

25-10-12

Lec 37



$$I = f(v)$$

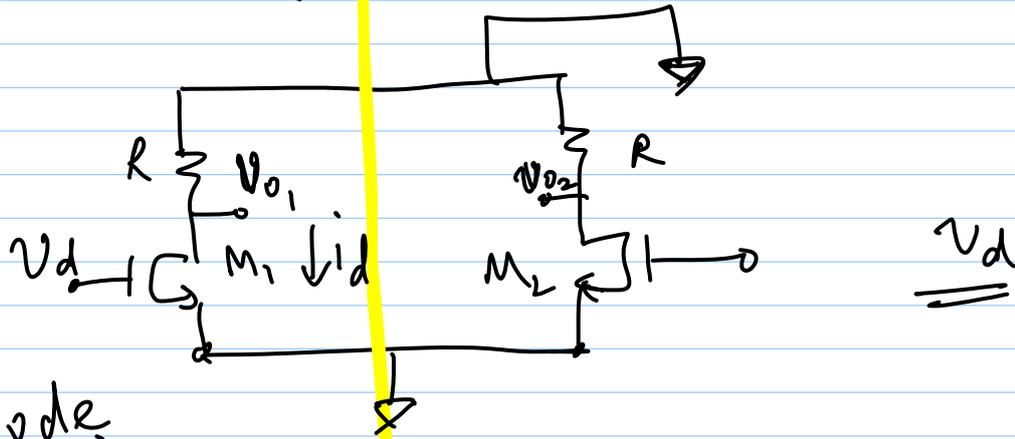
linearised around
op pt. using

Element w/ memory

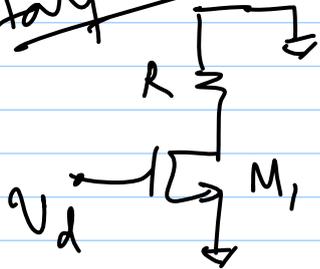
Nonlinear diff. eqns

$f'(v)$

Only v_d



Diff. mode
Half ckt



$$i_{d1} = g_m v_d$$

$$v_{o1} = -g_m R v_d$$

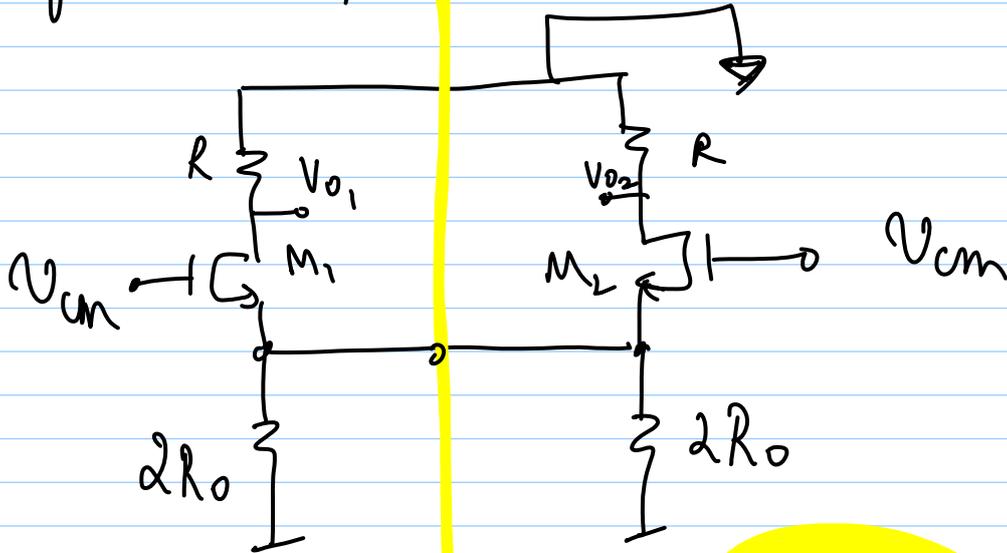
other half

$$i_{d2} = -g_m v_d$$

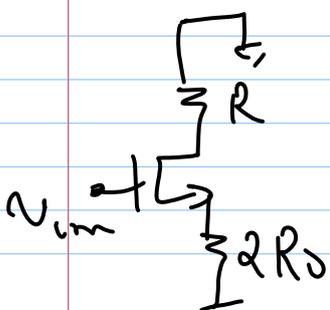
$$v_{o2} = +g_m R v_d$$

$\{ \times (-1) \}$

Only v_{cm} (x1)



CM
Half ckt



$$i_{d1} = \frac{g_m}{1 + 2g_m R_o} v_{cm}$$

$$v_{o1} = -i_{d1} R$$