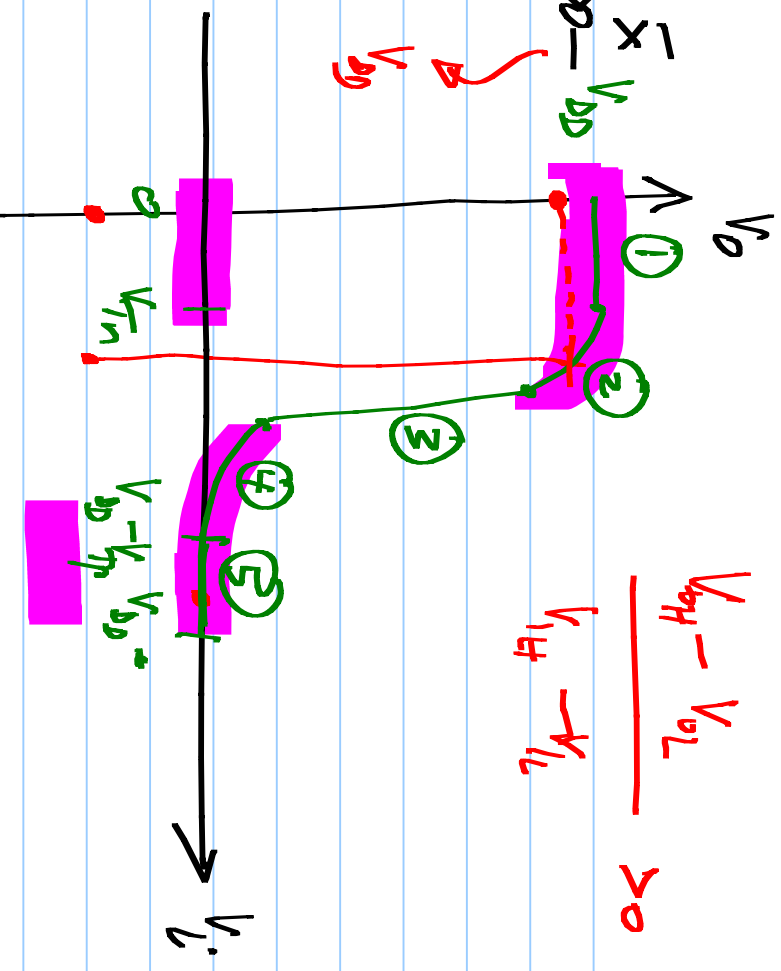
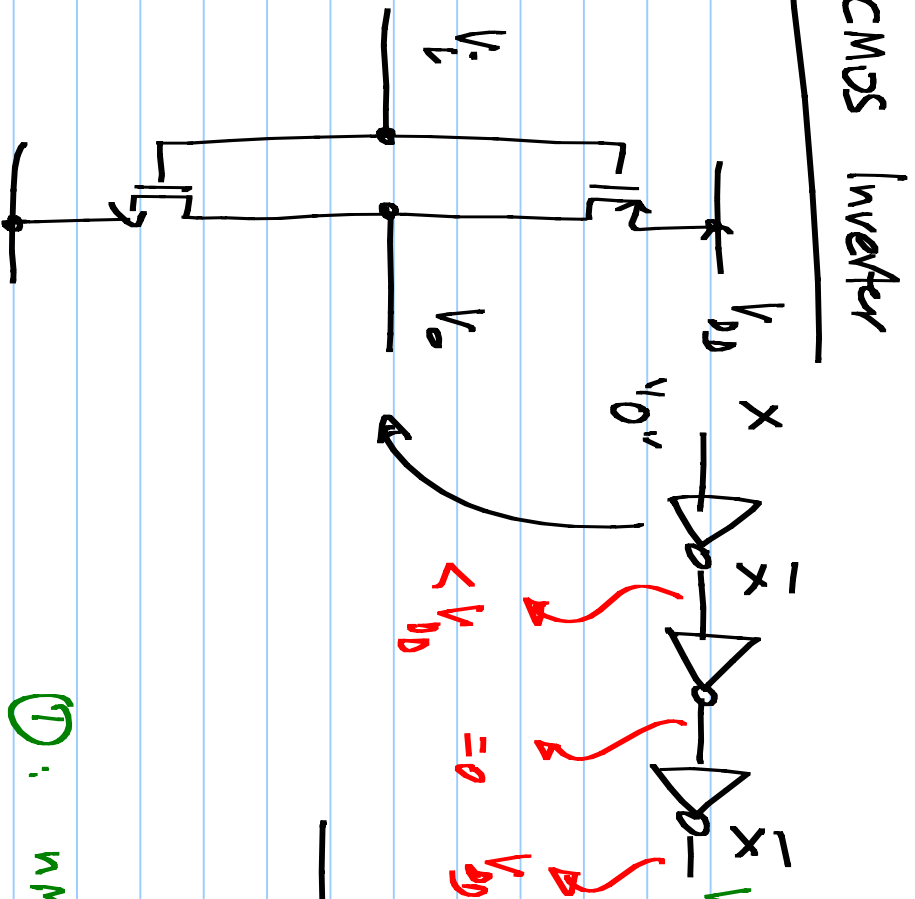




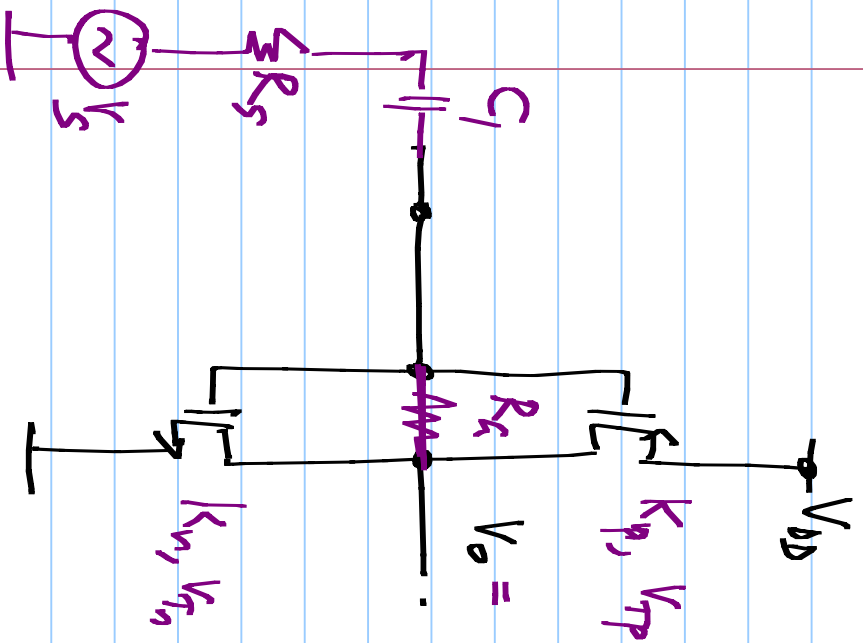
# CMOS Inverter



$$\frac{V_{DD} - V_{oL}}{V_{iH} - V_{iL}} > 0$$

- ① : nmos off
- ② : pmos : triode, nmos sat
- ③ : Both sat.
- ④ pmos: sat, nmos: triode
- ⑤ : pmos : off

Setup  $V_D = V_L$



$$V_o = - \frac{g_{m_p} g_{m_n}}{s^2 + s + g_{m_p} + g_{m_n}}$$

