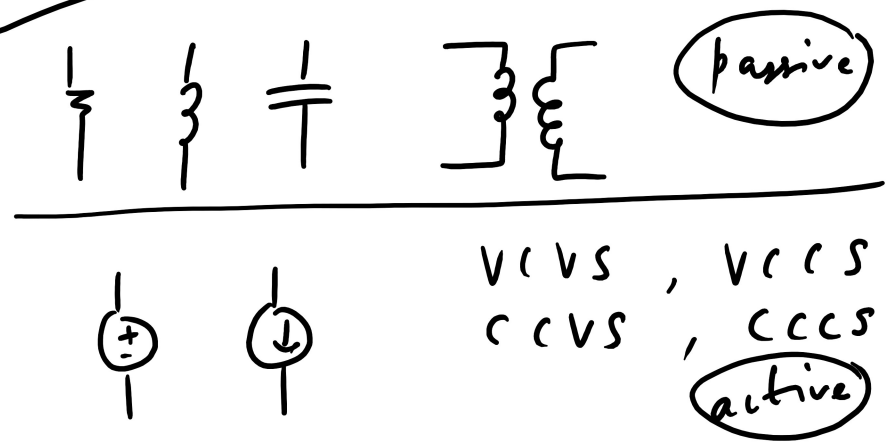
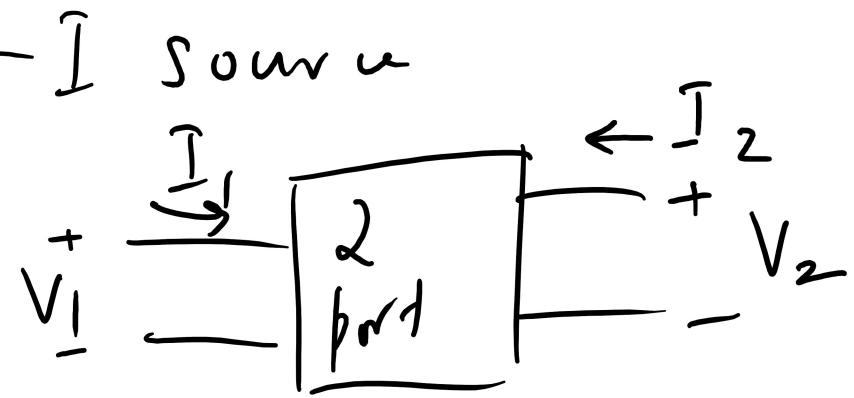
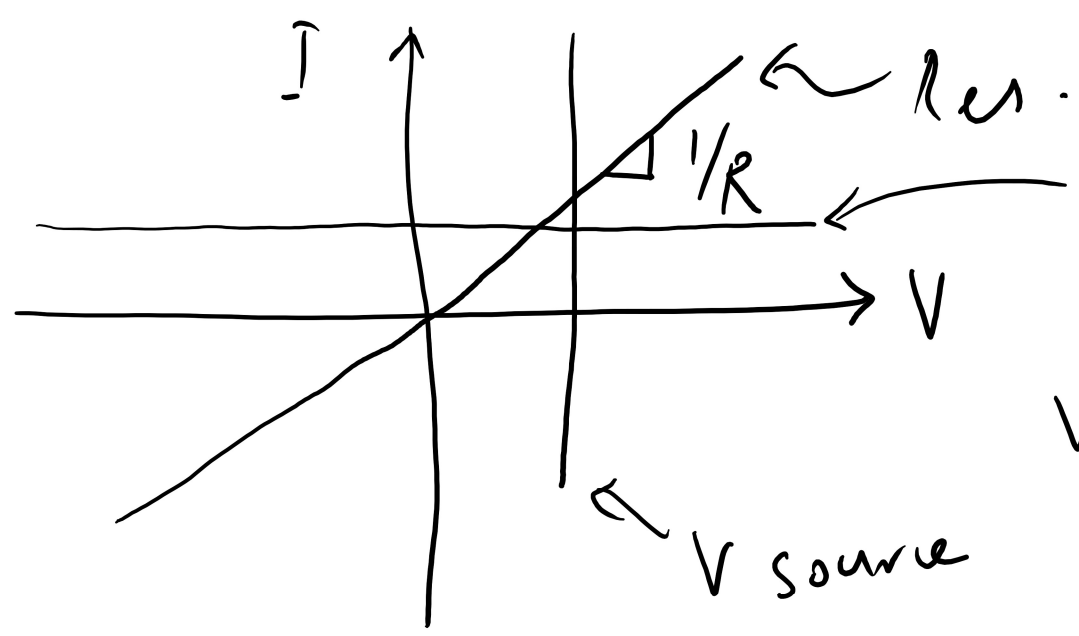


