

③ Solve 8-Queens Using Alpha-Beta Date: / / Page: 51

```
def alpha-beta (self, board, col, alpha, beta,  
               max_player):
```

```
    if col >= self.size:
```

```
        return 0. [row[i] for row in board]
```

```
    if max_player:
```

```
        Max_eval = float('-inf')
```

```
        best_board = None
```

```
        for row in range (self.size):
```

```
            if self.is_safe (board, row, col):  
                board [row] [col] = 1
```

```
            eval_score, potential_board = self.alpha_beta-  
            search
```

```
                (board, col+1, alpha, beta, p=false)
```

```
        board [row] [col] = 0
```

```
        if eval_score > max_eval:
```

```
            best_board = potential_board
```

```
        best_board = potential_board
```

```
        alpha = max (alpha, eval_score)
```

```
        if beta <= alpha:  
            break;
```

return max\_eval, best\_board:

else

beta = min ( beta, eval\_score )

if beta <= alpha

break;

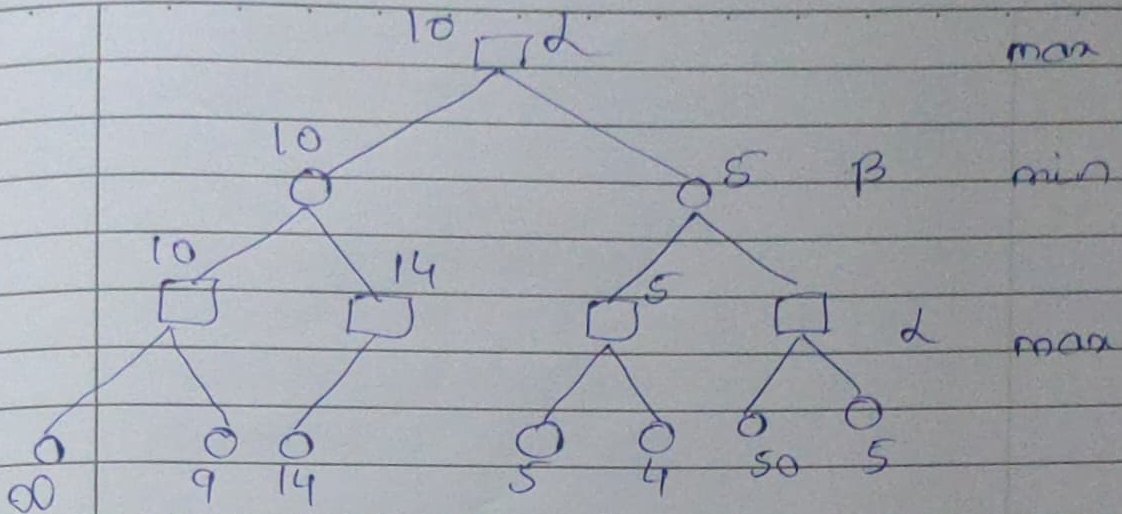
return min\_eval, best\_board

⇒

Output

		Q					
				Q			
						Q	
	Q						
		Q					
							Q
					Q		
			Q				





*Shreya SB*  
 17/12/2024