

## Problem Statement

Write a function that takes in a positive integer  $n$  and returns the number of non-attacking placements of  $n$  queens on an  $n \times n$  chessboard. A non-attacking placement is one where no queen can attack another queen in a single turn. In other words, it's a placement where no queen can move to the same position as another queen in a single turn. In chess, queens can move any number of squares horizontally, vertically, or diagonally in a single turn.