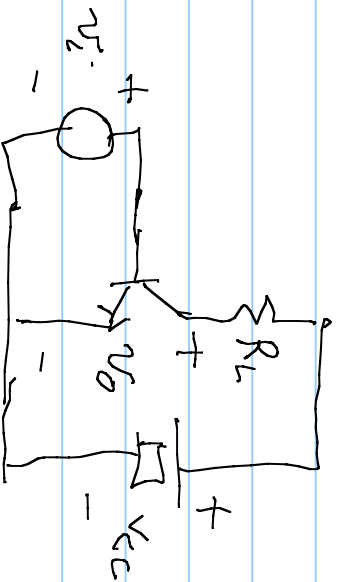
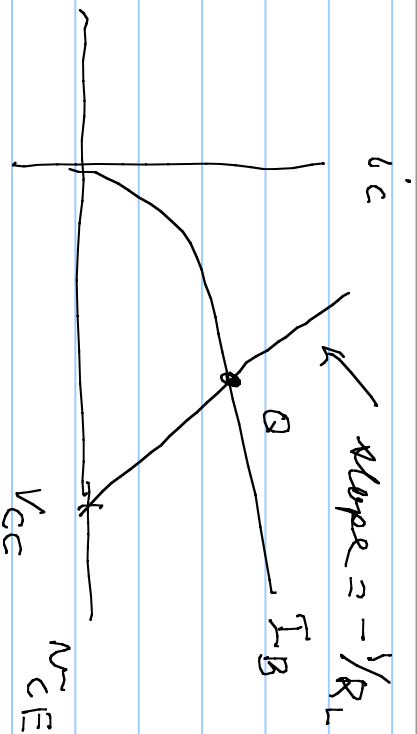


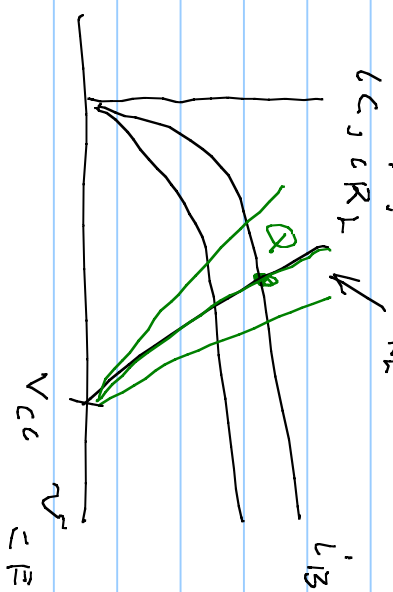
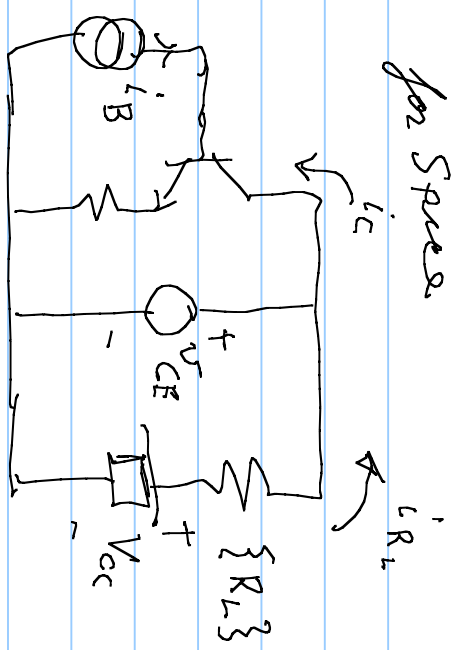
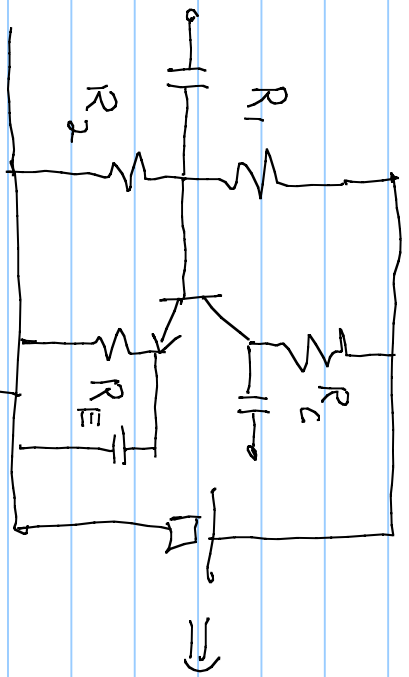
# Biasing



$$\text{gain} = \frac{v_o}{v_i} \approx -g_m R_L$$

$$g_m = \frac{\partial i_c}{\partial v_{be}}$$

Q



DC run on  $V_{CE}$   
 (small steps)  
 secondary sweep on  $i_B$   
 (large steps)

parametric run on  $R_L$

∴ Spice allows parametric runs useful for design

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output  $\Rightarrow$  class B each transition is on  $\frac{1}{2}$  of the time