1. Implement the backtracking algorithm for the *n*-queens problem in the language of your choice. Run your program for a sample of *n* values to get the numbers of nodes in the algorithm's state-space trees.

2. Micro was playing with a graph gifted to him by his friend on his birthday. The graph contains *N* vertices and *M* edges. All the edges are bidirectional. On each vertex of the graph there is a coin. Now Micro has to collect them all. But the game has some rules. The player has to start with some vertex. From current vertex, player can visit only those vertices which are connected to it by an edge. Also if a vertex is visited it cannot be visited again. Now Micro wants to find if he'll be able to collect all the coins.