Effect of Varying K
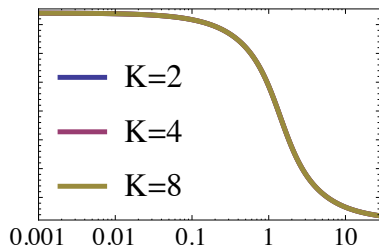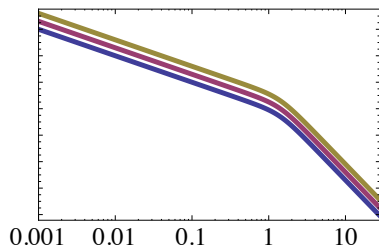
Changing the value of K moves the crossover frequency ω_c!!

Equivalently, we may define $\omega_{180°}$ as the frequency at which

$$\phi = 180° \mod 360°.$$

Then, *in this example*[*],

$|KG(j\omega_{180°})| < 1 \longleftrightarrow$ stability
$|KG(j\omega_{180°})| > 1 \longleftrightarrow$ instability

[*] Not a general rule; conditions will

vary depending on the system, must use either root locus or Nyquist plot to resolve ambiguity.