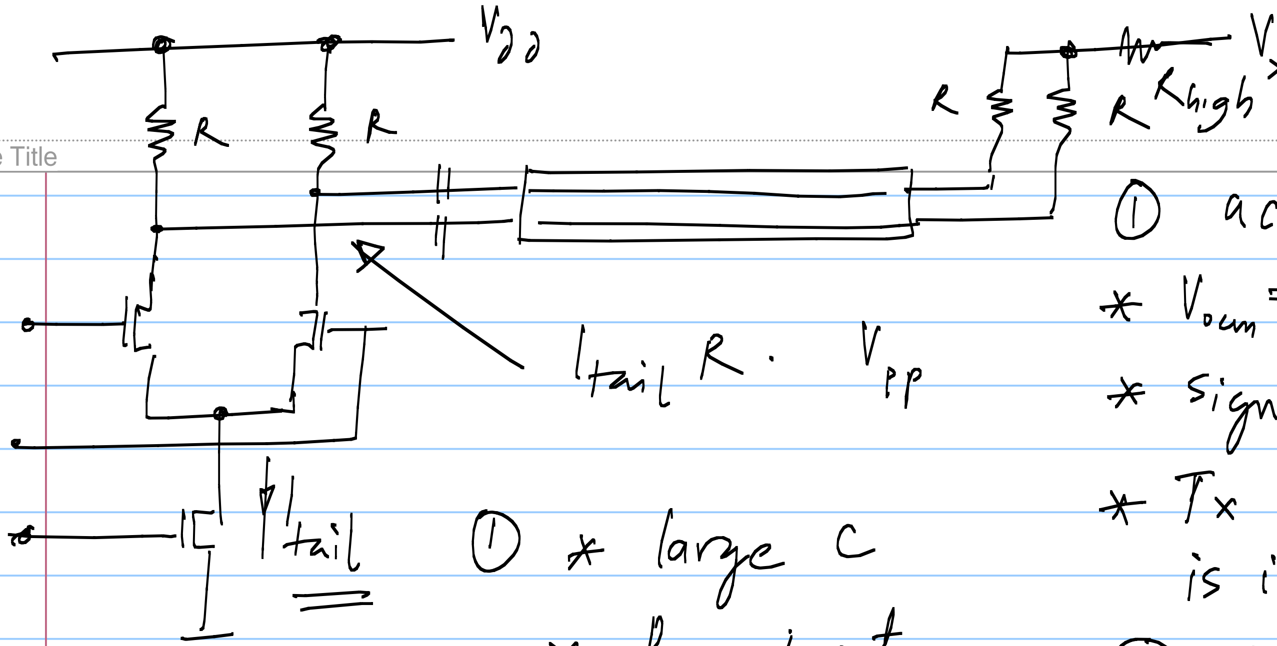


① * large C

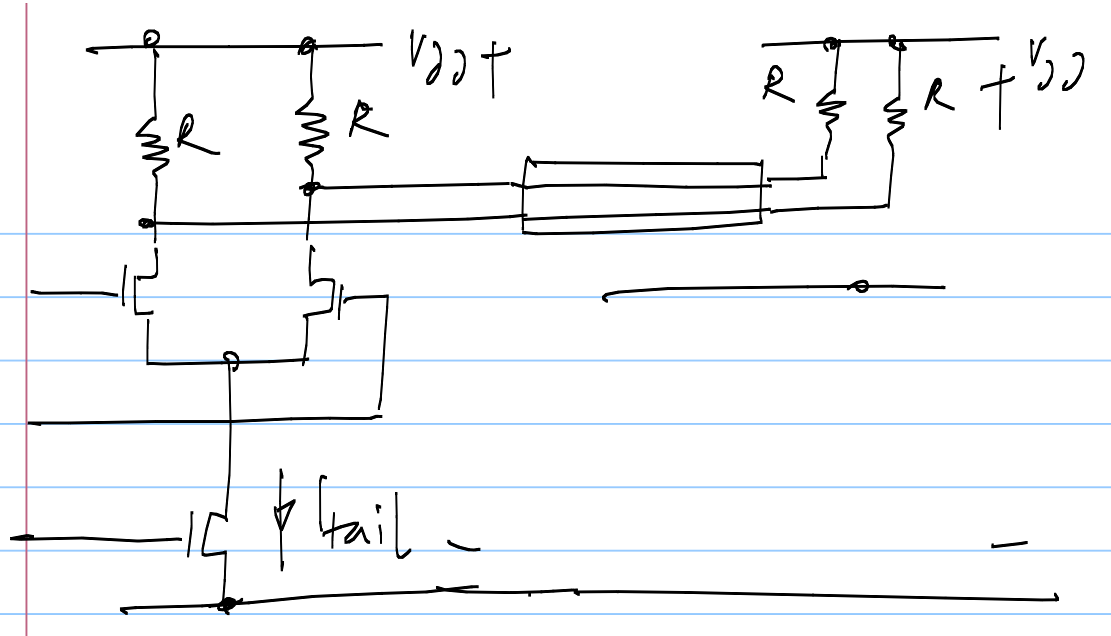
* R_x input common mode voltage is independent of T_x

