In-Class Exercise: High Pass Filter.

NAME:

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Figure 1 shows the schematic of a high-pass filter. As you can see the resistor and capacitor are reversed compared to the low pass filter.

1. Derive the transfer function of this circuit $G(j\omega)$ using the voltage divider rule and the impedance of a capacitor.
2. Fill out this table:

	$G(j\omega)$	$\lvert G(j\omega)\rvert_{dB}$	ϕ (Phase)
$\omega\tau << 1$			
$\omega\tau = 1$			
$\omega\tau >> 1$			

3. Draw the Bode plot of this transfer function on the back of this page.

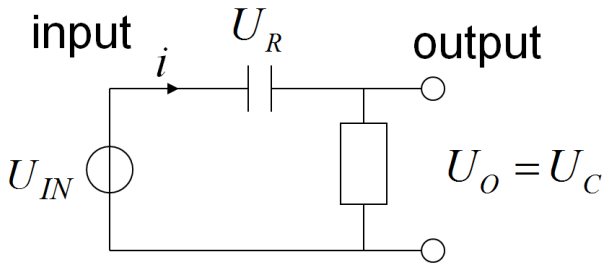

Figure 1: High pass passive filter consisting of a resistor and a capacitor, the output voltage is across the resistor.