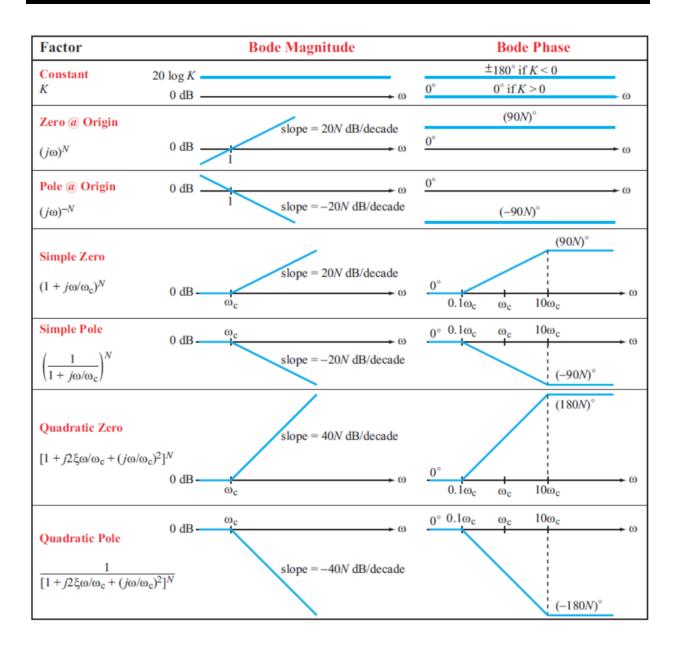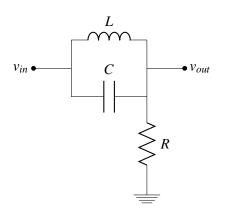Figure 1: Bode Plot Cheat Sheet

1. An RLC example

For the RLC filter above, with component values $R = 1\,\text{k}\Omega$, $C = 1\,\text{nF}$, and $L = 1\,\mu\text{H}$,

(a) Find the transfer function.

(b) Create a Bode plot of that transfer function.

(c) What important information is that Bode plot missing?

2. Factoring and Manipulating Transfer Functions

Make a Bode plot of the following more complicated transfer function:

$$H(s) = \frac{1}{10} \frac{((j\omega)^2 + 110j\omega + 1000)(j\omega + 10000)}{(j\omega + 1000)((j\omega)^2 + 101j\omega + 100)}$$