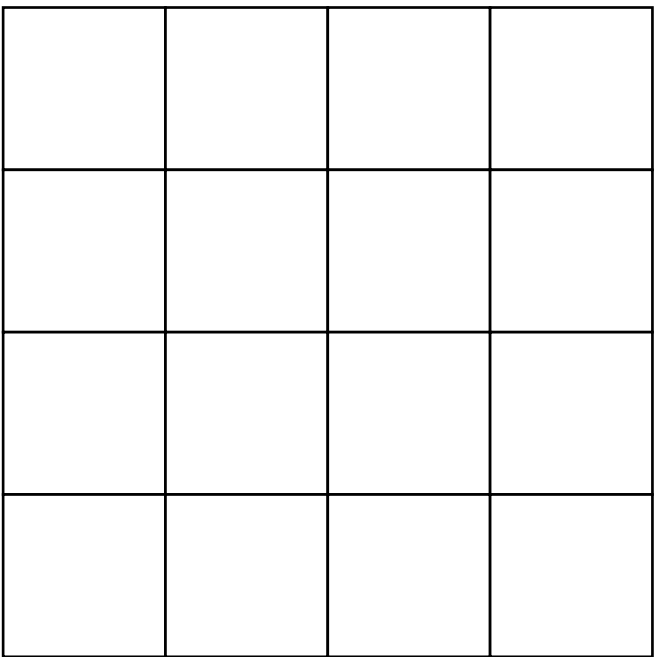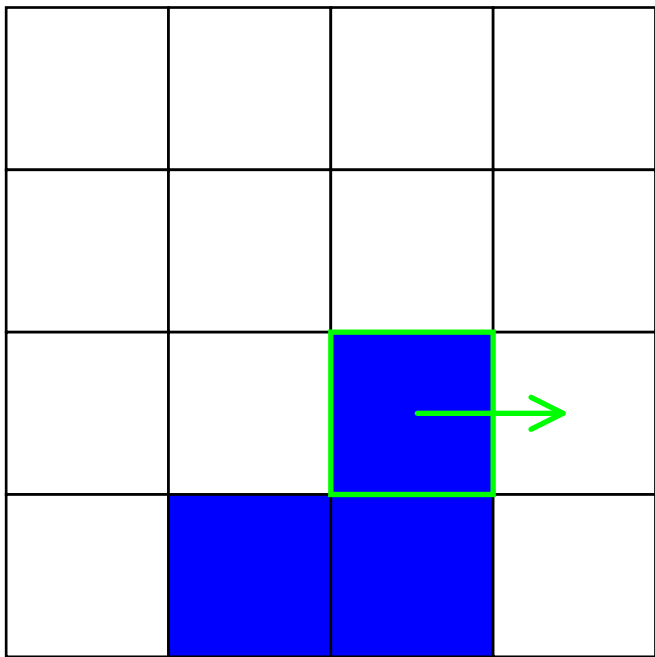..::SOLUTION::..: Solvable in 1 moves (blocks positions: {(2, 2): <Color: blue>, (3, 1): <Color: blue>, (3, 2): <Color: blue>})
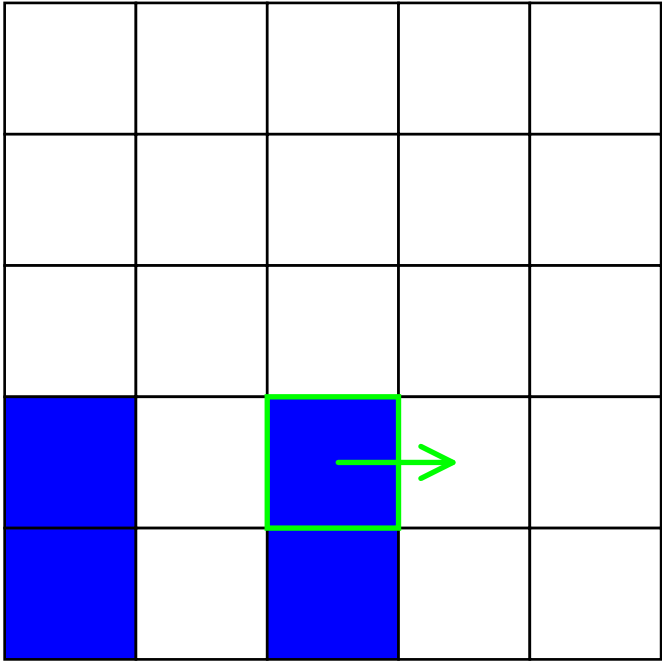
INITIAL STATE: (MOVE 1)
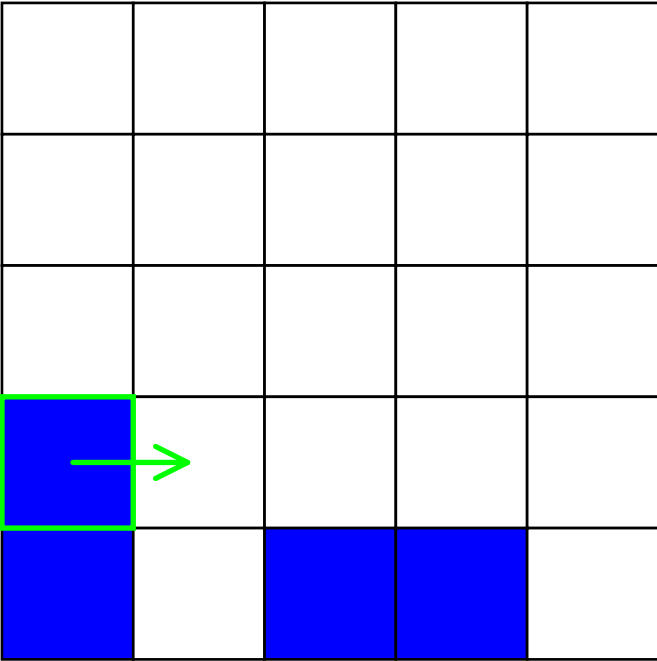Perform: move_right at position: (2, 2):   FINAL STATE

..::SOLUTION::..: Solvable in 2 moves (blocks positions: {(3, 0): <Color: blue>, (3, 2): <Color: blue>, (4, 0): <Color: blue>, (4, 2): <Color: blue>})
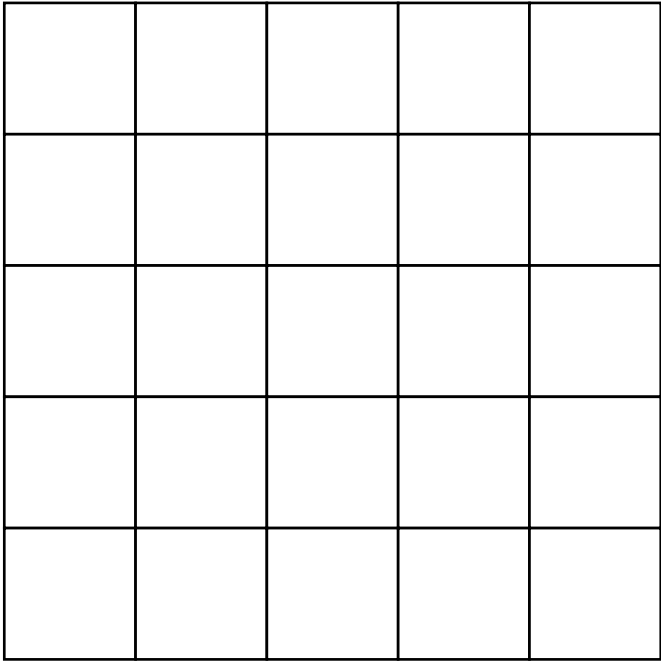
INITIAL STATE: (MOVE 1)
Perform: move_right at position: (3, 2):
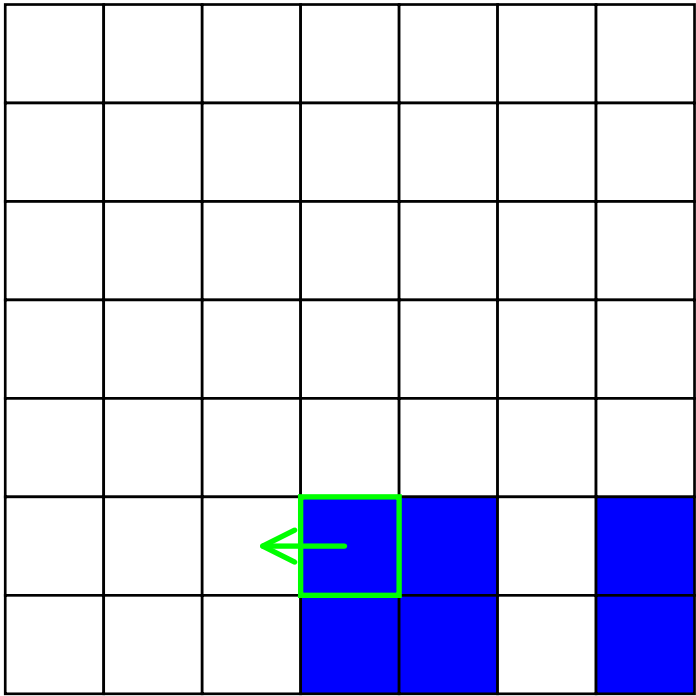
(MOVE 2)
Perform: move_right at position: (3, 0):

FINAL STATE

..::SOLUTION::..: Solvable in 2 moves (blocks positions: {(5, 3): <Color: blue>, (5, 4): <Color: blue>, (5, 6): <Color: blue>, (6, 3): <Color: blue>, (6, 4): <Color: blue>, (6, 6): <Color: blue>}
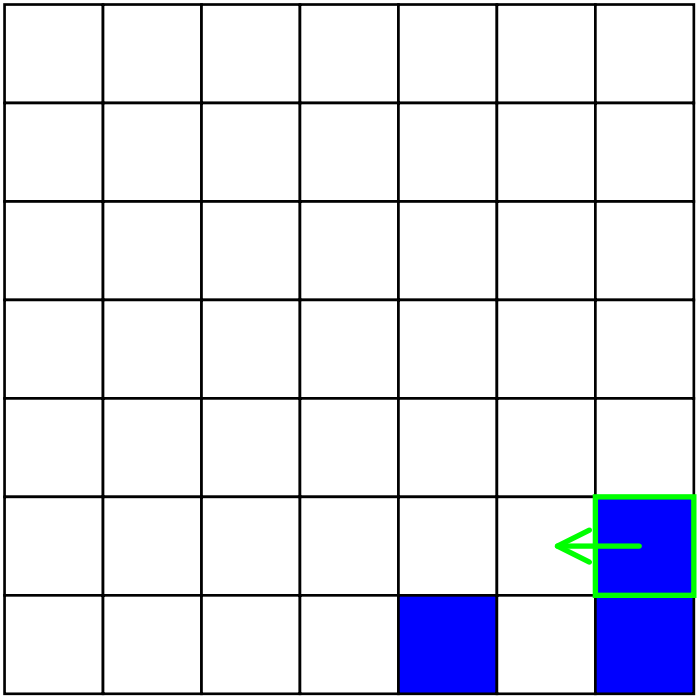
INITIAL STATE: (MOVE 1)
Perform: move_left at position: (5, 3):
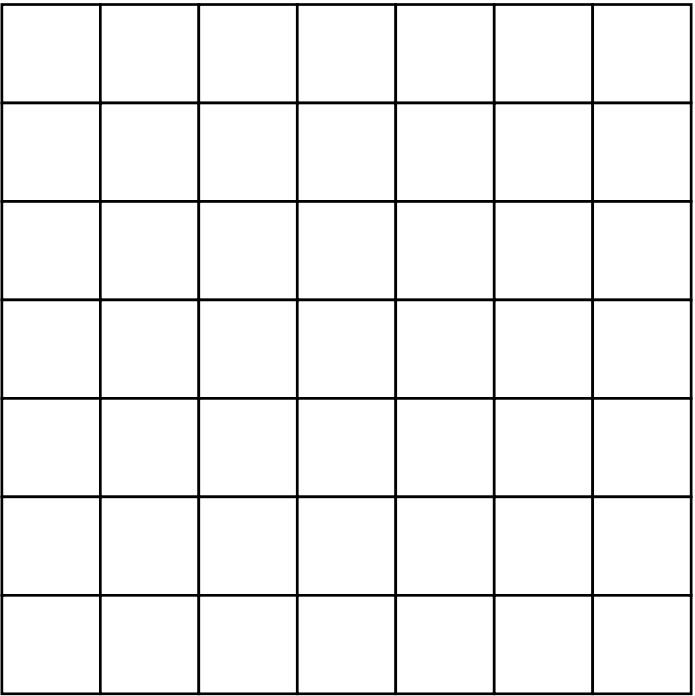
(MOVE 2)
Perform: move_left at position: (5, 6):

