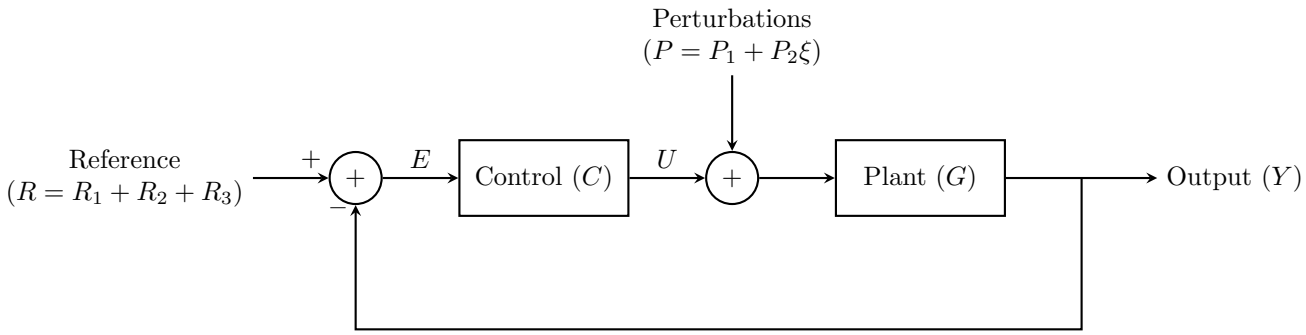

$C(s) = \frac{U(s)}{E(s)} = K_P + \frac{K_I}{s} + K_D s$

$C(z) = \frac{U(z)}{E(z)} = K_P + \frac{K_I T_S (z+1)}{(z-1)} + \frac{K_D (z-1)}{z T_S}$

T_S is sampling time and ξ is white noise with zero mean power 1.