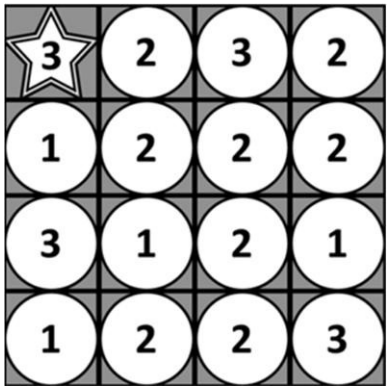
A Number Maze

20 February 2025

Jim Stevenson



Here is an entertaining puzzle[1] from *Futility Closet*.

By Wikimedia user Efbrazil. Begin at the star. The number at your current position tells you the number of blocks that your next jump must span. All jumps must be orthogonal. So, for example, your first jump must take you to the 1 in the lower left corner or the 2 in the upper right. What sequence of jumps will return you to the star?

Solution

I began a few trials and realized it was a bit tricky—there were too many choices. It's no fun just doing random trial and error, so I tried to find a more determinative approach. Often for maze-like problems it is helpful to work backwards. And so it turned out for this puzzle.

There was only one way to arrive at the 3-star: from the 1-circle below it. And only one way to arrive at the 1-circle: the 2-circle in the second row, third column. And one way to arrive there: the bottom 2-circle in the third column. Then from the 3-circle in the top row of the column, and then from the (yellow) 2-circle. Now there were two ways to arrive at this circle: from the 1-circle to the right and the 1-circle to the left. See Figure 1 and Figure 2 which show both paths. They converge on the 2-circle in the upper right corner, which comes from the starting 3-star. (Futility Closet only showed the solution in Figure 1, which is one step shorter than the solution in Figure 2.)

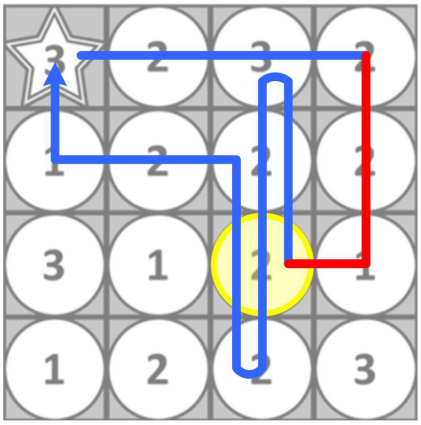


Figure 1

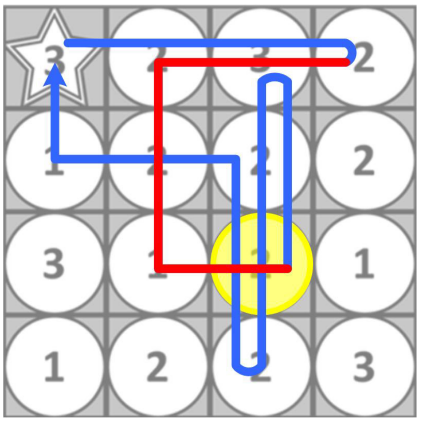


Figure 2

[1] 20 February 2025 (https://www.futilitycloset.com/2025/02/20/a-number-maze/)