

BEGINNER EV3 PROGRAMMING LESSON 4



Ultrasonic Sensor (Must complete
Lesson 3 first)
Final Challenge

By: Droids Robotics
www.ev3lessons.com

SECTION 8: ULTRASONIC

MOVE FOR ULTRASONIC

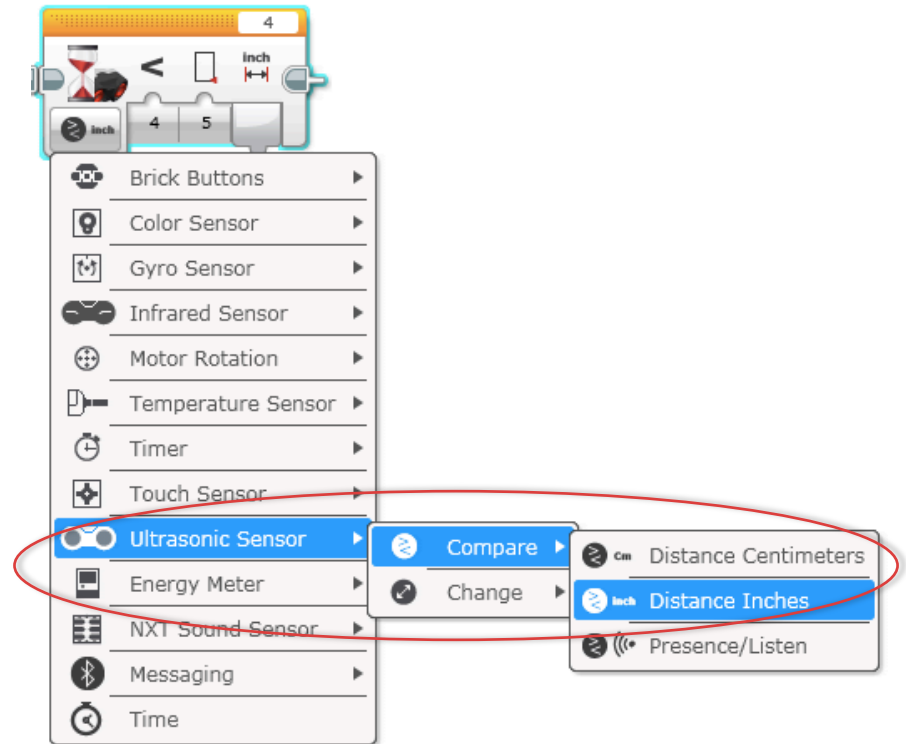
Challenge: Make the robot move until it is 5 inches away from the wall.

Step 1: Make a new program

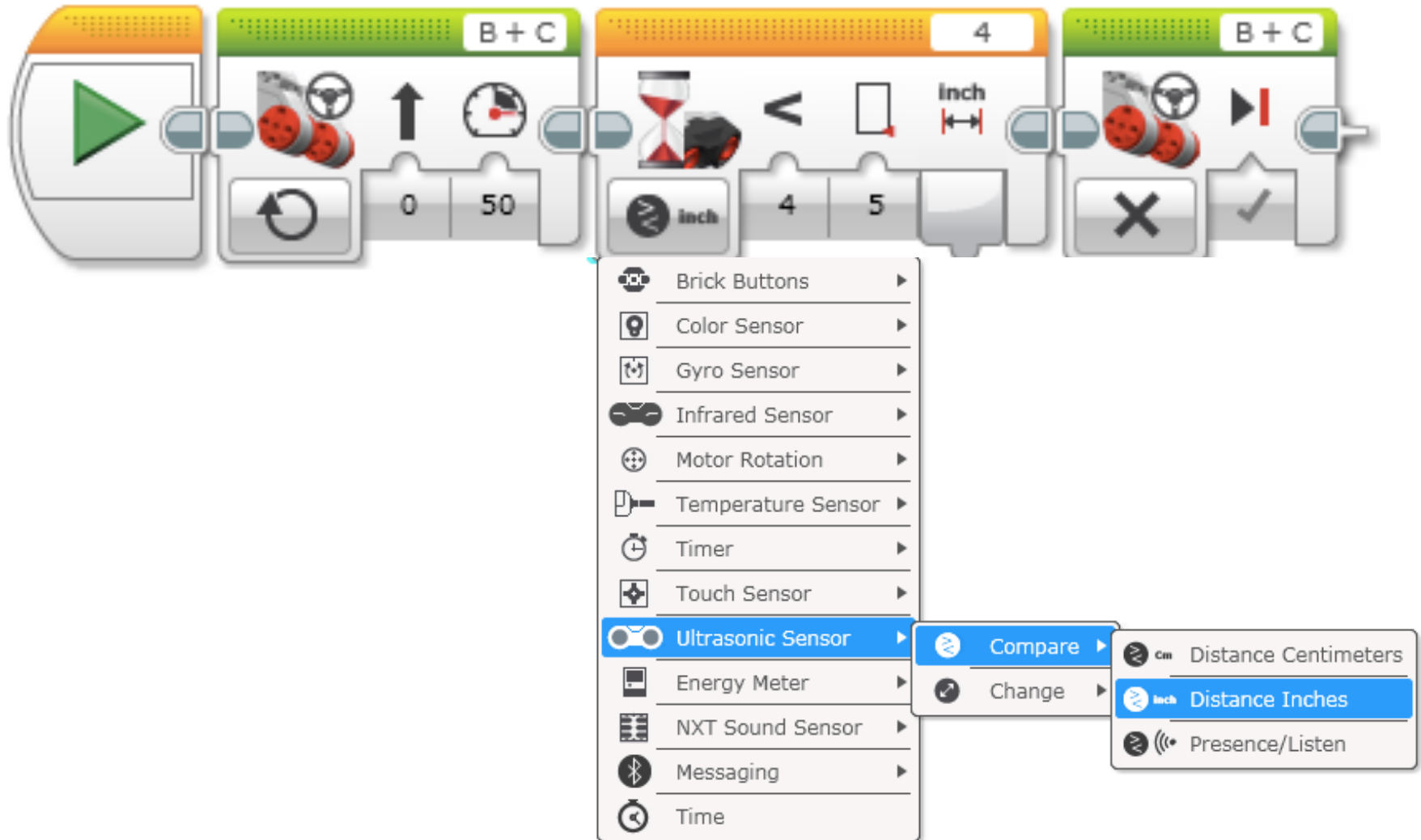
Step 2: Set move to “on”

