

FIRST LEGO LEAGUE - Ontario

Record		
Test	Rotations	Percent Efficiency
Ideal rotations value		
Line following value #1		
Line following value #2		
Line following value #3		
Line following value #4		

Questions	
Question 1 Science	Of the values you changed, what made the largest effect in increasing the percent efficiency of your line algorithm?
The severity of the turn had the largest effect on the efficiency of the algorithm. This is because when we didn't turn as much, it didn't stray as far from the line.	
Question 2 Coding	Was a more efficient program necessarily faster at following the line? In other words, was it also more time efficient?
It was in some cases, but not when we turned down the power to the motor. So some increases in efficiency may be decreases in other areas.	
Question 2 Science	What is the benefit of communicating an efficiency in percent? What information does it clearly communicate in this example?
It's easy to understand with one number, how much you're using, and how much you're wasting, which are both important. In this example, it tells us how much extra wasted motion there is from our robot.	
Question 3 Coding	Looking now at the line following code you were given; why was the variable (or value storage container) for the motor B rotations being stored (written) inside the loop, and then



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	read finally outside of it?
The variable needs to be written inside the loop because the value needs to be constantly updated over and over until the line is over, and then whatever value it is gets saved and is read out at the end.	
Question 4 Coding	Do you think the best efficiency you reached is the best possible? What would an even more efficient look like? What would the sensors need to?
Example: I think you could make a program even more efficient. Probably not 100% but if you could have your robot turn less when it's close to the line, and more when its farther away you could smooth out the zig zags a lot more.	