

Example 1

$$G(s) = \frac{1}{(s+1)(s+2)} \quad (\text{no open-loop RHP poles})$$

Strategy:

- ▶ Start with the Bode plot of G
- ▶ Use the Bode plot to graph $\text{Im } G(j\omega)$ vs. $\text{Re } G(j\omega)$ for $0 \leq \omega < \infty$
- ▶ This gives only a *portion* of the entire Nyquist plot

$$(\text{Re } G(j\omega), \text{Im } G(j\omega)), \quad -\infty < \omega < \infty$$

- ▶ Symmetry:

$$G(-j\omega) = \overline{G(j\omega)}$$

— Nyquist plots are always *symmetric w.r.t. the real axis!!*