

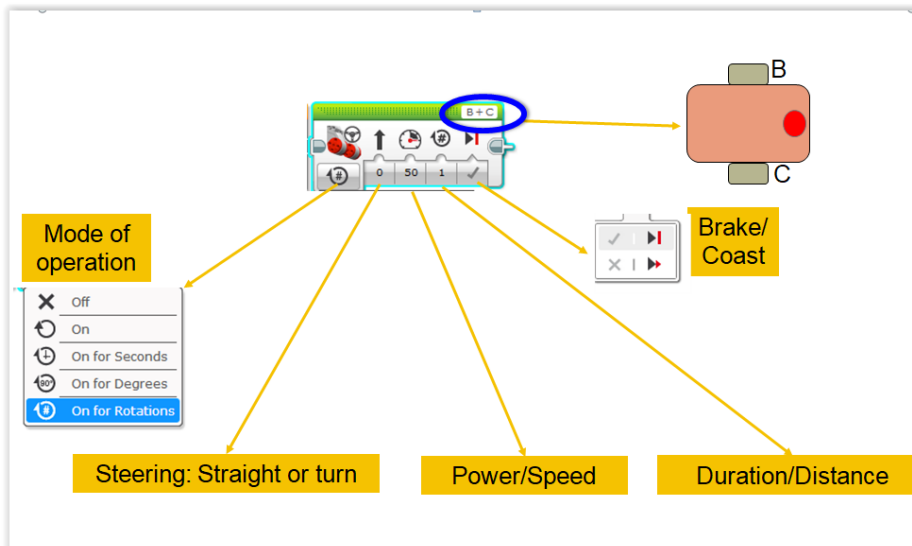
ΑΣΚΗΣΕΙΣ ΓΙΑ ΤΟ LEGOMIND STORM

1. Learn how to make your robot go forward and backwards

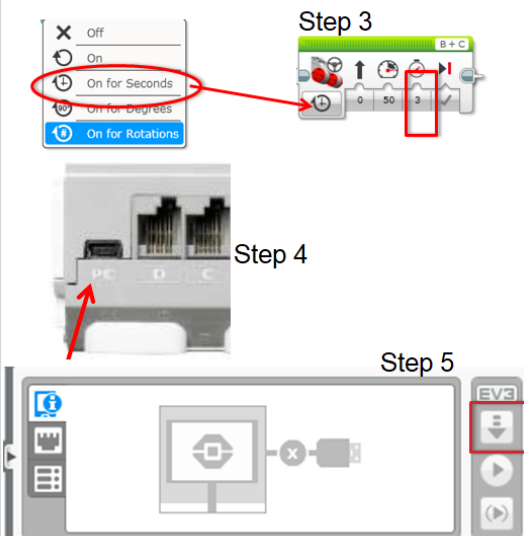
Μάθε πώς πηγαίνει μπροστά και πίσω

2. Learn how to use the Move Steering block

Μάθε το Move Steering block



CHALLENGE 1: MOVE STRAIGHT (3 SECONDS)



STEP 1: Green Block Tab, Click and hold Move Steering and drag to programming area

STEP 2: Drop next to the Start Block (green arrow)

STEP 3: Select Options. Move "3 Seconds"

STEP 4: Connect USB cable to EV3 and Laptop.

STEP 5: Download to EV3

CHALLENGE: ROBOTRAIN --- Move your robot forward from the start line to the finish line (1) and back to the start (2). Make it pause for a little while in train station and say Hello ! In this lesson, you had to use a lot of guess and check to stop exactly on the second line.

1. Learn to turn the robot a desired number of degrees

Μάθε να γυρνάει το ρομπότ στις μοίρες που επιθυμείς

2. Learn the differences between Spin and Pivot Turns

Μάθε τι διαφορά μεταξύ περιστροφή γύρω από τον εαυτό του και στροφής

3. Learn how to program two different type of turns

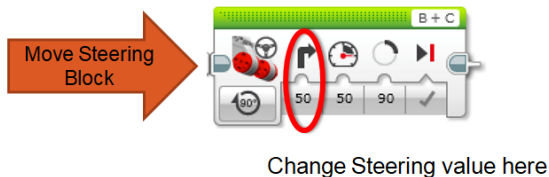
Μάθε να προγραμματίζει αυτές τις δύο στροφές

4. Learn to write pseudocode

Μάθε τι σημαίνει ψευδοκώδικας

HOW TO MAKE PIVOT AND SPIN TURNS

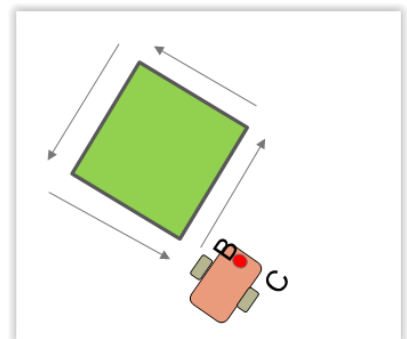
Steering Value			
50	-50	100	-100
Pivot Turn Right	Pivot Turn Left	Spin Turn Right	Spin Turn Left



Challenge 1

- Your robot is a baseball player who has to run to all the bases and go back to home plate.
- Can you program your robot to move forward and then turn left?

