Advanced Programming Lesson: Parallel Beams
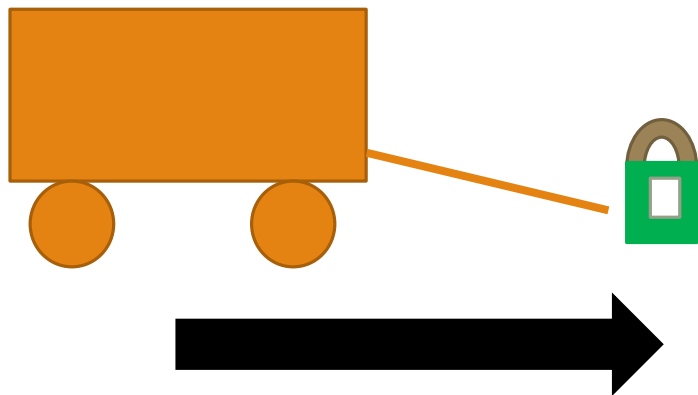
BY EV3LESSONS.COM AND DROIDS ROBOTICS

What are Parallel Beams?

Parallel beams allow you to run two or more blocks at the same time.

In FLL, they are mostly often used when you have one of more attachment arms connected to motors and you want to turn these arms while the robot is moving to complete a mission
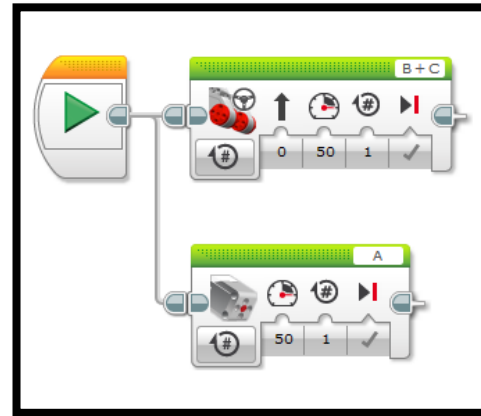
Robot lifting up hoops and driving forward.

How do I make a parallel beam?

Step 1: To create a parallel beam click and drag on the bump on the right center of any block and release once you hover over the inverted bump on the left center side on a block.
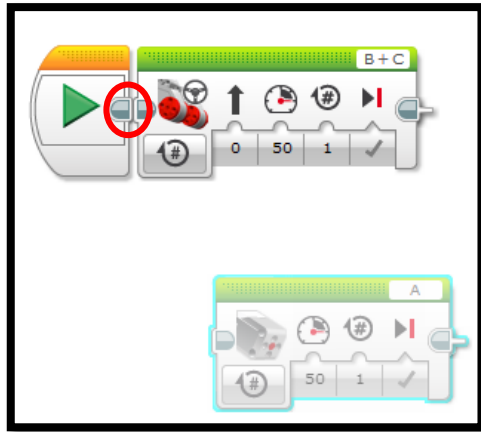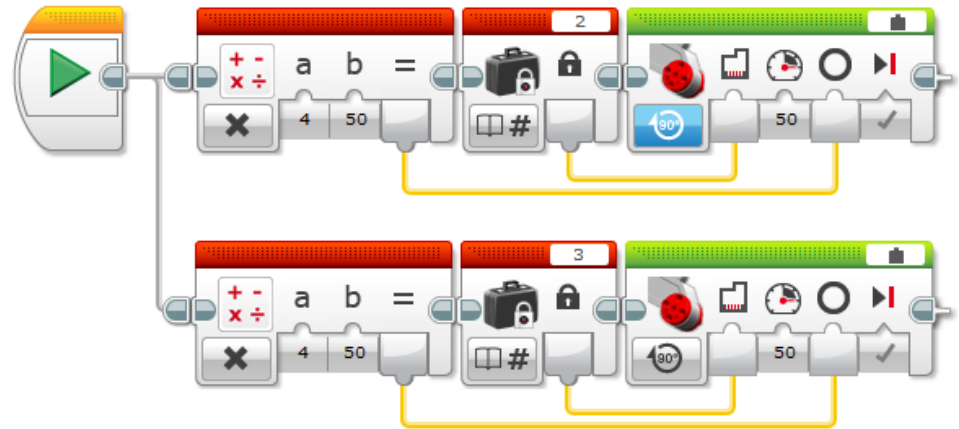
Step 3: Blocks before the split will run one at a time. After the split blocks on the two "beams" will run at the same time
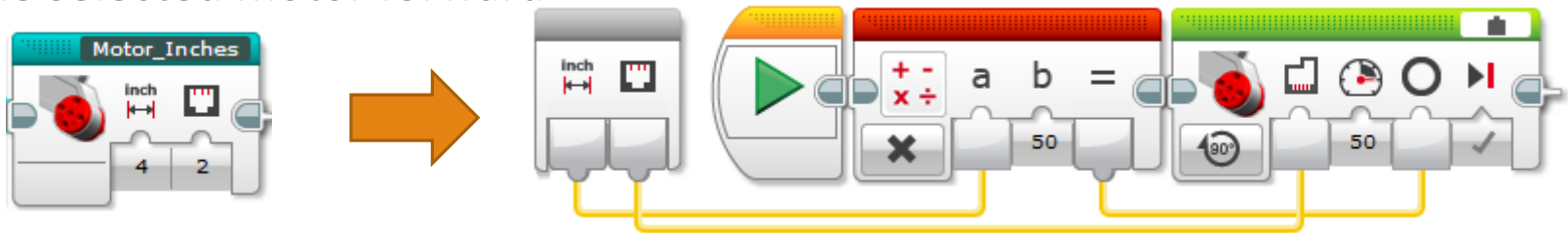
Parallel Beams and My Blocks

