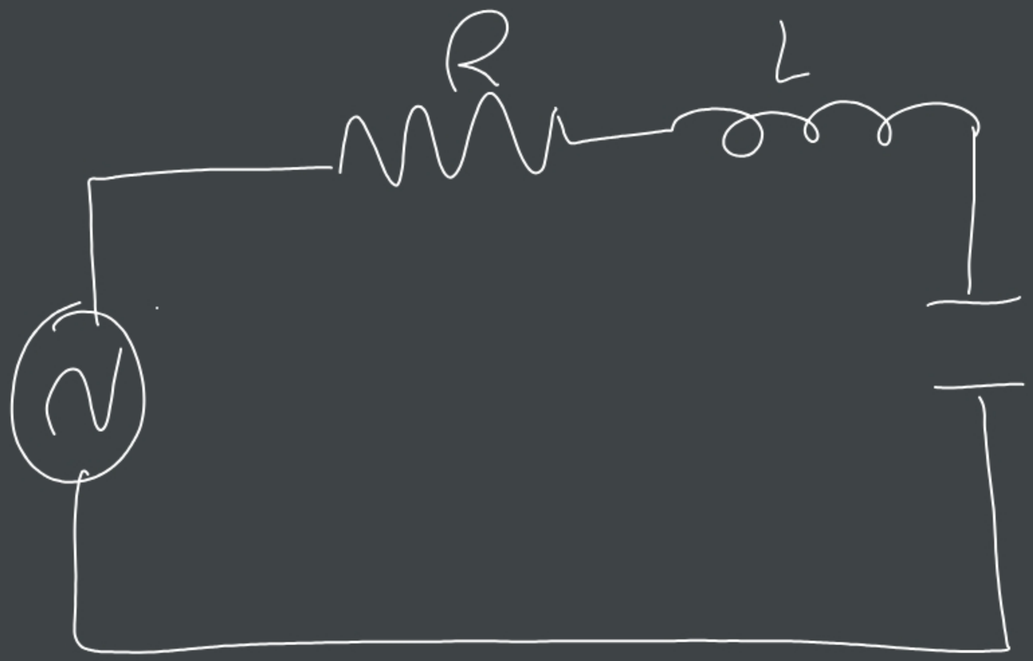


$X_L = \omega L = 10^4 \cdot 100 \cdot 10^{-3} = 1000\,\Omega$

$X_C = \frac{1}{\omega C} = \frac{1}{10^4 \cdot 1 \cdot 10^{-6}} = 100\,\Omega$

$|Z| = \sqrt{R^2 + (X_L - X_C)^2} = \sqrt{(1 \cdot 10^3)^2 + (1000 - 100)^2}$

$\approx 1345\,\Omega$

$R = 1\,k\Omega \quad L = 100\,mH$

$C = 1\,\mu F \quad v(t) = 100 \sin(10^4 t)\,V$

$I = \frac{V}{|Z|} = \frac{100}{1345} = 0{,}07\,A$

$i(t) = ?$

$I(t) = 70 \sin(10^4 t + 42^\circ)\,mA \quad \varphi = \arctan\left(\frac{X_L - X_C}{R}\right) = 42^\circ$