Puzzle15

Programming Task: 15 Puzzle

Your task is to implement a single user game 15 Puzzle (https://en.wikipedia.org/wiki/15_puzzle). The 15-puzzle is a sliding puzzle that consists of a frame of numbered square tiles in random order with one tile missing.

Game is represented by 4x4 tiles board where 15 numbered tiles are initially placed in random order and where 16th tile is missing. A tile can be moved to a neighbor's empty place. To succeed in the game you need to order tiles from 1 to 15, where tile number 1 is at the top left corner and empty one is at the bottom right corner.

Note: the task is to implement a game, not an algorithm to solve it!

Implementation requirements:

- Make sure to separate handling of presentation, input and game logic. Presentation and input implemented by simple terminal I/O are good enough. Your solution should be easy to setup up and run; please use standard build tools from your prefered platform. Evaluation
- You should value simplicity without sacrificing important design decisions that would allow game to be easily maintained and extended in case you are asked to add additional features. We like interesting solutions, but avoid over-engineering. This task has very few requirements on game representation and play; we encourage you to fill in with your own decisions where appropriate.

Good solutions should take into account:

- Testable design; unit tests and TDD are big pluses, but are optional
- Clean code

- Solid knowledge of programming language's best practices
- Expressiveness in the design
- Correctness of random initial board generation algorithm implementation