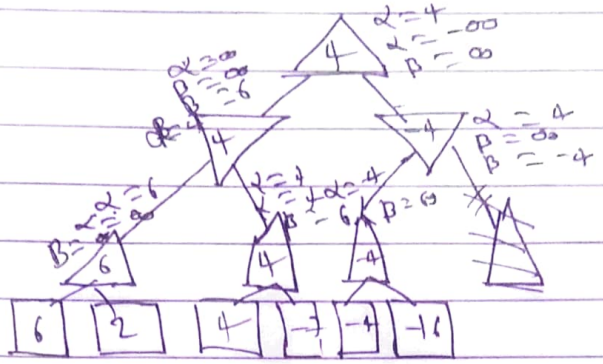
Alpha-beta punning = Alpha beta prunning is a modified recursion of the min max algorimm. It is a optimisation technique for minmax. algo

- Alpha (α) = The test (hight - value)
  = Intial value is Beta is -∞
- Beta (β) = The test (highest value)
  = Intial value is Beta is +∞
- Rules and conditions
  1) The max player will only update the value of apha.
  2) The min player will only updates the value of B
  3) we will only pam the alpha, beta values to the child nodes.
  4) Node values will be parsed to rupper node instead of values of alpha and beta.

- condition to prune : $a \geq b$ or $b \leq a$
- when alpha is greater than is equal to beta.



1) $\alpha = (-\infty, 6) = 6$ — max (Bottom left)

$\alpha = (\infty, 2) = 2$

$\alpha = (6, 2) = 6$

2) $\beta (\infty, 2) = 6$ — min (left)

3) $\alpha (-\infty, 4) = 4$ — max (Bottom left)

$\alpha (-\infty, -7) = -7$ (left node)

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

4) $\alpha (4, 4)$ — Top (max)

5) $\beta (6, 4) = 4$ — min (right)

6) $\beta (\infty, 4) = 4$ — max (Bottom right)

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

$\alpha (4, -16) = 4$

$\alpha (-4, -16) = -4$

8) $\beta (\infty, -16) = -16$ min (right)

$\alpha = 4$

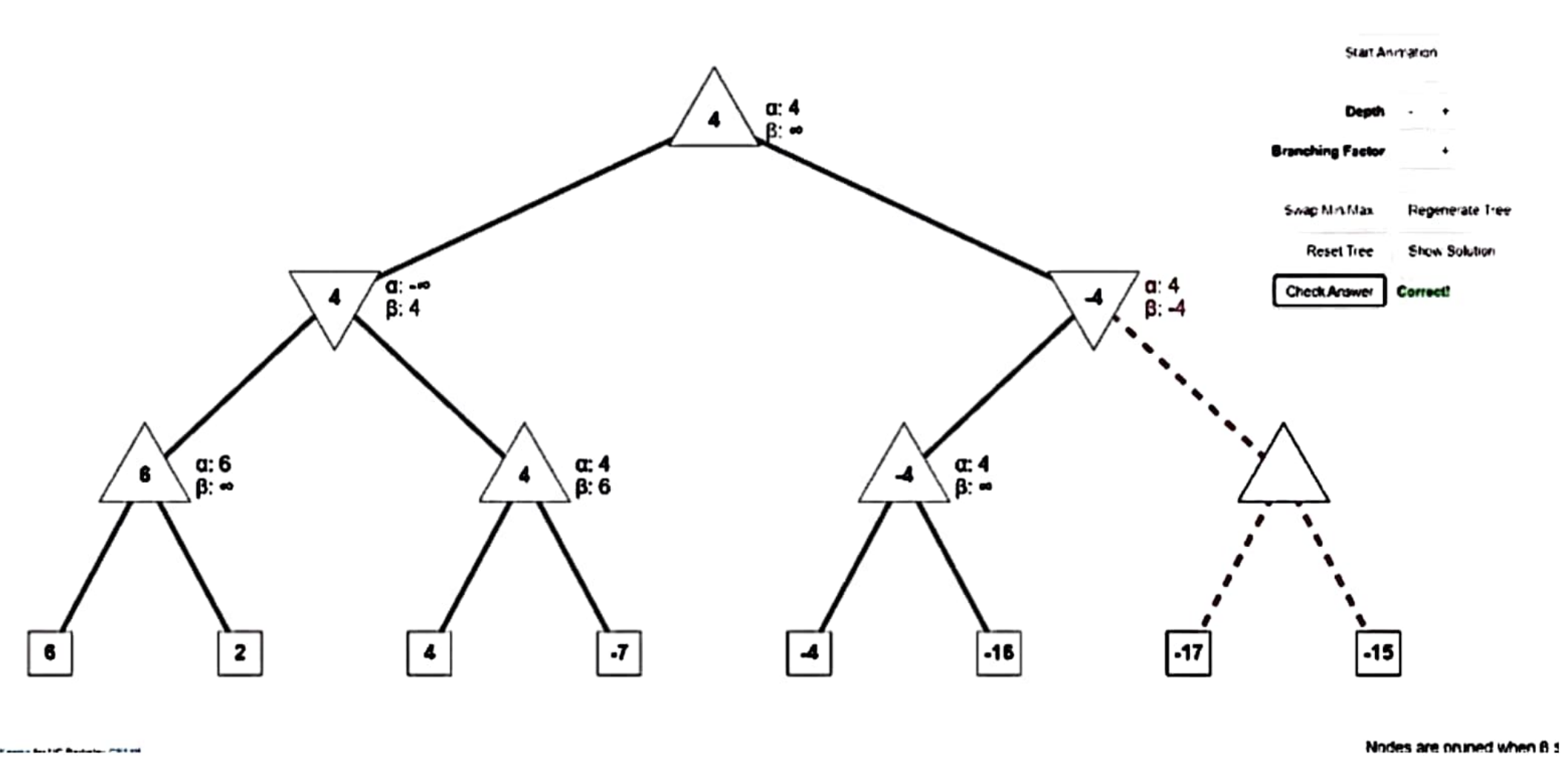
$\beta = -4$

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

9) $\alpha = 4$

$\beta = \infty$ Max

$\alpha (4, -4) = 4$ solution.



Nodes are pruned when β ≤