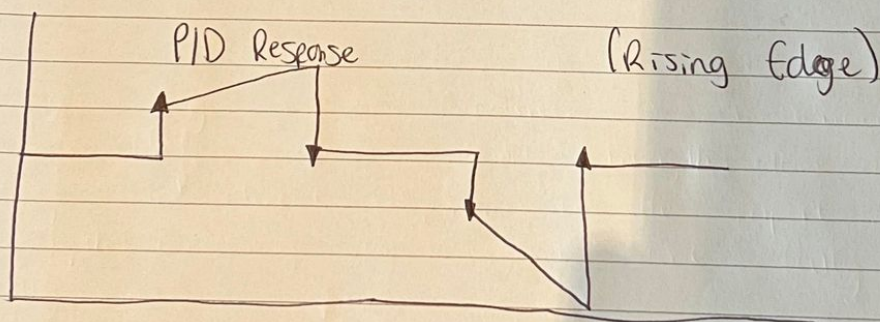


a) A control system manages and commands a set of devices or systems using control loops. It also regulates behaviour. Using automatic process control you can increase production rates and productivity. You can cut down on waste, Improved Safety as manual work is no longer needed. It can also improve better product quality and factory lead times.

b) A proportional - integral - derivative (PID) controller is a control loop mechanism that employs feedback that is used in control systems.



A everyday example of a PID controller is cruise control on a car. When a car goes up a hill the speed will lower if constant engine power was applied. A PID controller will restore the measured speed with the desired speed that is set and with a slight delay will increase the power output of the engine to match the desired speed.