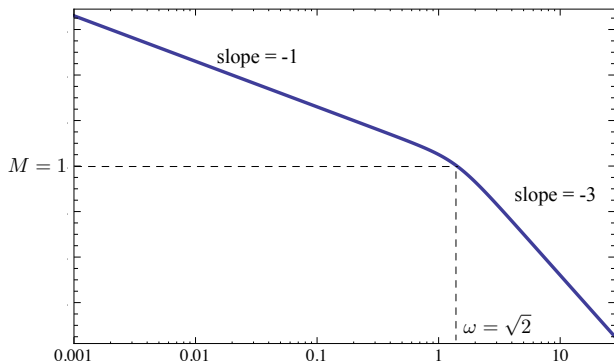


# Crossover Frequency and Stability

**Definition:** The frequency at which  $M = 1$  is called the *crossover frequency* and denoted by  $\omega_c$ .



Transition from **stability** to **instability** on the Bode plot:

$$\text{for critical } K, \quad \angle G(j\omega_c) = 180^\circ$$