FINAL STATE

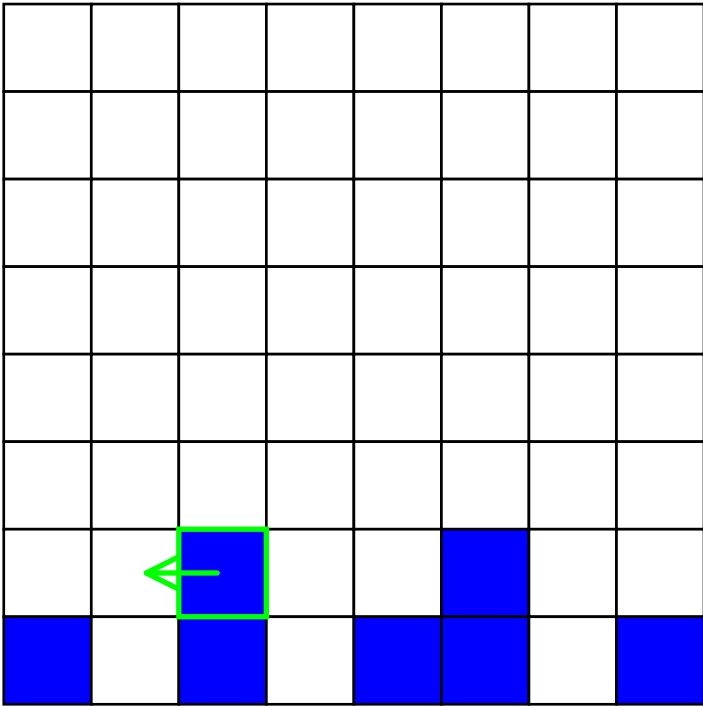..::SOLUTION::..: Solvable in 2 moves (blocks positions: {(6, 2): <Color: blue>, (6, 5): <Color: blue>, (7, 0): <Color: blue>, (7, 2): <Color: blue>, (7, 4): <Color: blue>, (7, 5): <Color: blue>,
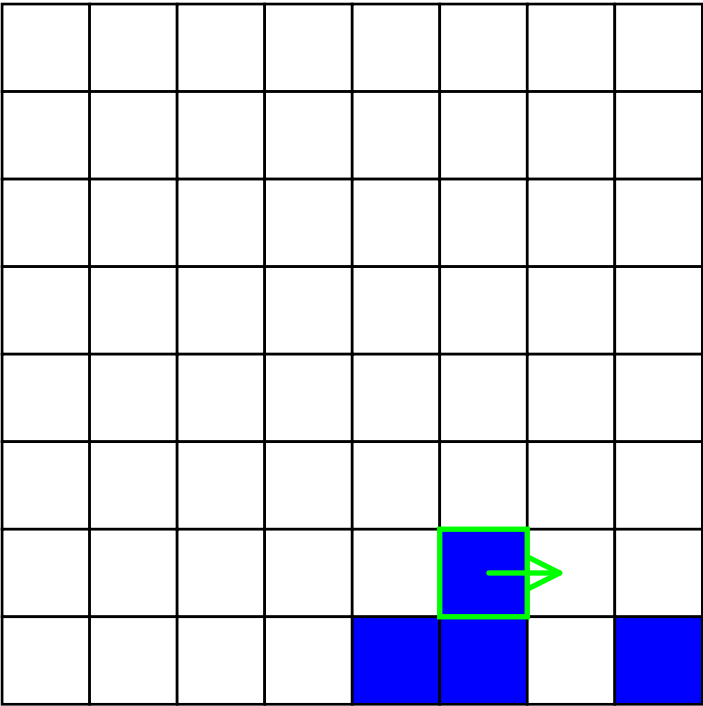
INITIAL STATE: (MOVE 1)
Perform: move_left at position: (6, 2):
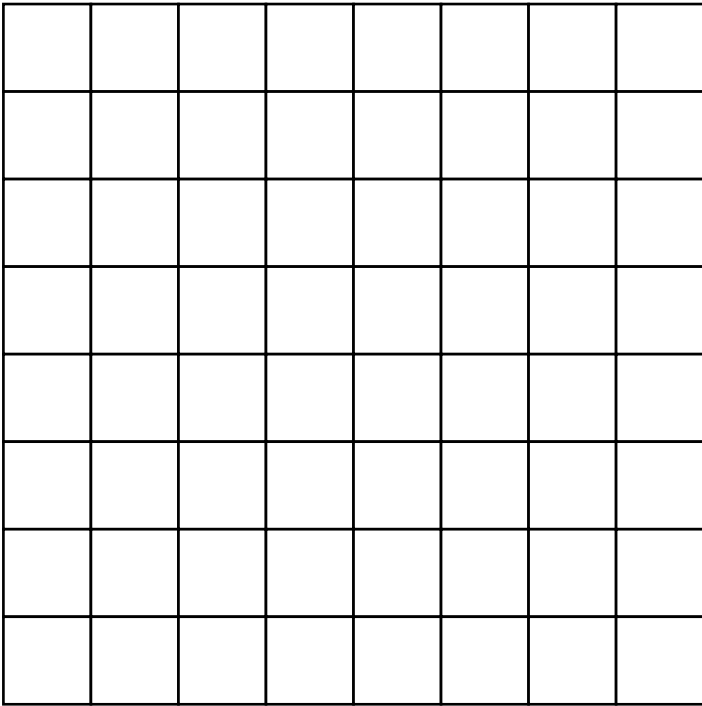
(MOVE 2)
Perform: move_right at position: (6, 5):

FINAL STATE

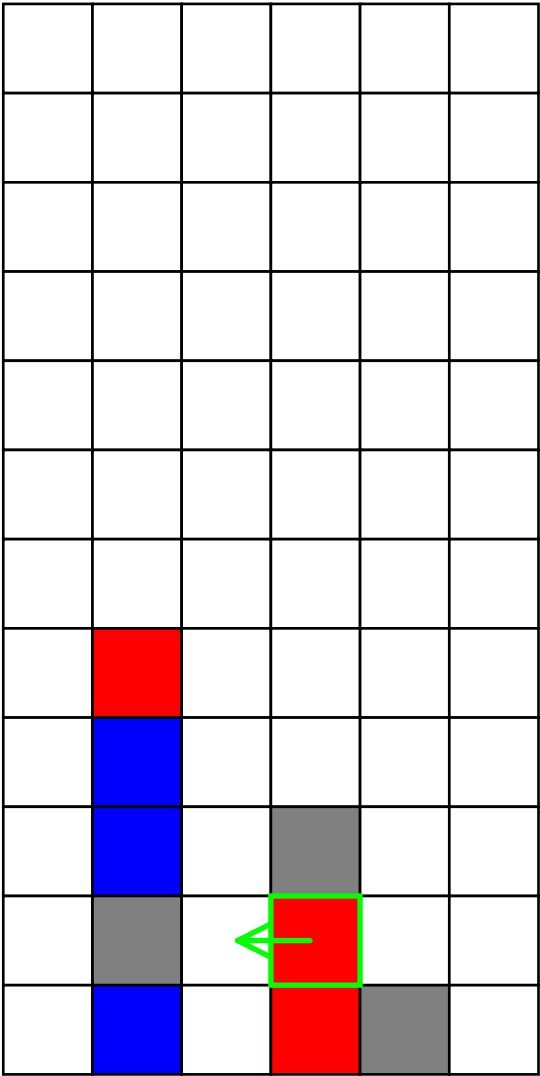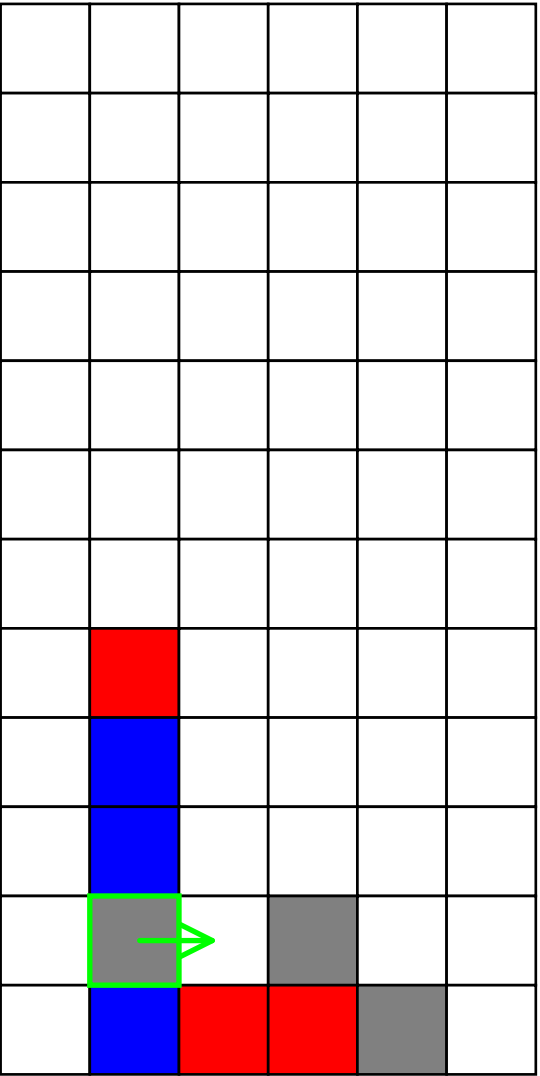..::SOLUTION::..: Solvable in 2 moves (blocks positions: {(7, 1): <Color: red>, (8, 1): <Color: blue>, (9, 1): <Color: blue>, (9, 3): <Color: gray>, (10, 1): <Color: gray>, (10, 3): <Color:

INITIAL STATE: (MOVE 1)
Perform: move_left at position: (10, 3):

(MOVE 2)
Perform: move_right at position: (10, 1):

FINAL STATE

..::SOLUTION::..: Solvable in 3 moves (blocks positions: {(4, 3): <Color: blue>, (5, 0): <Color: blue>, (5, 2): <Color: blue>, (5, 3): <Color: blue>, (5, 5): <Color: blue>})

INITIAL STATE: (MOVE 1)
Perform: move_left at position: (5, 2):

(MOVE 2)
Perform: move_left at position: (5, 5):

(MOVE 3)
Perform: move_left at position: (4, 3):

FINAL STATE

..::SOLUTION::..: Solvable in 3 moves (blocks positions: {(7, 4): <Color: blue>, (7, 5): <Color: blue>, (7, 7): <Color: blue>, (8, 0): <Color: blue>, (8, 2): <Color: blue>, (8, 4): <Color: blue>, (8, 5): <Color: blue>, (8, 7): <Color: blue>})
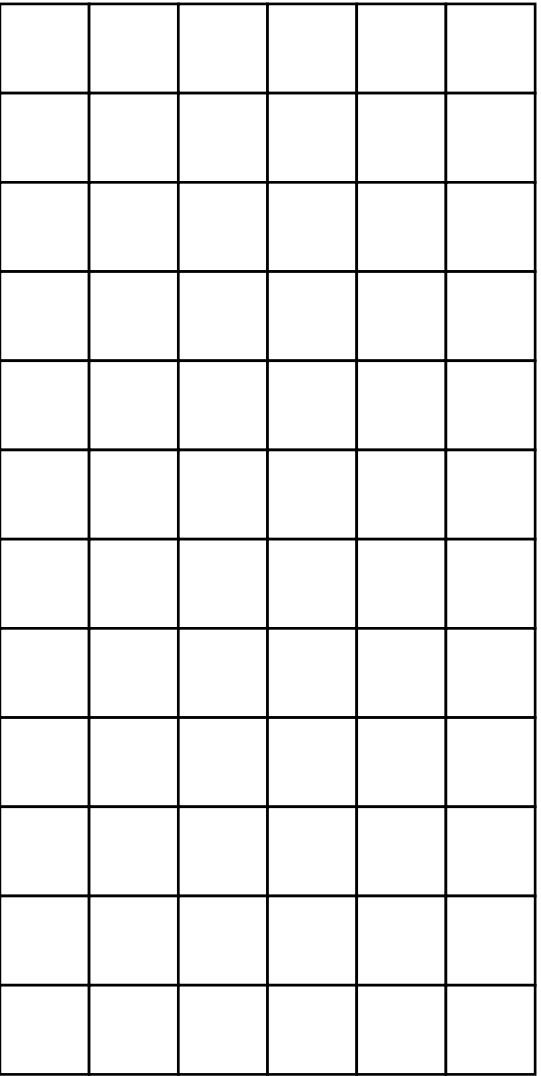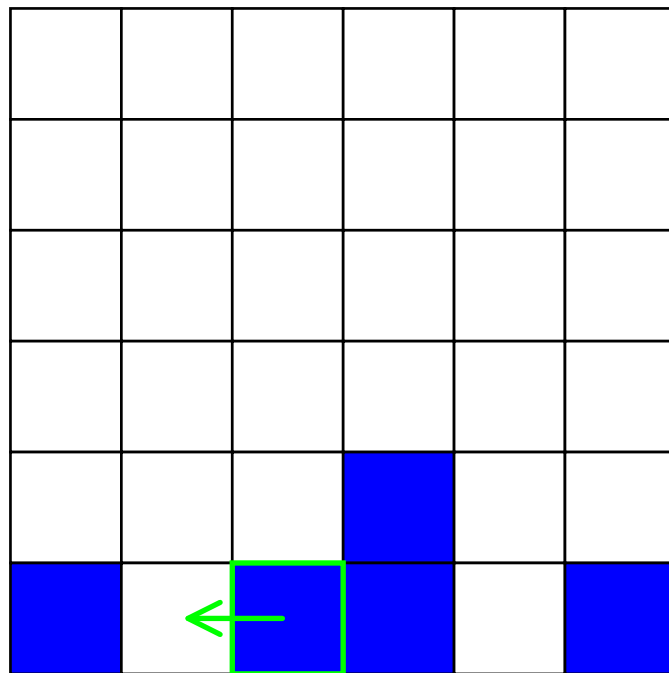
INITIAL STATE: (MOVE 1)
Perform: move_right at position: (8, 0):

(MOVE 2)
Perform: move_left at position: (7, 4):

(MOVE 3)
Perform: move_left at position: (7, 7):

