A magic square is a 3×3 matrix of ^distinct positive integers so that the sum of each diagonal, row, and column is equal, e.g.

Suppose we wanted to create a state machine to find a magic square whose rows, columns, and diagonals all sum to integer k (e.g. $k=21$ for the above left square, while $k=15$ for the above right).

Create a state machine $M = (Q, \Sigma, \Delta, q_0, F)$ with branching factor $b=9$, maximum depth $m=3k$, and solution depth $d=3k$.

Which strategy should you use with this machine: BFS or DFS? Why?