Here is a simple program that moves both wheels of our robot forward

If you run it, our robot moves forward by about 4 inches

To simplify it, we can make the below My Block (Motor_Inches) that moves the selected motor forward

Parallel Beams and My Blocks

BE CAREFUL WHEN YOU USE PARALLEL BEAMS AND MY BLOCKS

Using the Motor_Inches My Block, we can convert the program on the bottom left to the one on the bottom right

If you run the program, the robot does completely different things!!!!!

◦ The code on the right moves one wheel 4 inches and then moves the other wheel 4 inches. This causes the robot to spin around in one direction then the other

◦ The code on the left moves both wheels 4 inches at the same time. This makes the robot move forward.

Lesson: EV3 does not let you run two copies of the same My Block at the same time
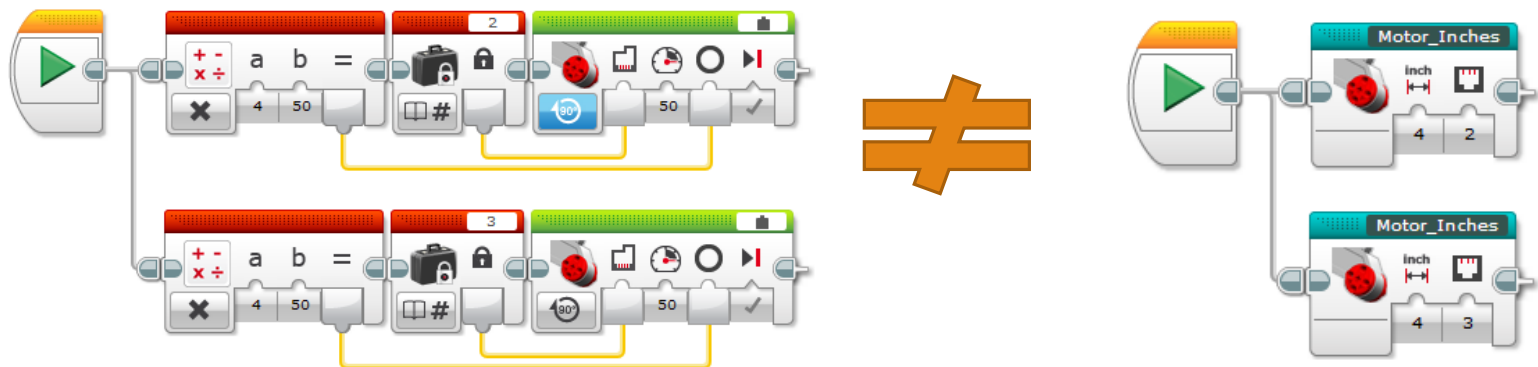
Credits

This lesson was written by Sanjay Seshan and Arvind Seshan on FLL Team Not the Droids You Are Looking For

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