FINAL STATE

..::SOLUTION::..: Solvable in 3 moves (blocks positions: {(8, 3): <Color: blue>, (8, 5): <Color: blue>, (8, 7): <Color: blue>, (8, 8): <Color: blue>, (9, 1): <Color: blue>, (9, 3): <Color: blue>, (9, 5): <Color: blue>, (9, 7): <Color: blue>, (9, 8): <Color: blu
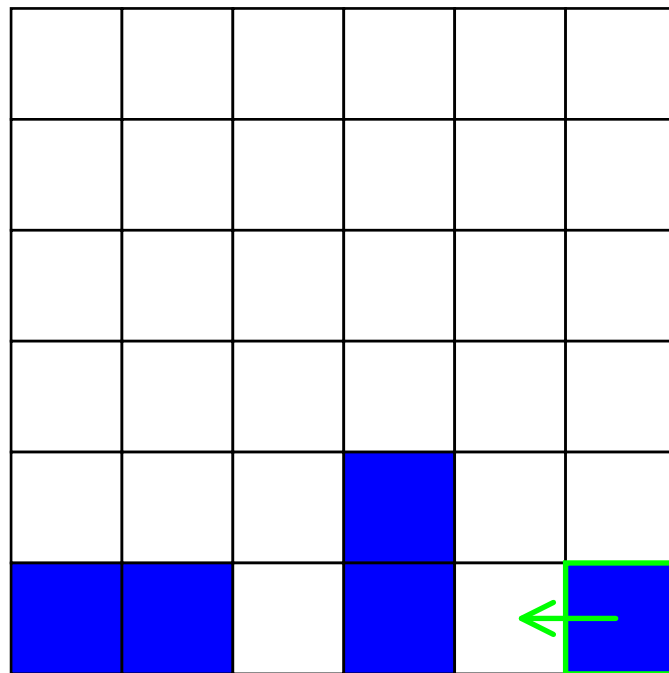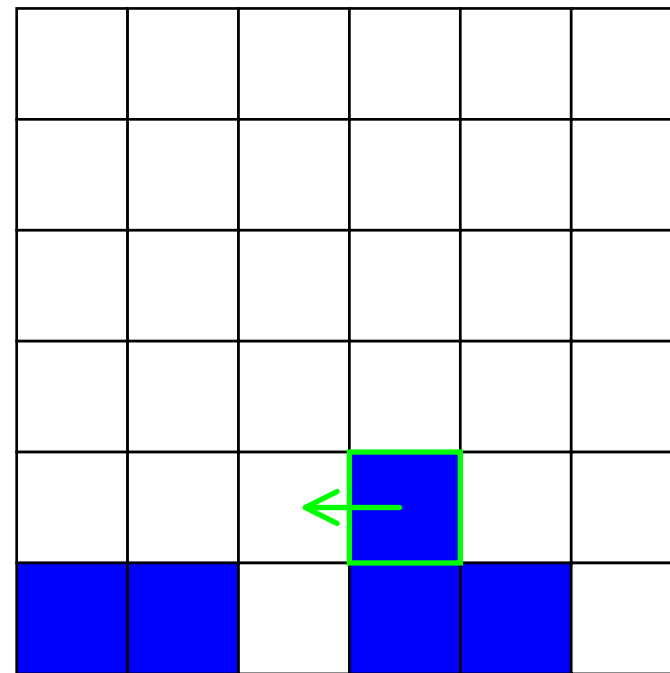
INITIAL STATE: (MOVE 1)
Perform: move_left at position: (8, 3):

(MOVE 2)
Perform: move_right at position: (8, 8):
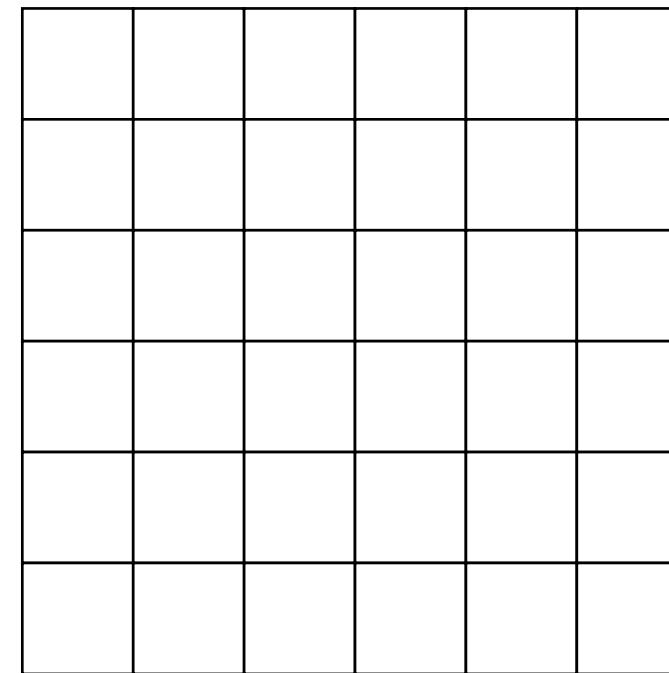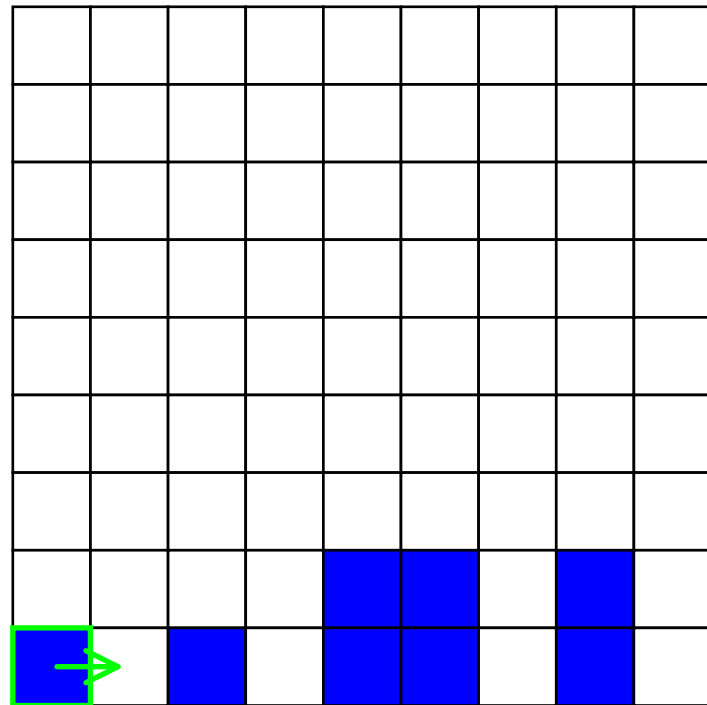
(MOVE 3)
Perform: move_right at position: (8, 5):

FINAL STATE

..::SOLUTION::..: Solvable in 3 moves (blocks positions: {(9, 3): <Color: blue>, (9, 5): <Color: blue>, (9, 6): <Color: blue>, (9, 8): <Color: blue>, (9, 10): <Color: blue>, (10, 3): <Color: blue>, (10, 5): <Color: blue>, (10, 6): <Color: blue>, (10, 8): <Col

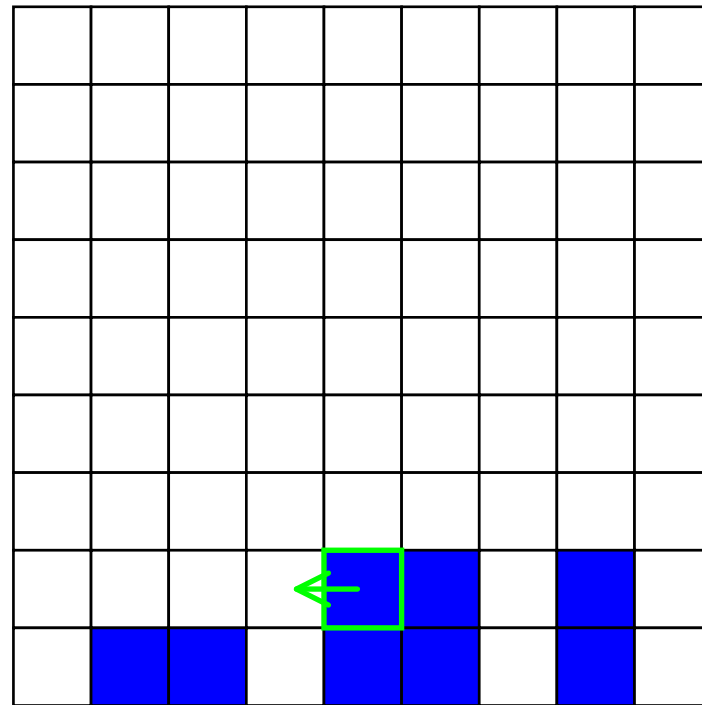INITIAL STATE: (MOVE 1)
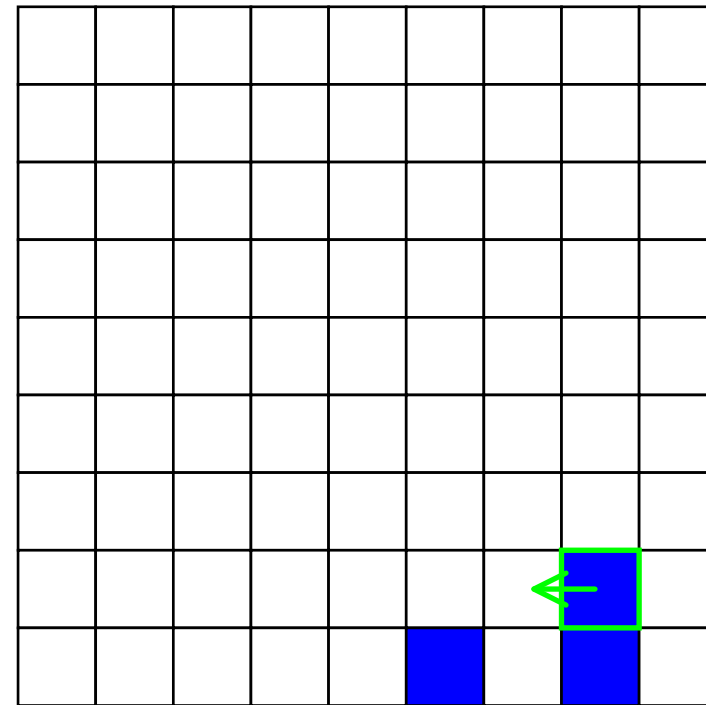Perform: move_right at position: (9, 3):

(MOVE 2)
Perform: move_left at position: (9, 10):
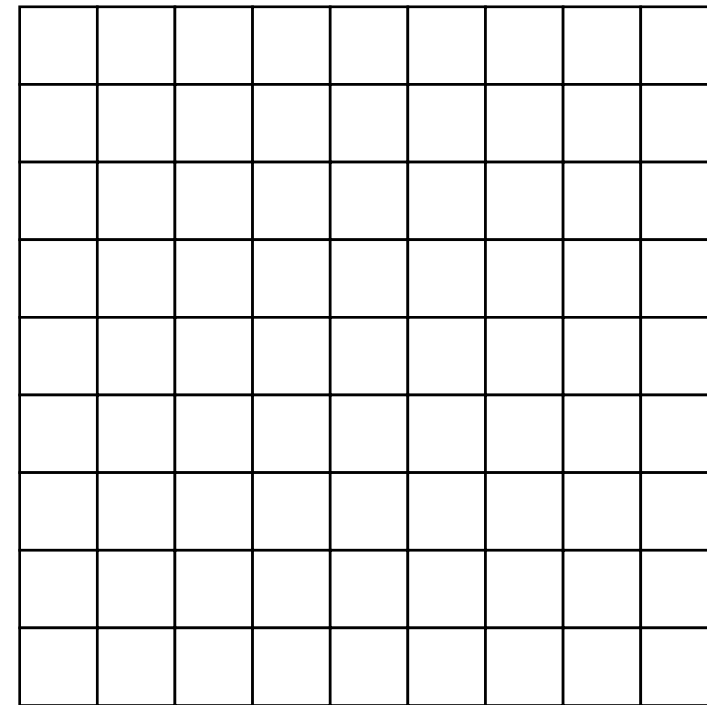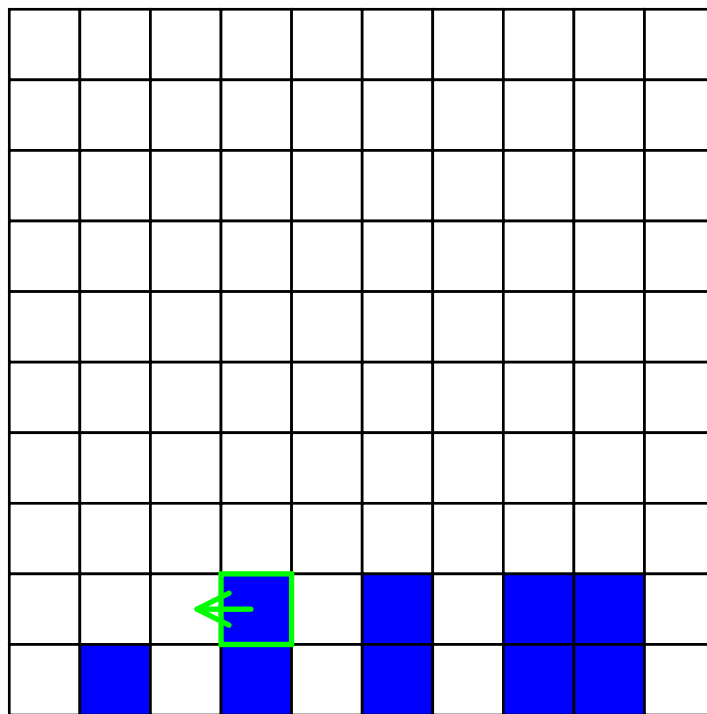
(MOVE 3)
Perform: move_left at position: (10, 8):

