# CHAPTER 6: Traffic Signal Challenge

In this challenge, you will program your VEX IQ robot to go through three different intersections, each of which has a traffic signal. The traffic signal can be either a colored block or card. Unlike a camera, the detection range of the Color Sensor is short, so you will need to modify its placement on the robot so that it can see the traffic signal and react appropiately.

## Rules and Procedures:
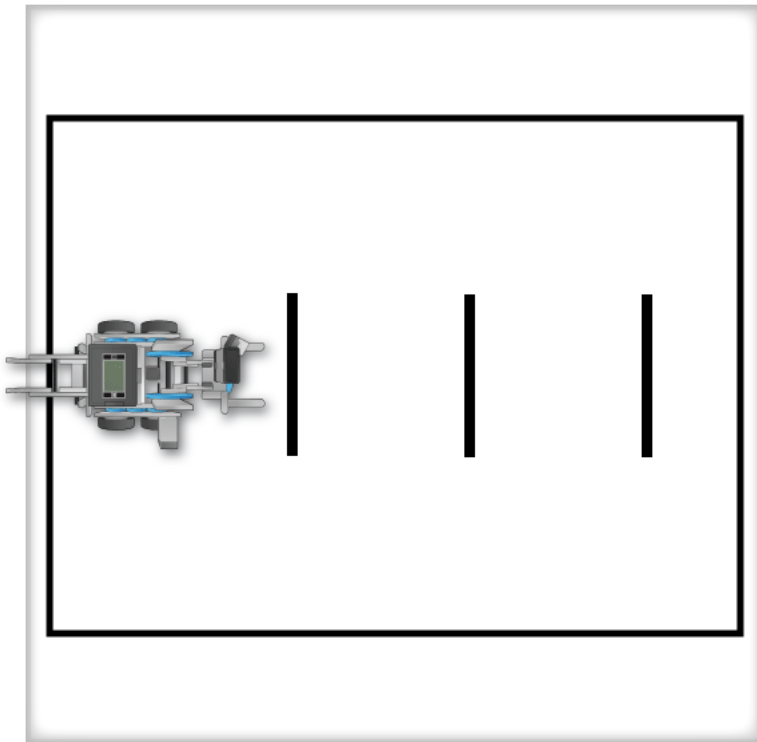


- Traffic signals are represented by colored blocks in the Virtual Worlds.
- You can also use red and green colored sheets of paper, which may be easier to hold at the correct height when using a physical robot.
- The initial signal color for each intersection is determined by flipping three coins before the run. Heads = Green, Tails = Red.
- The robot MUST stop if the light is red, and MUST NOT stop if the light is green.
- After the robot has successfully gotten through all three intersections, the robot can be stopped by hand.
- BONUS: Write the program so that it DOES always stop after going through the third intersection. This will require the use of a Switch.

## Hints:

- Try to break the robot's behavior into stages. What is the robot waiting to see at each stage of its movement? What should its motors be doing during those stages?
- If the robot is already moving, is there any point in waiting for Green? If the robot is stopped, is there any point in waiting for Red?
- If the robot sees a Red light, don't forget that it needs to wait for the actual Green light before proceeding!