Step 3: Set wait block to use the Ultrasonic

Step 4: Set move block to “off”



CHALLENGE 1 SOLUTION:



CHALLENGE 2: DOG FOLLOWER

Challenge: If the robot is closer than 5 inches away from your hand move backward, otherwise move forward.

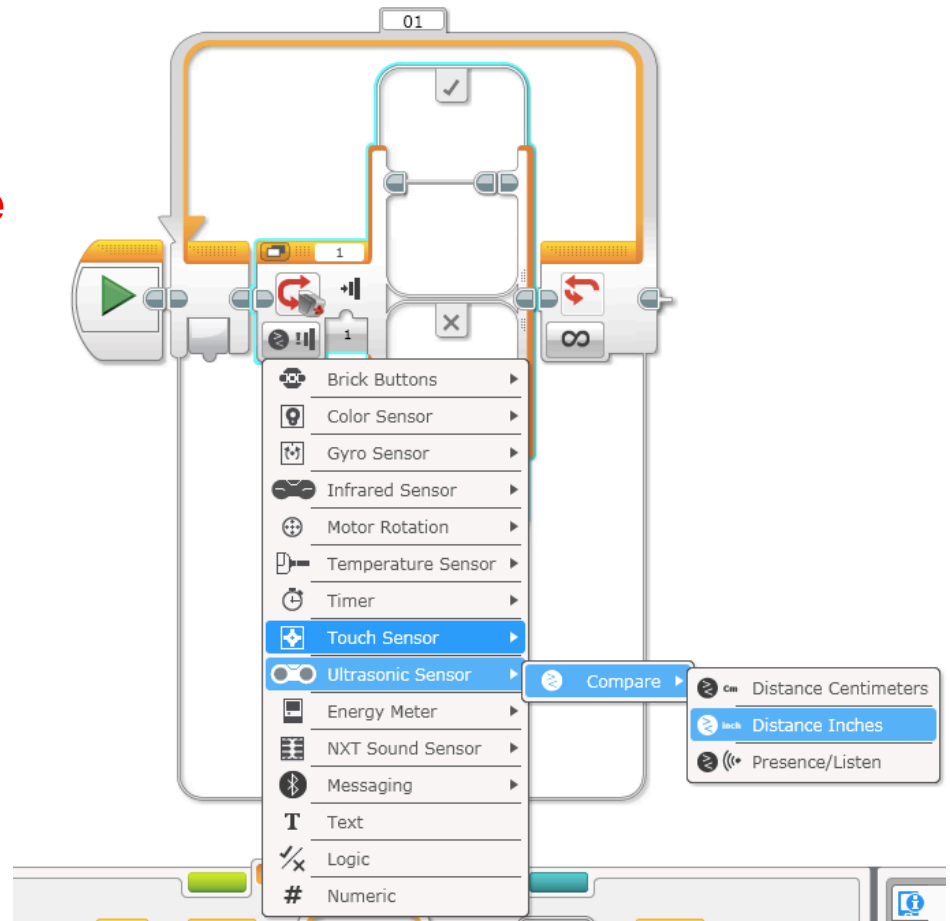
