Introduction to EV3 Programming

By STEMPowering Girls
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Move Tank

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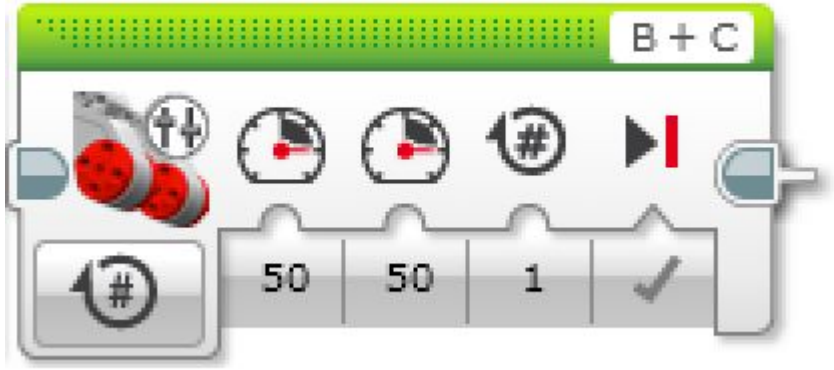
Move Tank

This is the Move Tank Block

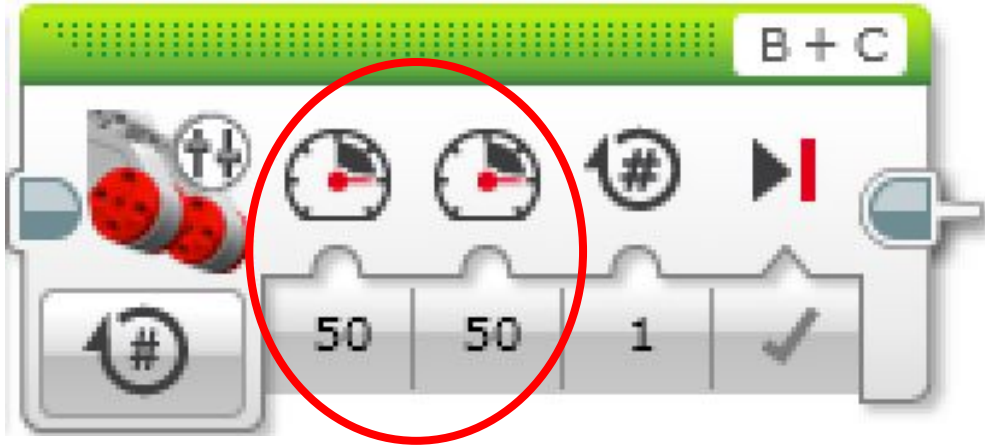
It’s used for moving forwards,

Backwards, and turning



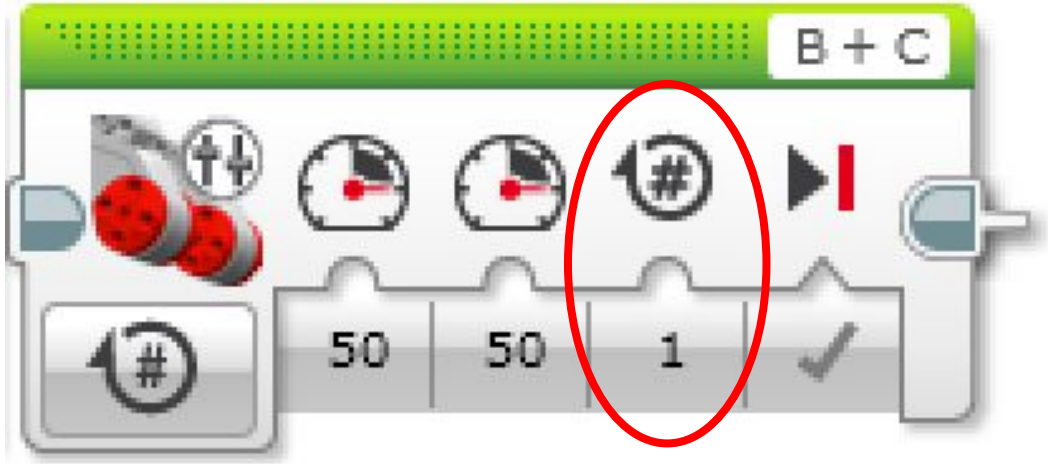
Move Tank

The first two tabs of the block are controlling the power/speed of each motor. The speed is measured in Rotations per Minute.