FINAL STATE

..::SOLUTION::..: Solvable in 3 moves (blocks positions: {(10, 3): <Color: blue>, (10, 4): <Color: blue>, (10, 6): <Color: blue>, (10, 8): <Color: blue>, (11, 1): <Color: blue>, (11, 3): <Color: blue>, (11, 4): <Color: blue>, (11, 6): <Color: blue>, (11, 8):
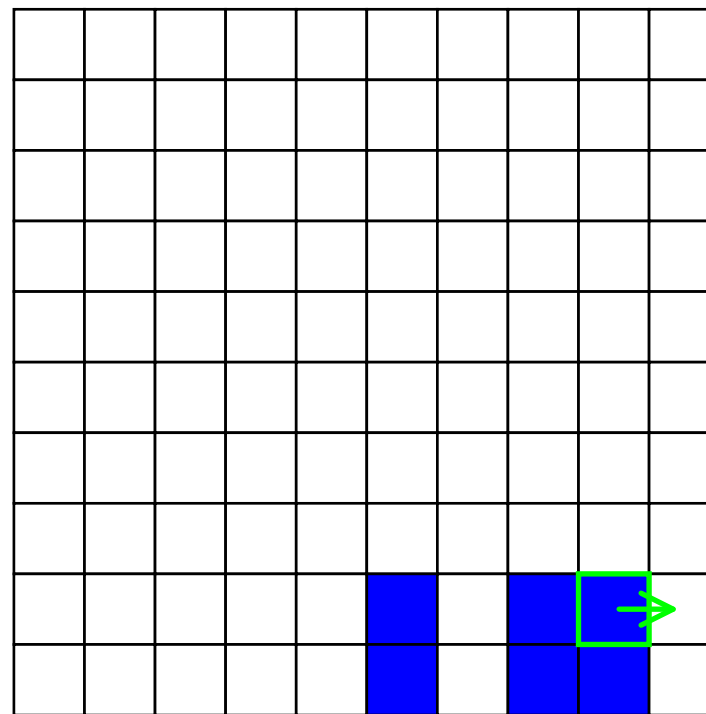
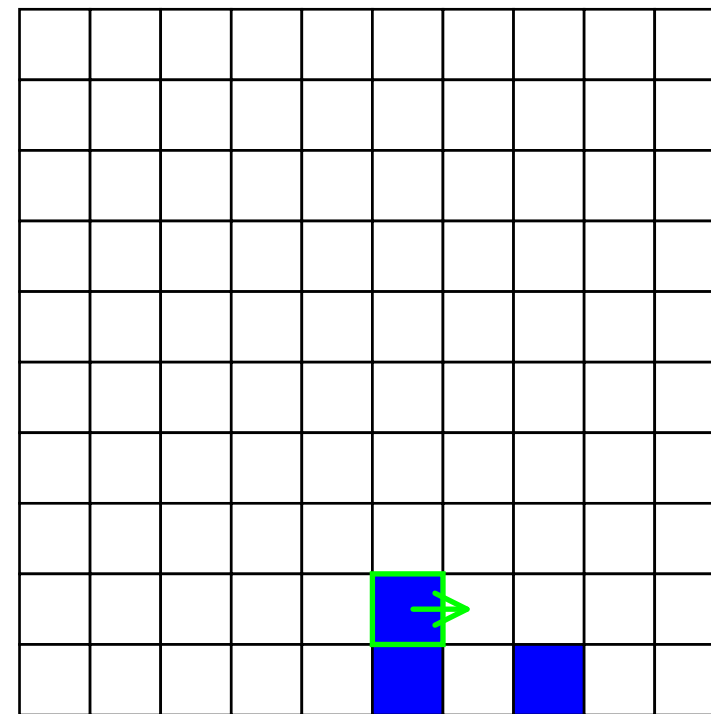INITIAL STATE: (MOVE 1)
Perform: move_left at position: (10, 3):

(MOVE 2)
Perform: move_left at position: (10, 6):

(MOVE 3)
Perform: move_right at position: (10, 8):

FINAL STATE

..::SOLUTION::..: Solvable in 3 moves (blocks positions: {(8, 1): <Color: red>, (9, 1): <Color: red>, (10, 1): <Color: blue>, (11, 1): <Color: blue>, (11, 3): <Color: red>, (11, 4): <Color: blue>})

INITIAL STATE: (MOVE 1)
Perform: move_right at position: (10, 1):

(MOVE 2)
Perform: exchange_right at position: (11, 2):
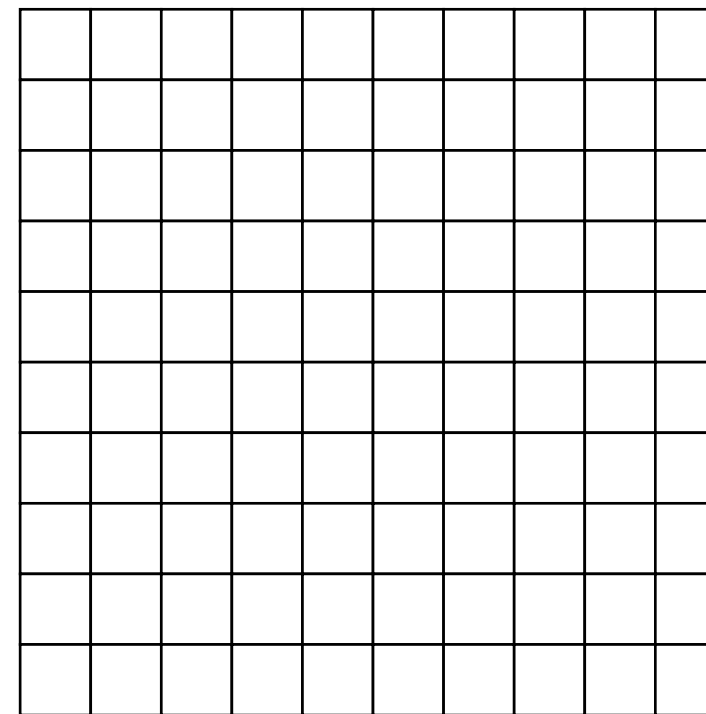
(MOVE 3)
Perform: exchange_right at position: (11, 1):

FINAL STATE

..::SOLUTION::..: Solvable in 3 moves (blocks positions: {(7, 3): <Color: red>, (8, 3): <Color: blue>, (9, 3): <Color: blue>, (10, 1): <Color: blue>, (10, 3): <Color: red>, (10, 5): <Color: red>, (11, 1): <Color: red>, (11, 3): <Color: red>, (11, 5): <Co

INITIAL STATE: (MOVE 1)
Perform: move_left at position: (7, 3):

(MOVE 2)
Perform: move_left at position: (9, 3):

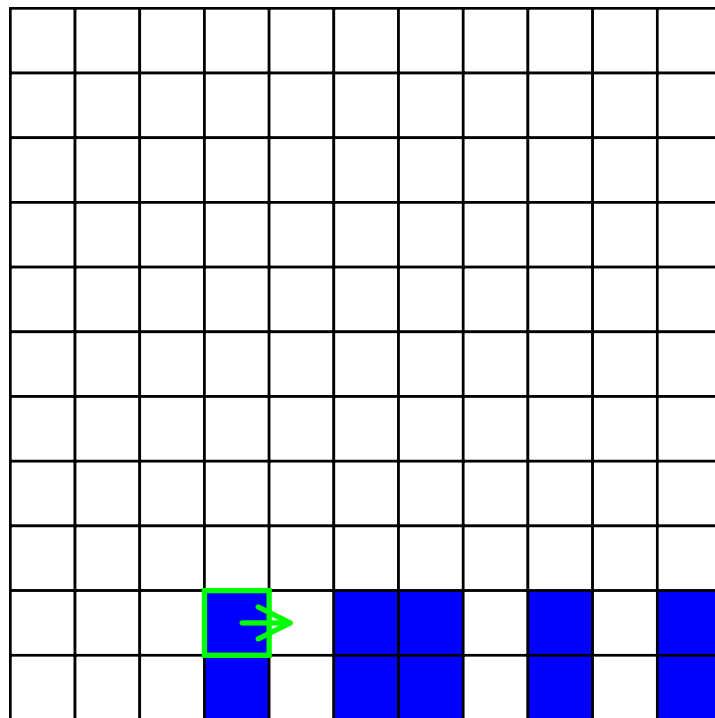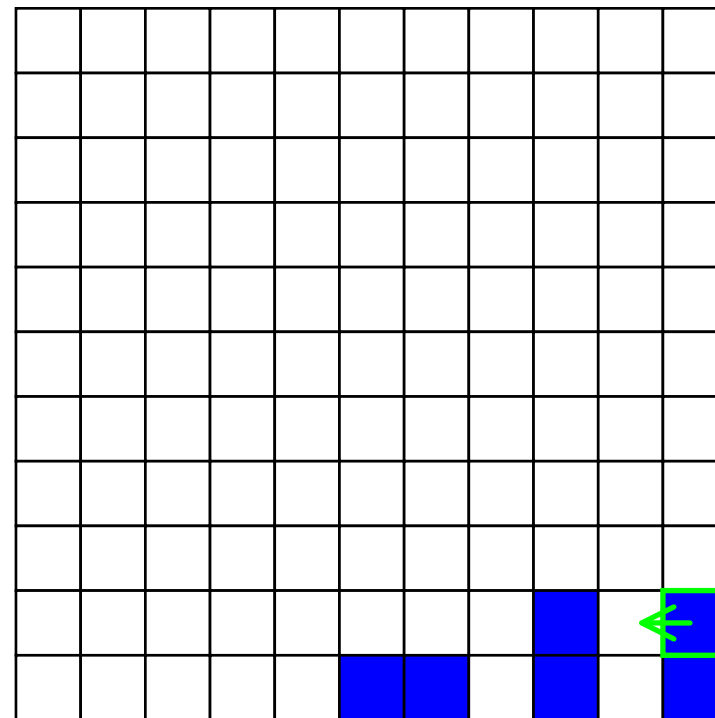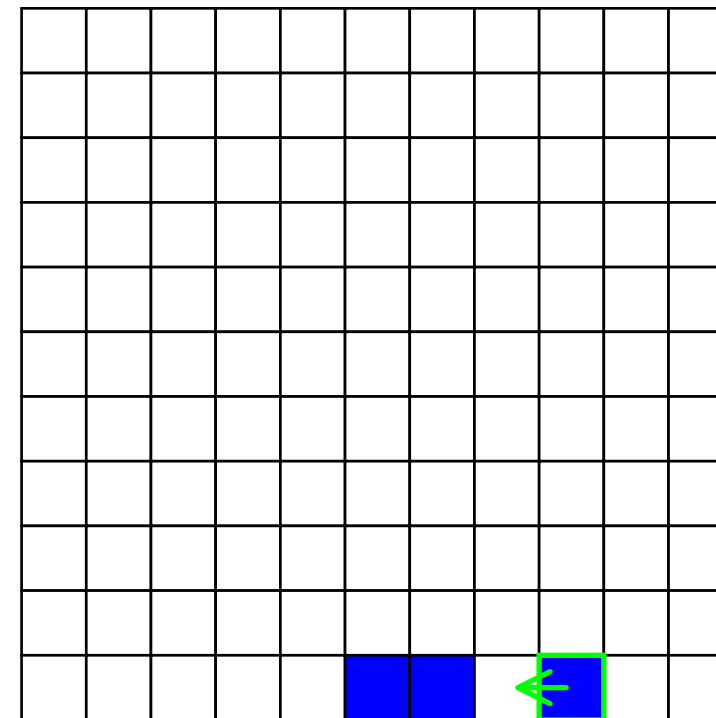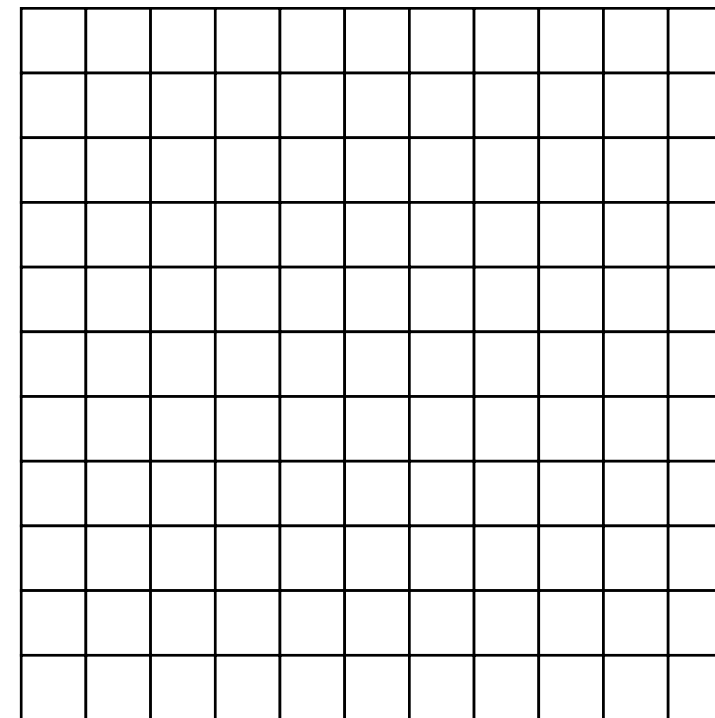(MOVE 3)
Perform: move_left at position: (10, 5):

FINAL STATE

..::SOLUTION::..: Solvable in 3 moves (blocks positions: {(8, 3): <Color: red>, (9, 3): <Color: blue>, (9, 4): <Color: red>, (10, 1): <Color: red>, (10, 3): <Color: red>, (10, 4): <Color: red>, (11, 0): <Color: red>, (11, 1): <Color: red>, (11, 3): <Color:

INITIAL STATE: (MOVE 1)
Perform: move_left at position: (8, 3):

(MOVE 2)
Perform: move_left at position: (9, 4):
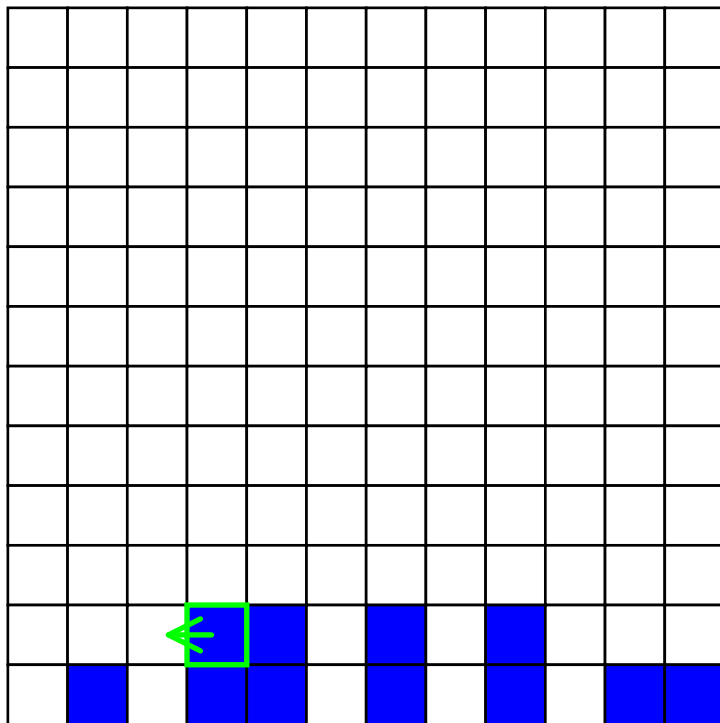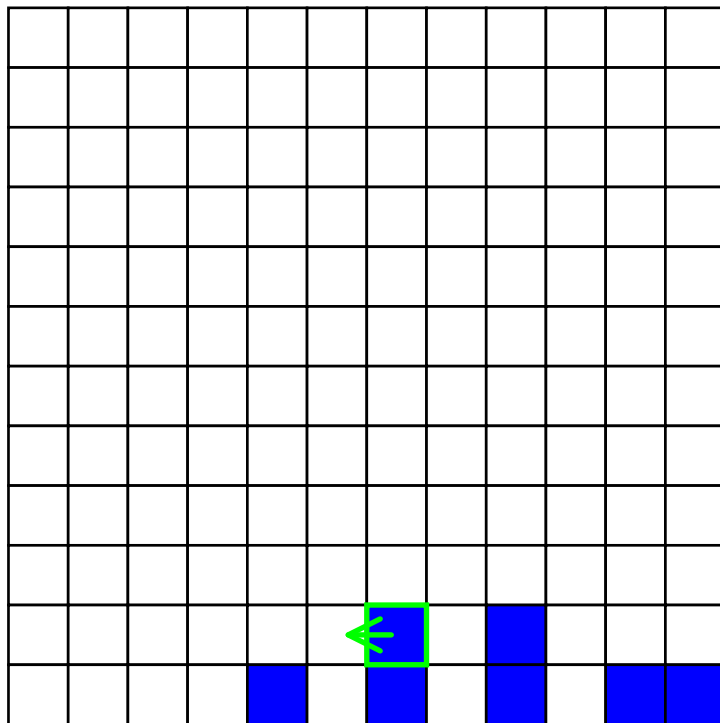
(MOVE 3)
Perform: move_left at position: (11, 3):

