

Alpha-Beta pruning

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Function alpha-beta-pruning (node, depth, alpha,
    beta, maximizing-player)
    If depth == 0 or node is terminal
        return Evaluate (node)
    If maximizing-player:
        max-eval := -∞
        for each child of node
            eval = alpha-beta-pruning (child, depth+1,
                alpha, beta, false)
            max-eval = max (max-eval, eval)
            alpha = max (alpha, eval)
            If beta <= alpha:
                break
        return max-eval
    else:
        min-eval = ∞
        for each individual child node
            eval = alpha-beta-pruning (child, depth+1,
                alpha, beta, true)
            min-eval = min (min-eval, eval)
            beta = min (beta, eval)
            If beta <= alpha:
                break
        return min-eval
```

Output:

for tree = [[3,5,6], [9,1,2], [0,7,4]]
optimal value : 6