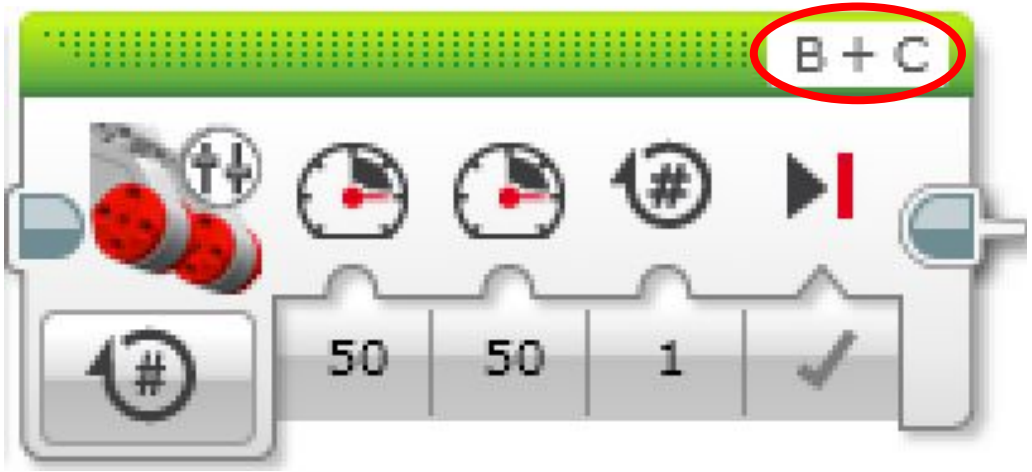
Move Tank

The third tab is the Number of Rotations. Or, how many times the wheel turns around.



Move Tank

The letters in the corner are the ports which you connect your motors to on the robot.



Now Try It Yourself!

Program Your Robot to go From Point a to Point b

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Turning

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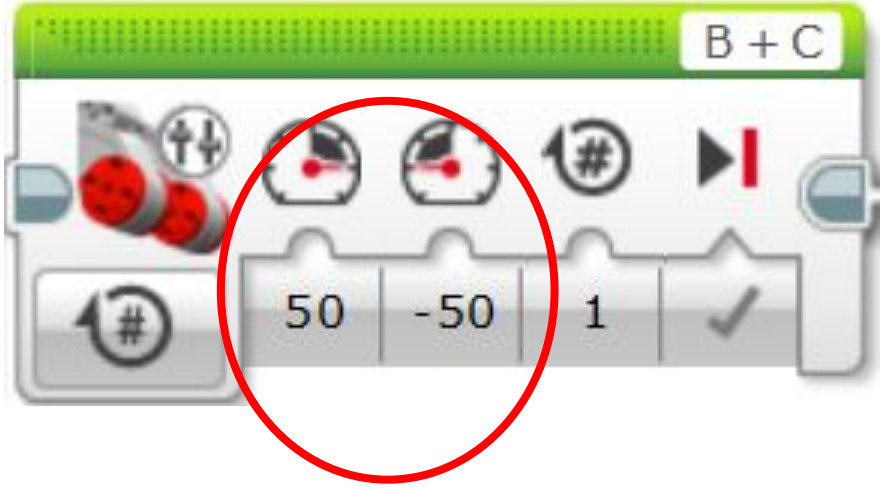
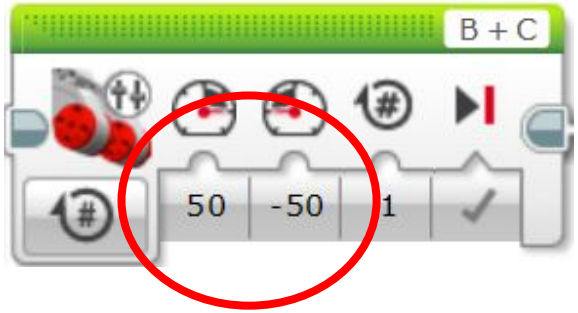
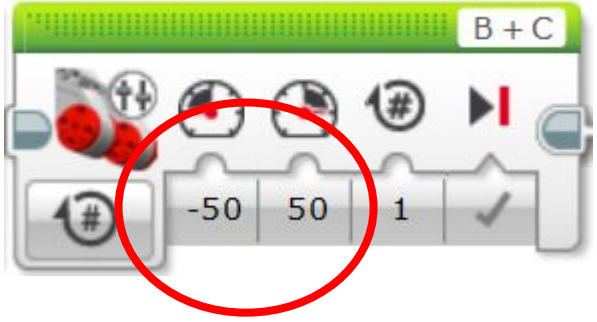
What do you think happens when the speeds are not equal?



