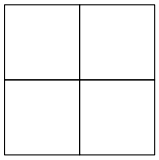
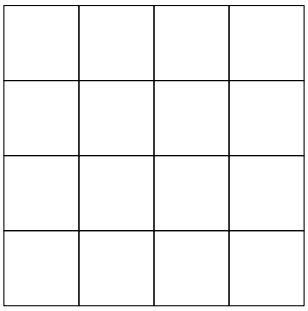
# L-Shaped Tiles

Today we ask the question, can all but one square of any $2^n$ by $2^n$ board be covered by L-shaped tiles? We will ponder this question using a set of 22 puzzle pieces: 1 square and 21 L-shaped pieces.

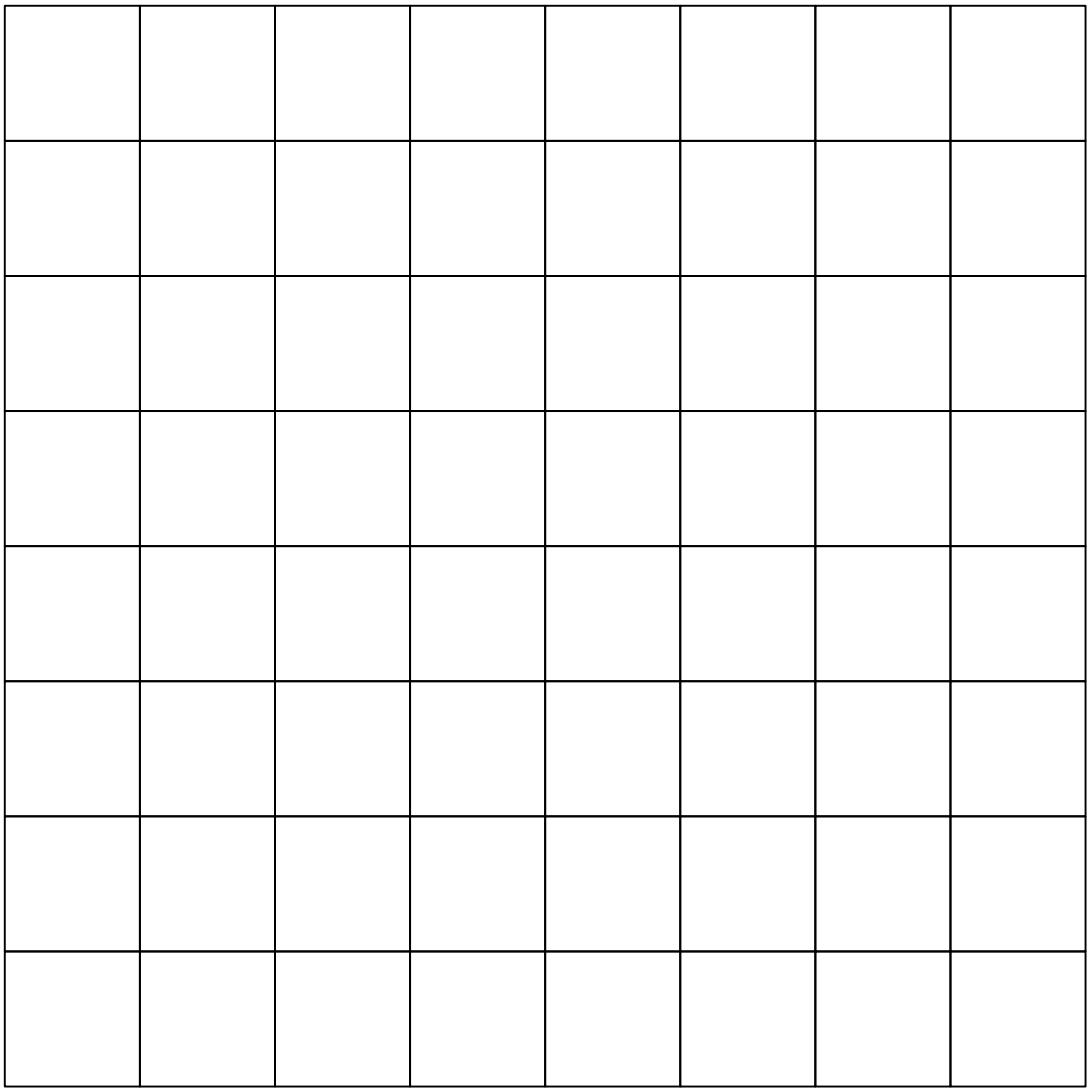
1. Use **1** square tile and **1** L-shaped tile to make a **2 by 2** square. Color in your solution below.



