Lab Challenge 2

Multi-Sensor Autonomous Control

In this challenge lab you will design and implement software to autonomously move the VEX EDR robot through a set of pre-defined challenges. A sample arena is drawn in this instruction.

LEARNING OUTCOMES

Upon successful completion of this challenge lab, you will have demonstrated the ability to:

- Demonstrate an understanding of robot sensors
- Implement the autonomous sensor control (detection and reaction)
- Use multiple sensor devices simultaneously in a single autonomous application

SPECIFICATIONS

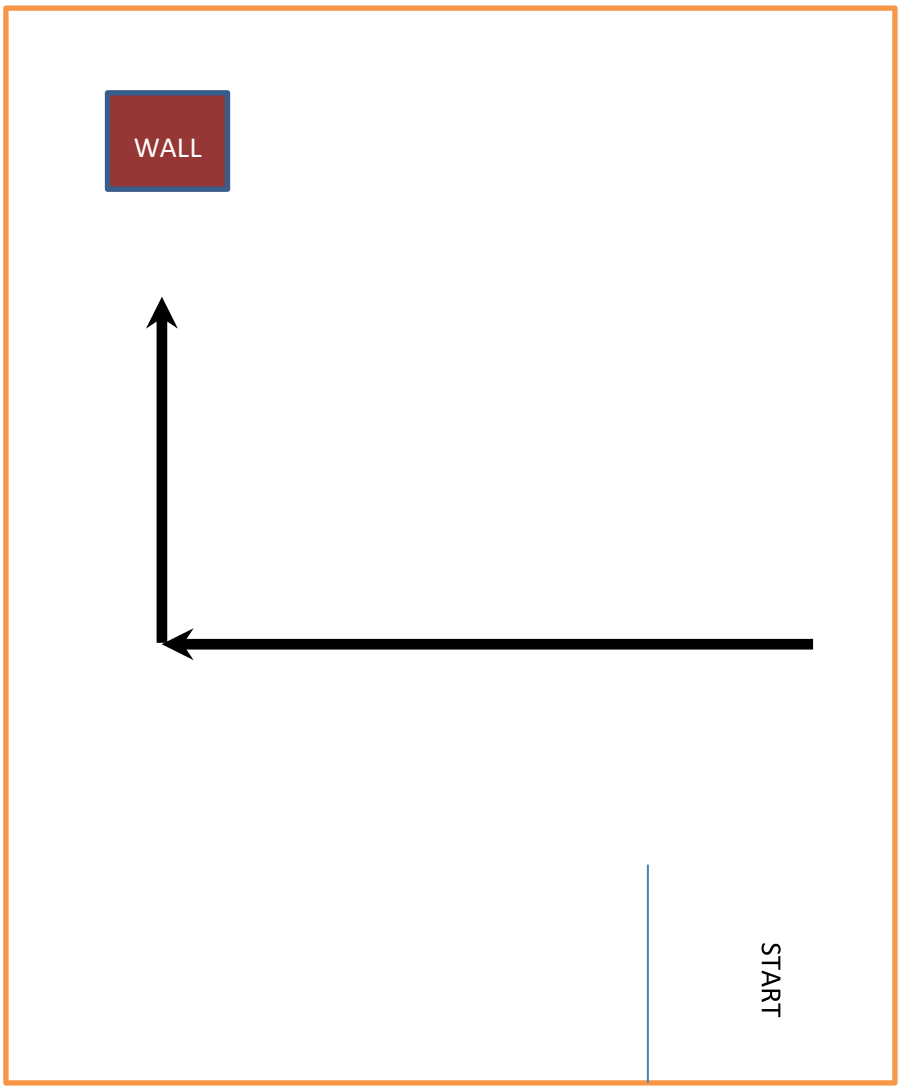
Your task is to write an autonomous software application using RobotC that will successfully perform the following objectives.

1. Drive forward and “find” a line on the floor
2. Follow the line to the end
3. Gradually stop when the wall is detected (As the vehicle gets closer to the wall, it reduces the speed until full stop)

You can decide which sensors you need to use to successfully complete this challenge. But you could consider the following sensors:

- Sonar
- Line Following

The design of the environment will be as follows:



SUBMISSION REQUIREMENTS

Once you have completed your lab upload your RobotC source file together with a video of your robot completing the task within the virtual environment to the Blackboard Lab Challenge 2 submission link under the Assignments page.