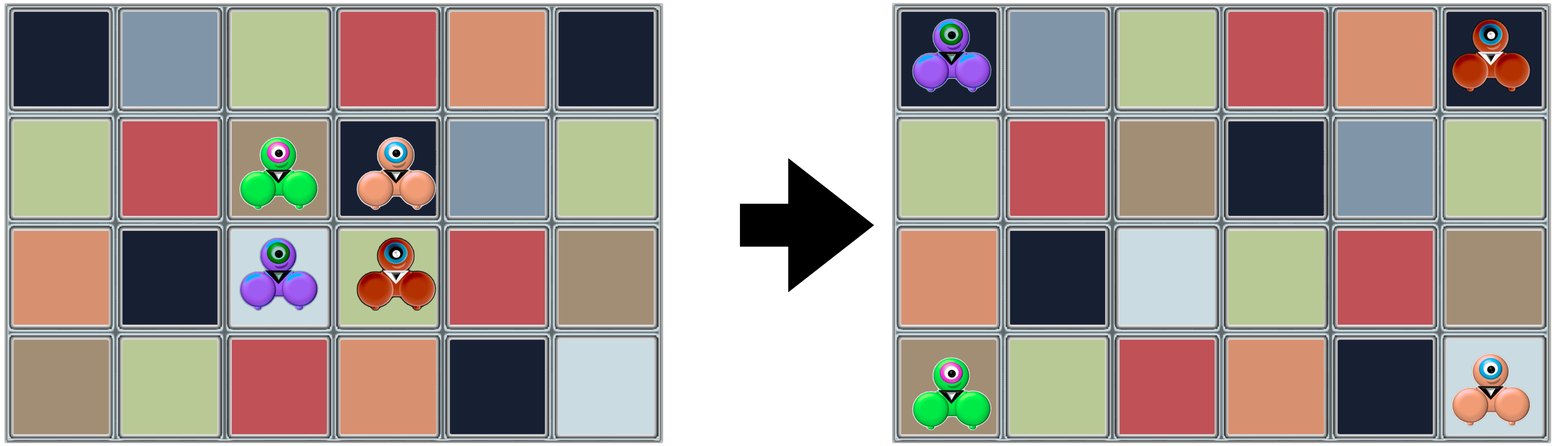
# Cooperation for Four Dashes

## A game for Dash robots requiring cooperation and team work



Bruce Cichowlas of The Brighton School, Framingham, MA 11/02/22

# Summary

## How to play Cooperation for Four Dashes

- For each setup (for four students) you will need: 4 Dash robots, 4 tablets capable of running Wonder Workshop Blockly, a stopwatch app on your phone or equivalent, a playing surface (ideally 6 x 4) with each block large enough to hold a Dash robot with at least an inch around.

- I have tried this with 4th-6th graders with some previous experience with Blockly and Dash, using two setups (eight students) for 30-minute sessions. It was helpful to have an assistant on hand.

- I wanted a game that encouraged cooperation and team planning. So many games with robots are solo activities, often competitive, but I wanted something different. Here the four students need to plan together and practice together, even though each has a slightly different part to play.

# The General Rules

## You can change them to fit your needs

- On each setup, there are Dashes of four colors: Orange, Purple, Green and Red. Now I know your Dashes are probably made of blue plastic as are mine, so the first rule is that each student must turn all lights of their robot to their player color at the start of their Blockly program, so that other players and onlookers can easily know which robot is which.

- Each exercise (A-J) has a “before” diagram on the left and an “after” diagram on the right, showing the starting and ending positions of each robot. It doesn’t matter which way the robots are actually facing at the start and end, but at the end each robot must stop covering at least a part of their target square.

- The students can plan and practice each exercise as much as needed until they are ready. The first exercises are easy, but the more difficult ones involve crossed paths and that will require thinking and planning for the best result.

