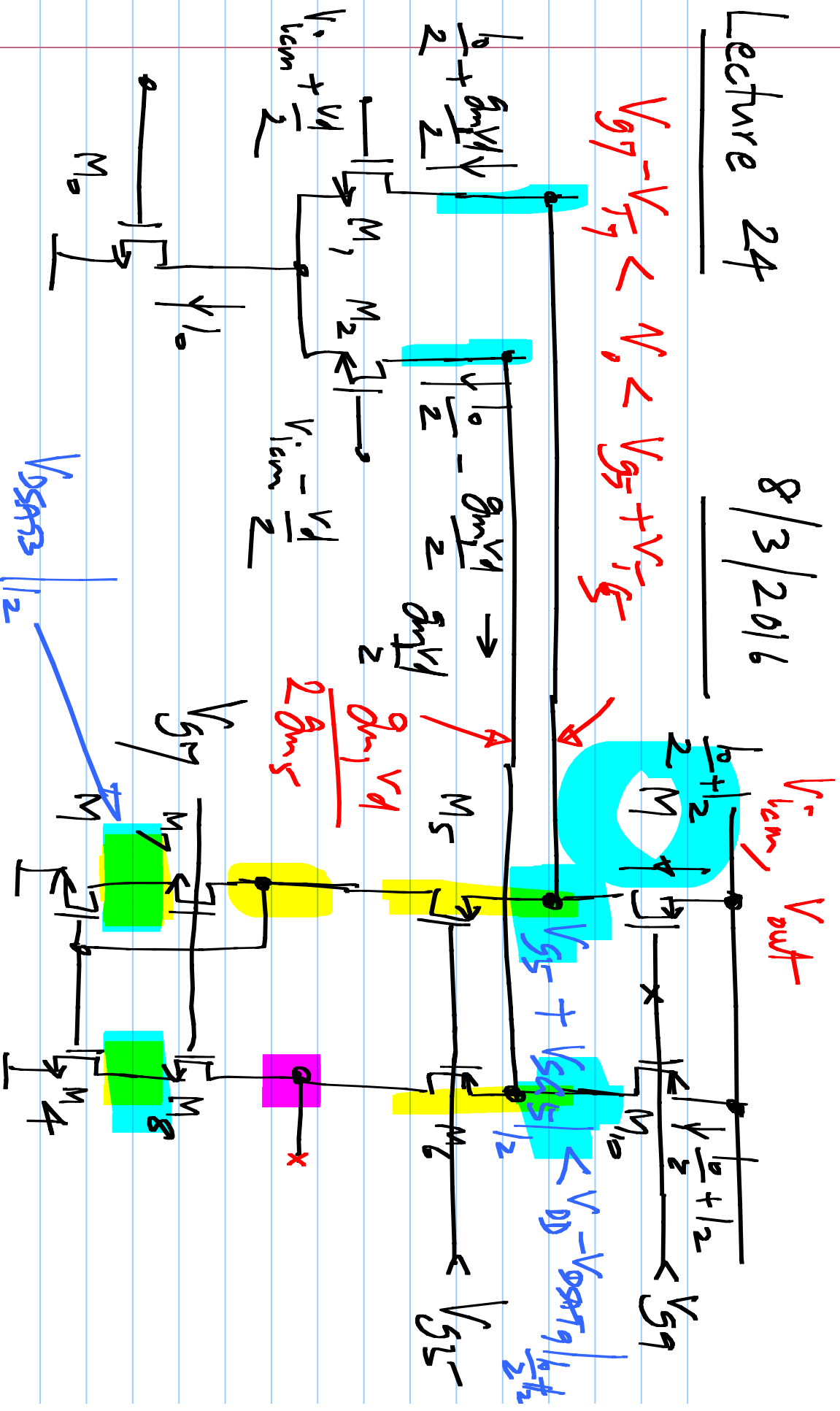


Lecture 24

8/3/2016

$$V_{G7} - V_{T7} < V_o < V_{G5} + V_{T5}$$



$$V_{DSAT3} + V_{GS7} - V_{T7} < V_0 < V_{GS5} + V_{T5}$$

$$V_{DD} - V_{DSAT9} + V_{T5} - V_{SAT5} < V_{DD} - V_{DSAT9}$$

$$V_{GS} < V_{DD} - V_{DSAT9} - V_{SAT5}$$

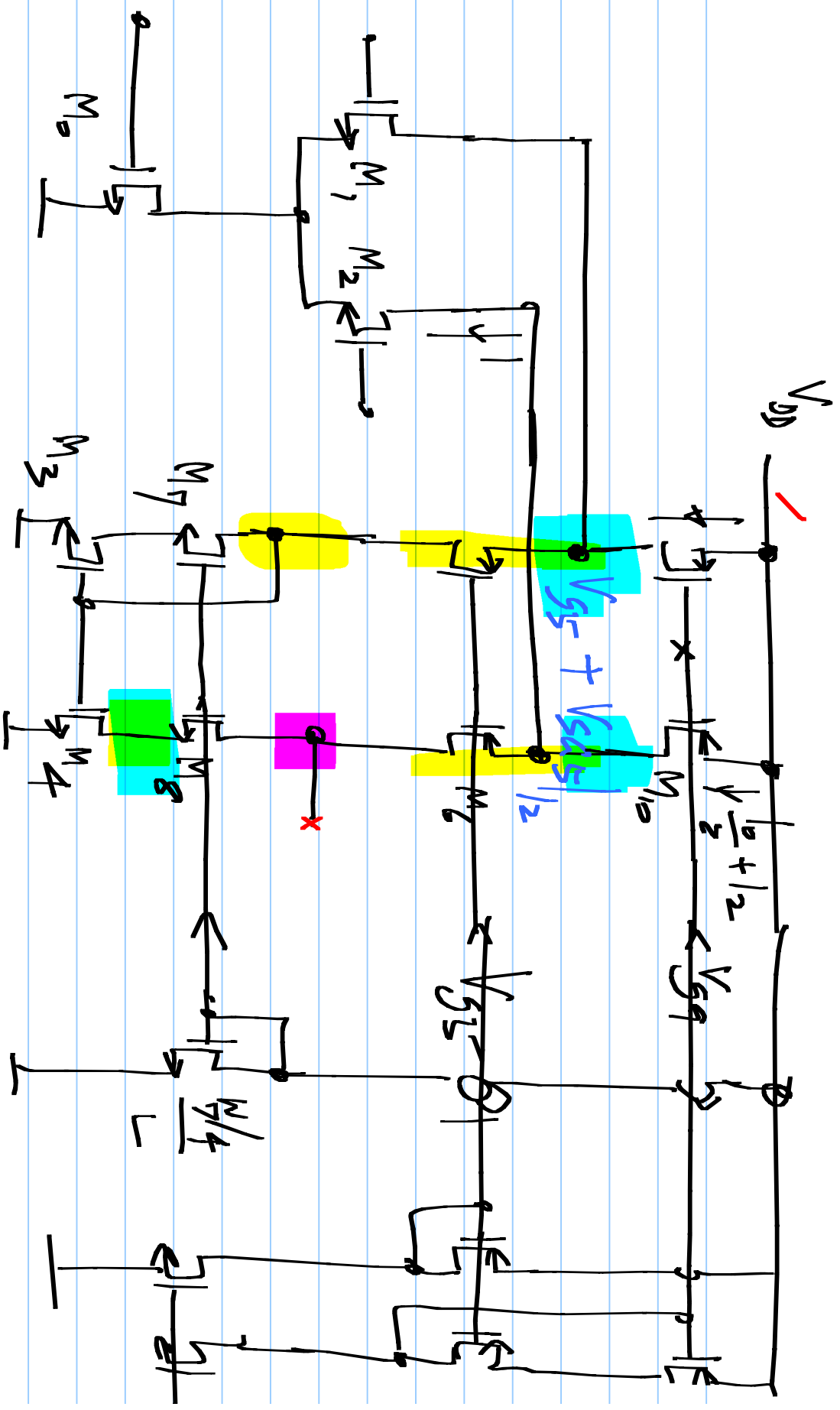
$$V_{DSAT3} + V_{GS7} < V_{GS} - V_{T5} < V_0 < V_{DD} - (V_{DSAT3} + V_{SAT9})$$

