N-Puzzle

**Complete TEST CASES**

## Test Cases

* Sample Cases - UNSOLVABLE
* Complete Cases

## Cases Output Description

You shall output these for each case:

1. Statement that indicates if the given board is solvable or not.
2. If solvable, display the board at each movement till the final solution to simulate the shortest sequence of moves till you solve the puzzle (for the 3x3 case).
3. The fewest number of moves required at the end to re-arrange the puzzle.
4. In the **DOCUMENTATION**:
   1. Comparison between the two distances (Hamming vs. Manhattan) over the "Complete Test" cases:
      1. Min number of moves
      2. Execution time

Here is an abbreviated example:

**Solvable.**

**# steps = 4**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 1 | 3 |  | 1 | 0 | 3 |  | 1 | 2 | 3 |  | 1 | 2 | 3 |  | 1 | 2 | 3 |
| 4 | **2** | **5** | **4** | **2** | **5** | **4** | **0** | **5** | **4** | **5** | **0** | **4** | **5** | **6** |
| 7 | **8** | **6** | **7** | **8** | **6** | **7** | **8** | **6** | **7** | **8** | **6** | **7** | **8** | **0** |

**Goal**

**Initial**