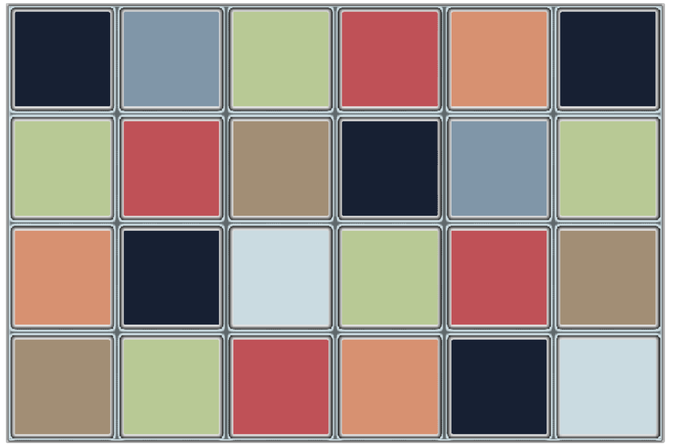
- When the team is ready, they inform the teacher, who has a stopwatch or equivalent. During the exercise, no students can be on the rug (setup) or touch the robots. The teacher says “Ready, set, go” at which point the teacher starts the timer and the students press their “go” buttons. When the teacher sees all the robots stopped and touching their destination squares, the teacher stops the clock and records the time. (Times of 3.0-10.0 seconds are typical.) If the team succeeds, they can choose whether to go for a better time or to go on to the next exercise. (I usually let them try for better time twice after they’ve had one success.) Then the teacher records the team, the exercise letter and the time. (I had a 4th grade class and a 5th grade class, each with 8 students and each using two setups.)

- If your student counts are not divisible by four, you can do groups of three, omitting the green player, though, of course, that gives them an advantage.

# Other info and image resources.

- I was fortunate to find these wonderful rugs at Walmart several years ago. They don't have them any more (and if one of your spots them somewhere, please let all of us know). If you use your own mats, you can try to duplicate the colors, though that's not essential.

- I used GIMP (free for Mac and PC to make these images and Keynote on Mac to prepare this presentation,



I'm charging a very small amount for this mainly to find out how many want to use something like this, I'd welcome your feedback and ideas. I'd welcome your feedback and ideas. (bruce@playalongkeys.com) I've been teaching technology and sometimes music part-time for over 10 years at a small private elementary school in Massachusetts. I'm also a music game designer and musical instrument developer. More about that at https://playalongkeys.com/about if you are interested in knowing.)

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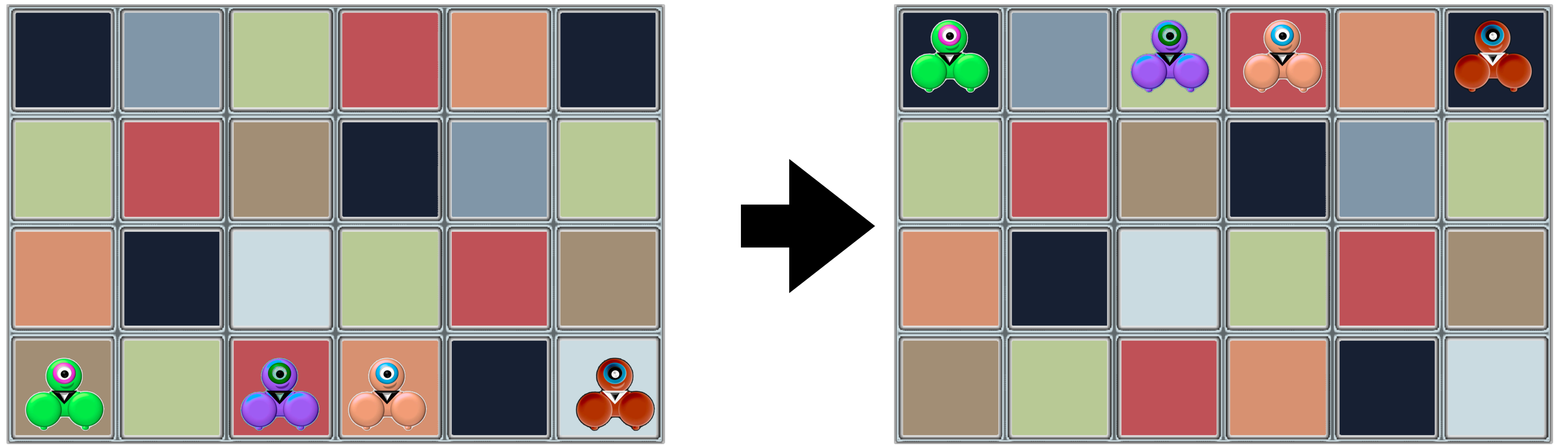

