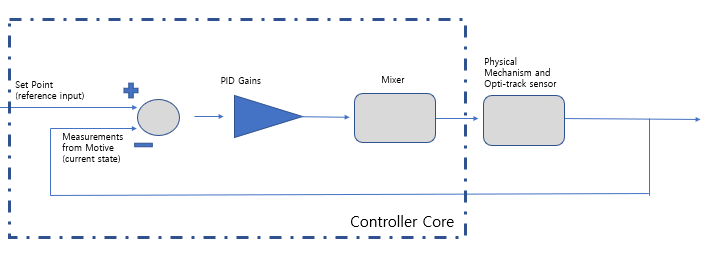
* Week 4 Summary
  + Schematic:



1. PID controller for multiple states in while loop is finished (Block PID Gains)

PID Block works on:

single input of reference for each state

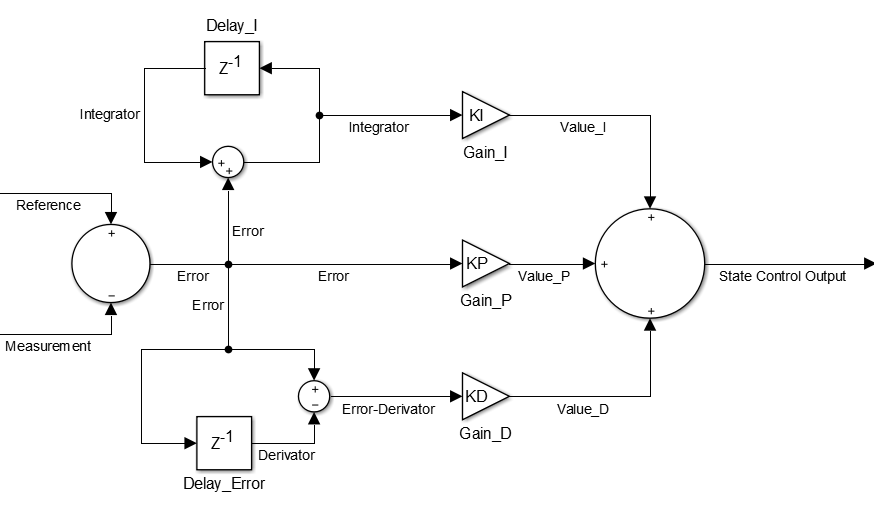
single input of measurement for each state

Three gain values for P(proportional), I(Integral), D(Derivative).

Output control value for corresponding state

Work inside a class definition

PID Block detail (With error calculation):



Mathematics written in coding method:

P:

I:

D:

1. Mixer is a code directs a set of combination of state control values to get final pin output values.

Mathematics written in coding method:

Mixer is not required after meeting done in week 6

* Week 5 Summary

(New drawing)

1. If in second form of block diagram, instead of mixing, a back calculation of thrust roll pitch yaw is implemented.

VBAR introduces a virtual precession reaction according to the IMU on board. This step act as a black box that stabilizes the aircraft. Thus the outer loop is only required for a controller. To do this, reverse-calculation is required to know measured values for 4 outputs.

Mathematics: