Consider polyominoes where each cell has one of n colors, and each distinct pair of colors is adjacent (horizontally or vertically) to each other somewhere in the polyomino. Let an n-minimum polyomino be one that has the minimum number of cells.

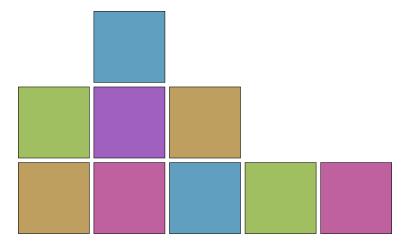


Figure 1: An example of a minimum polyomino for n = 5; a(5) = 9

Question. How many such *n*-minimum polyominoes exist?

Related.

- 1. What if the "distinct" restriction is lifted? (e.g. a blue label must somewhere be adjacent to another blue label.)
- 2. What is a way to determine the size of an n-minimum polyomino for large n?
- 3. What if this is done on a triangular or hexagonal grid?
- 4. What if this is done on a three dimensional cube lattice?

References.

https://oeis.org/A278299