① ac coupled T_x output

* $V_{ocm} = V_{DD} - I_{tail} R/2$
* signal swing $I_{tail} R$ (pp)
* T_x o/p common mode is independent of the R_x

② R_x : large common mode resistance

* $V_{ocm} = V_{DD} - I_{tail} R/2$
* Signal swing $I_{tail} R$
* T_x o/p common mode is independent of the R_x
* dc Coupled



③ $V_{ocm} = V_{DD} - I_{tail}\frac{R}{4}$

Swing: $I_{tail}R \cdot$ (pp)

larger V_{ocm}. so

can accommodate

a larger swing

* Cannot expect

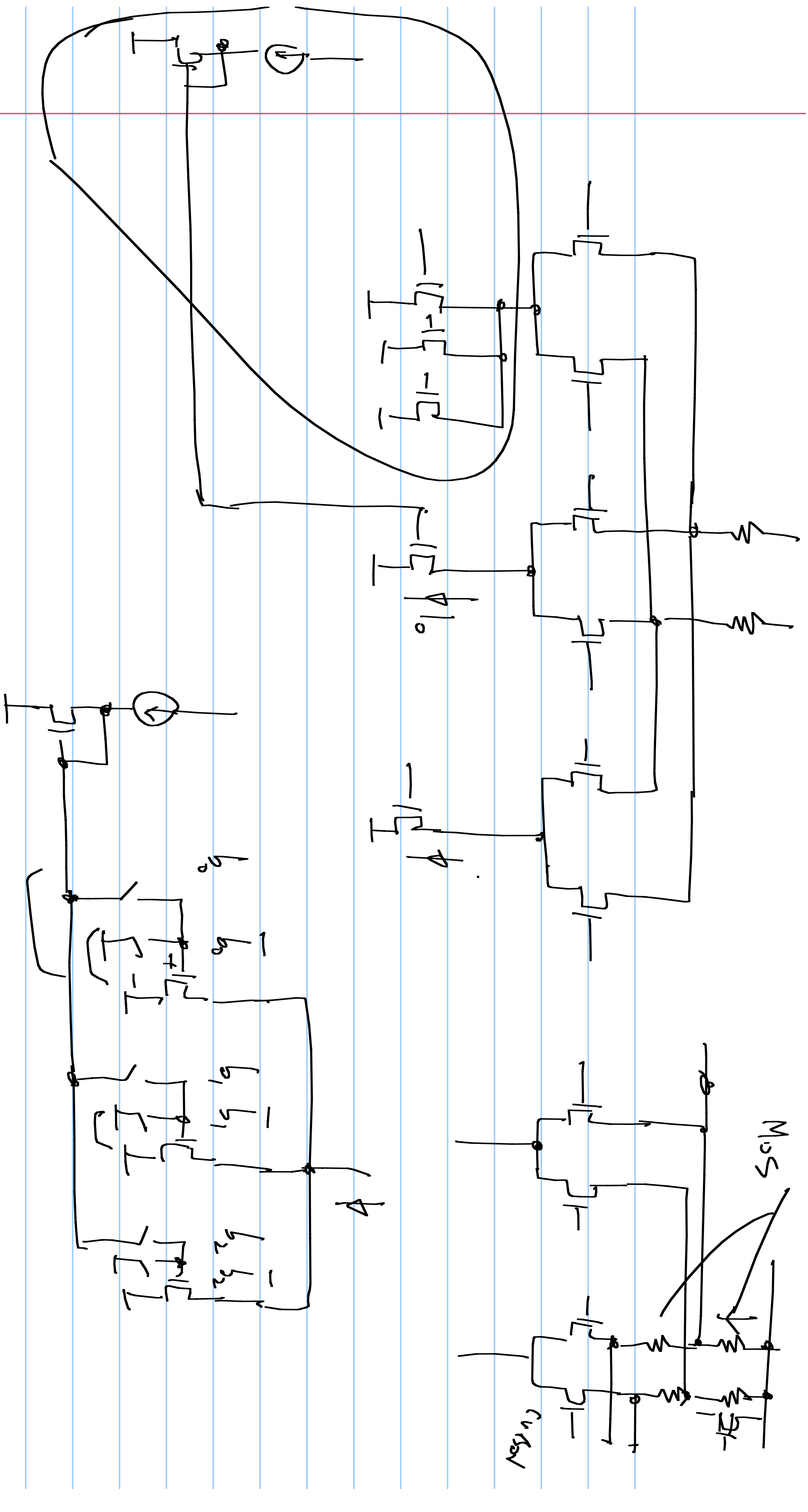
same supply & ground

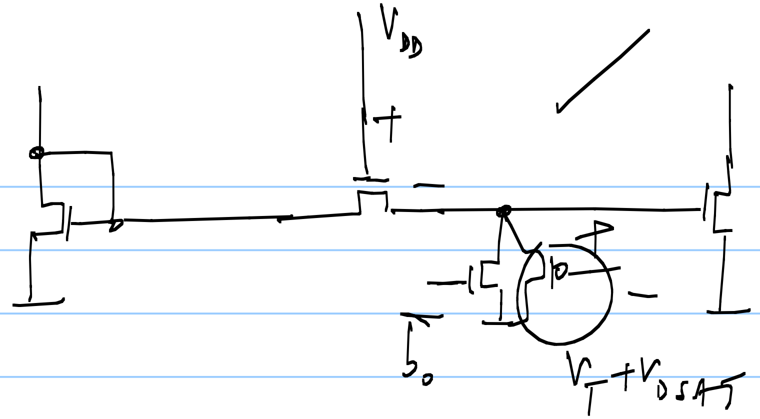
on T_x, R_x sides

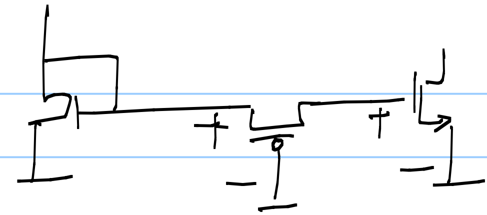
Useful only when

Tx, R_x are on

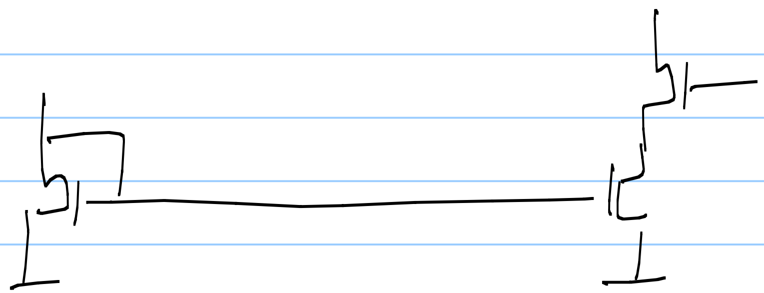
the same board.

