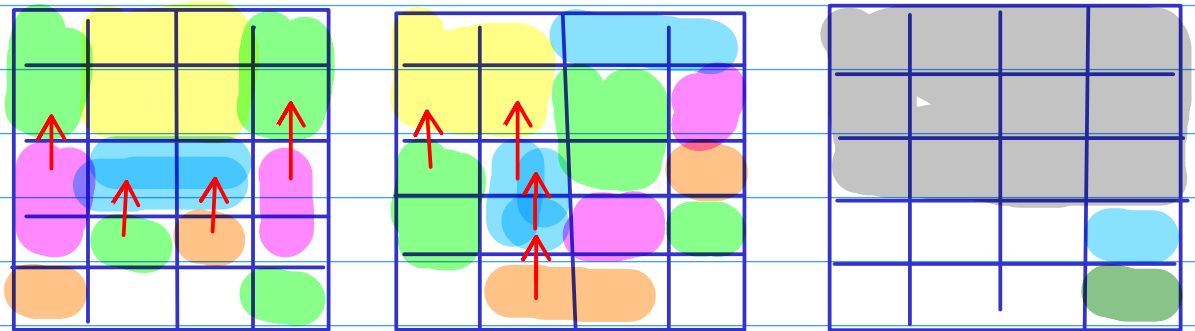(2) Your advanced heuristic function

Your next task is to propose an advanced heuristic function better than the Manhattan distance heuristic function. Your advanced heuristic function should satisfy the two requirements below.

> It should be admissible.
> It should dominate the Manhattan distance heuristic.

1. Describe how one can calculate the advanced heuristic value for any state of the puzzle.

Kind of similar to the misplaced heuristic, the heuristic in my mind is the minimum number of moves(ignoring overlapping like in manhattan) required to move pieces that occupy the space of the last two rows on the board such that after all the moving the last two rows have only 2 1*1 pieces and 6 blank spots(4 for goal pieces and 2 for blank).

2. Why is your advanced heuristic admissible?

Moving the "misplaced" 1*1, 1*2, 2*1 pieces out is first step and we still need extra at least one step to move the goal piece into the goal coordinate so the function never underestimates the actual number of moves required

3. Why does your advanced heuristic dominate the Manhattan distance heuristic?

In manhattan distance heuristic(h1), the goal piece can at most take 4 steps to move to the goal coordinate yet in this heuristic(h2) takes at least 4 steps. Thus
$h_2 \geq h_1$ and it dominates manhattan distance heuristic.