Use a square box or tape



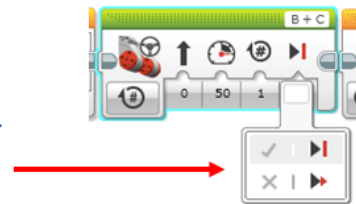
WHAT IS A SENCOR

ΤΙ ΕΙΝΑΙ ΕΝΑΣ ΑΙΣΘΗΤΗΡΑΣ



- **A sensor lets an EV3 program measure and collect data about its surroundings**
- Ένας αισθητήρας δίνει τη δυνατότητα στο ρομπότ να συλλέγει δεδομένα από το περιβάλλον που βρίσκεται
- **The EV3 sensors include:**
- **Οι αισθητήρες του EV3 περιλαμβάνουν**
 - Color – measures color and darkness
 - Αισθητήρας Χρώματος- αναγνωρίζει τα χρώματα και μετράει την φωτεινότητα
 - Gyro – measures rotation of robot
 - Αισθητήρας γωνίας και προσανατολισμού
 - Ultrasonic – measures distance to nearby surfaces
 - Αισθητήρας υπερηχητικών ακτίνων - μετρά τις αποστάσεις από κοντινά εμπόδια
 - Touch – measures contact with surface
 - Αισθητήρας αφής – ενεργοποιείται με την αφή
 - Infrared – measures IR remote's signals
 - Αισθητήρας υπέρυθρων ακτίνων - λαμβάνει υπέρυθρα σήματα

- Something more about the Move Steering Block
- You will notice you have an option to COAST or BRAKE
- Coast will make the motors keep moving. Brake makes the motors stop immediately.
- Which do you use to stop EXACTLY on a colored line?



USE THE COLOUR SENCOR

ΧΡΗΣΙΜΟΠΟΙΗΣΤΕ ΤΟΝ ΑΙΣΘΗΤΗΡΑ ΧΡΩΜΑΤΟΣ

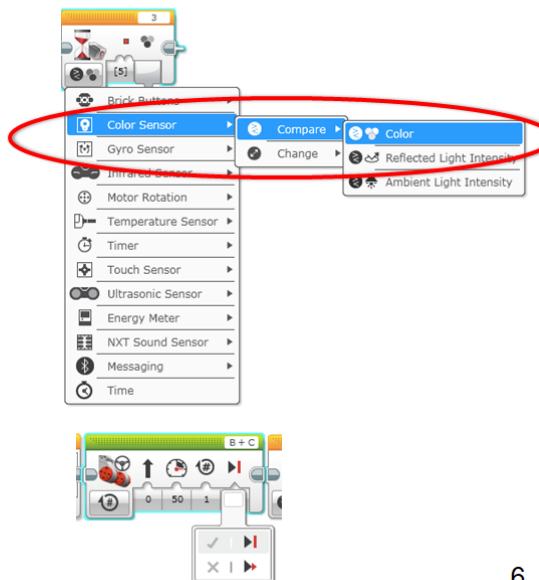
Make the robot move up to a green line using the color sensor?

Step 1: Use Wait For Color

Step 2: Use the color sensor in COLOR MODE

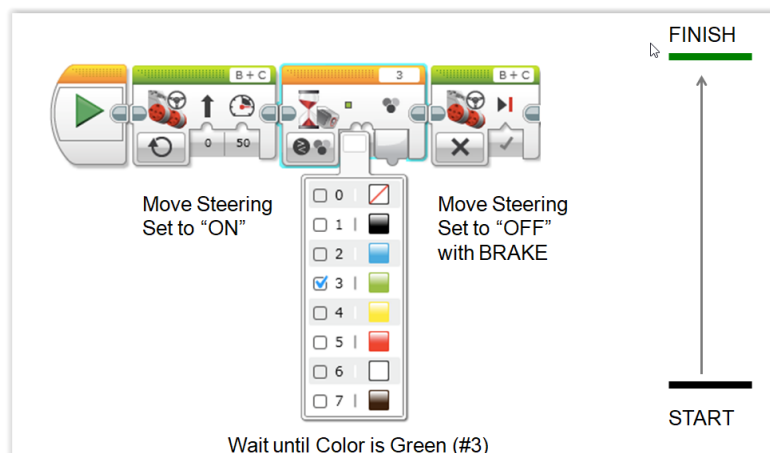
Step 3: Coast or Brake?

