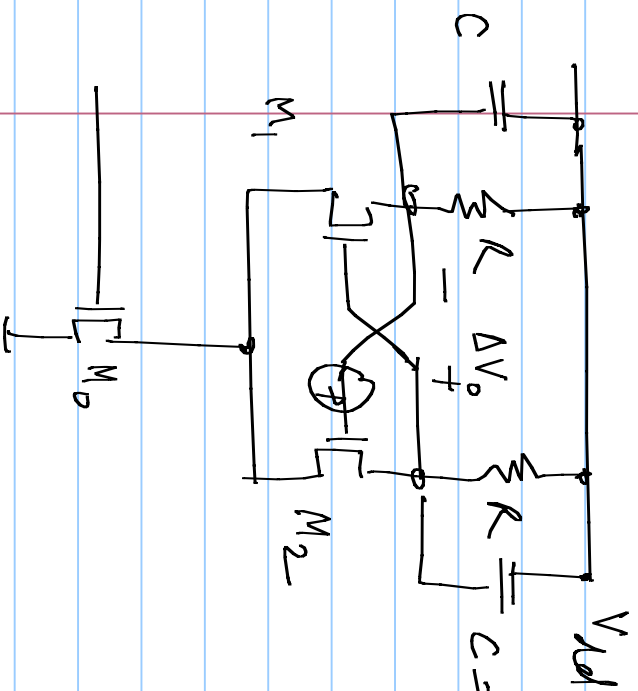


Current mode logic — latch

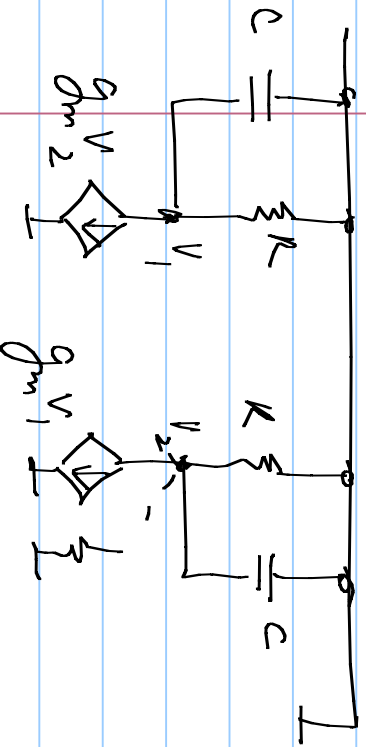


$$\frac{V_1}{R} + V_1 sC + V_2 g_m = 0$$

$$C = C_L + C_{par} = \frac{V_1 - V_2}{V_1 - V_2} (g_m + \frac{V_2}{R} + V_2 sC) = 0$$

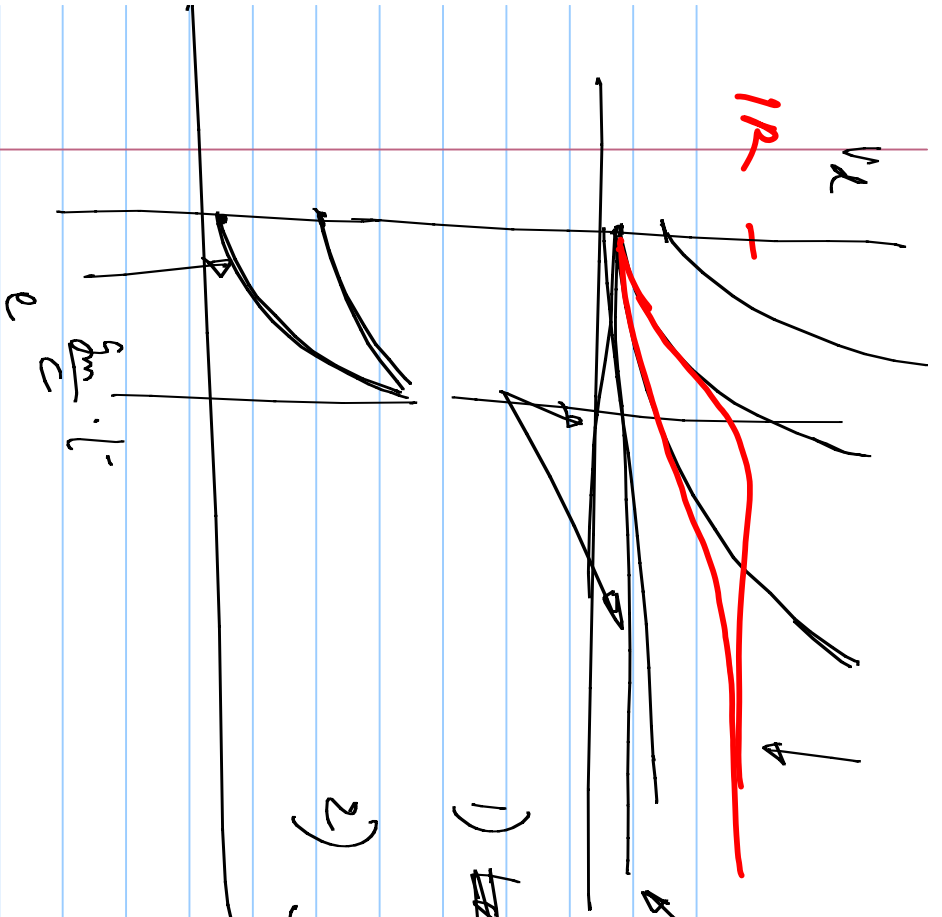
$$g_m V_d + \left(\frac{V_d}{R} + V_1 sC \right) = 0$$