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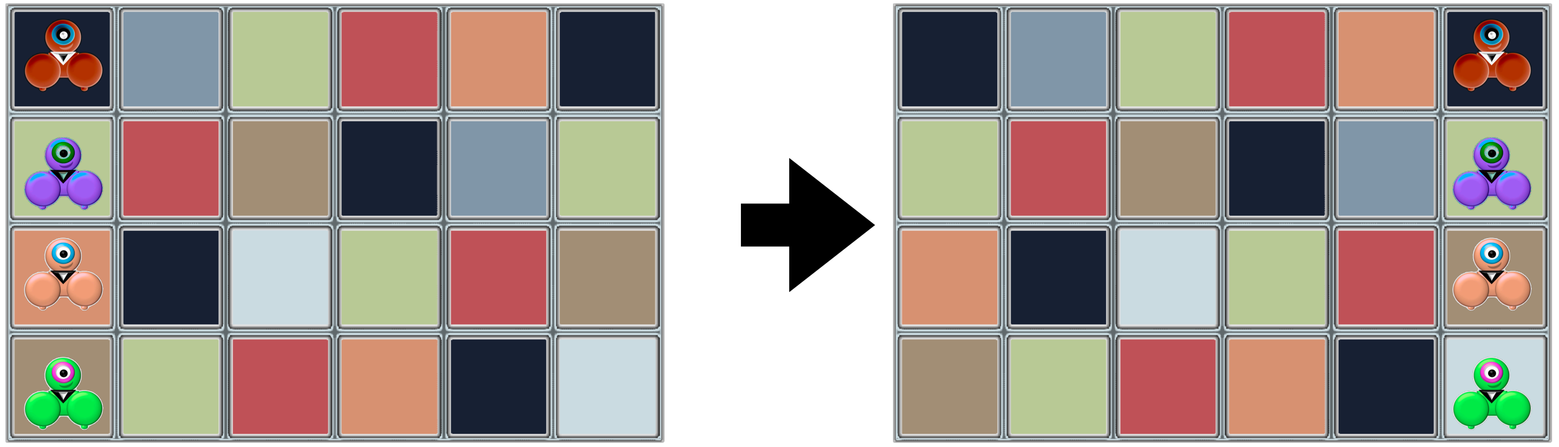

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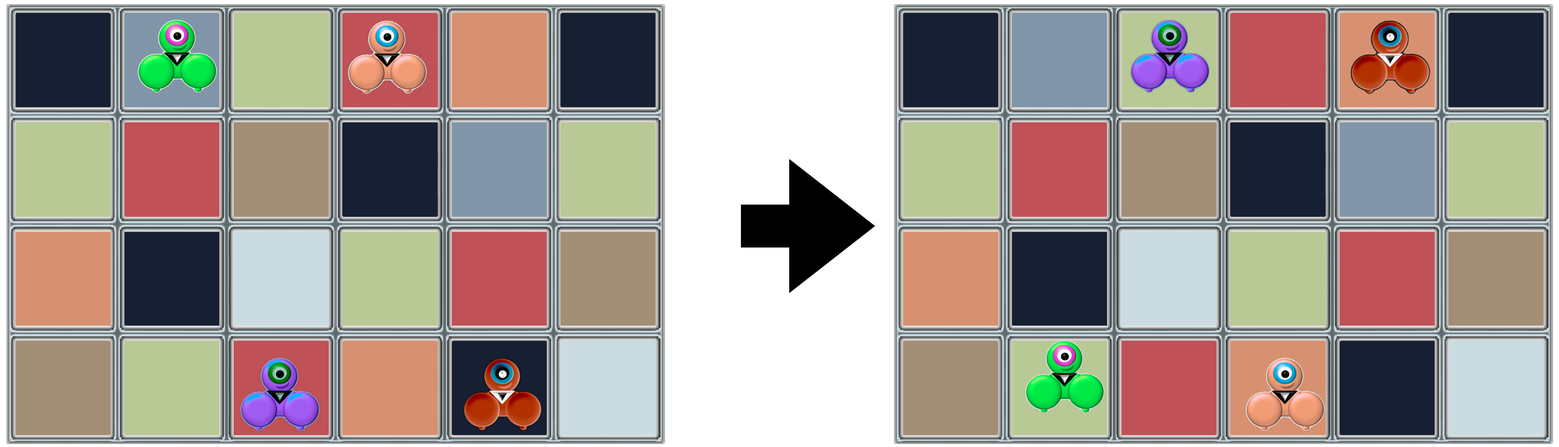

