

Sliding Puzzle Design

This design uses brute force to search for a solution.

The program uses a board object that keeps the 4x4 array of piece positions. The object also has a pointer to the parent or previous board that is one move from this one.

There is a queue of board objects that need to be inspected and a set of board objects that have already been inspected.

Create the initial board object and put it on the queue.

While the queue is not empty

 Take the board object from the head of the queue.

 If this board object is not already in the inspected set

 put the board object in the inspected set

 create board objects for all possible moves from this board

 for each new board object created

 if this board is the desired solution

 Follow the parent links to print the solution

 Stop

 put new board on the queue on the queue