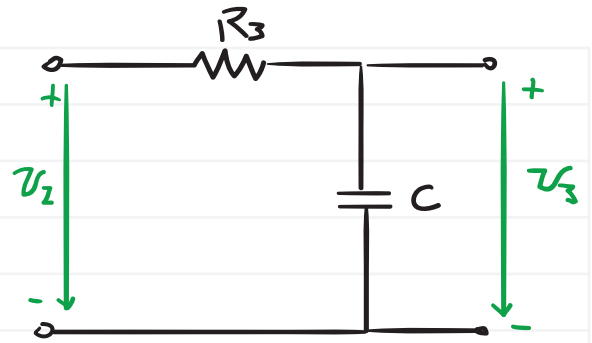
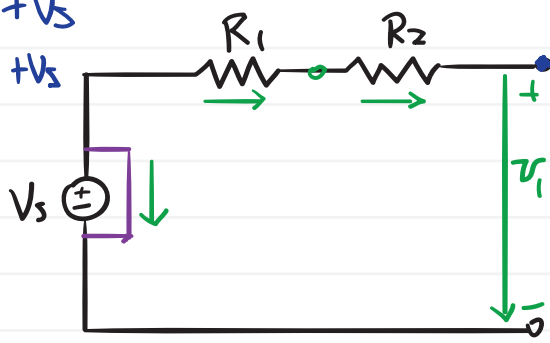


$$v_1 = -v_{R_2} - v_{R_1} + v_s$$

$$= -iR_2 - iR_1 + v_s$$

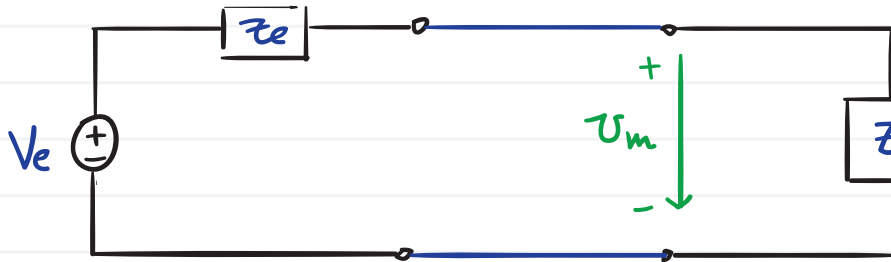
$$= v_s$$



Thevenin

$$z_e = R_1 + R_2$$

$$v_e = v_s$$



$$z_i = z_{R_3} + z_C$$

$$= R_3 + \frac{1}{j\omega C}$$

$$= R_3 - j\frac{1}{\omega C}$$

$$v_s = 12 \text{ V}$$

$v_m?$

$$z_e = 50 \Omega$$

$$R_3 = 50 \Omega$$

$$v_m = \frac{1}{1 + z_e/z_i} v_s$$