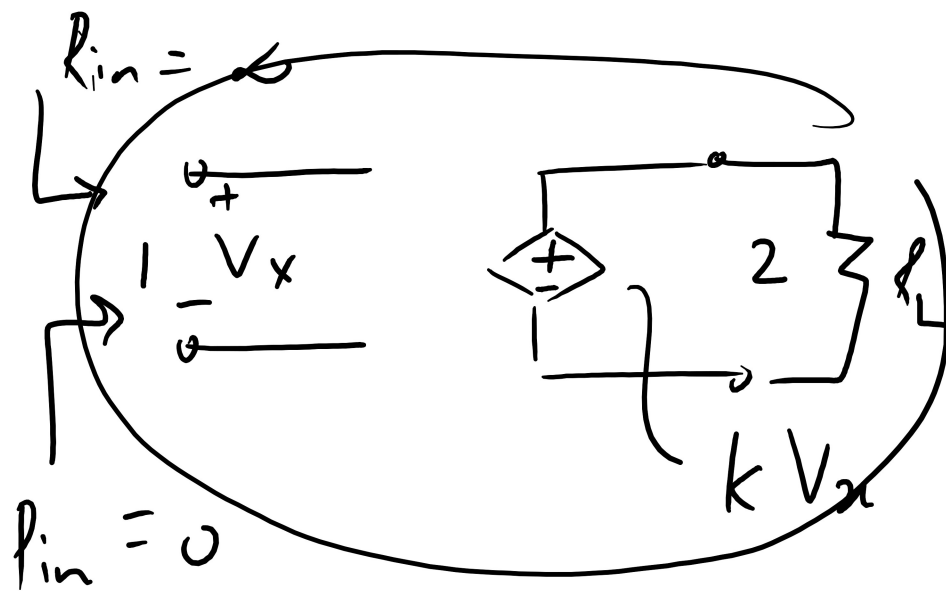
18/11/19 Lec 1



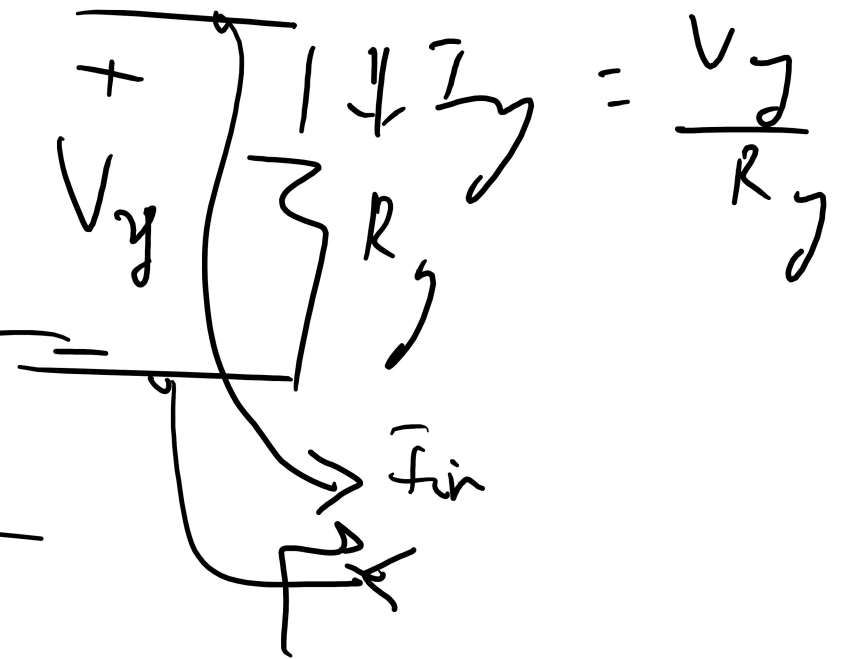
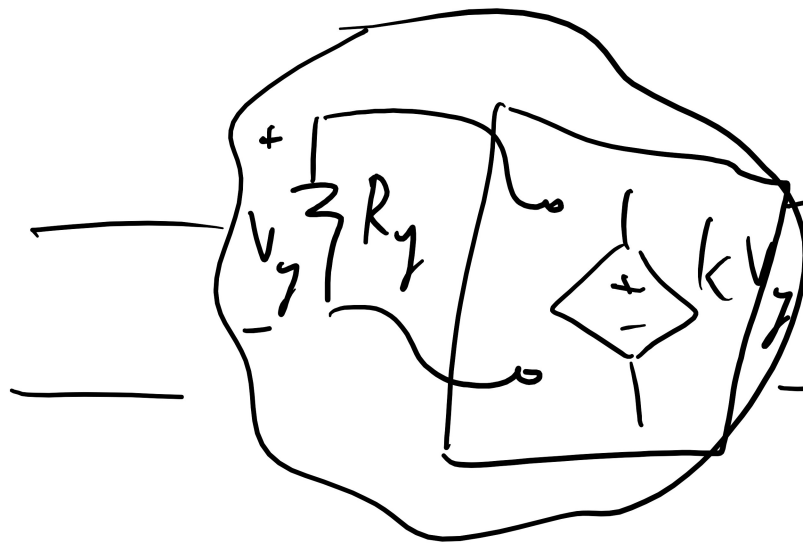
$$V \cdot I > 0$$

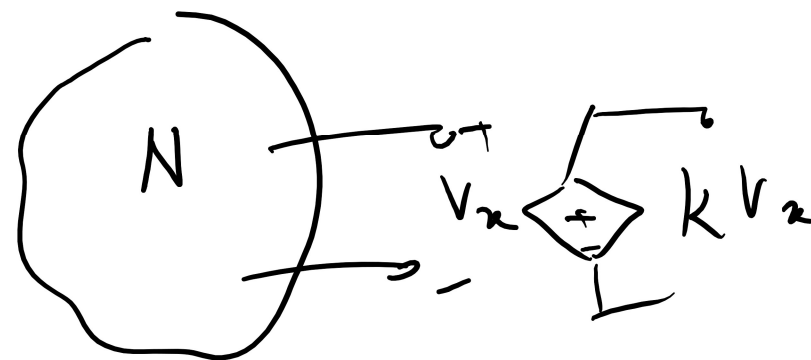
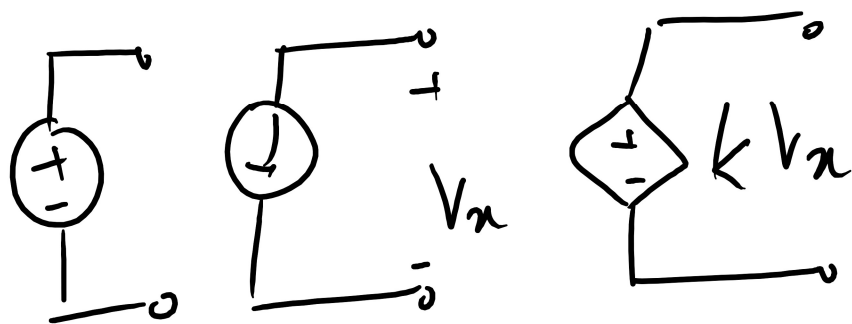
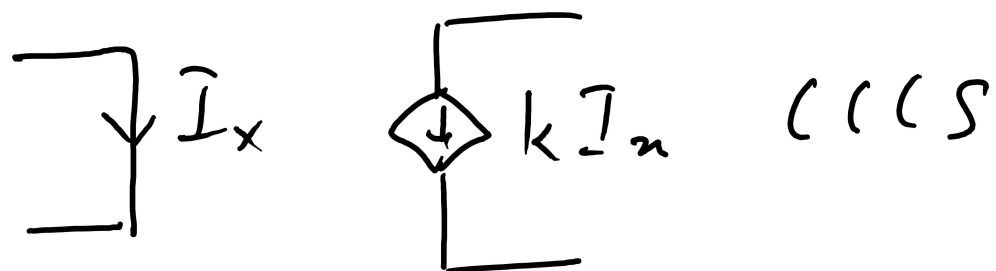
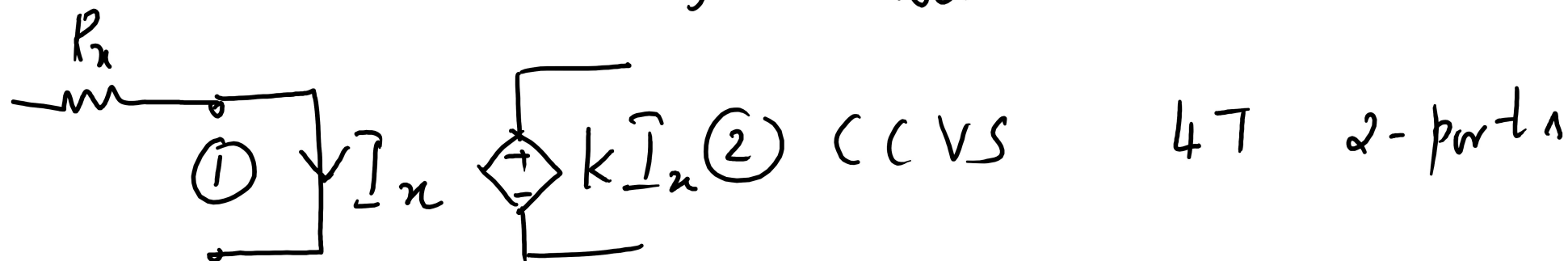
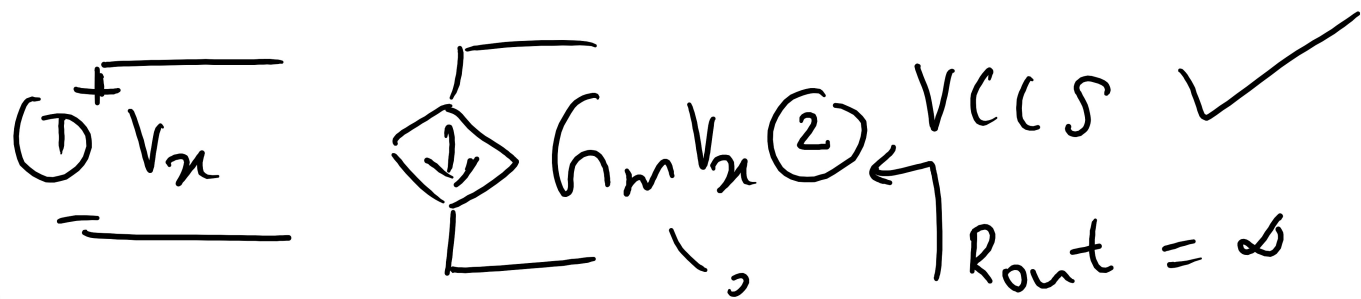


