



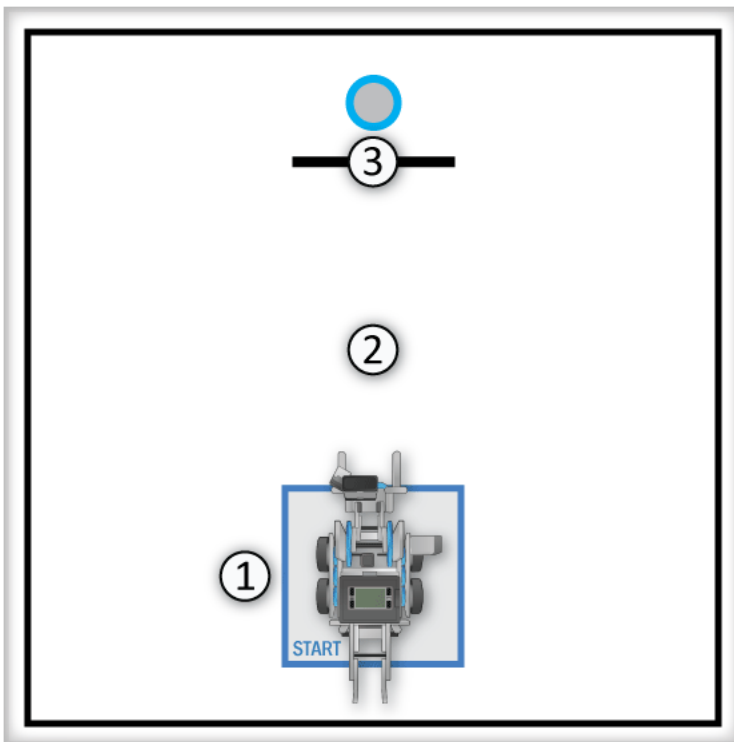
Introduction to Programming



CHAPTER 3: Arm Position Challenge

In this challenge, you will program the robot's arm to move into the 'down' position, no matter where the arm started. The 'down' position is acknowledged by the arm touching the Bumper Switch. The robot will then move forward five (5) rotations to grab an object, and bring it back to the starting location.

Rules and Procedures:



- Gauge the length of 5 rotations, then setup the challenge table with tape.
- The robot's arm will start at a random position before running.
- Use an object that allows the robot to easily grab after moving forward.
- The robot does not need to re-raise the arm with the object in order to return to the starting location.

Hints:

- The robot cannot move forward until the arm is in the 'down' position. There is a block that is perfect for this rule.
- The arm is pressing against the Bumper Switch when the arm is completely down.
- When building the program, test out each step that eventually leads up to the full program.
- Make use of the Touch LED sensor to help visualize which part of the program the robot is currently performing.
- Make the robot stop and wait for a certain time period after each significant behavior for more consistency in each run.