ECGR5196 LAB 9

GROUP: 29

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VIDEO LINK:

https://drive.google.com/drive/folders/1m9Qh1j7lVw2ktqVC7VYX1OONoysv1WKI?usp=sharing

OBJECTIVE: The main objectives of this lab was to:

- Build/rebuild one Sparkfun RedBot robot.
- Test the motors, motor encoders, IR sensors, and bumps sensors.
- Demonstrate (and video) your robot doing the following:
  - Follow a 0.75" wide black line on the floor for about 100 cm – the line should have some curve in it and should end at a 90-degree angle at a wall.
  - When the robot hits the wall, that bump should be registered by the bump sensors.
  - Once it hits the wall, back up exactly 50 cm from the wall in a straight line and stop.

COMMENTARY:

- Introduction

  This is a three-part lab aimed at building, testing and programming the Sparkfun Redbot robot.

- Materials
  - Hobby Gearmotor - 140 RPM (Pair)
  - Wheel - 65mm (Rubber Tire, Pair)
  - Wheel Encoder Kit
  - SparkFun RedBot Mainboard
  - SparkFun RedBot Sensor - Line Follower (3)
  - SparkFun RedBot Buzzer
  - Battery – AA (4)
  - F-M Jumper Wires
  - Arduino IDE

- Theory

The SparkFun RedBot is a platform for teaching basic robotics and sensor integration! It is based on the SparkFun RedBoard and fully programmable using Arduino.

- Results

  The sparkfun redbot robot was successfully assembled and tested to full capacity. Lab 9 was completed without any issues.