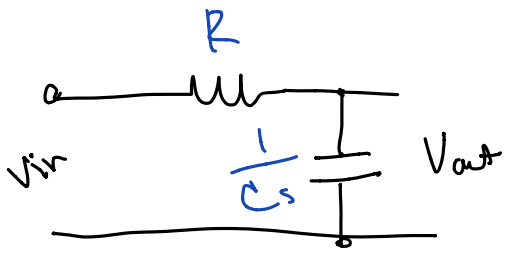
#1 | LPF at $\Omega = 1000$ rad/s

$R = 1\,k\Omega$ $\quad C = 2\,\mu F$



$$H(s) = \frac{\frac{1}{Cs}}{R + \frac{1}{Cs}}$$

$$H(s) = \frac{1}{1 + RCs}$$

Omega

$\Omega = \omega$

$$H(s) = H(j\Omega) = \frac{1}{1 + j\Omega RC}$$

$$|H(j\Omega)| = \sqrt{Re^2 + \Omega^2 Im^2}$$

$$|H(j\Omega)| = \frac{1}{\sqrt{1 + R^2C^2\Omega^2}} = \boxed{0.447}$$