INTERMEDIATE PROGRAMMING LESSON

COLOR LINE FOLLOWER MY BLOCK WITH INPUTS: MOVE UNTIL BLACK

By Sanjay and Arvind Seshan

EV3 CLASSROOM LESSON
BY EV3LESSONS.COM

Lesson Objectives

1. Learn how to write a line follower that takes multiple inputs

2. Learn how to write a line follower that stops when it sees another line

3. Practice making useful My Blocks

Prerequisites: My Blocks with Inputs & Outputs, Variables

Tips to Succeed

1. You will need to know how to make a Simple Color Line Follower program and how to make a My Block with inputs

2. Since you will use your EV3 Color Sensor in Color Mode, you will not have to Calibrate your color sensor for this lesson

3. Check which ports you have your color sensor connected to the EV3 and adjust the code as needed

4. You may have to adjust the speed or direction to work for your robot. Make sure that the the color sensor is in front of the wheels in the direction of travel.

5. Make sure you place the robot on the side of the line that you are following. The most common mistake is placing the robot on the wrong side of the line to begin with.

Color Follower Until Color

Challenge: Create a line follower My Block that stops when it sees black

STEP 1:

- Create a My Block with three inputs (Color of the Line to Follow, % Speed, Color to End on)

STEP 2:

- Define the My Block so that it line follows in a loop until the exit condition (black color)

STEP 3:

- Use the My Block to follow a Red Line until it sees Black.
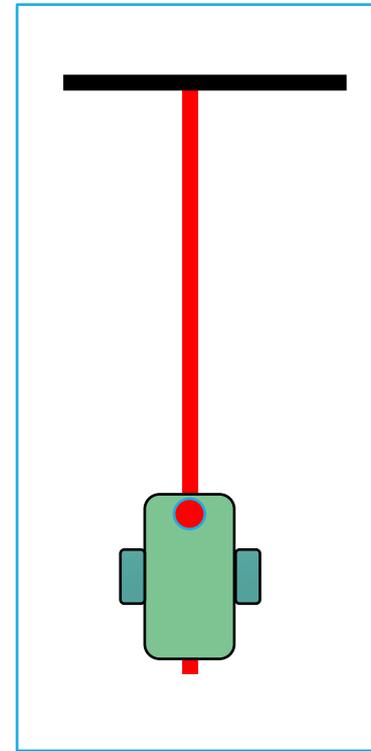
Step 1: Create the My Block

Add three Inputs and Labels
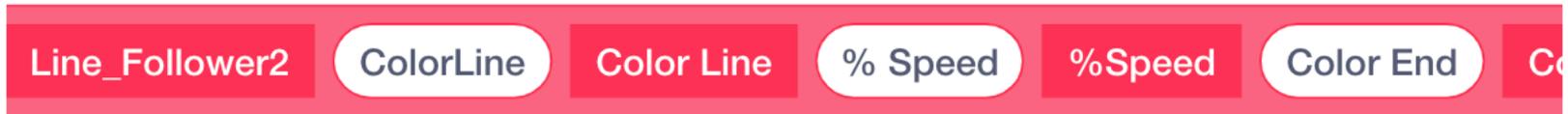
Step 2: Define the My Block

Repeat the line following loop until the the same color sensor sees the Color End

If the color sensor reads the color of the line you want to follow, turn right, else, turn left

Stop motors

Step 3: Use and Reuse the My Block

Note: You have to enter a number into the parameter for the color. You cannot just spell out the color. The numbers are not very clearly defined in EV3 Classroom.

Color Code:
0 - No Color
1 - Black
2 - Blue
3 - Green
4 - Yellow
5 - Red
6 - White
7 - Brown

Line follow a Red Line until a Black Line
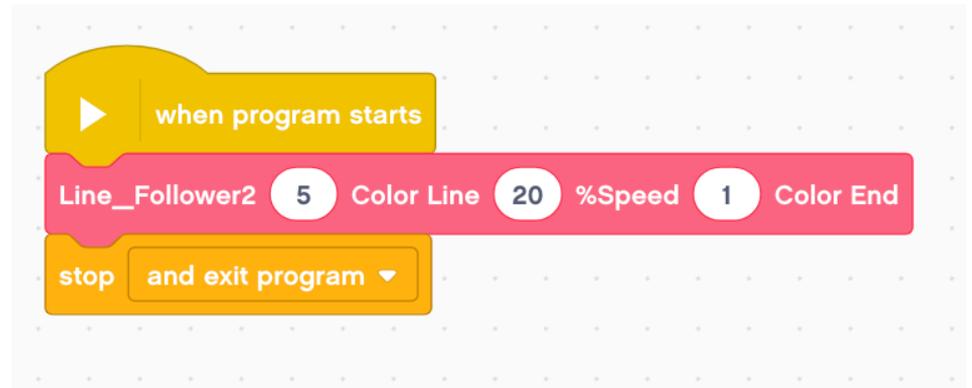
As with all the other My Block examples on EV3Lessons, you can now reuse this Line Follower My Block as many times are you need to.

Just remember that My Blocks only work in the Project they are in.

Next Steps

- We use a simple line follower in this lesson. You can combine these techniques with any line follower.

- Learn how to create a proportional line follower for light or a smooth line follower for color → check out our Advanced: Proportional Line Follower lesson.

Credits

This tutorial was created by Sanjay Seshan and Arvind Seshan

More lessons are available at www.ev3lessons.com