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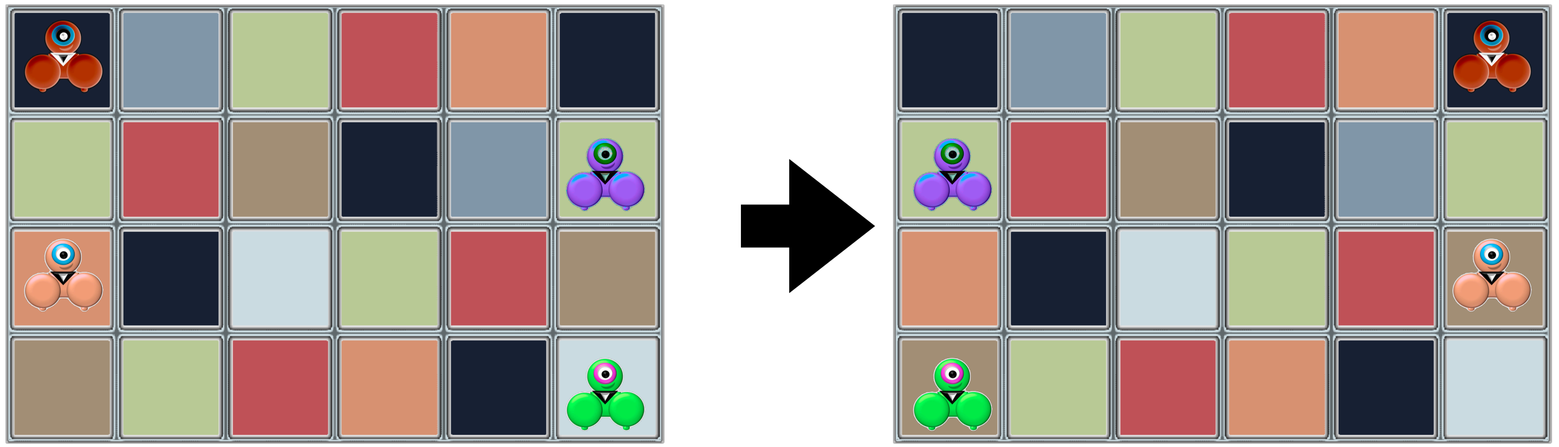

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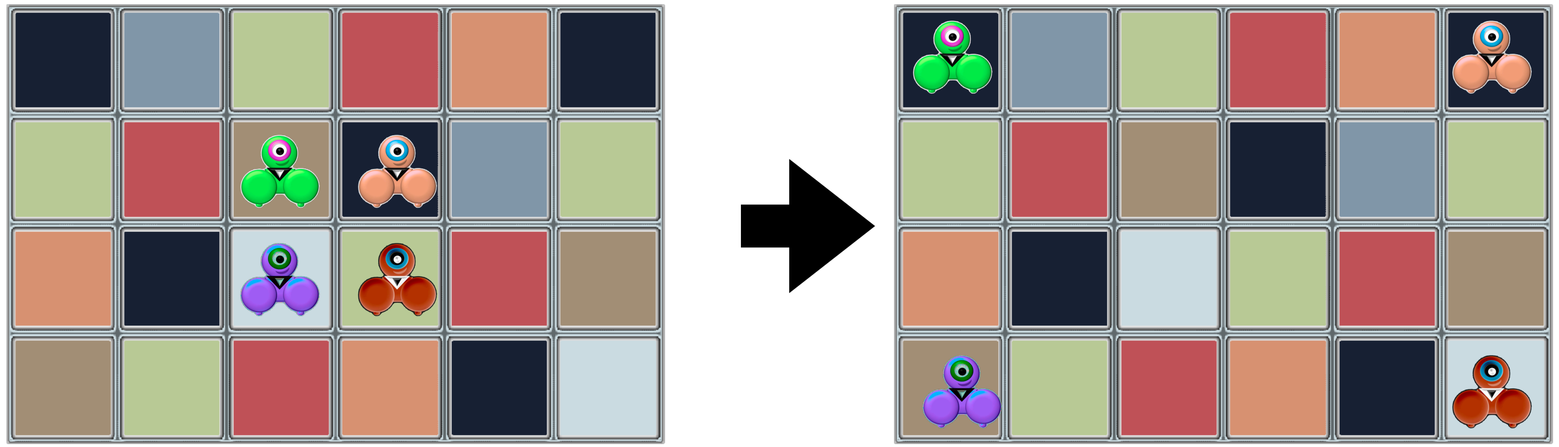

