# Alpha-Beta for 8 queens

## Algo

```
def is_valid(board, row, col):
    for i in range(row):
        if board[i] == col or (board[i]-col) == (i-row):
            return false
    return true

def alpha_beta(board, row, alpha, beta, ismax):
    if row == len(board):
        return 0
    if is max:
        max score = 0
        for col in range(len board):
            if invalid(board, row, col):
                board[row] = col
                max score += alpha_beta(board, row+1,
                                        alpha, beta, false)
                board[row] = -1
        alpha = max(alpha, max_score)
        if beta <= alpha
            break
        return max score
    else:
        min score = float('inf')
        for col in range(len(board)):
            if is valid(board, row, col):
                board[row] = col
```

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```
min_score = min(min_score, alpha_beta(board,
                row+1, alpha, beta, true))

board[row] = -1
beta = min(beta, min_score)
if beta <= alpha
    break
return min_score

def solve_8_queen()
    board = [-1]*8
    alpha = -float('inf')
    beta = float('inf')
    return alpha_beta(board, 0, alpha, beta, true)
```

Output : Total