# Orasi Monthly Code Challenge

Gold League


# *August 2013*

*Challenge Submitted by:*

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*Challenge Due Date:*

**8/30/13**

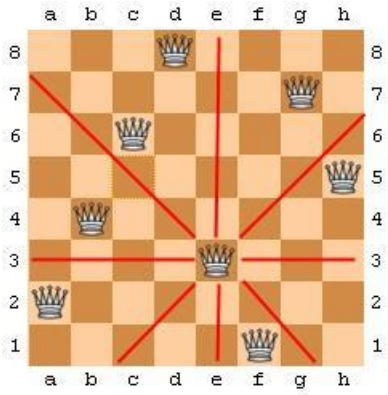
# August 2013 Orasi Code Challenge - Gold

## Challenge Description

This month's challenge is commonly known as the N-Queen problem. Traditionally this problem is given as trying to find an arrangement of 8 queens on an 8x8 chessboard where none of the queens threaten any other queen. This means that no queen can be in either the same row, column, or diagonal line as any other queen. For the 8x8 size board and 8 queens there are 92 possible solutions to the problem. By extending this problem to an N queens on an NxN chessboard the problem gets more interesting.

## N-Queens

For the N-Queens problem the chessboard is an arbitrary size (NxN) with the number of queens equal to the dimension of the chessboard. Queens can "threaten" any square that is in the same row, column, or diagonal as they are. An example of a solution to an 8x8 board is shown below.




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| x | x | x | Q | x | x | x | x |
| x | x | x | x | x | x | Q | x |
| x | x | Q | x | x | x | x | x |
| x | x | x | x | x | x | x | Q |
| x | Q | x | x | x | x | x | x |
| x | x | x | x | Q | x | x | x |
| Q | x | x | x | x | x | x | x |
| x | x | x | x | x | Q | x | x |

Solutions to the N-Queens problem need to be stored in an array and returned from the function. The array will be indexed as Array(Solution #). The returned array should be contain a comma and semi-colon delimited string that can be split to create a solution array. This string should be in the format (Column1Row1, Column2Row1;Column1Row1,Column2Row2). This string should use lowercase "x" to represent an empty square and capital "Q" to represent a square containing a queen.

The function most also handle time keeping and exit with any known solutions after 15 minutes. It is encouraged to exit slightly earlier as any function taking over 15 minutes will be ineligible to win the challenge.

## Submission Requirements:

Your submission must be in the form of a VBScript function that can run inside QTP. The function should accept one argument (the number N) and return an array containing the solution(s). The function name

should be your name. The function must comply with Orasi Coding Standards. You will be allowed 15 minutes of execution time to accomplish this task. **Your function must handle time keeping and exit after 15 minutes returning any solutions that it has found.** Anyone who successfully returns a single correct solution will be considered to have completed the challenge. The code that returns the most solutions will be considered the winner of the challenge.

## Winning Solution:

********** Future Home of the winning solution **********