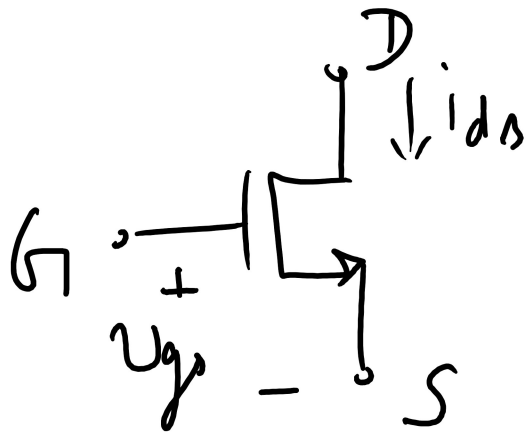
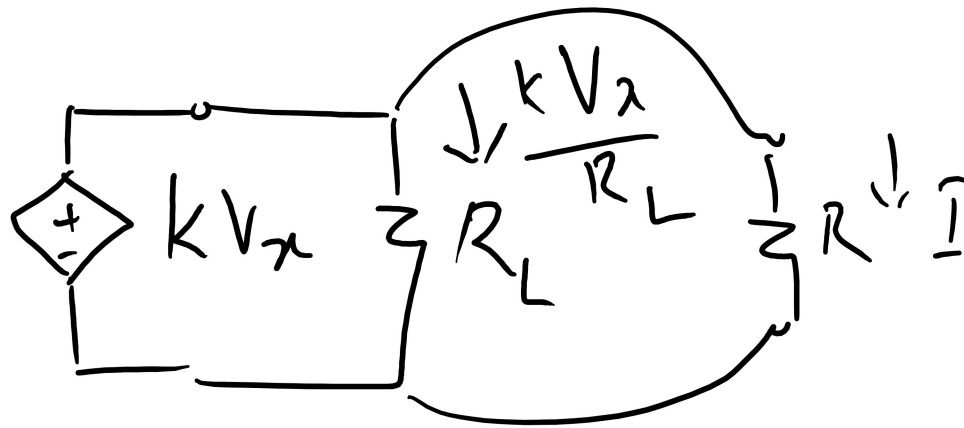
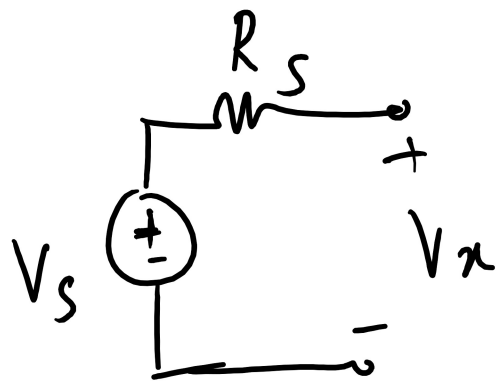
Passive if $V_1 I_1 + V_2 I_2 > 0$



