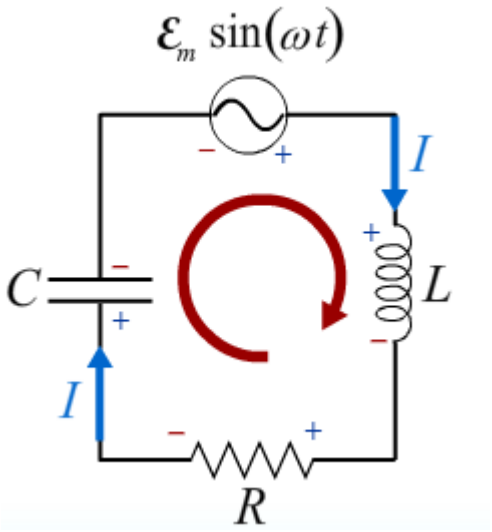
Big Idea

KVR

$$L\frac{d^2Q}{dt^2}+R\frac{dQ}{dt}+\frac{Q}{C}-\mathcal{E}_m\sin(\omega t)=0$$



Maximum Values (easy V=IR)

$$I_{max}=\mathcal{E}_{max}/Z$$

$$V_{Rmax}=I_{max}R$$

$$V_{Lmax}=I_{max}X_L$$

$$V_{Cmax}=I_{max}X_C$$

Value at specific time (phasors)

y component gives voltage

V-$_{\text{Inductor}}$ Leads current

V-$_{\text{Capacitor}}$ Lags current