Example 1: Phase

Transfer function in Bode form:

$$KG(j\omega) = \frac{2}{j\omega} \cdot \left(\frac{j\omega}{0.5} + 1\right) \cdot \frac{1}{\left(\frac{j\omega}{10} + 1\right)\left(\frac{j\omega}{50} + 1\right)}$$

Type 1 term:

- $n = -1$ — phase starts at $-90°$

Type 2 terms:

- $\omega = 0.5$ stable zero $\Rightarrow$ phase up by $90°$ (by $45°$ at $\omega = 0.5$)
- $\omega = 10$ stable pole $\Rightarrow$ phase down by $90°$ (by $45°$ at $\omega = 10$)
- $\omega = 50$ stable pole $\Rightarrow$ phase down by $90°$ (by $45°$ at $\omega = 50$)