

N-Queens Problem (Mini-project 2)

You are given with the two files. (`Board.swift`, `QueensSolver.swift`)

Your goal is to write a function `solve8Queens(board: inout Board, col: Int)` that accepts a `Board` as a parameter and tries to place 8 queens on it safely. (Feel free to modify the function prototype. You are allowed to create a function with different set of parameters)

Here are **two** tasks you need to accomplish from this mini-project.

1. Print all possible ways to place 8 queens on 8x8 chessboard.

It should look like this...

```
[Q - - - - - - -]
[- - - - - - Q -]
[- - - - Q - - -]
[- - - - - - - Q]
[- Q - - - - - -]
[- - - Q - - - -]
[- - - - - Q - -]
[- - Q - - - - -]
```

```
[Q - - - - - - -]
[- - - - - - Q -]
[- - - Q - - - -]
[- - - - - Q - -]
[- - - - - - - Q]
[- Q - - - - - -]
[- - - - Q - - -]
[- - Q - - - - -]
```

```
[Q - - - - - - -]
[- - - - - Q - -]
[- - - - - - - Q]
[- - Q - - - - -]
[- - - - - - Q -]
[- - - Q - - - -]
[- Q - - - - - -]
[- - - - Q - - -]
```

(... 92 possible ways)

2. Print the first possible way to place 8 queens on the 8x8 board with **less than 115 recursive calls**. Stop immediately as soon as you find the first solution.

It should look like this...

```
[Q - - - - - - -]
[- - - - - - Q -]
[- - - - Q - - -]
[- - - - - - - Q]
[- Q - - - - - -]
[- - - Q - - - -]
[- - - - - Q - -]
[- - Q - - - - -]
```

Number of recursive calls: 114

NOTE:

(You can create a global variable to count the number of recursive calls being made.)

```
var count = 0
func solve8Queens(board: inout Board, col: Int) -> Bool {
    count += 1
    ...
}

solve8Queens(...)
print(count)
```

Reference Problem: <https://leetcode.com/problems/n-queens/>