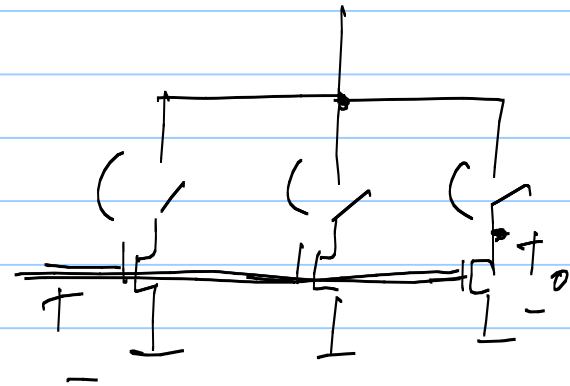


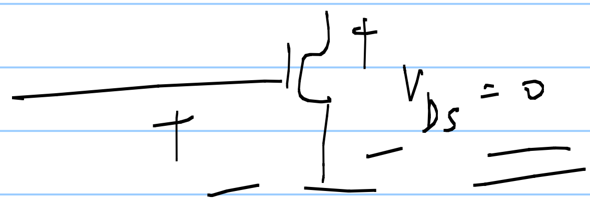




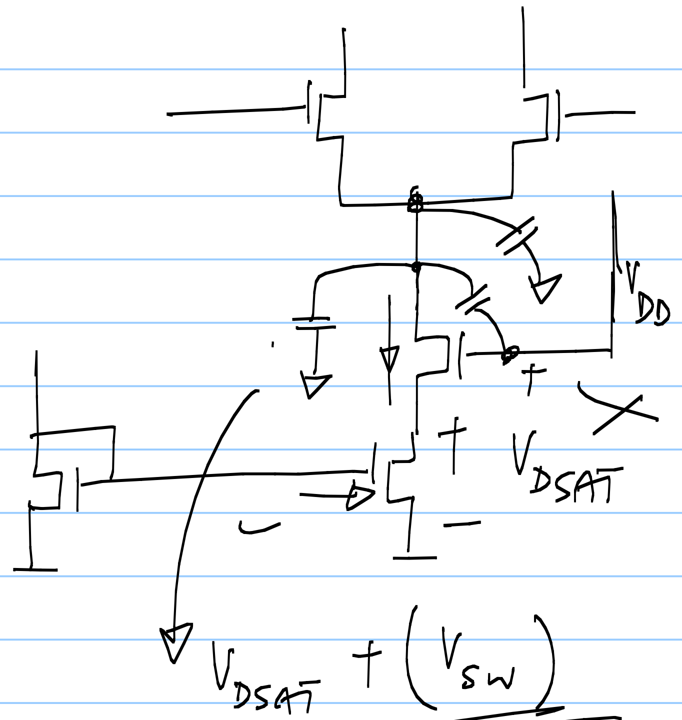
$V_{DD} > 2V_T + V_{DSAT}$ nMOS.