FINAL STATE

..::SOLUTION::..: Solvable in 4 moves (blocks positions: {(7, 3): <Color: blue>, (8, 3): <Color: red>, (9, 3): <Color: red>, (10, 1): <Color: red>, (10, 3): <Color: blue>, (11, 0): <Color: red>, (11, 1): <Color: red>, (11, 3): <Color: blue>})
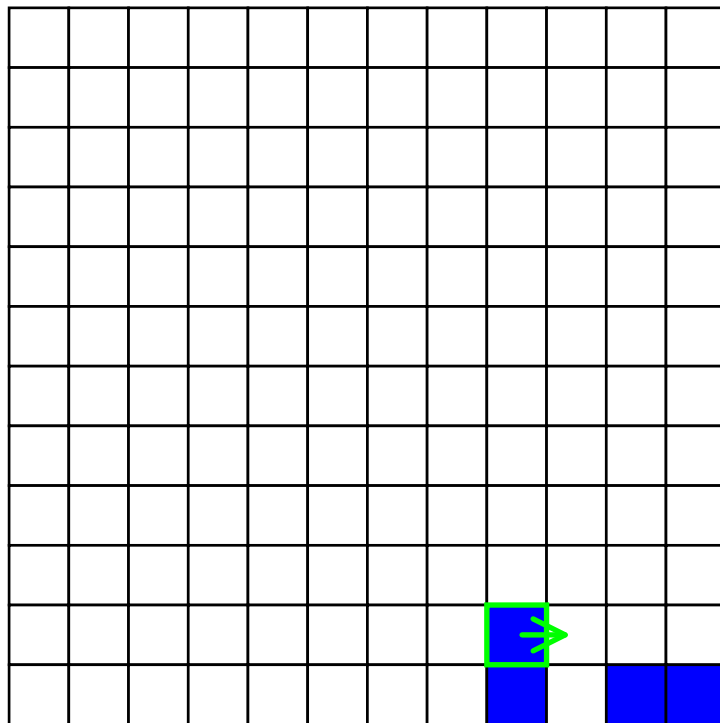
INITIAL STATE: (MOVE 1)
Perform: move_left at position: (7, 3):
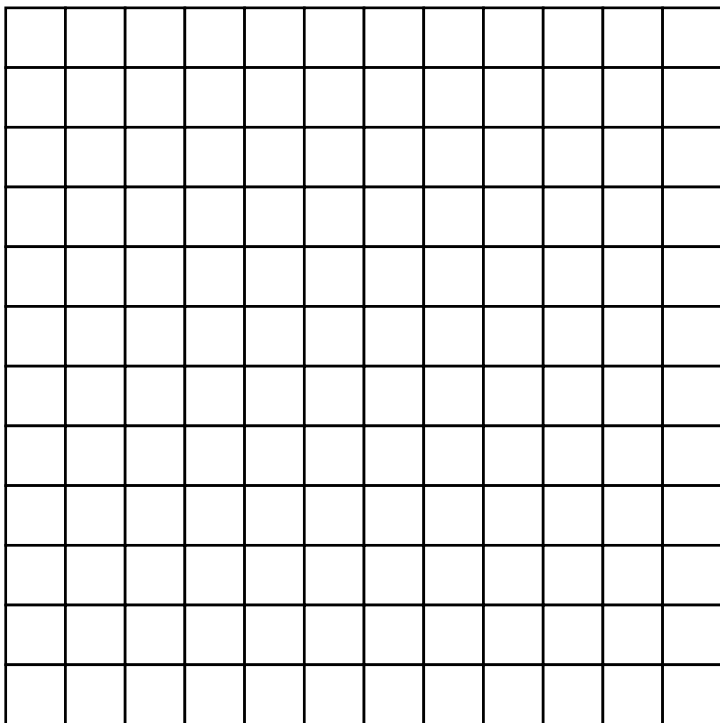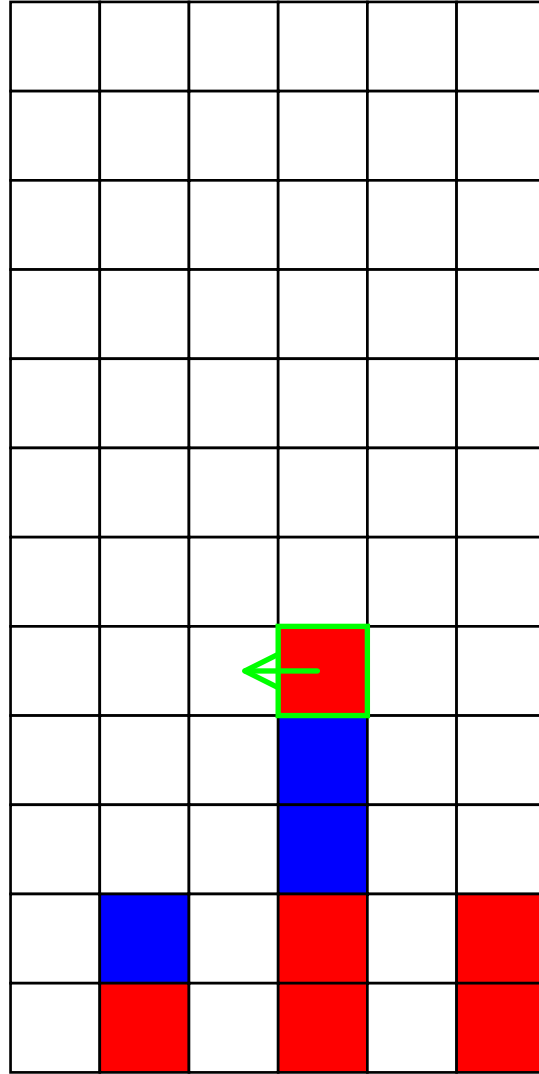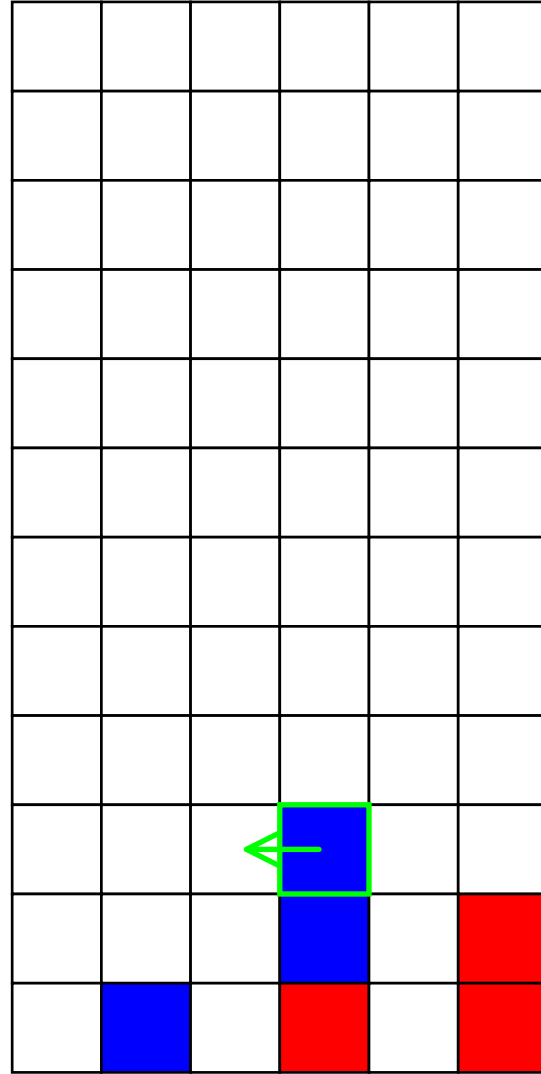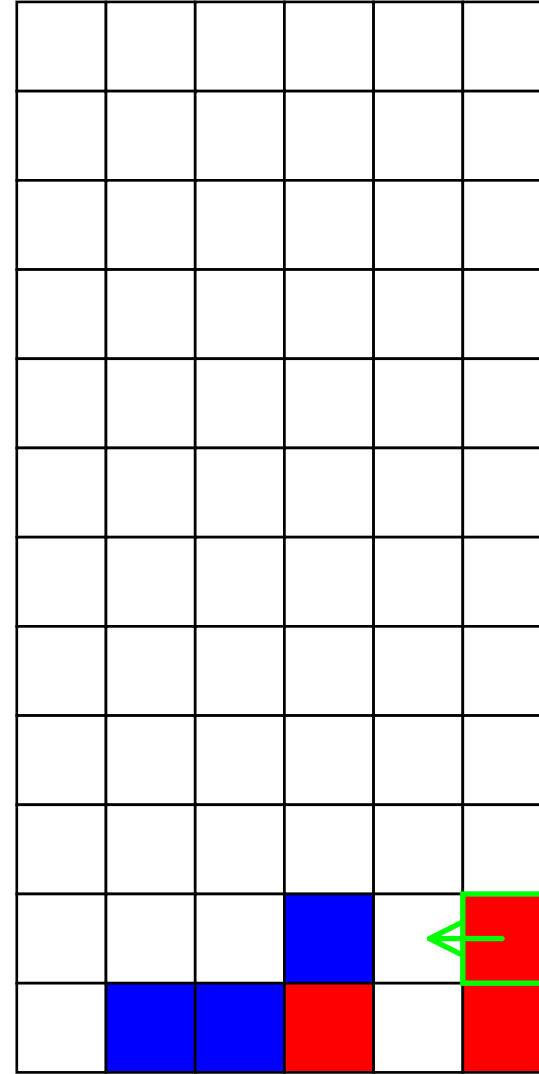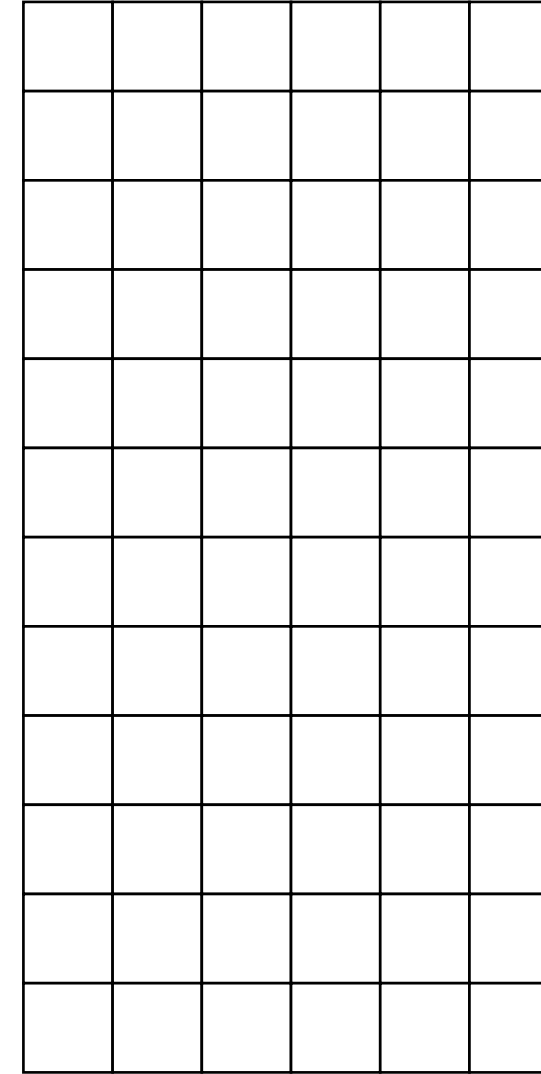
(MOVE 2)
Perform: move_right at position: (10, 3):

(MOVE 3)
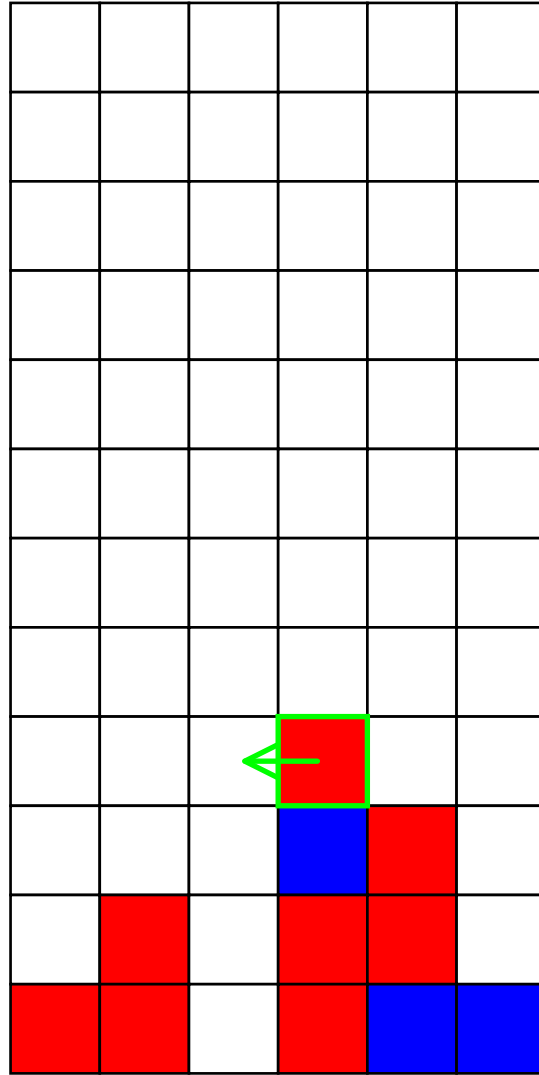Perform: move_right at position: (10, 3):

