LAB S10 – EIGHT QUEENS

A chess board consists of 64 squares arranged in an 8-by-8 grid. In the game of chess, the queen is the most versatile and powerful piece. A queen is able to move in a straight line in any of eight directions: forward or back, left or right, or any of the four diagonal directions.

Write a recursive method that will arrange eight queens on a chess board so that no queen is able to attack any other queen in a straight line.

Your output for this lab should be a table representing a chess board in which each empty square is denoted with a hyphen ("-") and each location that contains a queen is denoted with a capital "Q". The rows and columns of the table should be labeled 0 through 7. An incomplete (and possibly incorrect) solution is shown below.

```
  01234567
0 Q-------
1 ----Q---
2 -------Q
3 -Q------
4 --------
5 --------
6 --------
7 --------
```

Criteria

1) You must use a recursive method to solve this problem. You may create as many non-recursive helper methods as you like.
2) The output must appear in the same format as the example above.
3) Pre and post conditions must be included for each method you write if you submit your lab through Canvas (labs shown to Holm in class do not require pre and post conditions).

Submission

1) Submit your code for this lab on a Googly Doc through Canvas by 11:59 pm on Monday, March 16. Alternatively, you may show your lab to Holm in class before the due date. ***If you submit through Canvas, you must provide a sample output.***