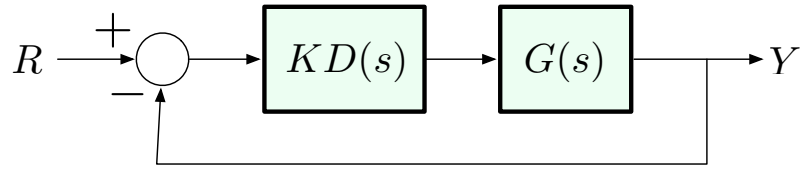
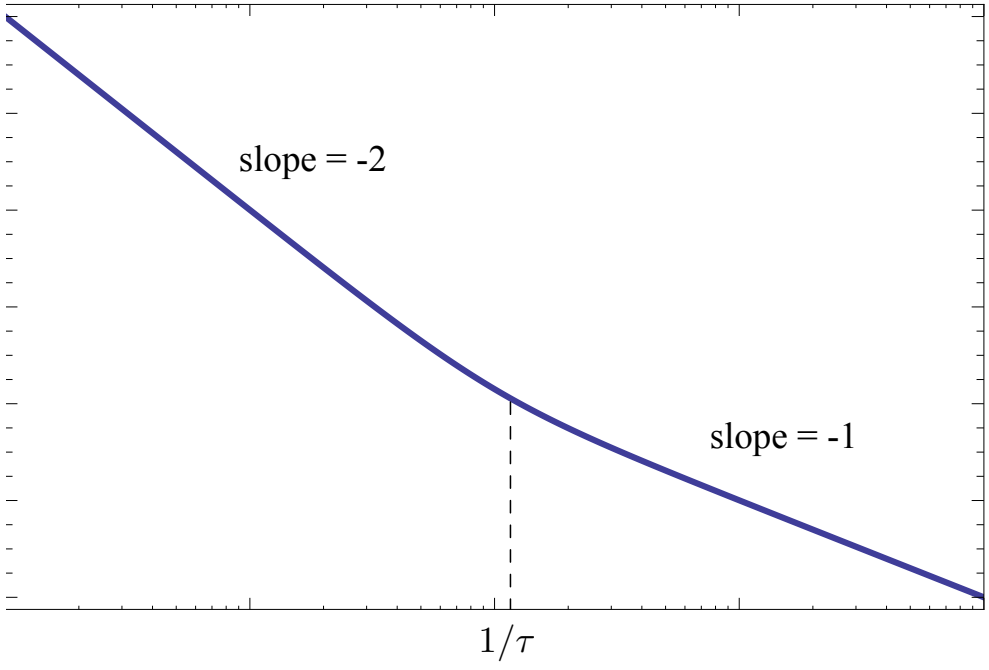
Design, Second Attempt (PD-Control)



Open-loop transfer function: $KD(s)G(s) = \dfrac{K(\tau s + 1)}{s^2}$



For the G-P relationship to be valid, choose the break-point several times smaller than desired ω_c:

$\Longrightarrow$ let's take $\tau = 10$

$\Longrightarrow \dfrac{1}{\tau} = 0.1 = \dfrac{\omega_c}{5}$

Open-loop t.f.:

$$KD(s)G(s) = \frac{K(10s + 1)}{s^2}$$