PID Controller Project Reflection :

Q) **Describe the effect each of the P, I, D components had in your implementation.**

P component :

- **Having a very low value of the P component made the car quickly go off track. This was because the steering value was not sufficient to quickly counter the cross track error.**
- **Having very high value of P component made the car steer way too much and go off track pretty quickly.**

D Component :

- **Having a very low value of D component made the car wobble around the lane center especially during curves.**
- **Having very high value of D component makes the car steer way too much.**

I component :

- **Since the car had presumably no "bias" a low value of (even 0) had no effect at all.**
- **A high value made the car immediately go off track. Possibly because of the high steer value.**

The optimal value for the project was chosen manually :

P component : 0.2
D component : 5.0
I component : 0.0003

The throttle was set to 0.2 during my run.