Team Project 2

Create a Keil Micro Vision 2 project called legostart.uv2 and program it into your Lego vehicle. Your Lego vehicle once programmed and placed in the run mode should wait until a flash lamp from a camera or similar light source emits a pulse of light (a sudden increase above the ambient light level). Your vehicle should then move forward until contact with an obstacle occurs. After contacting an obstacle your vehicle should: stop forward motion and turn 180 degrees and halt. Use a photocell and a resistor as shown below to detect the light. As usual, this is a team project! All team members should participate!

\[
\begin{align*}
\text{photocell} & \quad \text{ground} \\
\text{R1} & \quad \text{signal} \\
+5 & \quad \text{To analog to digital input}
\end{align*}
\]

The value of R1 can be determined by measuring the light and dark resistance of the photocell and then finding a value for R1 such that the difference \( \frac{R1}{(R_{\text{cell, light}} + R1)} - \frac{R1}{(R_{\text{cell, dark}} + R1)} \) is maximized.