Hint: You will use Move Steering (think about motor on and off) and Wait for "Color"

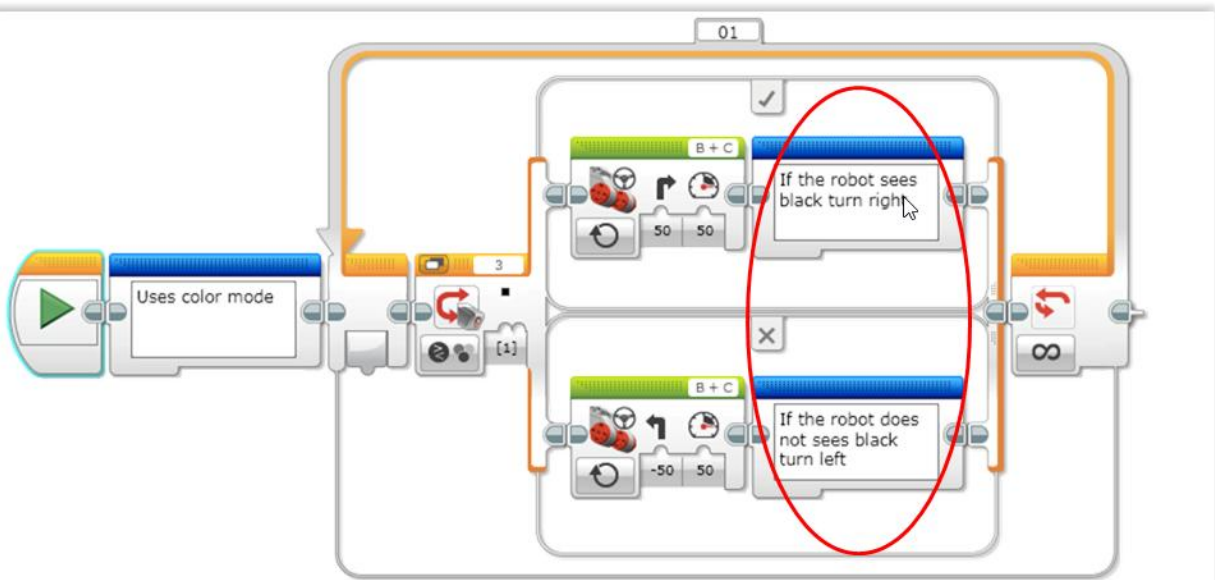


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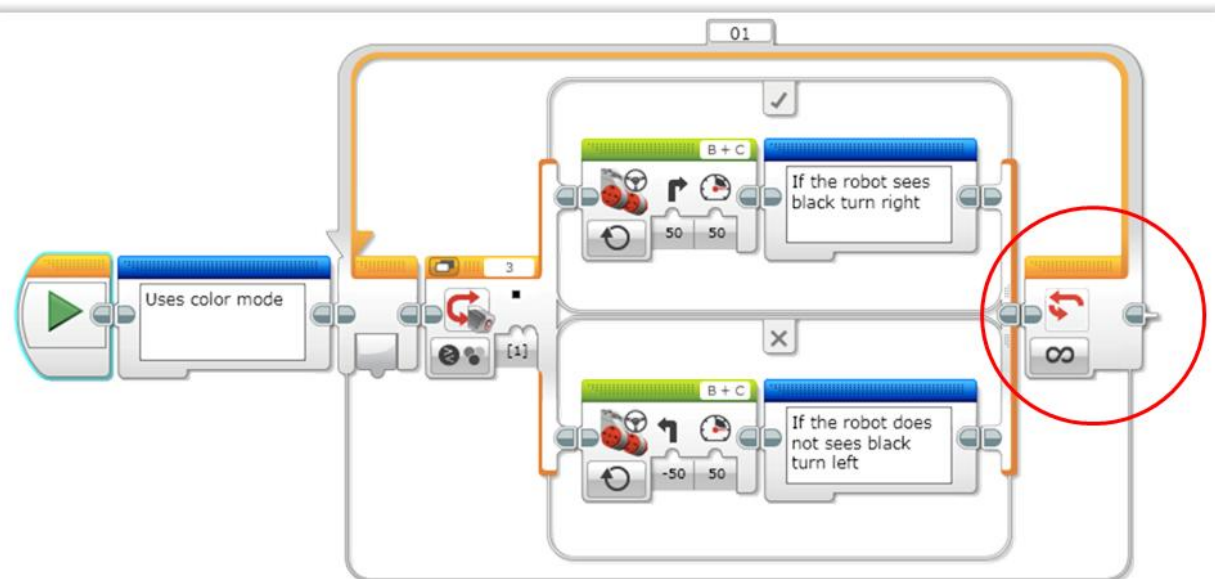
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1. FOLLOW THE LINE
2. WALK THE DOG



Q. Does this program follow the Right or Left side of a line?
A. The robot is following the Right Side of the line.



Q. This line follower goes forever. How do we make this stop?
A. Change the end condition on the loop.