Step 1: Drag a loop from the orange tab

Step 2: Drag switch inside loop

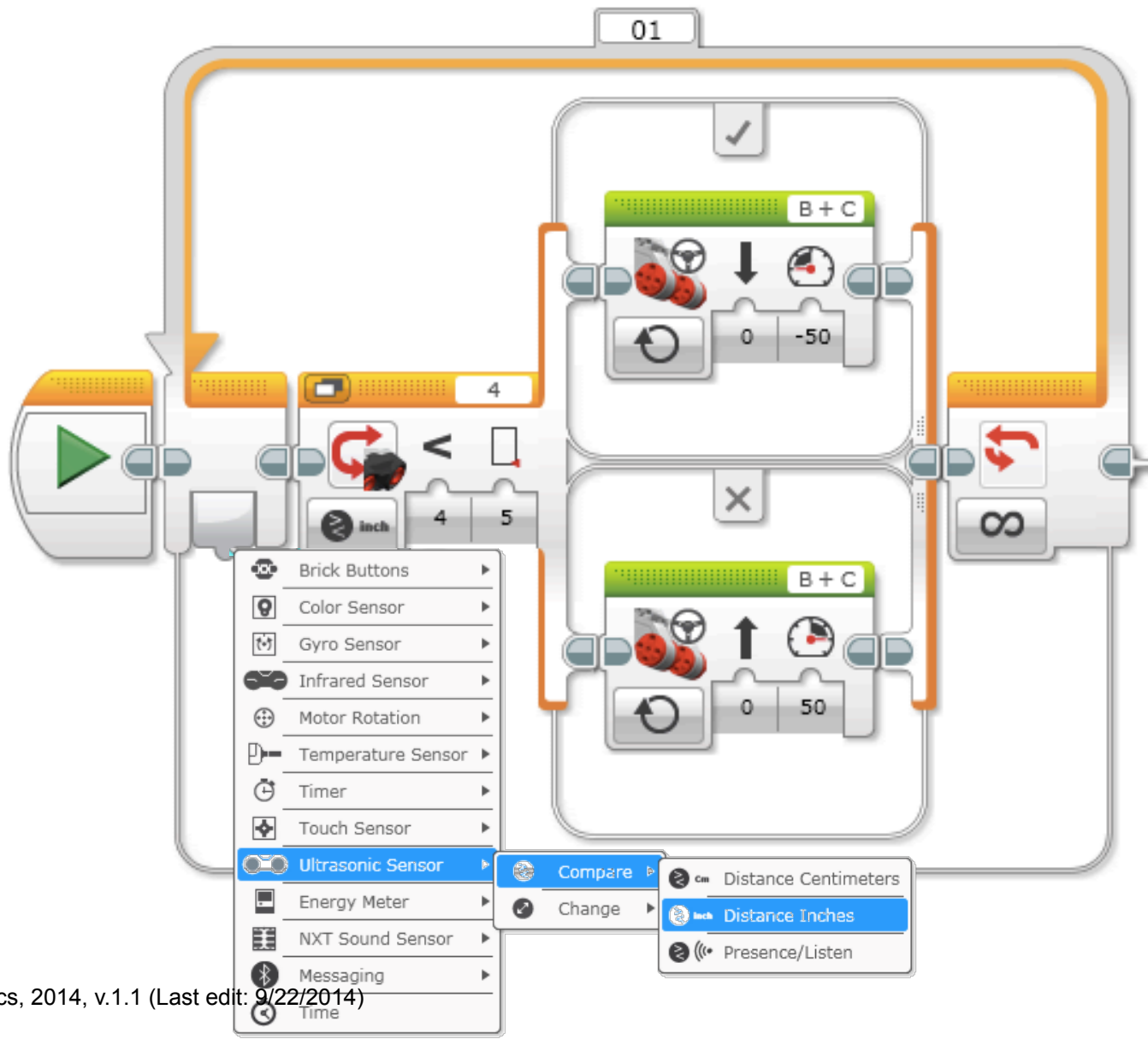
Step 3: Set switch to Ultrasonic

Step 4: Set move steering block to ON and place in TRUE

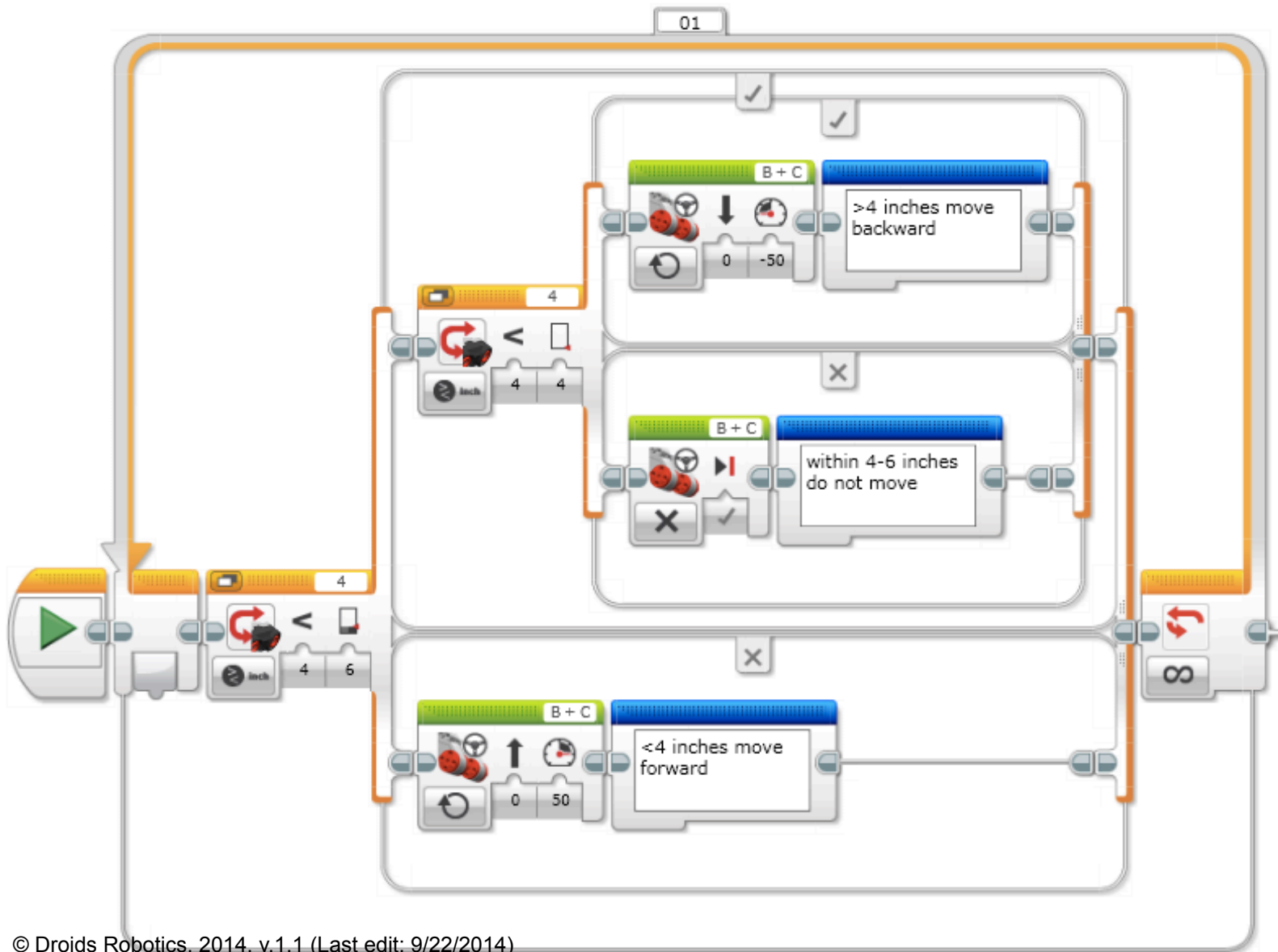
Step 4: Set move steering block to OFF and place in FALSE



CHALLENGE 2 SOLUTION:

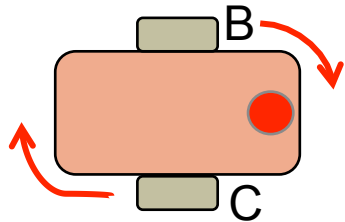


BETTER DOG FOLLOWER:

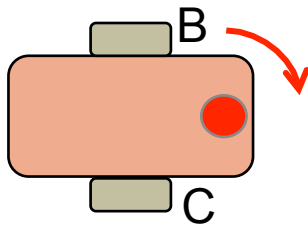


REVIEW

Turns: Spin and Pivot



Spin (used
in tight
spaces)



Pivot

Wait Block:

Wait for a sensor reading (touch, ultrasonic, color) or time

Move until line, Move until touch

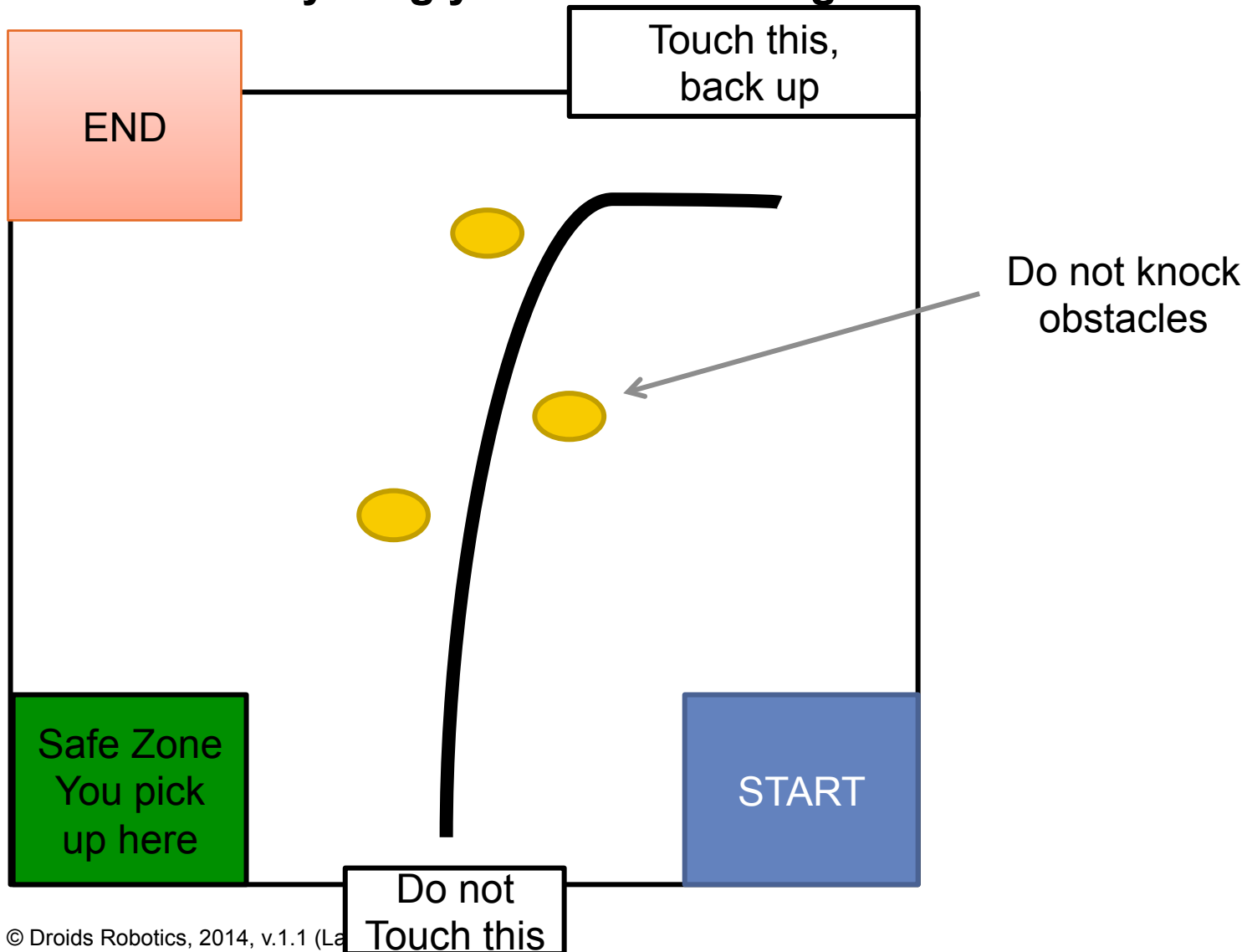
Port View: Sensor readings on the brick



SECTION 9: FINAL CHALLENGE

FINAL MAZE CHALLENGE

Combine everything you know to navigate a maze like this.



CREDITS

- **This tutorial was created by Sanjay Seshan and Arvind Seshan from FLL Team Not the Droids You Are Looking For (Droids Robotics)**
- **We have additional material for more advanced lessons available on request.**
- **Useful tools for FLL teams and robot programmers are available at www.ev3lessons.com**
- **The material is made available to you free of charge. However, we would greatly appreciate a letter indicating that you are using the materials and what you think of them.**
- **Feedback and suggestions are encouraged.**
- **Email: team@droidsrobotics.org**