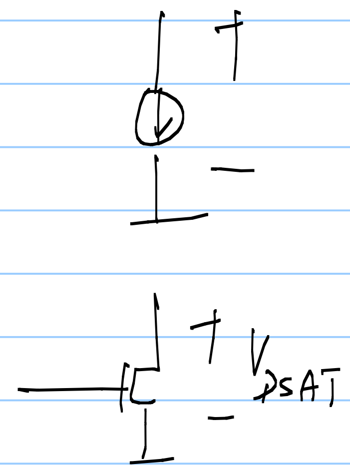




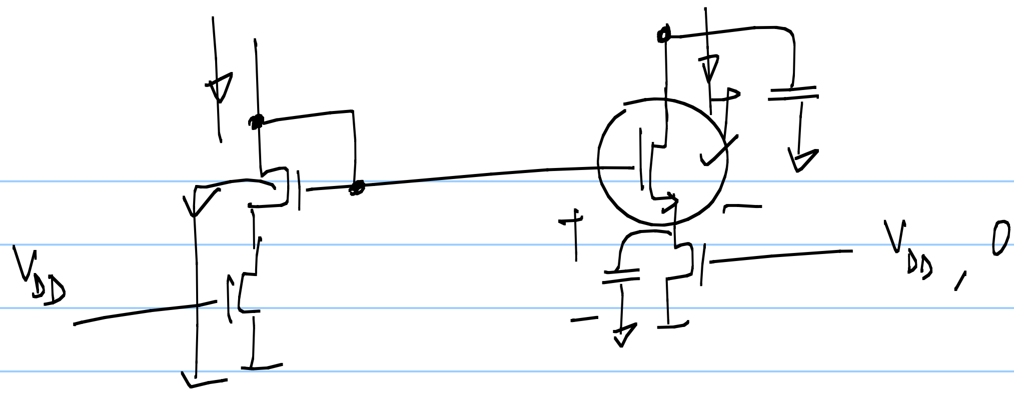
Use an nMOS switch @ drain



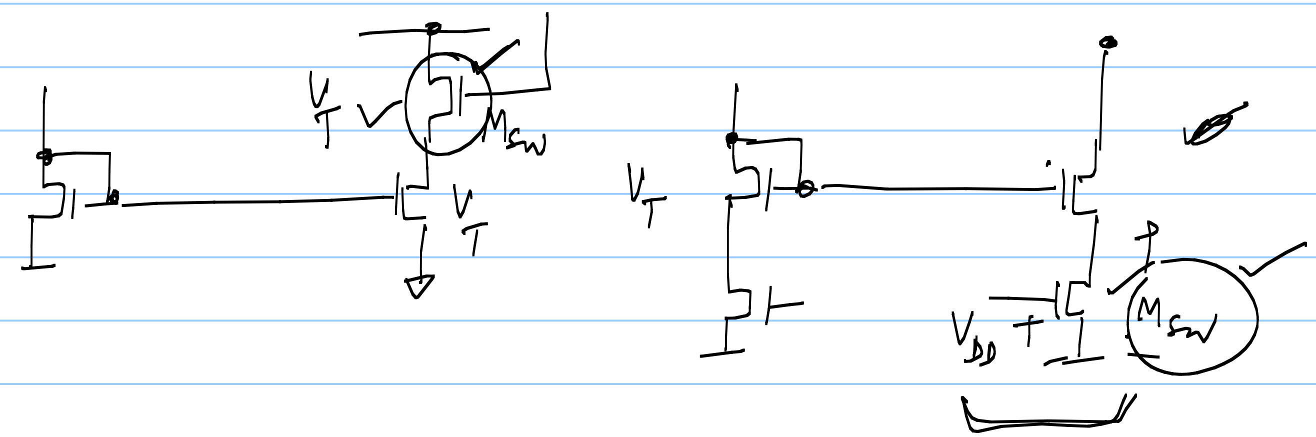
$V_{DSAT} - V_T < 0$

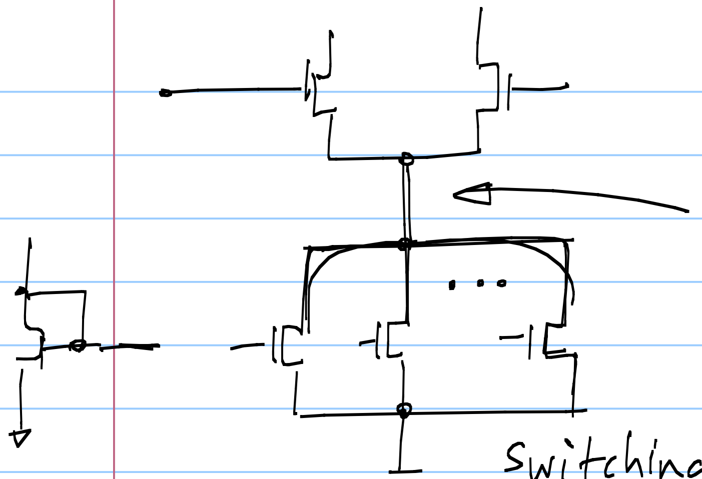


Switch: large to reduce V_{SW}

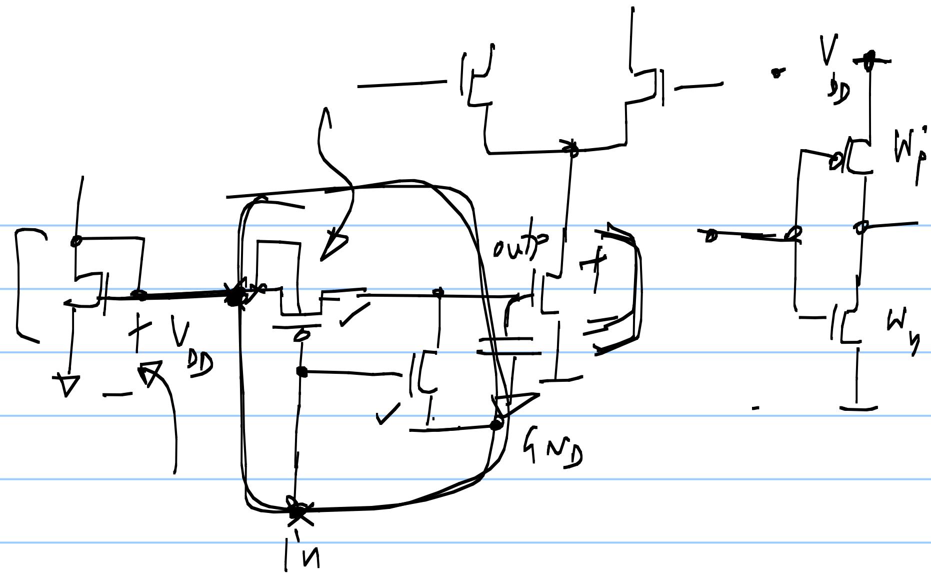


V_{DSAT}	150 mV
V_{SW}	15 mV





switching @ source / gate



Source

- − larger switch size
- − Drop across the switch
- \+ Don't need complementary controls

Gate

- \+ smaller switch size
- \+ No extra drop across the current source
- − Complementary controls