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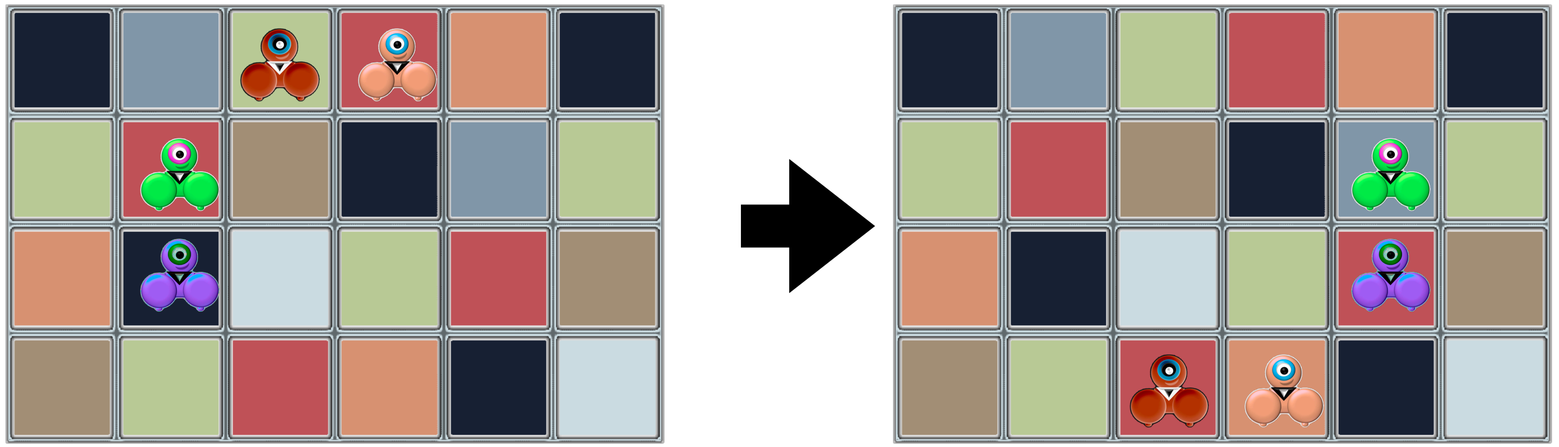