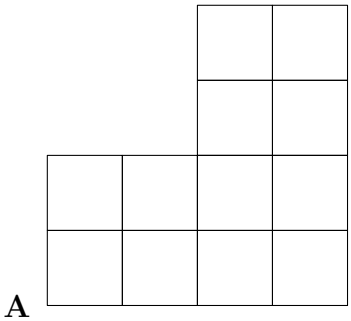
2. Use **1** square tile and **5** L-shaped tiles to make a **4 by 4** square. Color in your solution below.



3. Use **1** square tile and **21** L-shaped tiles to make an **8 by 8** square. Color in your solution below.

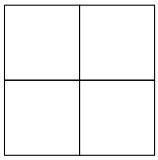


4. Can you use **4** L-tiles to make a single larger L, lets call it piece A? Color in your solution below.



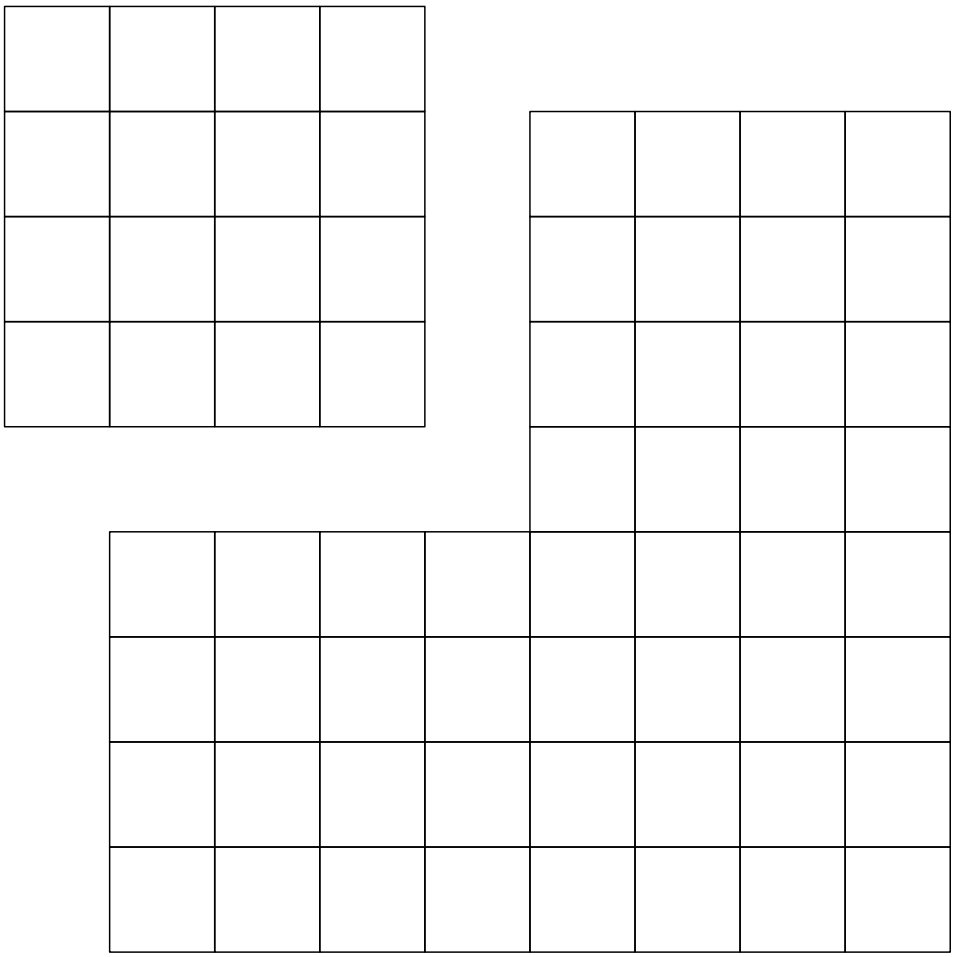
**A**

5. Can you use **1** square and **1** L-tile to form a square, lets call it B?



**B**

6. Can you use **4** of your *A* pieces to make an even larger L? Can you use **1** of your A pieces and **1** B piece to form a square? Color in your solution below.



## Solution to L-Shaped Tiles: Induction