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# PID Controller

## REVIEW

## CODE REVIEW 3

## HISTORY

### Meets Specifications

Congratulations on passing this project, and best of luck going forward!

### Compilation

Code must compile without errors with `cmake` and `make` .

Given that we've made CMakeLists.txt as general as possible, it's recommend that you do not change it unless you can guarantee that your changes will still compile on any platform.

Awesome, your project compiles with cmake and make . For more information on this build tool, refer to the following: <https://cmake.org/runningcmake/>  
<https://rix0r.nl/blog/2015/08/13/cmake-guide/>

### Implementation

It's encouraged to be creative, particularly around hyperparameter tuning/optimization. However, the base algorithm should follow what's presented in the lessons.

Very good implementation, your code follows the general guidelines of the PID algorithm.

## Reflection

Student describes the effect of the P, I, D component of the PID algorithm in their implementation. Is it what you expected?

Visual aids are encouraged, i.e. record of a small video of the car in the simulator and describe what each component is set to.

Excellent job describing the effect of each component of the PID algorithm!

You can also refer to the following links that have some information on the role of each component:

<https://www.youtube.com/watch?v=4Y7zG48uHRo&t=31s>

[https://www.wikiwand.com/en/PID\\_controller#/Derivative\\_term](https://www.wikiwand.com/en/PID_controller#/Derivative_term)

[http://oa.upm.es/30015/1/INVE\\_MEM\\_2013\\_165545.pdf](http://oa.upm.es/30015/1/INVE_MEM_2013_165545.pdf)

Student discusses how they chose the final hyperparameters (P, I, D coefficients). This could be have been done through manual tuning, twiddle, SGD, or something else, or a combination!

Good work finding the final coefficients via manual tuning!

## Simulation

No tire may leave the drivable portion of the track surface. The car may not pop up onto ledges or roll over any surfaces that would otherwise be considered unsafe (if humans were in the vehicle).

The car successfully drives around the track, well done!

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