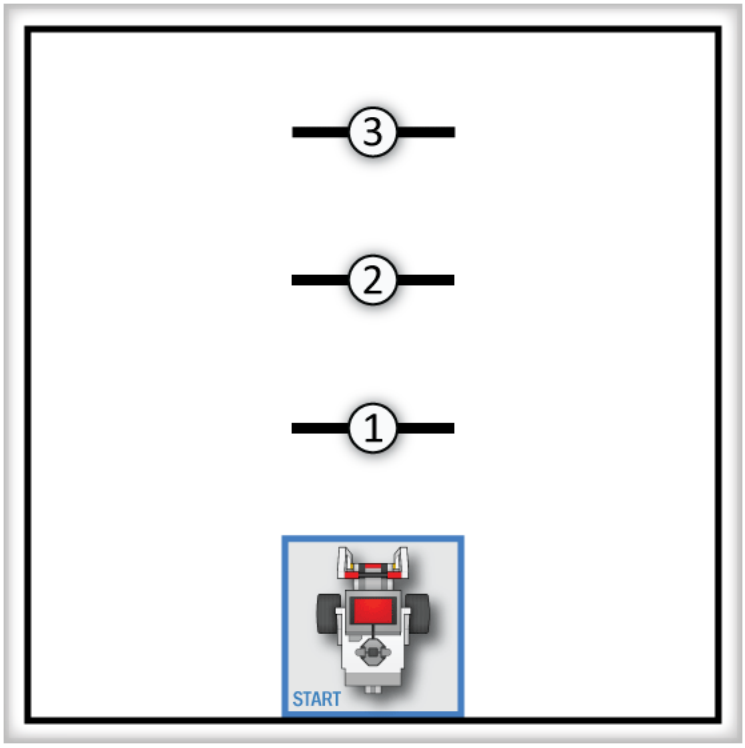
Introduction to Programming LEGO® MINDSTORM® EV3

CHAPTER CHALLENGE

CHAPTER 1: Sensabot Challenge

In this challenge, you will program your EV3 robot to move from its starting box to three different lines on a game board, stopping at each one to perform an inspection, represented by lowering and raising the robot's arm. When the robot is done inspecting all three location, it should back up and return home to its starting box to recharge.

Rules and Procedures:



- Create the robot's starting area with electrical tape that is slightly larger than the robot.
- Use the electrical tape to mark three (3) inspection points along the robots path. The exact location are not important, but they should not be moved once the board is finalized.
- Robot must start inside the starting box (no parts over the line) and with its arm lowered.
- The robot must move and stop at each line, lowering and raising its arm, representing the inspection process.The arm must be directly over each line when the inspection is performed.
- The robot must return to its starting box after completing the inspection process at the third line. The entire robot must be inside the box (no parts over the line)

Hints:

- Use a meter stick or ruler to measure the distances to each line on the board so you know how far you need to move each time!
- Try finding the number of centimeters your robot travels in each rotation, and using that to find the number of rotations you need
- You can also make a test run, then calculate "how many times as far" you need to move to get to each line, compared to the test run