When the speed of the LEFT motor is greater than the speed of the RIGHT motor, the robot turns RIGHT.



When the speed of the RIGHT motor is greater than the speed of the LEFT motor, the robot turns LEFT.



Now Try It Yourself!

Program Your Robot to go From Point a to Point b (Add to your existing Program)

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Loops

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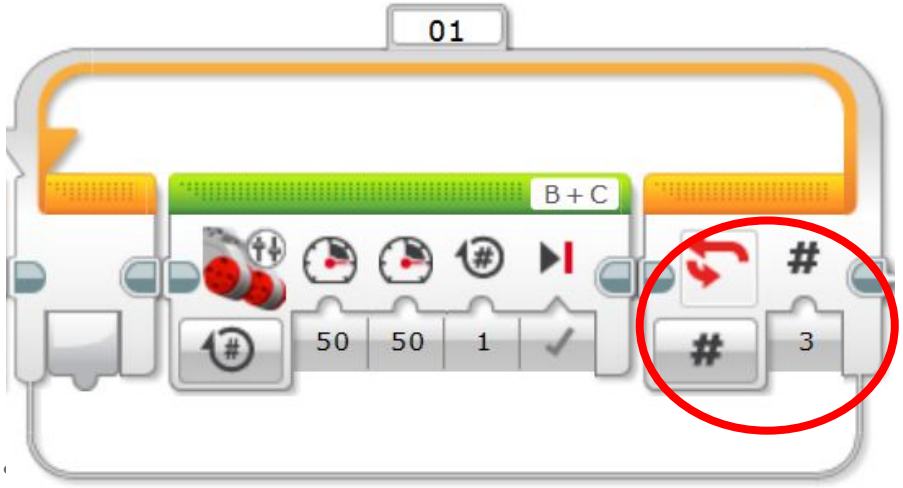
Loops

This is the loop block.

It's used for repeating a set of blocks. Here the move tank block is repeated 3 times.



