**Article: PID Controllers**

Read the "Fundamental Operation" part of the Wikipedia article on PID control (15 minute read):

- https://en.wikipedia.org/wiki/PID_controller

In 1-2 sentences, answer each of the following questions:

- What is the error signal (i.e. the error as a function of time)?
  It is the difference between the measured set point and the process variable. So we need to tune our controller such that the error goes near to zero.
- What are the three terms of PID control?
  P: Proportional, I: Integral: D: Derivative. Proportional will provides the magnitude of the error. Integral sum up all the error and helps in accumulating the past errors. Derivative acts as a resistance and minimize the error residual.
- What is the control input equation for a P controller (pure proportional controller) in terms of the error signal e(t)?
  Proportional Gain = Po + Kp * ( change in error )