(MOVE 4)
Perform: move_right at position: (10, 1):

FINAL STATE

..::SOLUTION::..: Solvable in 4 moves (blocks positions: {(8, 3): <Color: blue>, (9, 3): <Color: red>, (10, 2): <Color: blue>, (10, 3): <Color: blue>, (11, 0): <Color: blue>, (11, 1): <Color: red>, (11, 2): <Color: blue>, (11, 3): <Color: red>, (11, 4): <Color: blue>, (11, 5): <Color: blue>})

INITIAL STATE: (MOVE 1)
Perform: exchange_right at position: (11, 2):

(MOVE 2)
Perform: move_right at position: (10, 3):

(MOVE 3)
Perform: exchange_right at position: (11, 2):

(MOVE 4)
Perform: exchange_right at position: (11, 1):

FINAL STATE

..::SOLUTION::.. Solvable in 4 moves (blocks positions: {(8, 1): <Color: blue>, (9, 1): <Color: blue>, (9, 3): <Color: blue>, (9, 4): <Color: red>, (10, 0): <Color: blue>, (10, 1): <Color: red>, (10, 3): <Color: blue>, (10, 4): <Color: blue>, (11, 0): <Color: blue>, (11, 1): <Color: blue>, (11, 3): <Color: red>, (11,

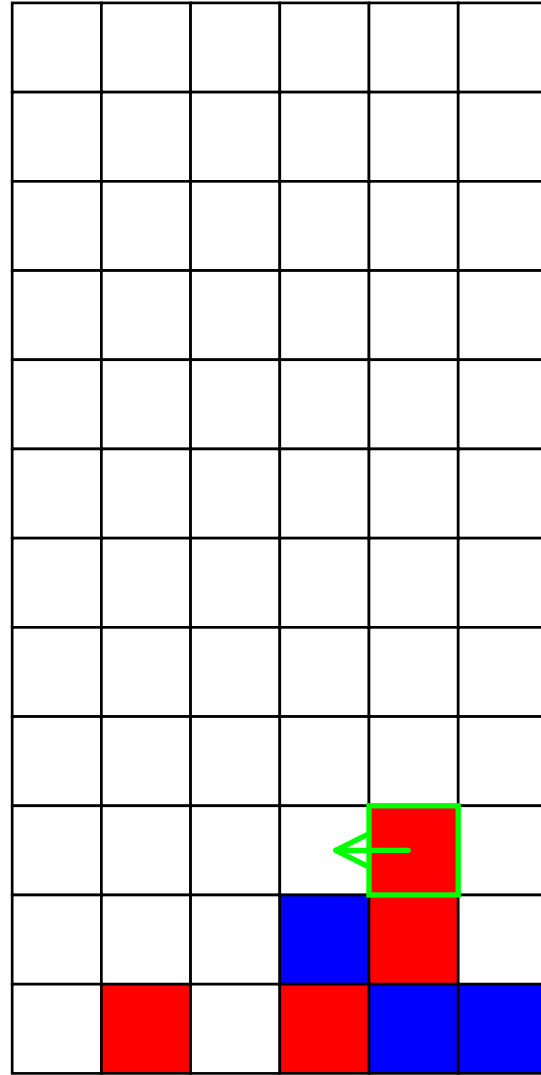INITIAL STATE: (MOVE 1)
Perform: move_left at position: (9, 3):
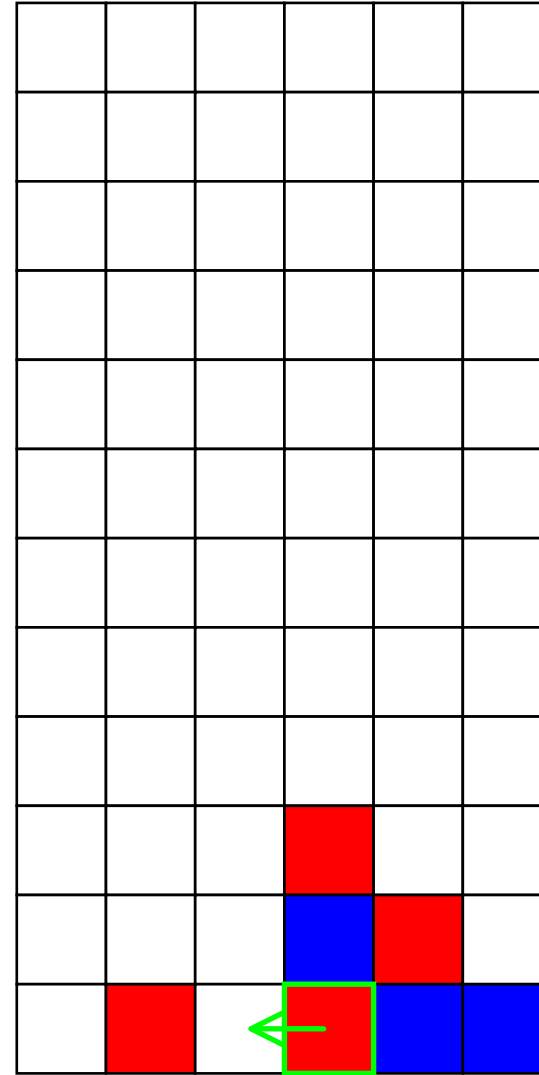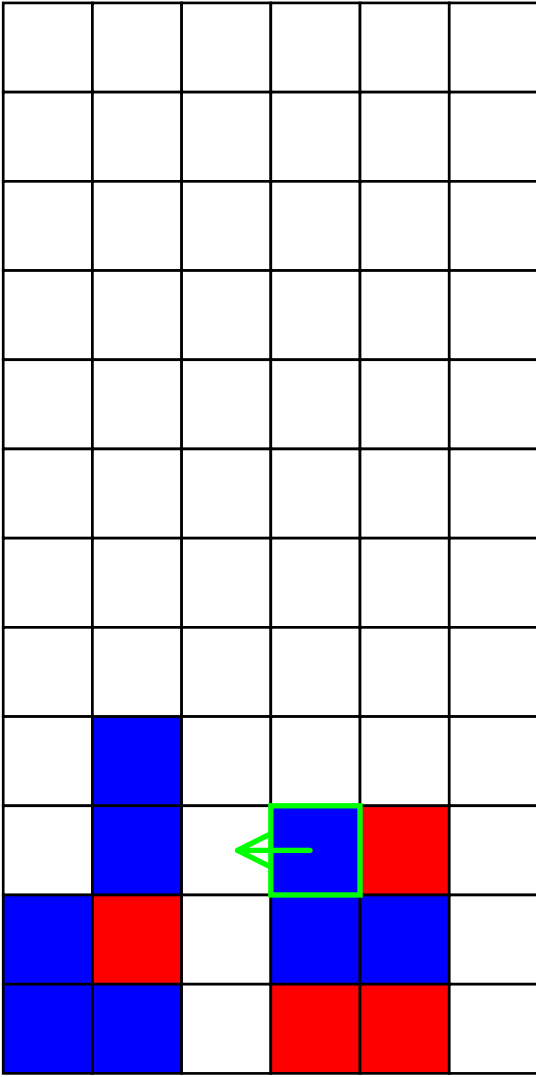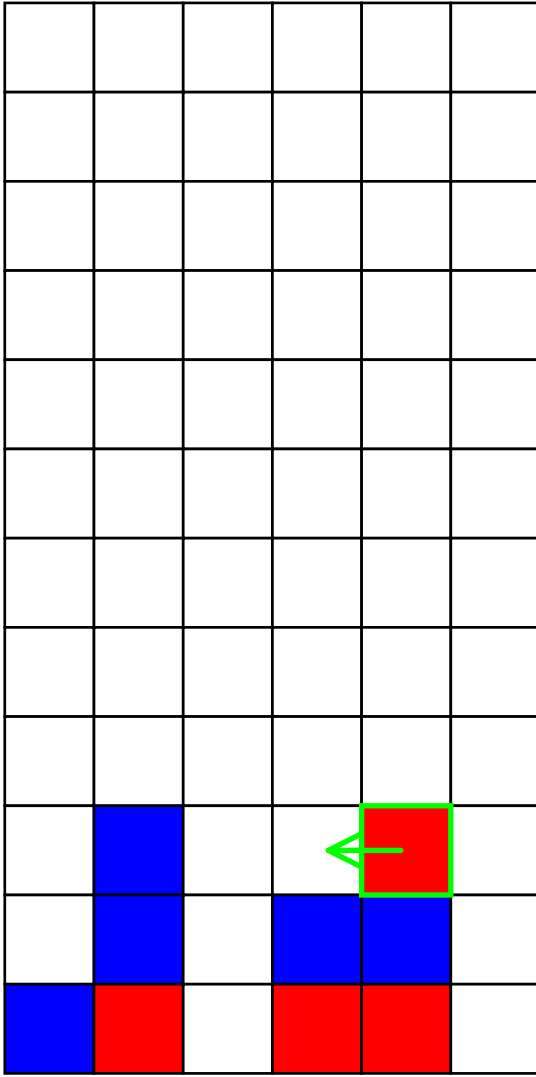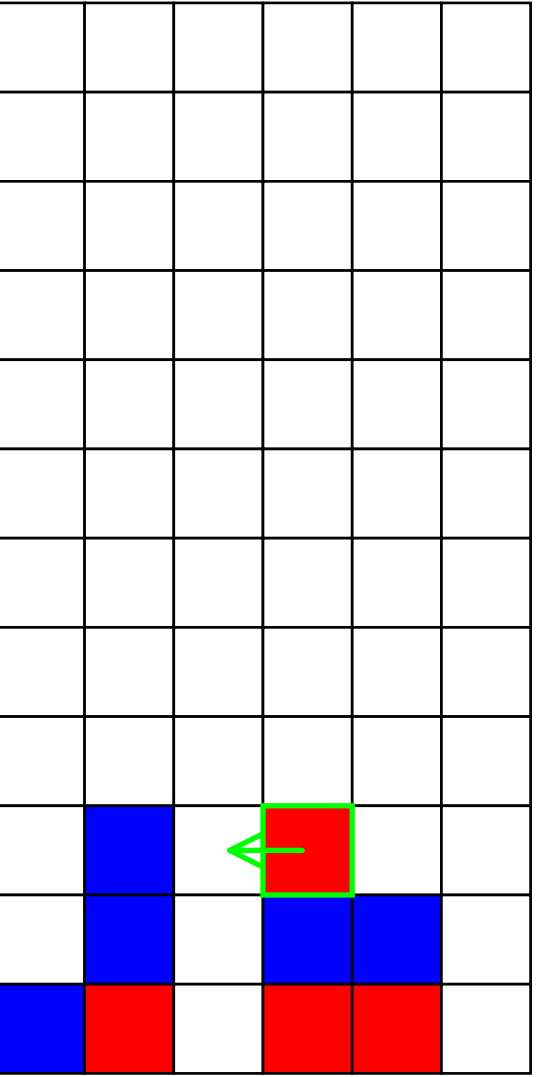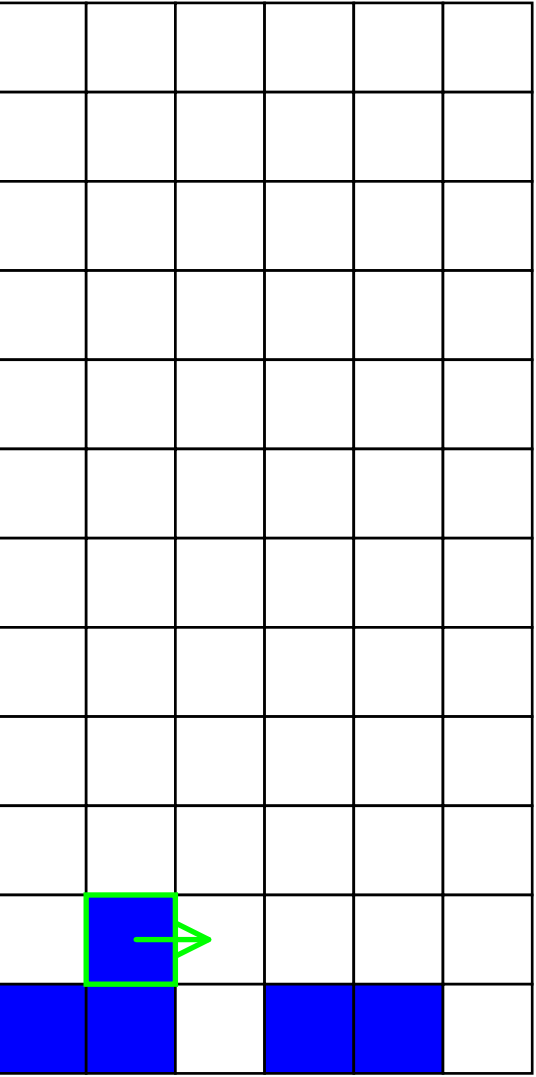
(MOVE 2)
Perform: move_left at position: (9, 4):

(MOVE 3)
Perform: move_left at position: (9, 3):

(MOVE 4)
Perform: move_right at position: (10, 1):

FINAL STATE

..::SOLUTION::..: Solvable in 4 moves (blocks positions: {(8, 4): <Color: blue>, (9, 1): <Color: gray>, (9, 4): <Color: red>, (10, 1): <Color: blue>, (10, 3): <Color: gray>, (10, 4): <Color: red>, (11, 1): <Color: blue>, (11, 3): <Color: gray>, (11, 4): <Color: gray>, (11, 5): <Color: red>})

INITIAL STATE: (MOVE 1)
Perform: move_right at position: (10, 1):

(MOVE 2)
Perform: move_right at position: (10, 1):

(MOVE 3)
Perform: exchange_right at position: (11, 4):

(MOVE 4)
Perform: exchange_right at position: (11, 3):

FINAL STATE

..::SOLUTION::..: Solvable in 4 moves (blocks positions: {(8, 3): <Color: red>, (9, 3): <Color: red>, (9, 4): <Color: blue>, (10, 1): <Color: gray>, (10, 3): <Color: gray>, (10, 4): <Color: blue>, (11, 0): <Color: red>, (11, 1): <Color: red>, (11, 2): <Color: blue>, (11, 3): <Color: red>, (11, 4): <Color: gray>, (11,

INITIAL STATE: (MOVE 1)
Perform: move_right at position: (8, 3):

(MOVE 2)
Perform: move_left at position: (10, 3):

(MOVE 3)
Perform: exchange_right at position: (11, 2):
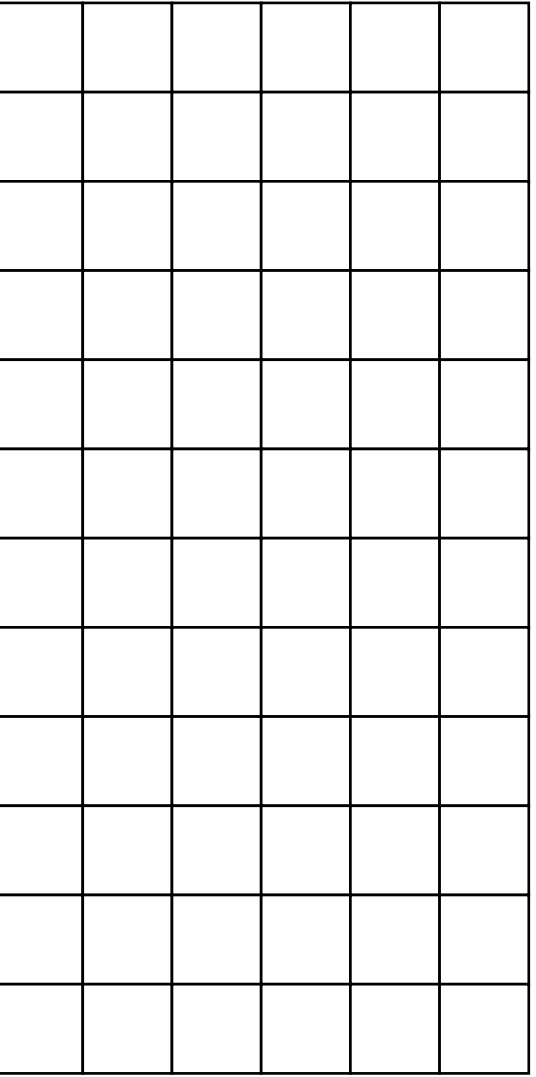
(MOVE 4)
Perform: exchange_right at position: (11, 3):

FINAL STATE

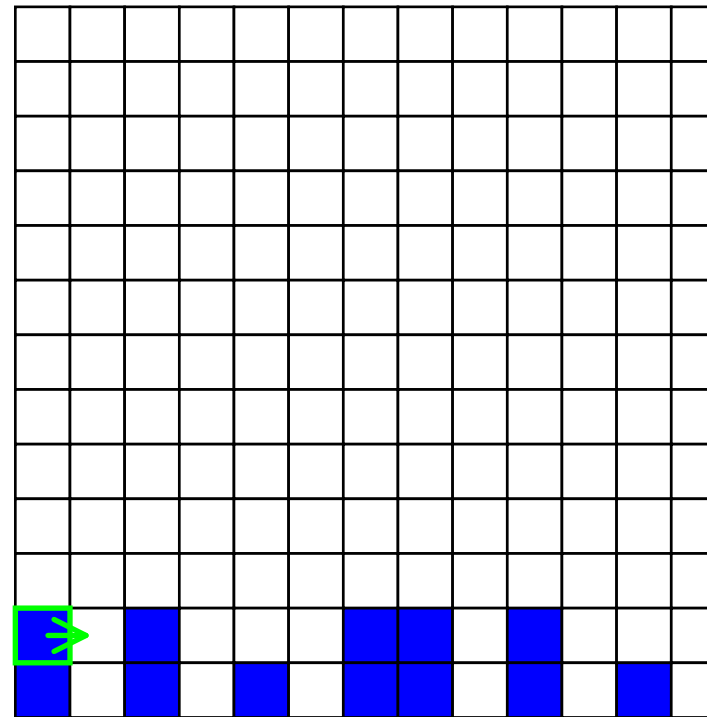..::SOLUTION::..: Solvable in 5 moves (blocks positions: {(11, 0): <Color: blue>, (11, 2): <Color: blue>, (11, 6): <Color: blue>, (11, 7): <Color: blue>, (11, 9): <Color: blue>, (12, 0): <Color: blue>, (12, 2): <Color: blue>, (12, 4): <Color: blue>, (12, 6): <Color: blue>, (12, 7): <Color: blue>, (12, 9): <Color: blue>, (12, 11): <Color: blue>})
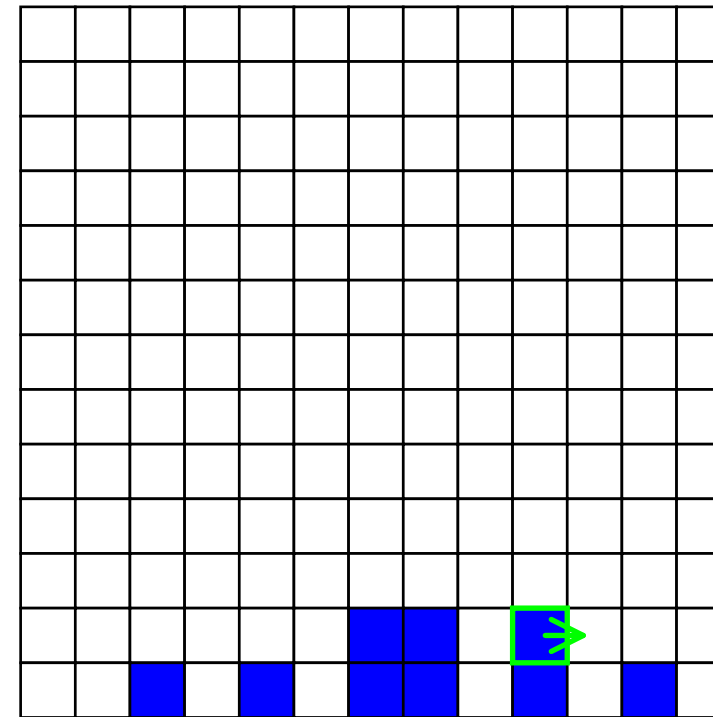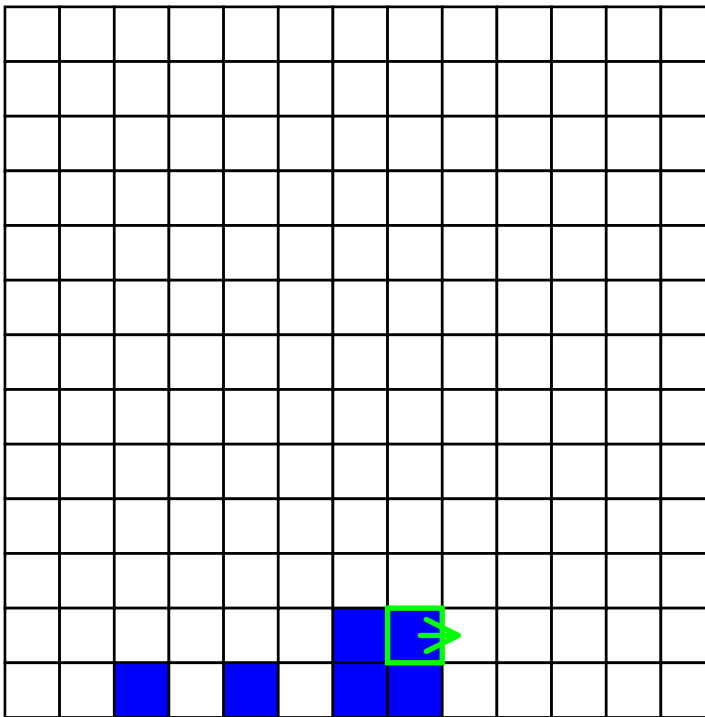
INITIAL STATE: (MOVE 1)
Perform: move_right at position: (11, 0):
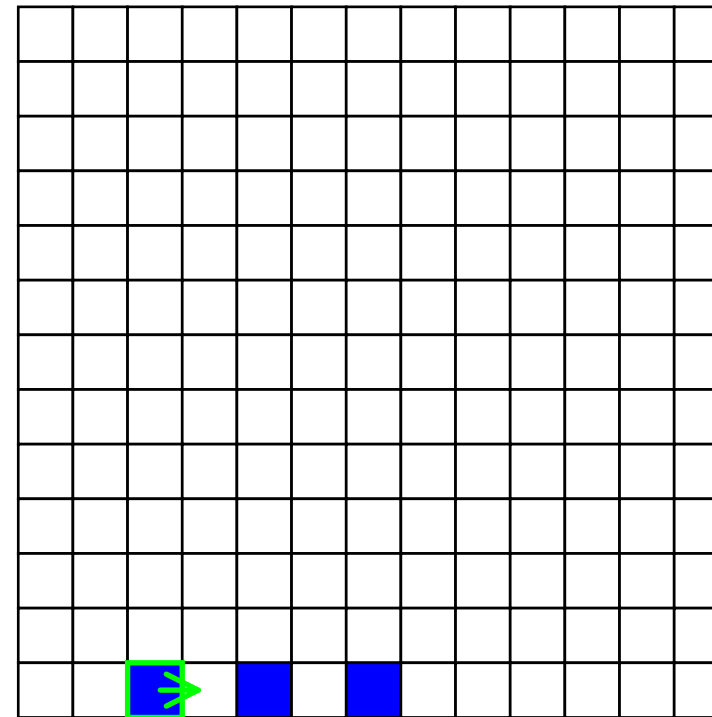
(MOVE 2)
Perform: move_right at position: (11, 9):
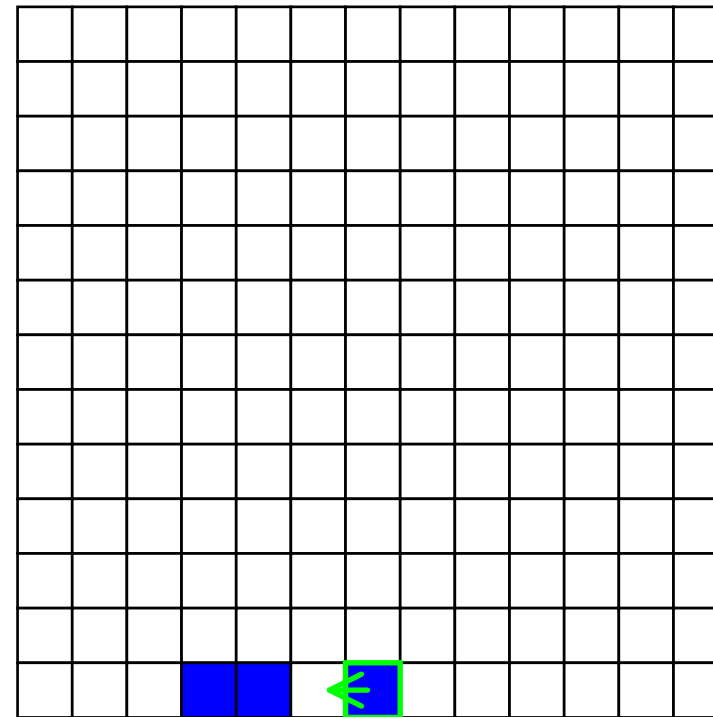
(MOVE 3)
Perform: move_right at position: (11, 7):
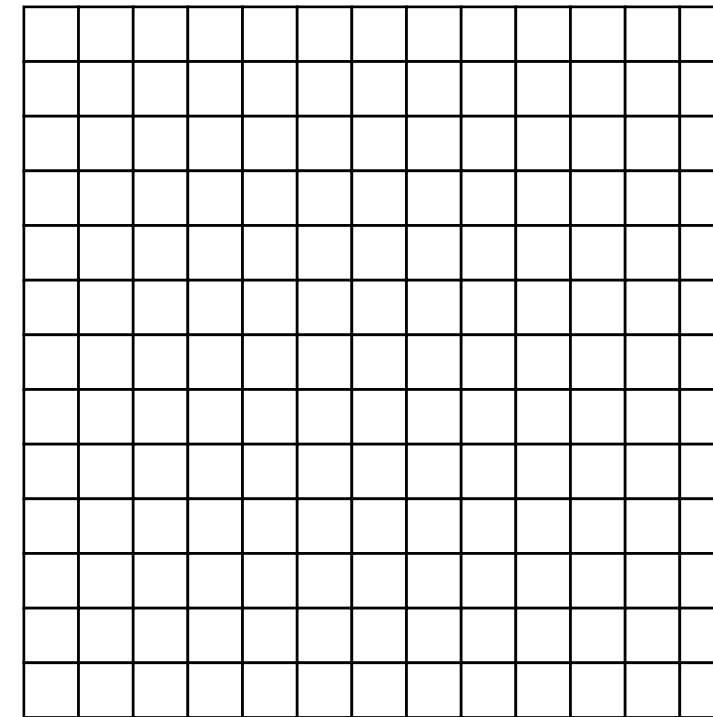
(MOVE 4)
Perform: move_right at position: (12, 2):

(MOVE 5)
Perform: move_left at position: (12, 6):

