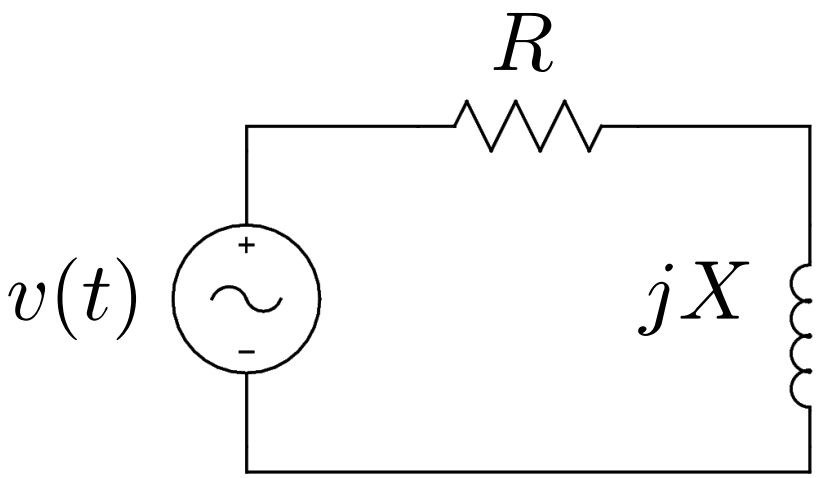

$$
\begin{aligned}
Z &= R + jX \\
|Z| &= \sqrt{R^2 + X^2} \\
\phi_Z &= \tan^{-1} \frac{X}{R} \\
v(t) &= V_0 \cos(\omega t + \alpha) \\
i(t) &= \frac{V_0}{|Z|} \cos(\omega t + \alpha - \phi_Z) \\
&= I_0 \cos(\omega t + \alpha - \phi_Z)
\end{aligned}
$$