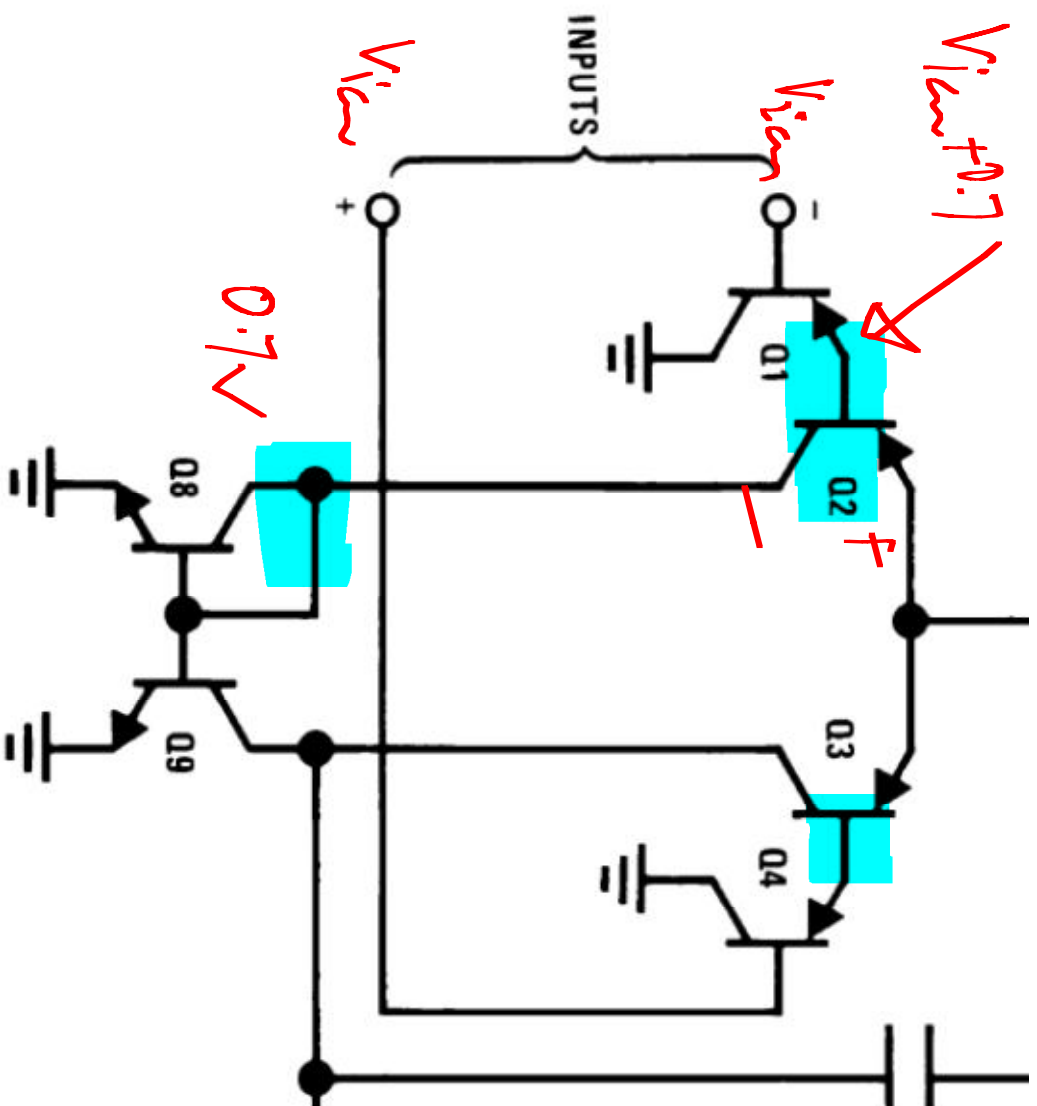
$$V_{DSAT3} + V_{DSAT9} < V_0 < V_{DD} - (V_{DSAT9} + V_{SAT5})$$

$$V_{DS170} + V_{GS1} \Big|_{I_D = \frac{I_{D1}}{2}} < V_{in} < V_{D1} - V_{DS17} + V_T$$

} optimum value

$$V_{GS} + V_{GS5} \Big|_{I_D = \frac{I_{D1}}{2}}$$





$$V_{in}^- + 0.7 > 0.7$$

$$V_{in}^- > 0$$