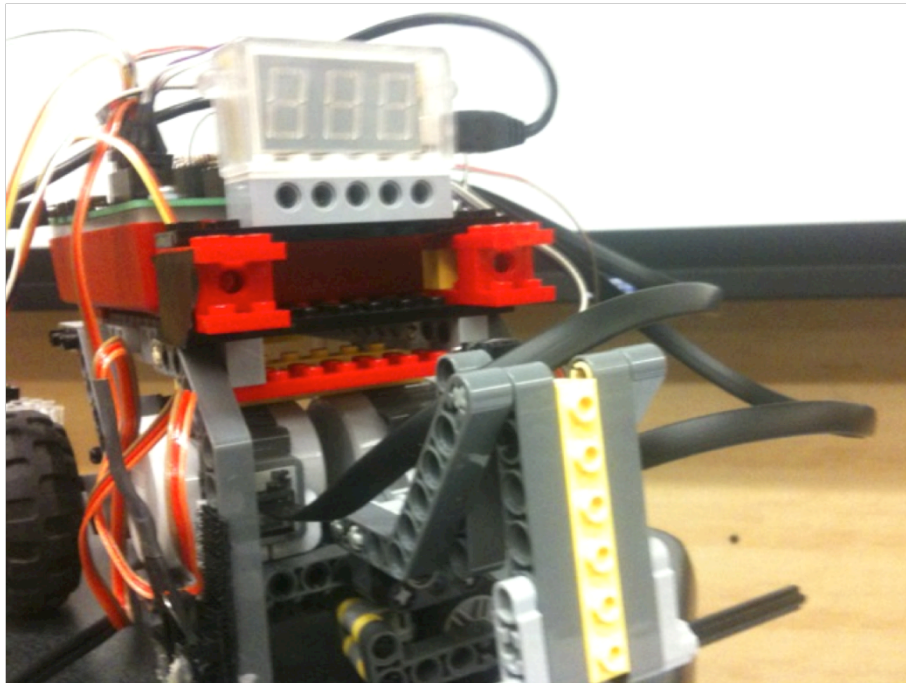


Challenge 5: More *SciBorg* Behaviors

Below are specifications for the behavior of two new *SciBorg* programs. Working with your partner, implement (*i.e.*, write *PicoBlocks* code for) and test these programs and include the code in your design blog. Include brief text to explain how your programs work.

1. follow-light: Using two light sensors placed at the front of your *SciBorg*, program *SciBorg* to “home in” on a bright light source placed about 10 feet away. Assume that your *SciBorg* starts off with a randomly chosen orientation with respect to the light. (Look at the sample *SciBorg* pictured below for guidance on how to mount the light sensors; it’s critical that they have “blinders” so that each light sensor can only look out at a relatively narrow range of angles.)



Hint: Base your light finding algorithm on testing the difference between the two light sensor values.

Extra (Optional) Challenges: 1) Have your *SciBorg* stop moving when there is insufficient light. 2) Use special infrared photodetectors to home in on a lit candle.

2. sobriety: *SciBorg's* line following algorithm causes it to zig-zag back and forth a lot. Modify the line following behavior to reduce the number of zig-zags. That is, try to make *SciBorg* go as straight as possible when following a straight line segment. Does this change the behavior of *SciBorg* at a dead end (*i.e.*, a line that just stops)? Also, try using feedback from the counters to drive straight.