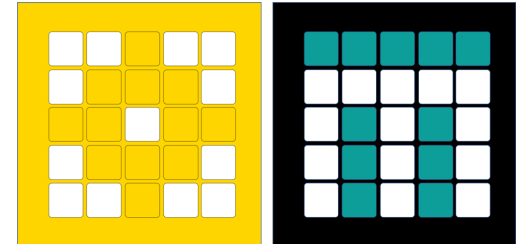


PRIME LESSONS

By the Makers of EV3Lessons



LINE FOLLOWER

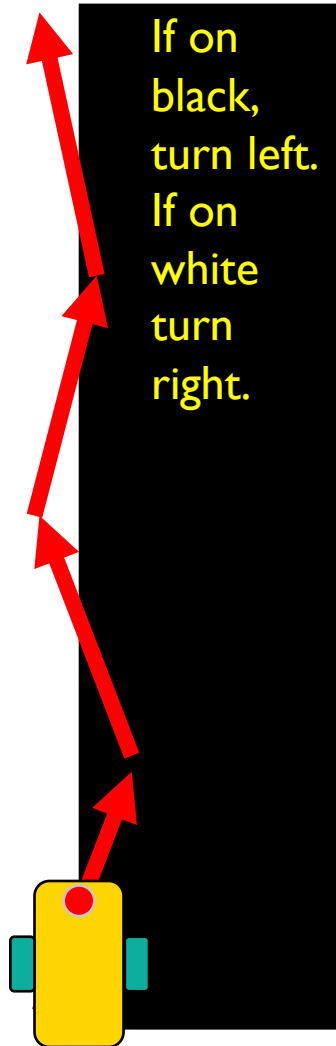
BY SANJAY AND ARVIND SESHAN

This lesson uses SPIKE 3 software

LESSON OBJECTIVES

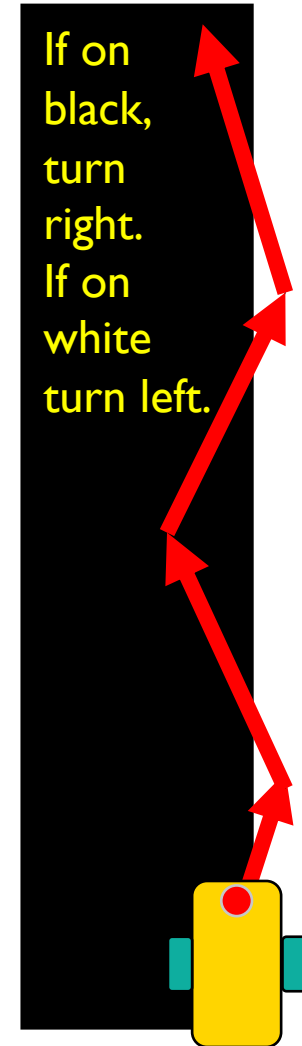
- Learn how to get a robot to follow a line using Color Mode on the Color Sensor
- Learn how to follow a line until a sensor is activated
- Learn how to follow a line for a particular distance
- Learn how to combine sensors, loops and switches