$$g_m \cdot V_d - \left(\frac{V_d}{R} + V_1 sC \right) = 0 \quad \frac{-t/Rc}{e}$$



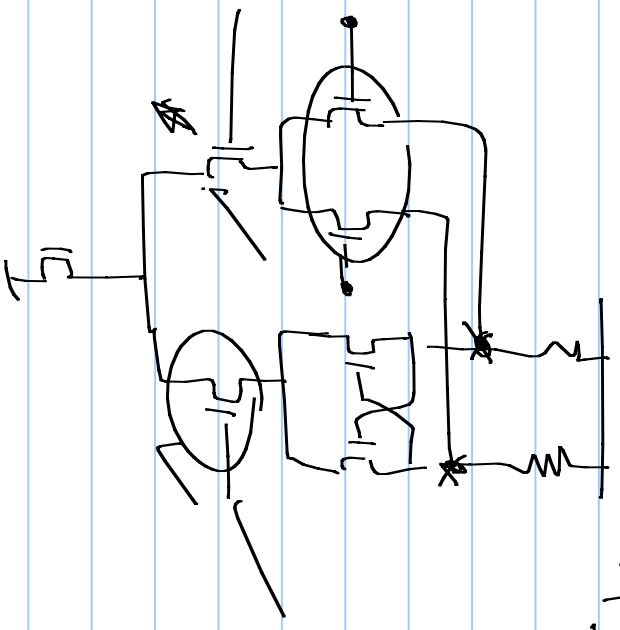
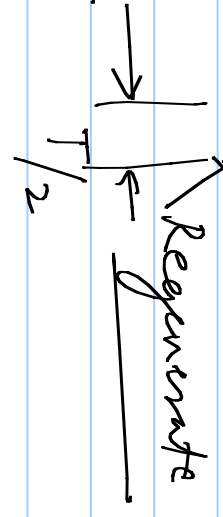
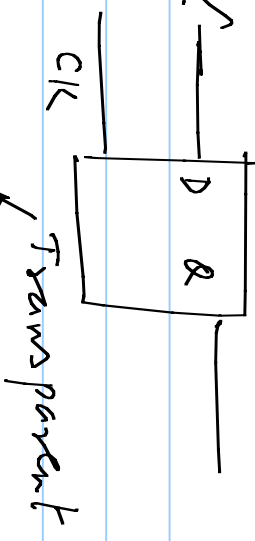
$$V_1(t) = \underline{\underline{V_d(0) e^{+t \left(g_m - \frac{1}{R} \right) \frac{1}{C}}}}$$

