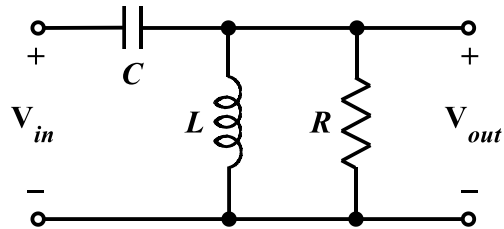# Homework Problem #022

The component values in the passive filter circuit shown below are: $C = 10\,\mu\text{F}$, $L = 1\text{H}$, and $R = 10\,\text{k}\Omega$.

a. Derive an expression for the voltage transfer function, $\mathbf{V}_{out}/\mathbf{V}_{in}$. Also, determine expressions for the magnitude and the phase angle of that transfer function.

b. Classify the filter as LP, HP, BP or BS, and explain your reasoning.