ROBOTS FOLLOW THE EDGE OF THE LINE

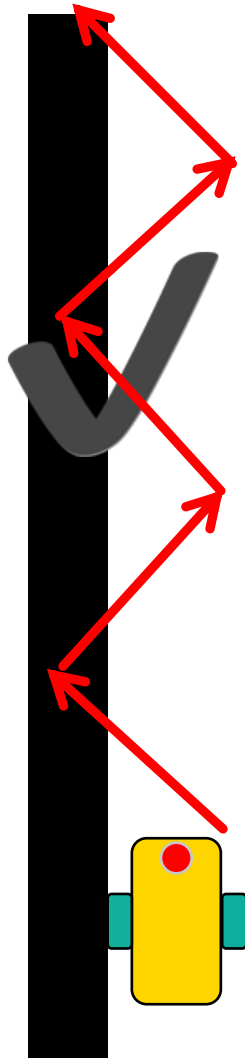
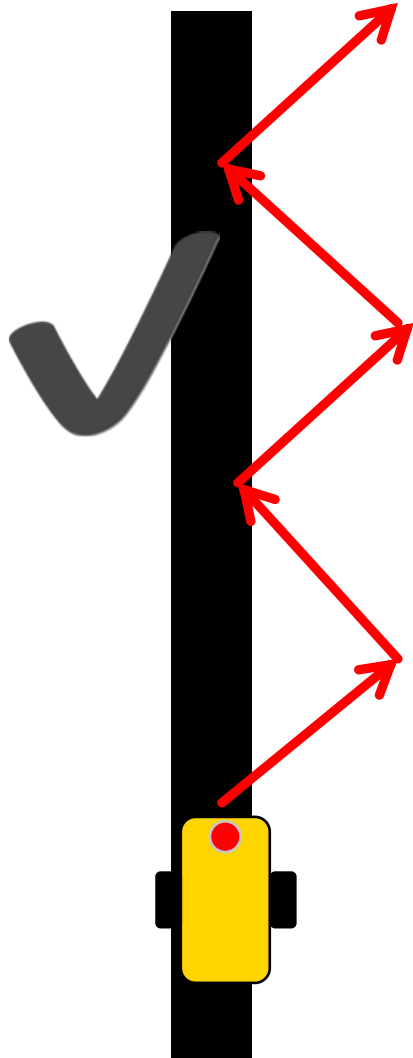


The robot has to choose which way to turn when the color sensor sees a different color.

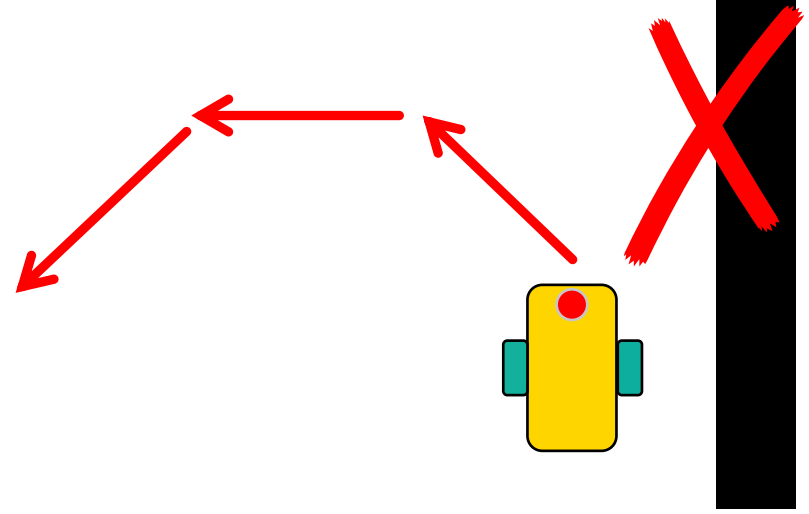
The answer depends on what side of the line you are following!



WHICH SIDE OF THE LINE SHOULD YOU START ON



If you write a line follower to follow the right side of the line, you have to start the robot on the right of the line



