B37VB – Closed Loop Control (Light Tracking)

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Contributor:	Date	Version number	Notes
Robert Reid	03/04/25	1	Added overview as discussed. Fox edited in person.
Fox Murray	04/04/25	1.1	Added Fox student No. And group project prose.
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Overview

Like to the open loop motor control assignment, the source code for the light tracking was uploaded to our buggy. We had to adjust the speed of the wheels for it to travel in a straight line. Two LDRS and two resistors were installed on the bread board of the buggy. Originally, the resistors were too high. We swapped to them for lower resistances and then it worked fine. One of the LDRs randomly stopped working, so we switched it out. The buggy at this point was following light, but minor adjustments to wheel speeds made sure it ran straighter. For the group conga line project we contributed by investigating the properties and tolerances of the light bulbs used on the rear of the buggies. By using a light sensing circuit and an oscilloscope we managed to measure the voltage change using the light bulb at different distances, this information will help us in developing our "proximity circuit" used to make sure the buggies don't rear end each other or can catch up if need be.