The puzzle Figure/Ground by Ian Gilman features a grid with two colors. In the grid any (horizontal/vertical) connected component can be moved exposing the other color beneath.

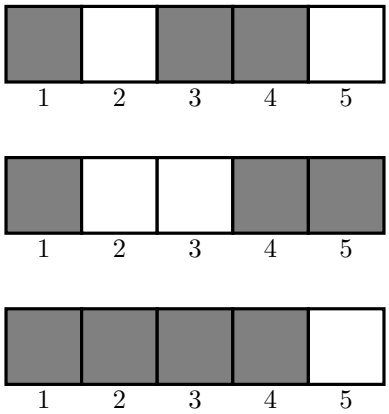

Figure 1: It is possible to get from the first configuration to the second configuration by moving the $(3,4)$-block to position $(4,5)$ or by moving the 5-block to position 3. It is possible to get from the first configuration to the third by moving the block in position 2 to position 5.

Question. Is there an efficient algorithm to determine whether it's possible to get from one configuration to another?

Related.

1. On a $1 \times n$ grid, what is the greatest number of steps between two configurations?
2. Starting with the $1 \times n$ grid where even squares are black and odd squares are white, is is possible to get to any configuration with both colors present? Do other starting configurations have this property?
3. What if this is done on a $n \times m$ grid? A $n_1 \times \ldots \times n_k$ grid? A triangular/hexagonal grid? Torus?
4. What if more colors were used?

References.

`http://www.clockworkgoldfish.com/figureground/list/sky/`