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**Algorithm 1:** Minimax Algorithm

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```
Function Minimax(state, depth, maximizing = true):  
  if depth = 0 or game is over then  
    | return evaluate(state)  
  end  
  if maximizing = true then  
    | bestValue  $\leftarrow -\infty$ ;  
    | for each child in state do  
    | | value  $\leftarrow$  Minimax(child, depth - 1, false);  
    | | bestValue  $\leftarrow$  max(bestValue, value);  
    | end  
    | return bestValue;  
  end  
  else  
    | bestValue  $\leftarrow \infty$ ;  
    | for each child in state do  
    | | value  $\leftarrow$  Minimax(child, depth - 1, true);  
    | | bestValue  $\leftarrow$  min(bestValue, value);  
    | end  
    | return bestValue;  
  end
```

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**Algorithm 2:** Minimax Algorithm with Alpha-Beta Pruning

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```
Function AlphaBeta(state, depth,  $\alpha$ ,  $\beta$ , maximizing = true):  
  if depth = 0 or game is over then  
    | return evaluate(state)  
  end  
  if maximizing = true then  
    | bestValue  $\leftarrow -\infty$ ;  
    | for each child in state do  
      | value  $\leftarrow$  AlphaBeta(child, depth - 1,  $\alpha$ ,  $\beta$ , false);  
      | bestValue  $\leftarrow$  max(bestValue, value);  
      |  $\alpha \leftarrow$  max( $\alpha$ , value);  
      | if  $\beta \leq \alpha$  then  
        | | break;  
      | end  
    | end  
    | return bestValue;  
  end  
  else  
    | bestValue  $\leftarrow \infty$ ;  
    | for each child in state do  
      | value  $\leftarrow$  AlphaBeta(child, depth - 1,  $\alpha$ ,  $\beta$ , true);  
      | bestValue  $\leftarrow$  min(bestValue, value);  
      |  $\beta \leftarrow$  min( $\beta$ , value);  
      | if  $\beta \leq \alpha$  then  
        | | break;  
      | end  
    | end  
    | return bestValue;  
  end
```

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