

Consider a peaceable queens problem in an  $n \times n \times n$  chess “cube”, where a queen can move in any diagonal direction.

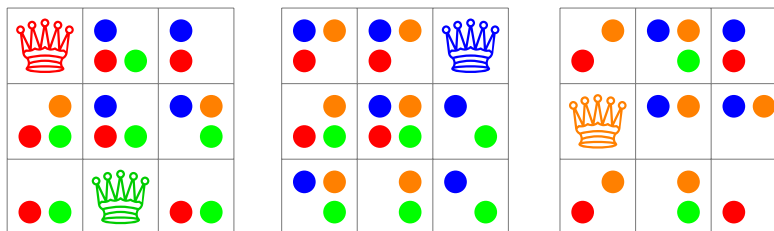


Figure 1: At least four hyper-queens can be placed peaceably on a  $3 \times 3 \times 3$  board.

**Question.** What is the greatest number of queens that can be placed on an  $n \times n \times n$  board?

**Related.**

1. If  $n^{k-1}$  queens can be placed on a  $\underbrace{n \times n \times \dots \times n}_k$  board for sufficiently large  $n$ , how large must  $n$  be?

**References.**

<https://math.stackexchange.com/q/2232287/121988>