Program Descriptions

Stairclimber

Overview

The Stairclimber Program is a simple input output program first initializing the mechanices with sensor limits, taking the inputs, then playing them back.

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2

Defining # Steps

3

Taking # Steps

4
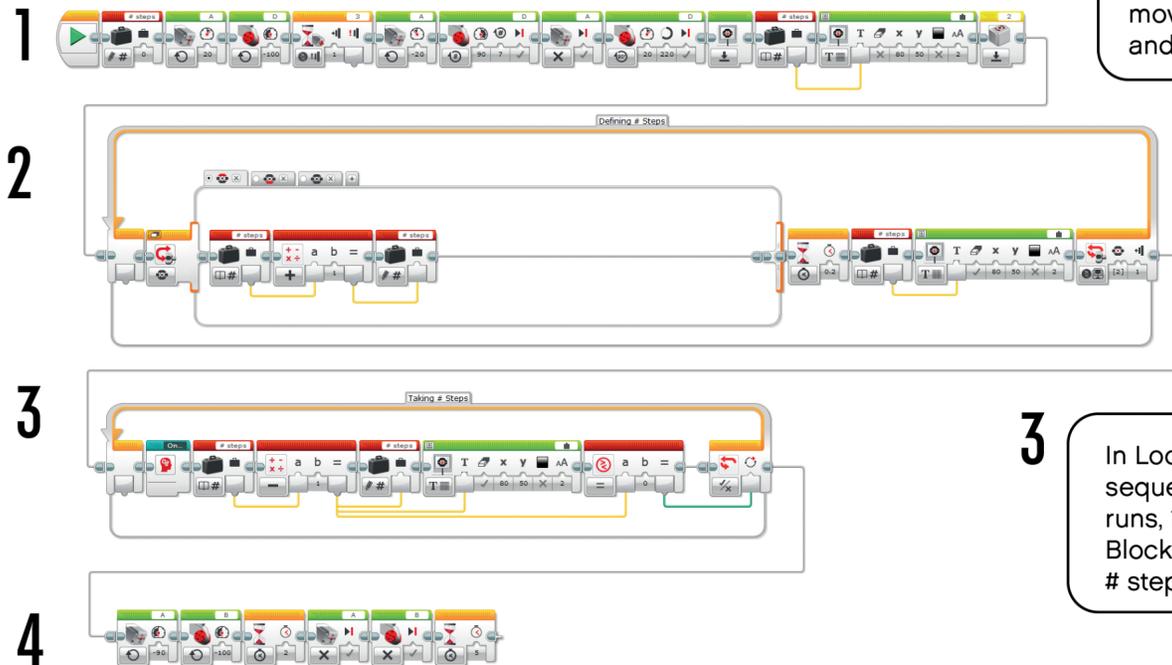
1 This first section is the initialization. First the Variable # Steps is set to zero and then the rear section of the robot to its Touch Sensor limit. In order to move this section, the entire robot must move in sync, so the rear wheels are moved at the same time as the rear structure. Once the structure hits its limit, it is moved slowly to its start position. The Variable # steps is displayed on screen and the Gyro Sensor is reset with a Sensor Block.

2 In Loop Defining # Steps, a Switch Block in Button Mode allows the addition or subtraction of steps based on input. Pressing up will add 1 to the Variable # Steps and down will subtract 1. The Math Block is used in its respective mode. The program waits, then displays the value of # steps on screen. The loop ends when the center button is pressed.

3 In Loop Taking Steps, My Block, One Step, is played. This My Block runs the sequence which moves the robot up a single step. For each time the loop runs, 1 is subtracted from the variable # steps. The value is wired to a Display Block and then checked with zero with a Compare Block. The loop ends when # steps equal zero.

4 This final set of movements settles the robot at the top of a step. The motors move at different speeds since the wheels are of different sizes and gearing mechanics. The robot moves forward for 2 seconds and the program ends.

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