

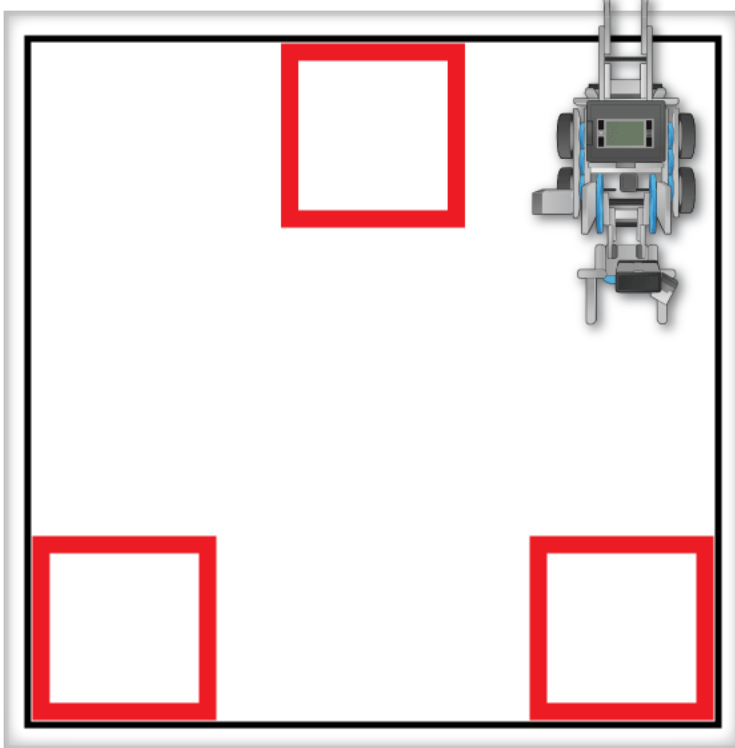
Introduction to Programming



CHAPTER 5: Mower Challenge

In this challenge, you will program your VEX IQ robot to drive over the entire game table. The robot is able to move freely in straight lines, using any method you want, but must rely the Gyro Sensor for turns. There are also three mud zones marked on the game board. When turning in one of these areas, the robot must be picked up by hand, and placed back down.

Rules and Procedures:



- The robot must drive over the entire game table.
- The robot can move freely in straight lines, but must rely only on the Gyro Sensor to turn.
- If any part of the robot is in the mud zone (red squares) at any point during a turn, it must be picked up and set back down in as close to the same spot and direction as possible.
- Use overlapping paths to compensate for sensor inaccuracies

Hints:

- Because the robot's wheels continue to spin in the air when it is picked up, Rotations or Time will not be reliable for turns in the mud.
- The Gyro Sensor responds only to the robot's body turning, and is unaffected by interruptions like being picked up.
- Use an adjustment factor to compensate for the fact that the robot won't see 90 degrees until it is past 90