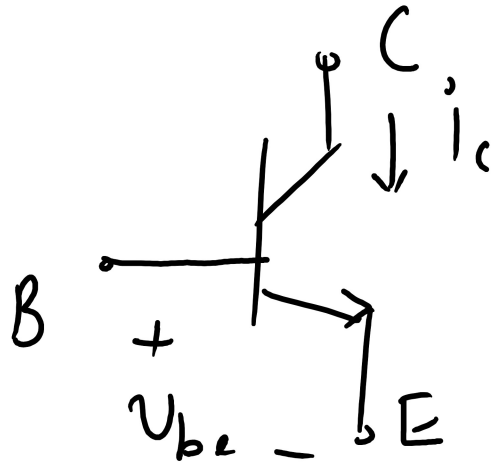
VCVS



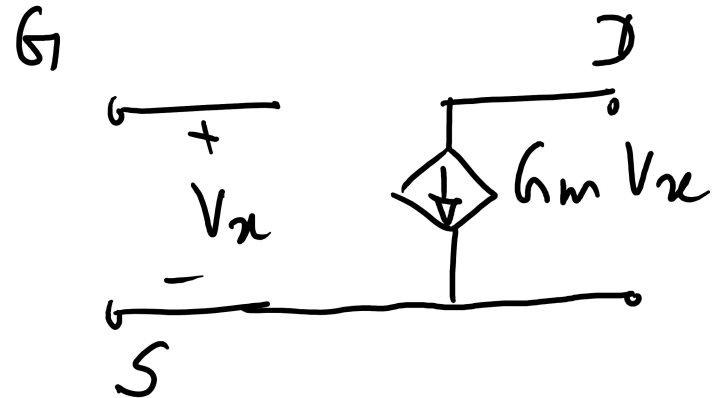




MOSFET

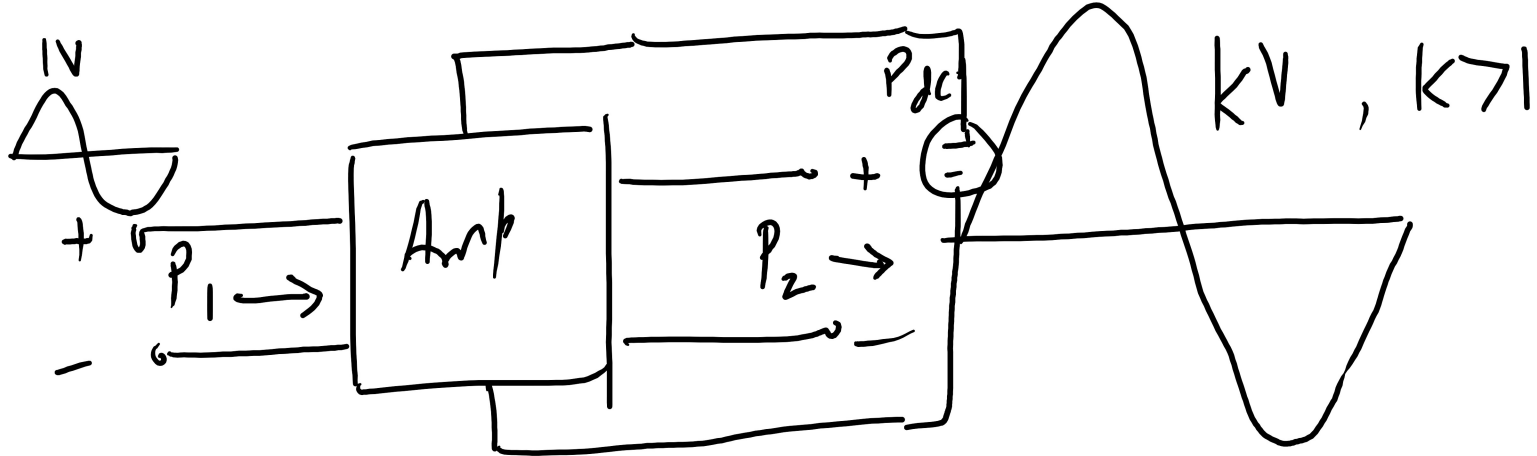


BJT

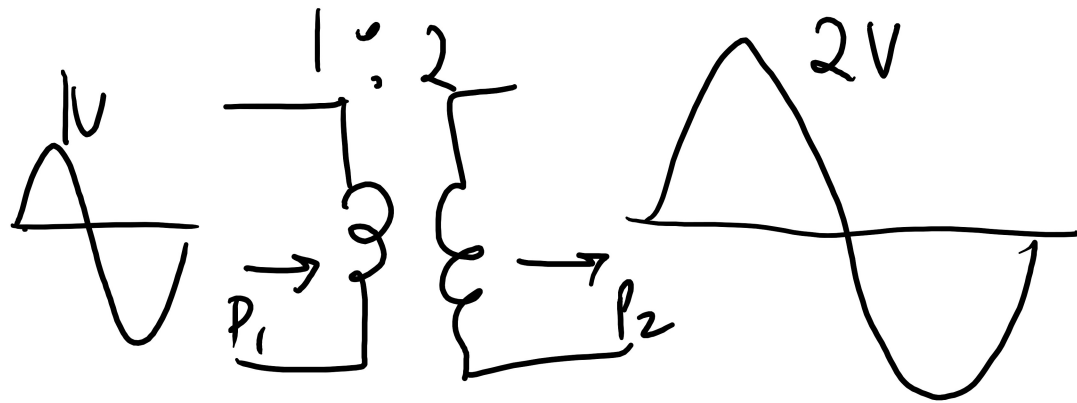


3T 2-port 1

$$[Y] = \begin{bmatrix} 0 & 0 \\ g_m & 0 \end{bmatrix}$$



Power gain $P_2 > P_1$
 $P_2 < P_1 + P_{dc}$
 Unilateral



Voltage gain $P_1 = P_2$
 Reciprocal