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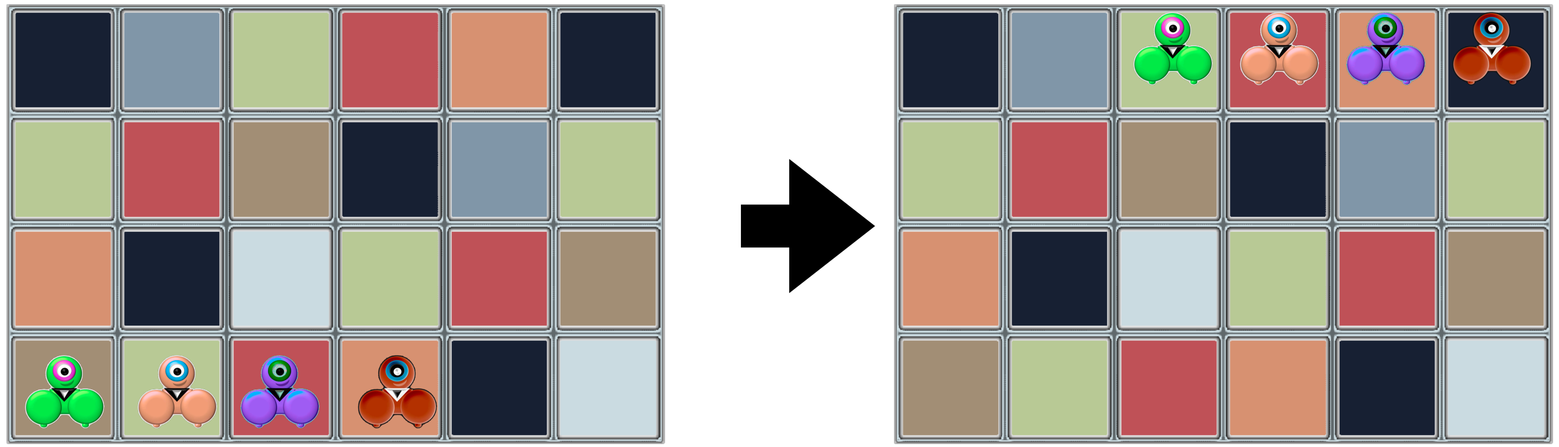

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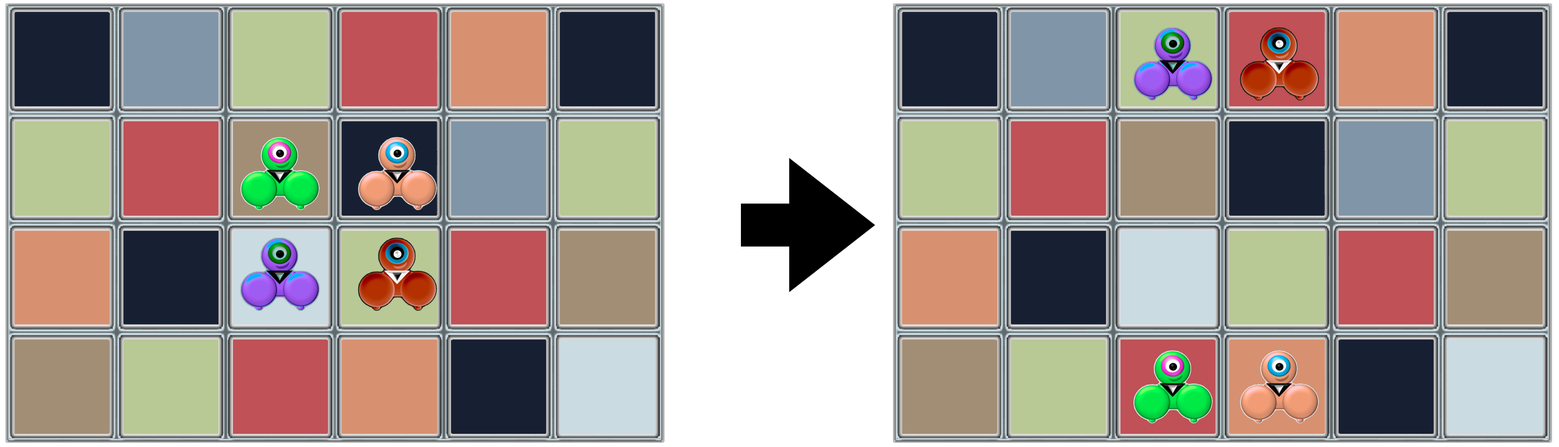

