

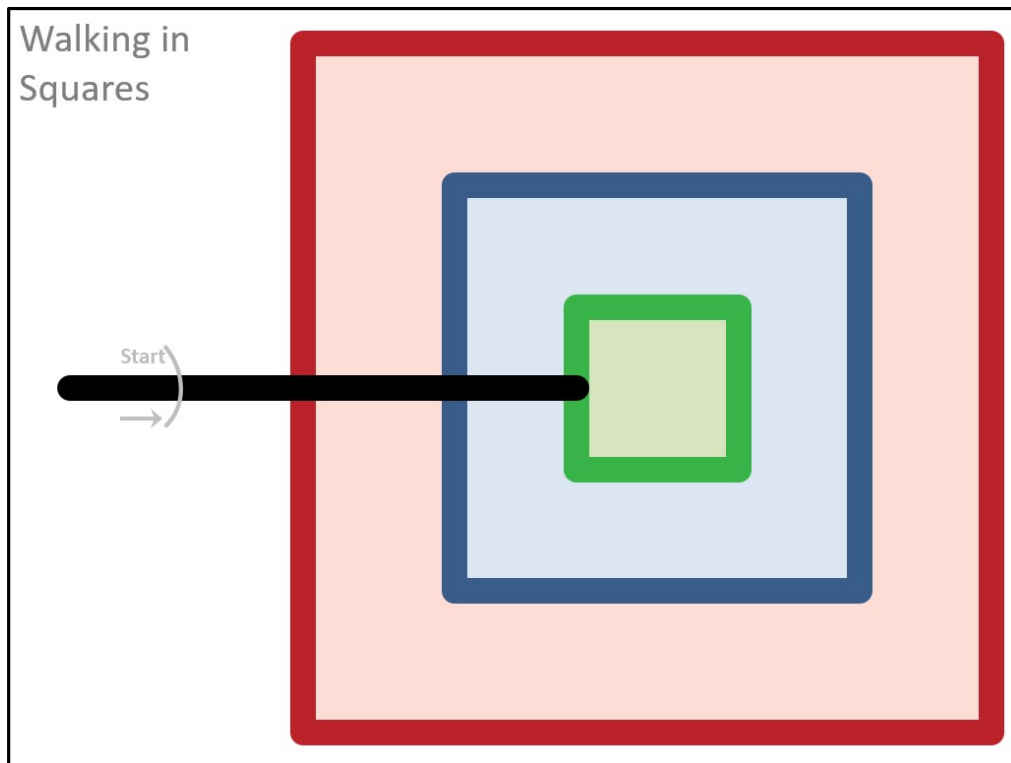
OzoBlockly Challenge: Walking in Squares

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Introduction

Have you ever been lost in the woods on a cloudy day without a compass or GPS device? If so, did you get the feeling that you were “walking in circles”? Recent studies by German scientists indicate that people actually do “go around in circles” under such circumstances.

Although this challenge may make your *brain* feel like it is going in circles, your task is to get Ozobot to walk in *squares* in a *very special way*. A small copy of the map used for this challenge is shown in the figure below and can be used as a reference while reading the challenge. A larger copy, suitable for printing and using with Ozobot, can be obtained by downloading the file *WalkingInSquares.pdf*.



Challenge Requirements

1. Use Mode 4 (Advanced) and higher to program this challenge. You can also use the “repeat forever” OzoBlock from Mode 3.
2. Ozobot should be moving at 60 mm/s, displaying a WHITE LED at all times while outside of the colored squares.
3. Ozobot should be placed at the location labeled “Start” facing the direction shown by the gray arrow, and then started.
4. Here is how Ozobot is to “walk in squares”:
 - a. He should travel around the red square once in a clockwise (CW) direction.
 - b. He should then travel around the blue square once in a CW direction.
 - c. He should then travel around the green square once in a CW direction.
 - d. He should make a military “about face” and travel around the green square once in a counter-clockwise (CCW) direction.
 - e. He should then travel around the blue square once in a CCW direction.
 - f. He should then travel around the red square once in a CCW direction.
 - g. He should then follow the black line to its line-end on the far left of the map, do an “about face” and repeat the tasks in step 4 over-and-over again until you remove him or his battery runs out.
5. While traveling on the red square or on the black line within the red-shaded area, Ozobot should show a RED LED.
6. While traveling on the blue square or on the black line within the blue-shaded area, Ozobot should show a BLUE LED.
7. While traveling on the green square, Ozobot should show a GREEN LED.

Hint: If you find yourself repeating the same sequence of OzoBlocks a specific number of times, you might consider using a “count with” OzoBlock from the selection of available loops. Use of “count with” will help keep your program shorter. Using “count with” also has the advantage that you can use the loop variable (typically defaulted at names like i, j, ...) and an “if” OzoBlock to perform special tasks that are dependent upon the current value of the loop variable.