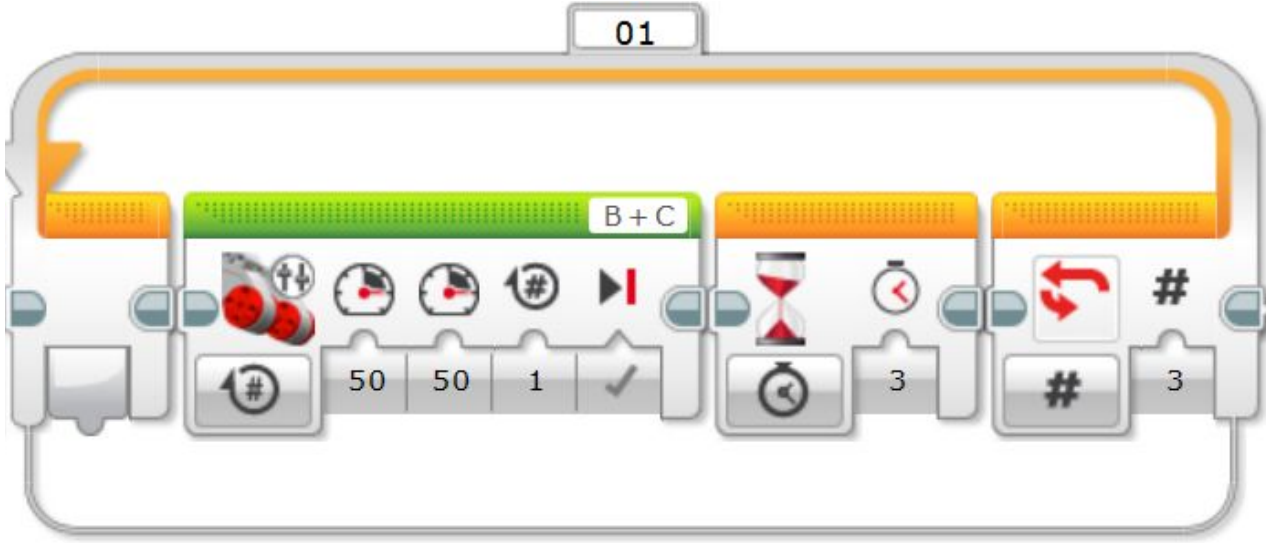
Wait Block

This is the wait block.

It allows the robot to rest

for a certain amount of time.

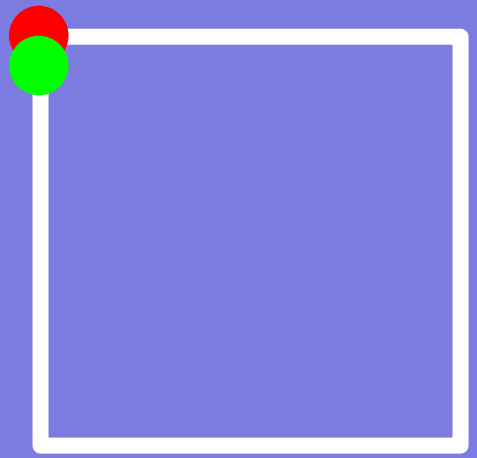
What do you think this program will do?



The robot will move forward 1 rotation and wait for 3 seconds and repeat 3 times.

Now Try It Yourself!

Program Your Robot to move in a square.
Have the robot pause in each corner
(Add to your existing Program)



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The Color Sensor

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Color Sensor

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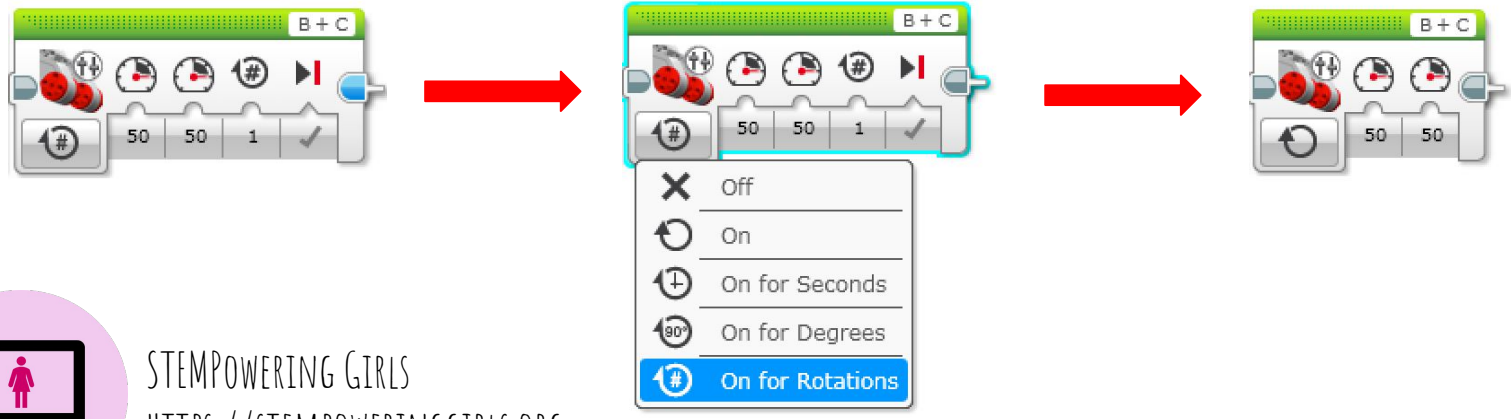
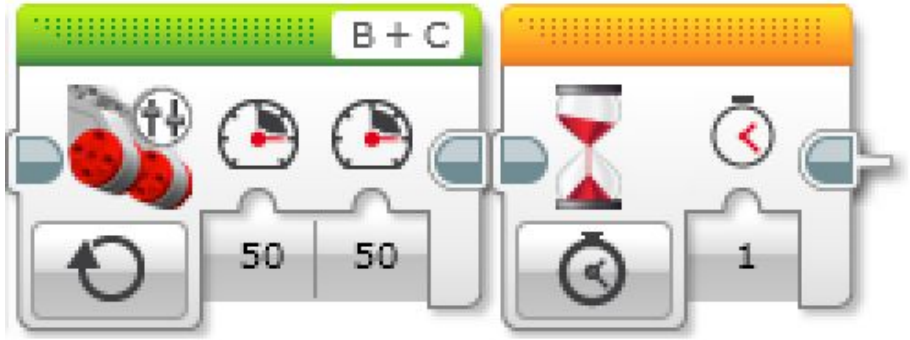
Color Sensor: stop on a Color