CHALLENGE: FOLLOW A LINE

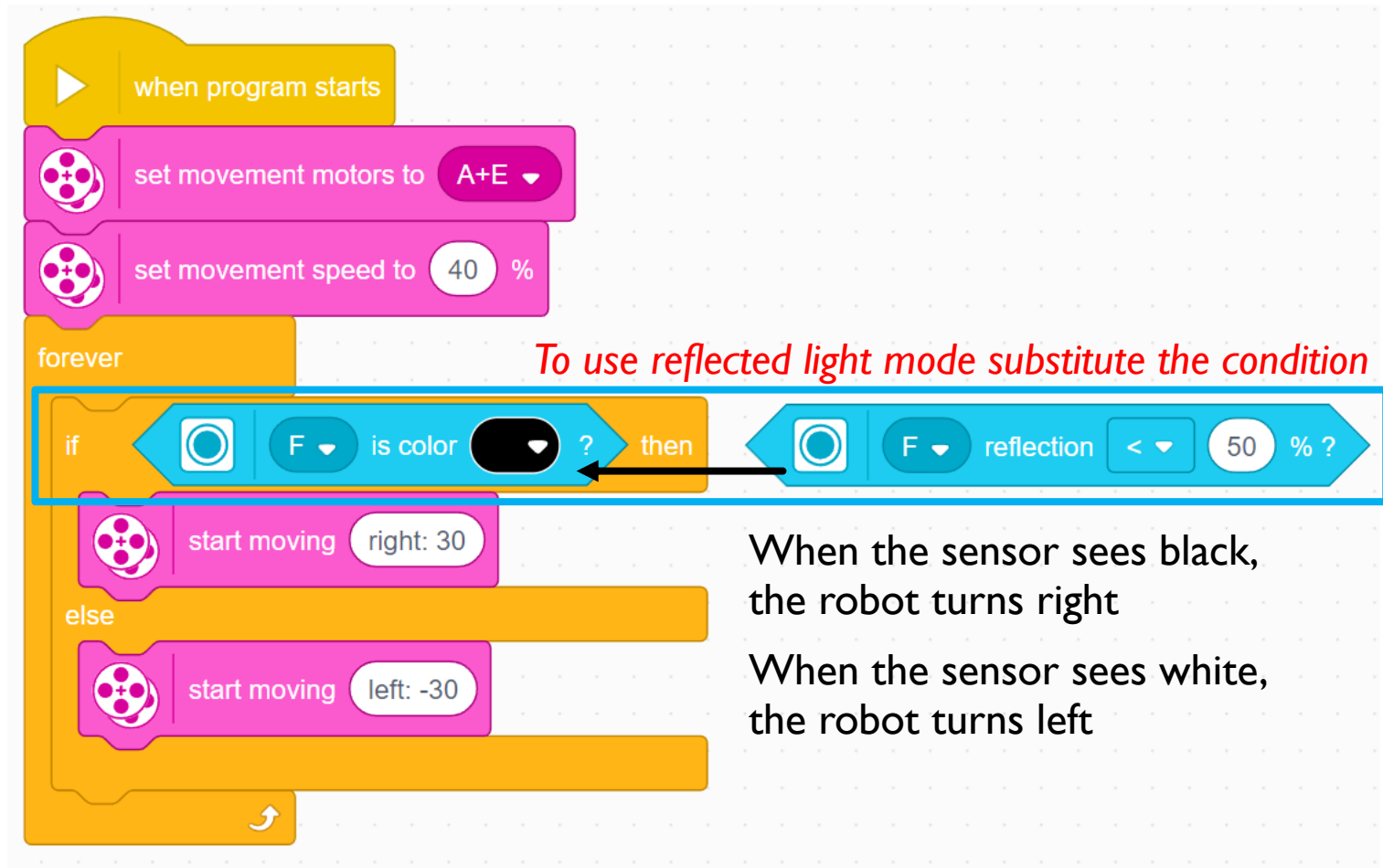
- Write a program that follows the right edge of the line
- If your sensor sees black, turn right
- If your sensor sees white, turn left
- Use an If-Else block to make that decision
- Repeat the line follower forever
- Use Color Mode or Reflected Light Mode

Note: To line follow with the Advanced Driving Base (ADB) in Color Mode you will have to make a modification to the design because the color sensor does not recognize black at the height in the original build instructions. See our Color Sensor lesson.



LINE FOLLOWER – COLOR & REFLECTED MODE

This program follows a right side of a black line using the Color Mode



EXTENSION

■ CHANGING EXIT CONDITIONS

- What if you did not want to line follow forever? What it would wanted to line follow until a Force sensor was pressed?
- Combine this lesson with the Repeat block lesson to solve this problem.

CREDITS

- This lesson was created by Sanjay Seshan and Arvind Seshan for Prime Lessons
- More lessons are available at www.primelessons.org



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