FINAL STATE

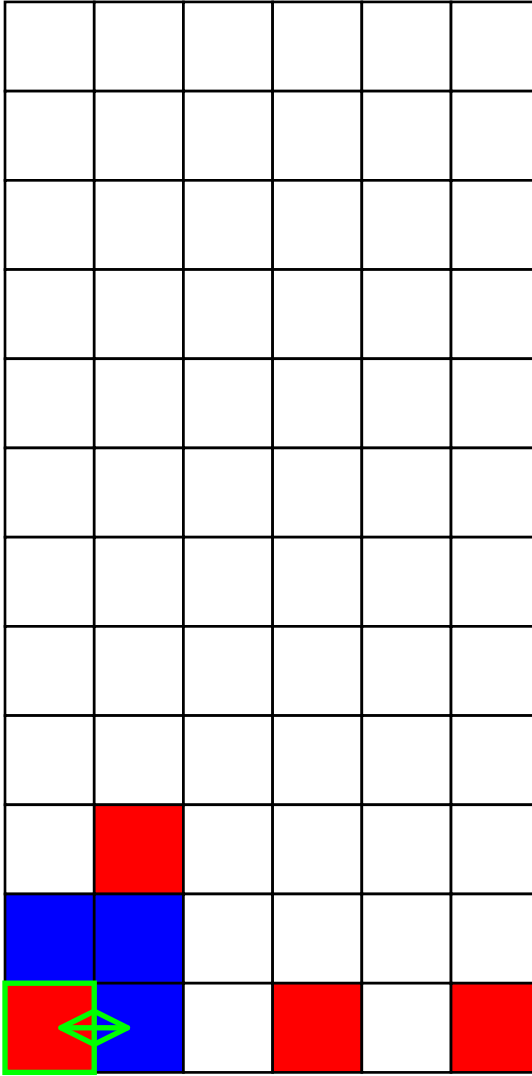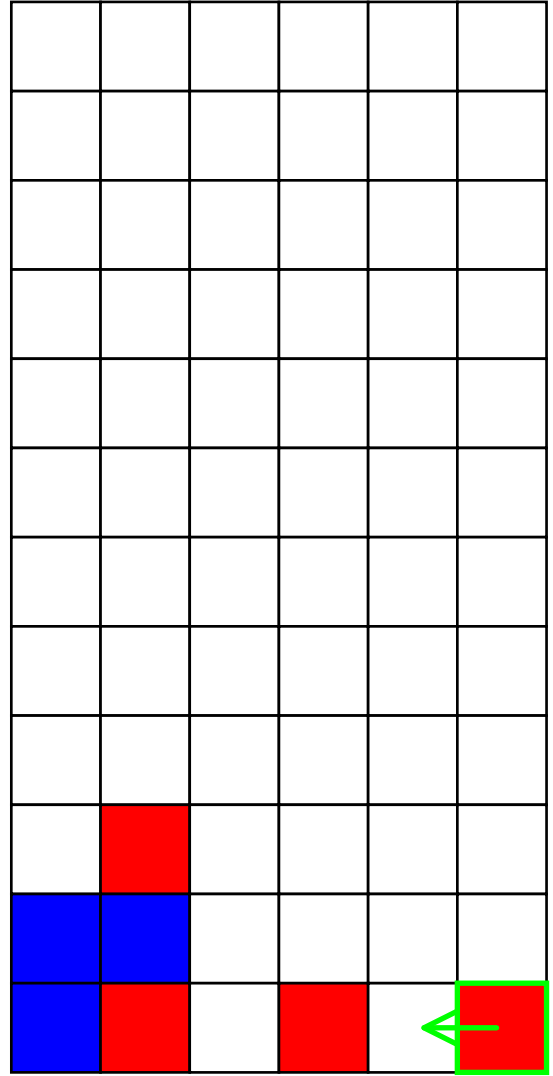..::SOLUTION::..: Solvable in 5 moves (blocks positions: {(9, 1): <Color: red>, (10, 0): <Color: blue>, (10, 1): <Color: blue>, (11, 0): <Color: red>, (11, 1): <Color: blue>, (11, 3): <Color: red>, (11, 5): <Color: red>})
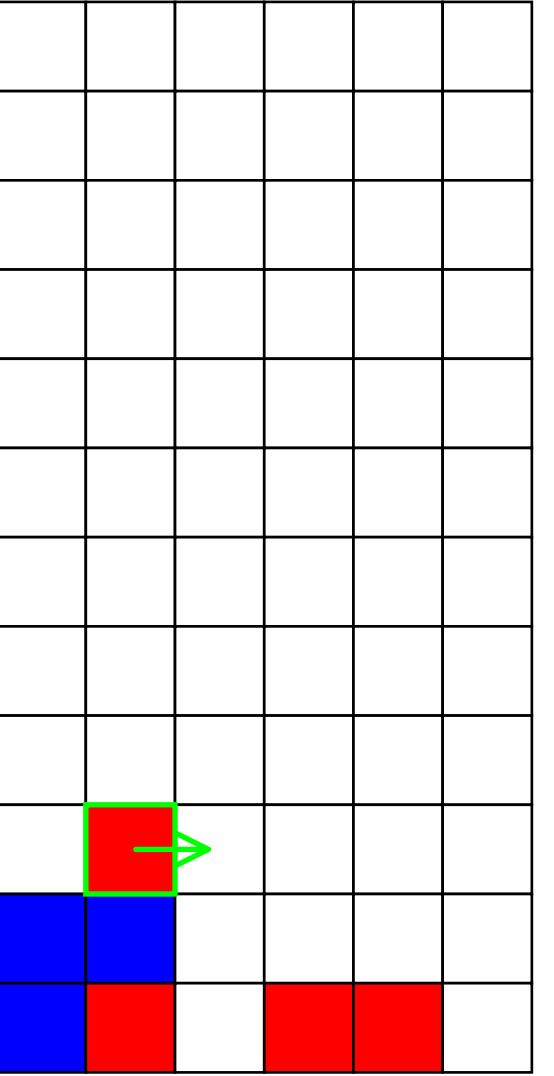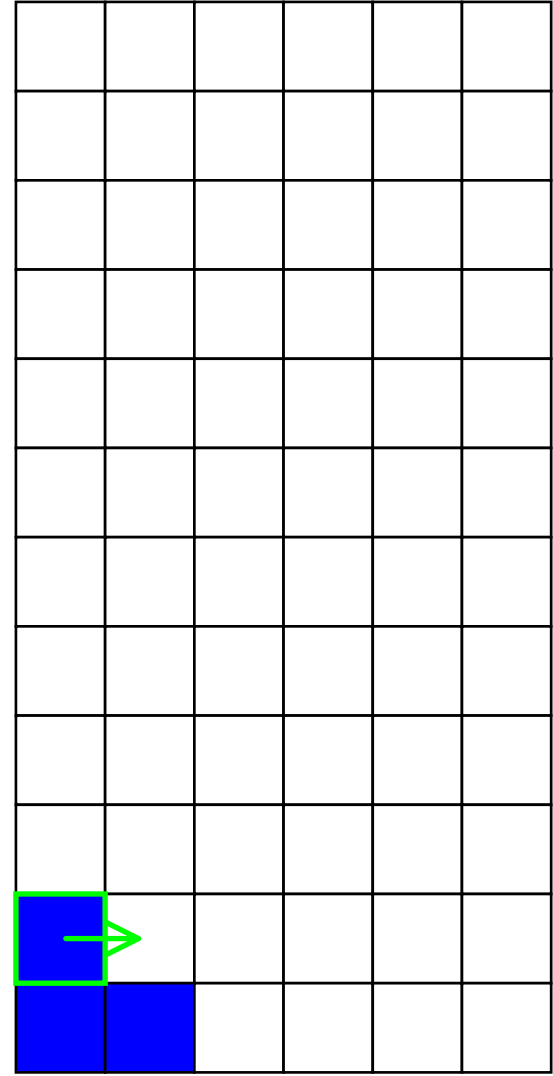
INITIAL STATE: (MOVE 1)
Perform: exchange_right at position: (11, 0):
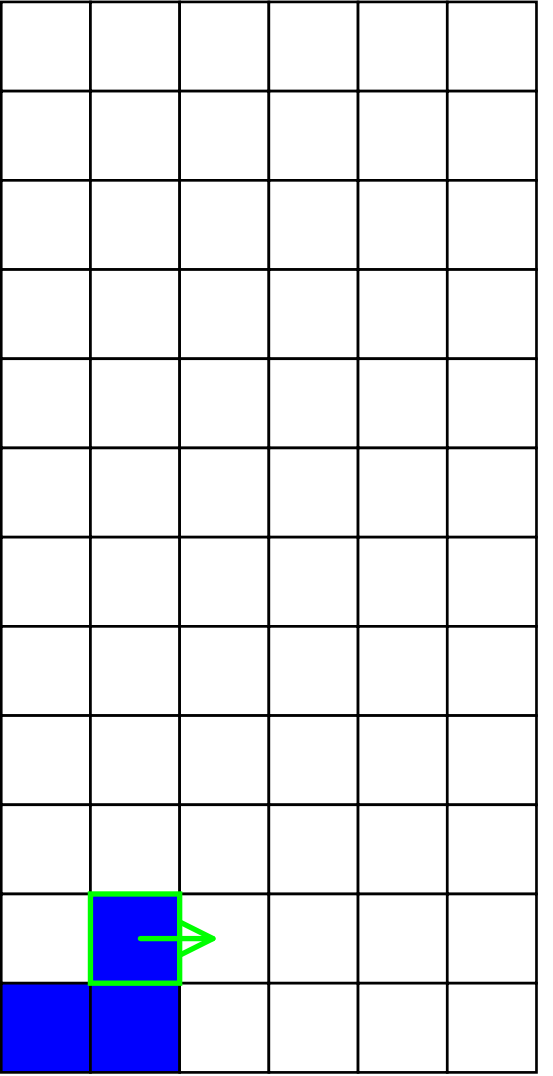
(MOVE 2)
Perform: move_left at position: (11, 5):
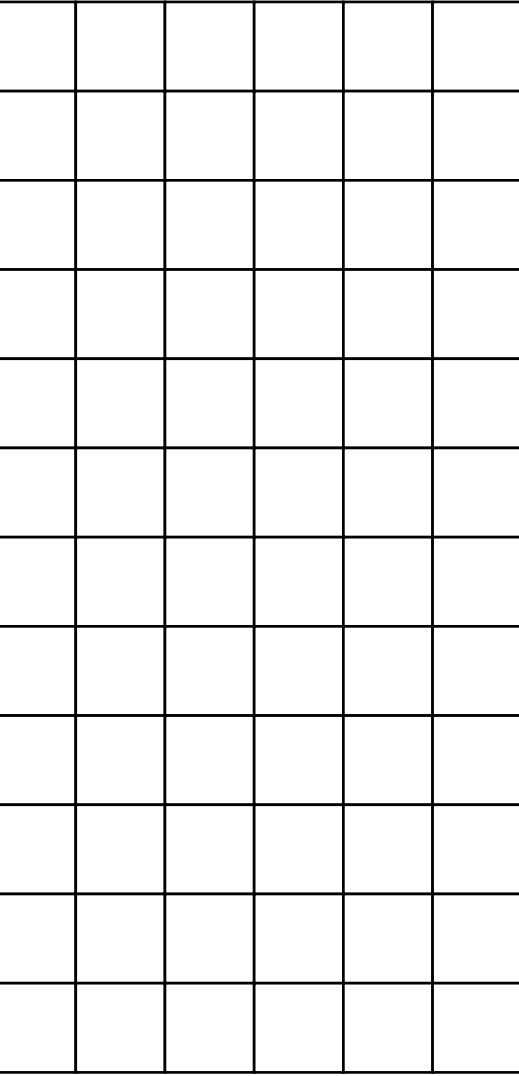
(MOVE 3)
Perform: move_right at position: (9, 1):
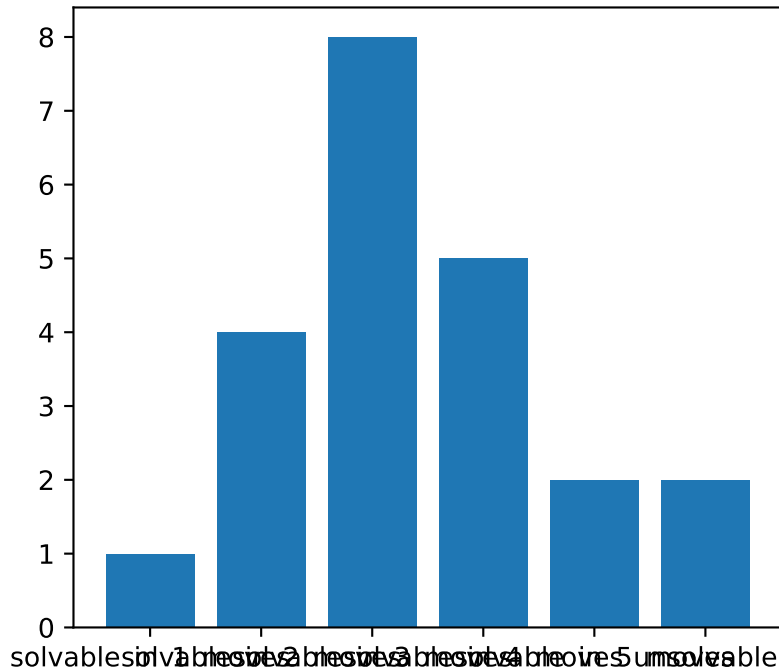
(MOVE 4)
Perform: move_right at position: (10, 0):

(MOVE 5)
Perform: move_right at position: (10, 1):

FINAL STATE

Number of Puzzles Generated (Bar Chart)

Number of Puzzles Generated (Pie Chart)

solvable_in_3_moves

solvable_in_2_moves

solvable_in_1_moves

36.36%(8)

18.18%(4)

4.55%(1)

9.09%(2)

unsolvable

22.73%(5)

9.09%(2)

solvable_in_4_moves

solvable_in_5_moves

solvable_in_1_moves solvable_in_2_moves solvable_in_3_moves solvable_in_4_moves solvable_in_5_moves unsolvable