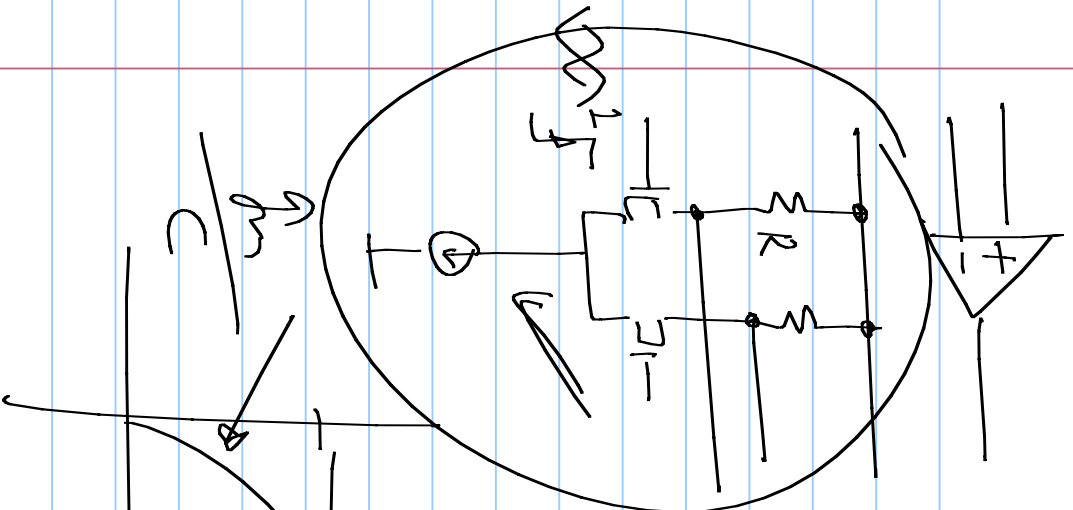
$$g_m > \frac{1}{R}$$



- 1) ~~the~~ Regeneration time
- 2) Sensitivity

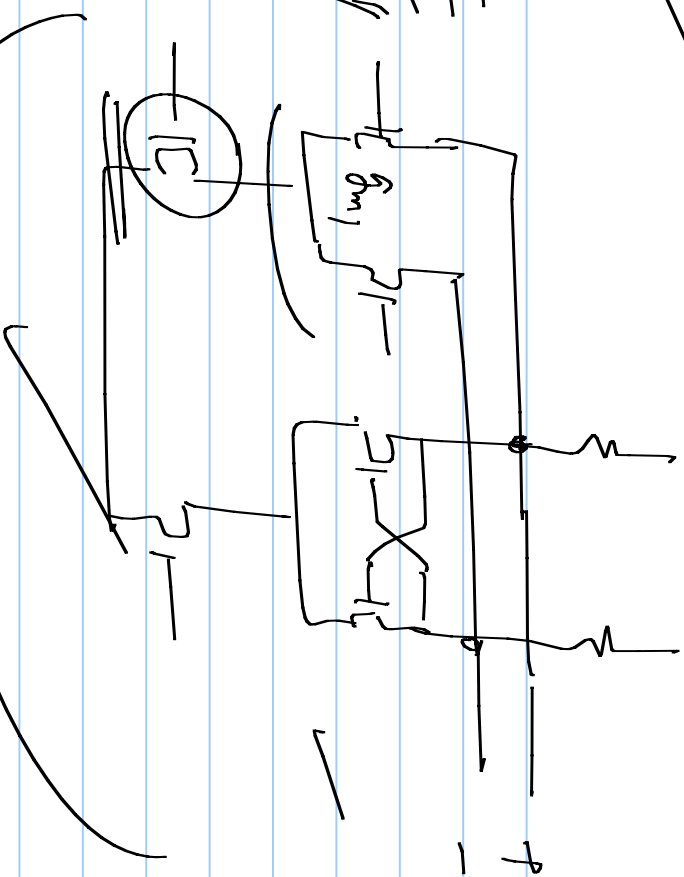
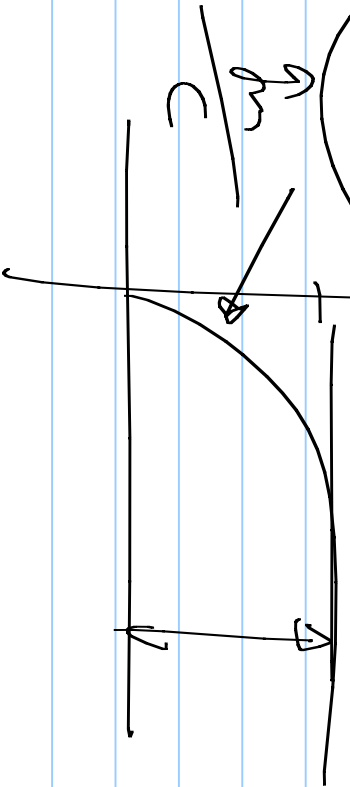
$$V_1(t) = e^{(g_m - 1/R) \frac{t}{C}}$$





$$\frac{V_o}{V_i} = g_m R$$

$$V_i(\omega) \cdot \left[\frac{1}{g_m R} + \left(\frac{\omega C}{g_m} \right) \right]$$



High gain
Schnitzers