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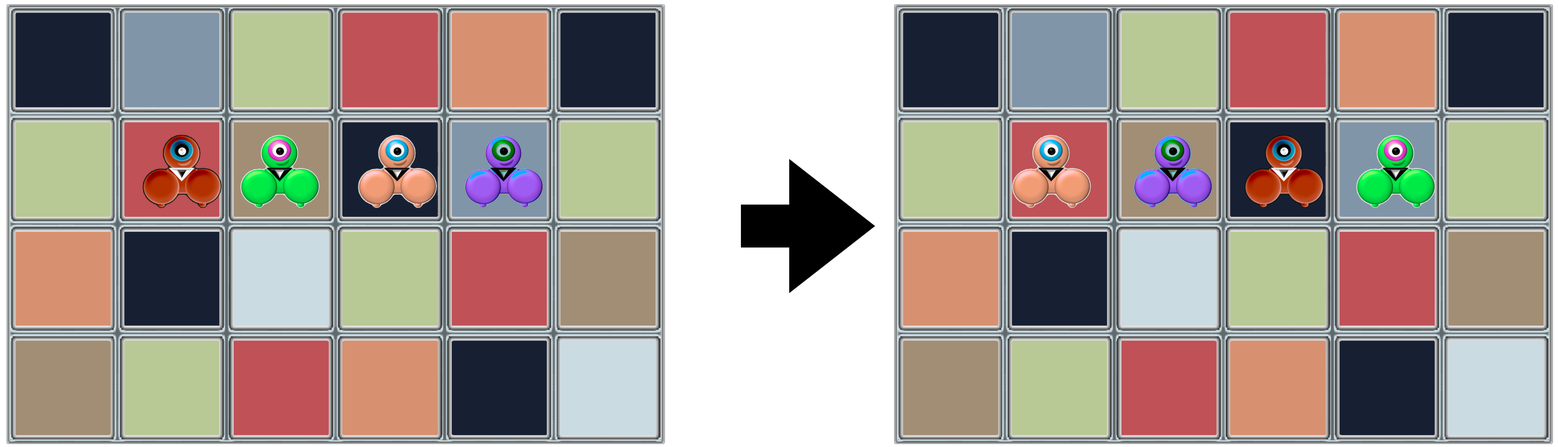

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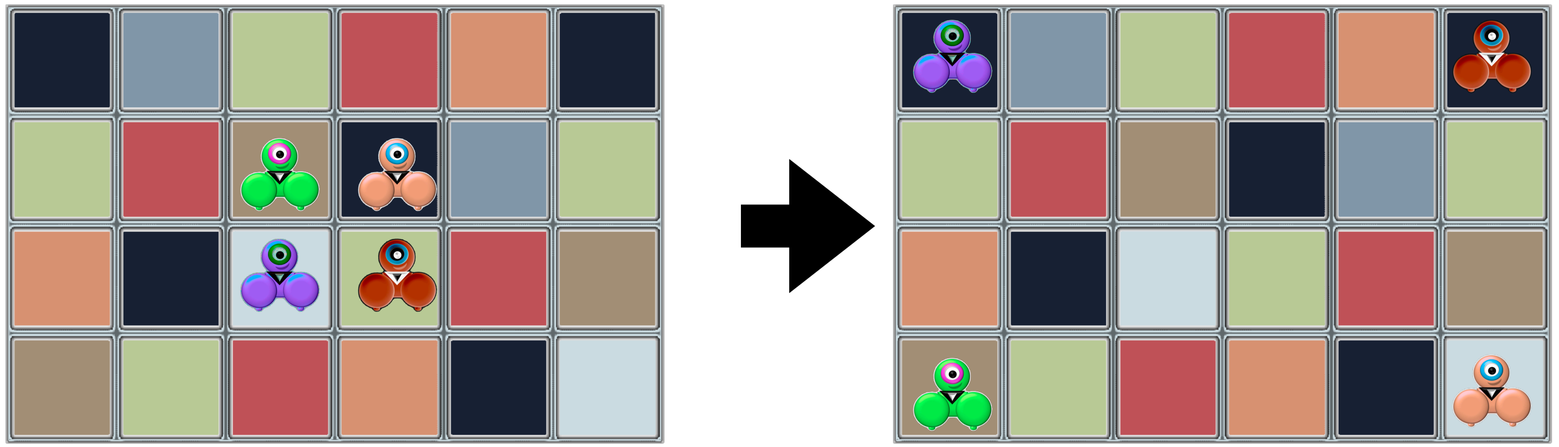

