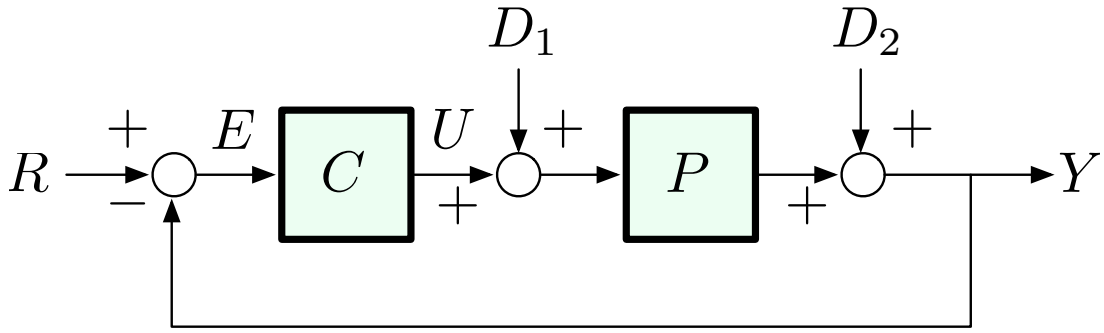
Feedback Control in Five Minutes



$$Y = \frac{PC}{1+PC}R + \frac{P}{1+PC}D_1 + \frac{1}{1+PC}D_2$$

Suppose C is a large positive *gain*. What happens as $C \to \infty$?

$$\frac{PC}{1+PC}R \xrightarrow{C\to\infty} R \qquad \text{reference tracking}$$

$$\frac{P}{1+PC}D_1 + \frac{1}{1+PC}D_2 \xrightarrow{C\to\infty} 0 \qquad \text{disturbance rejection}$$

Bottom line: in the limit $C \to \infty$, $Y = R$

(this "Big Picture" is too good to be true — we will fill in all the details!!)