We use a color sensor to stop on a color. To write the program, we need to change the setting on the move tank block from “On for Rotations” to “On”.



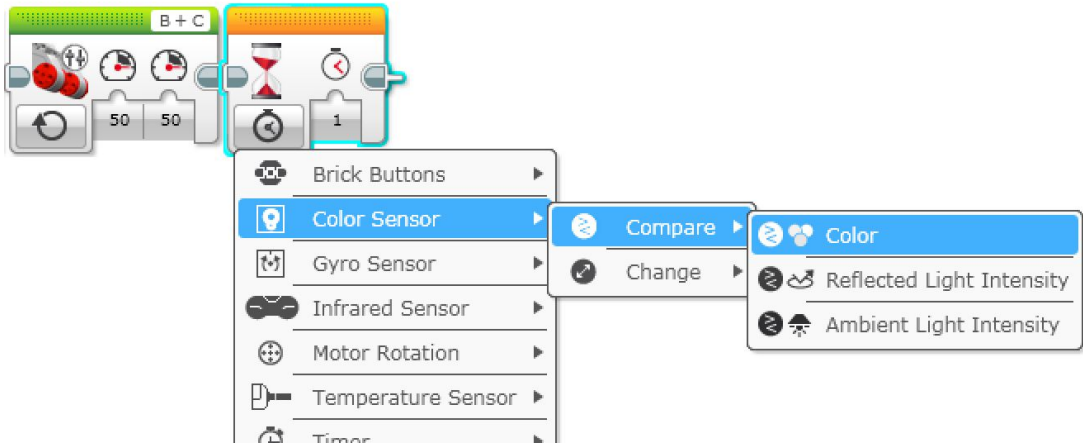
Color Sensor: Stop on a Color

Next, we need to bring a Wait block next to the Move Tank block.



Color Sensor: Stop on a Color

Now we need to change the setting of the wait block to “Color Sensor”, “Compare”, “Color”.



Color Sensor: Stop on a color

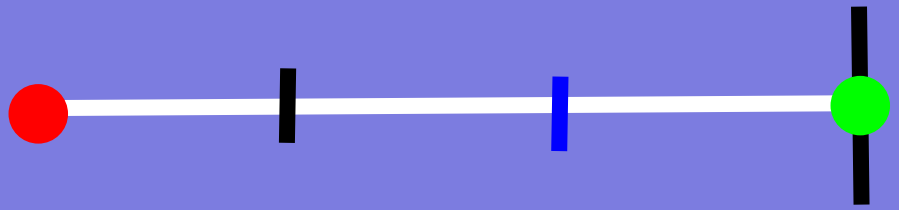
The blocks should look like this:

Color Sensor: Stop on a Color

Notice the number in the corner. This is similar to the letters in the move tank block. The number represents the port which you connect the sensor to. Remember, the sensors are connected to numbers and the motors are connected to letters on the brick.

Now Try It Yourself!

Program Your Robot to move from point a to point b.
Have the robot pause at each colored line



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