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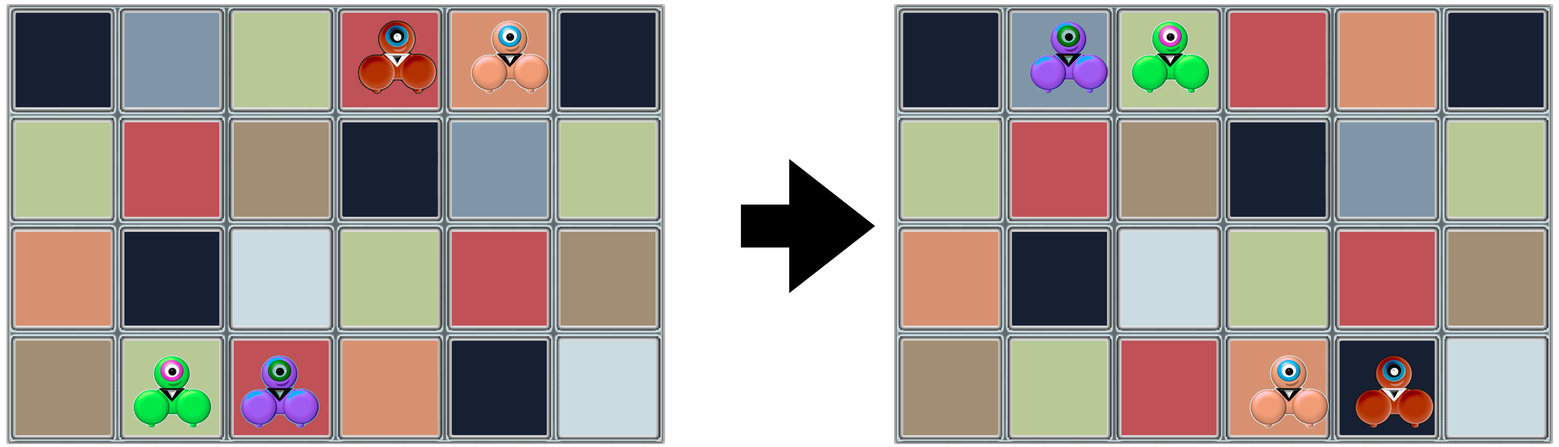
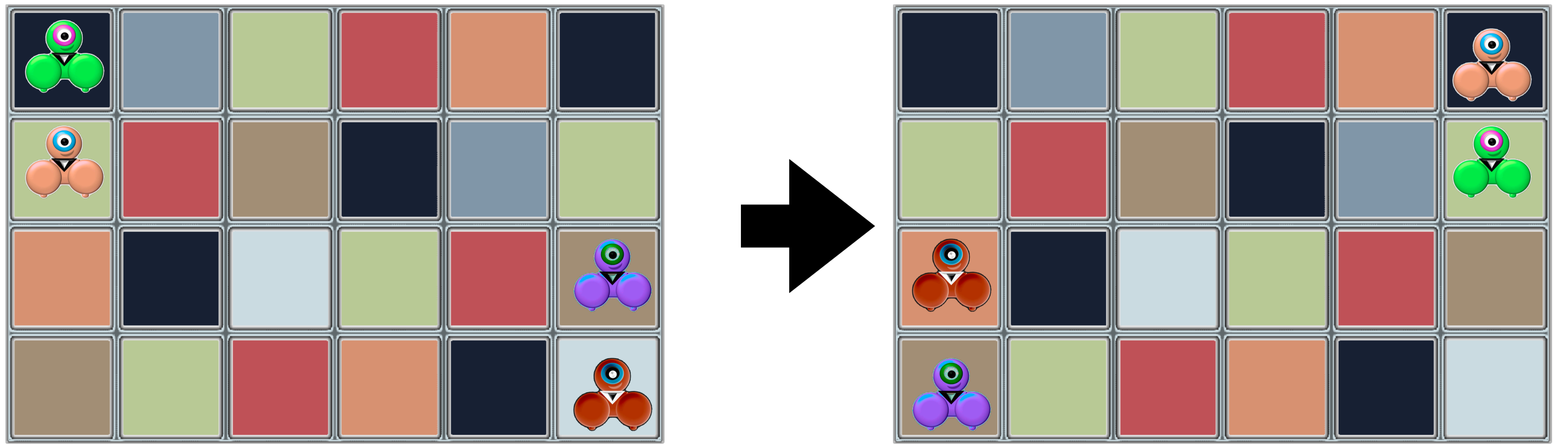
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