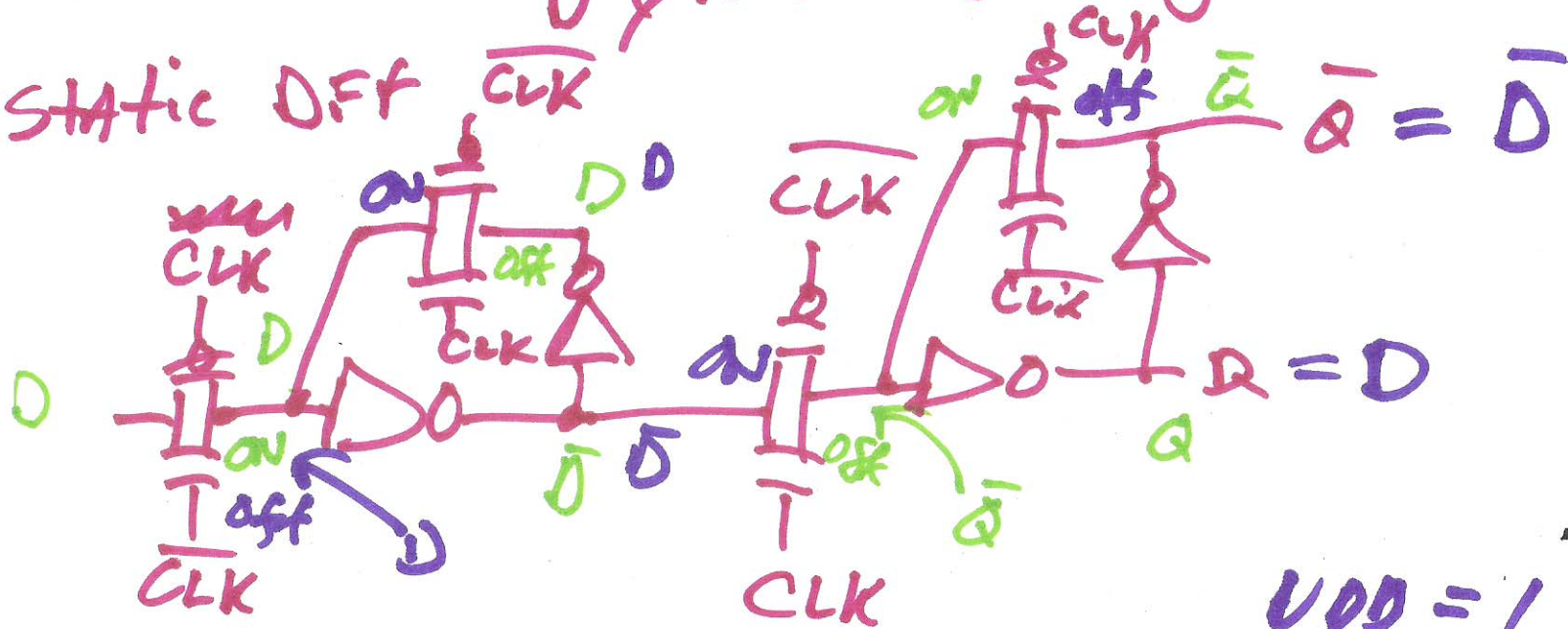


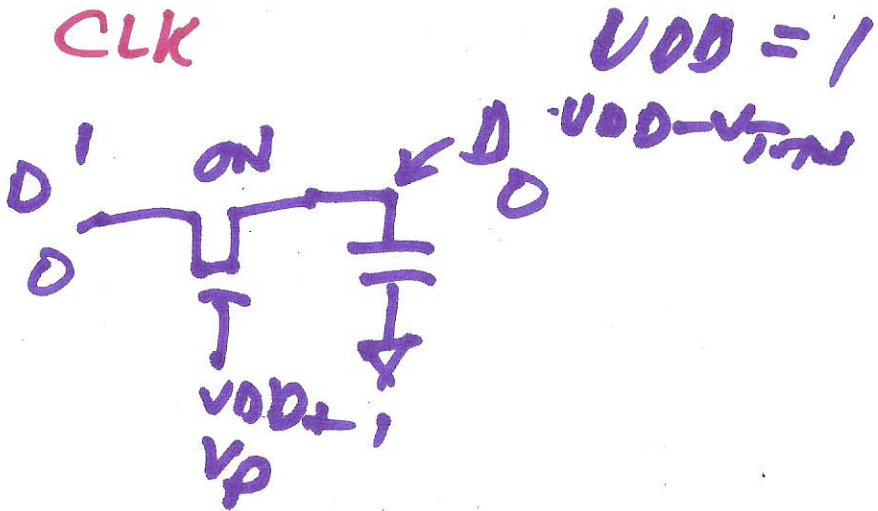
# Fundamentals of Dynamic logic

Static DFF CLK

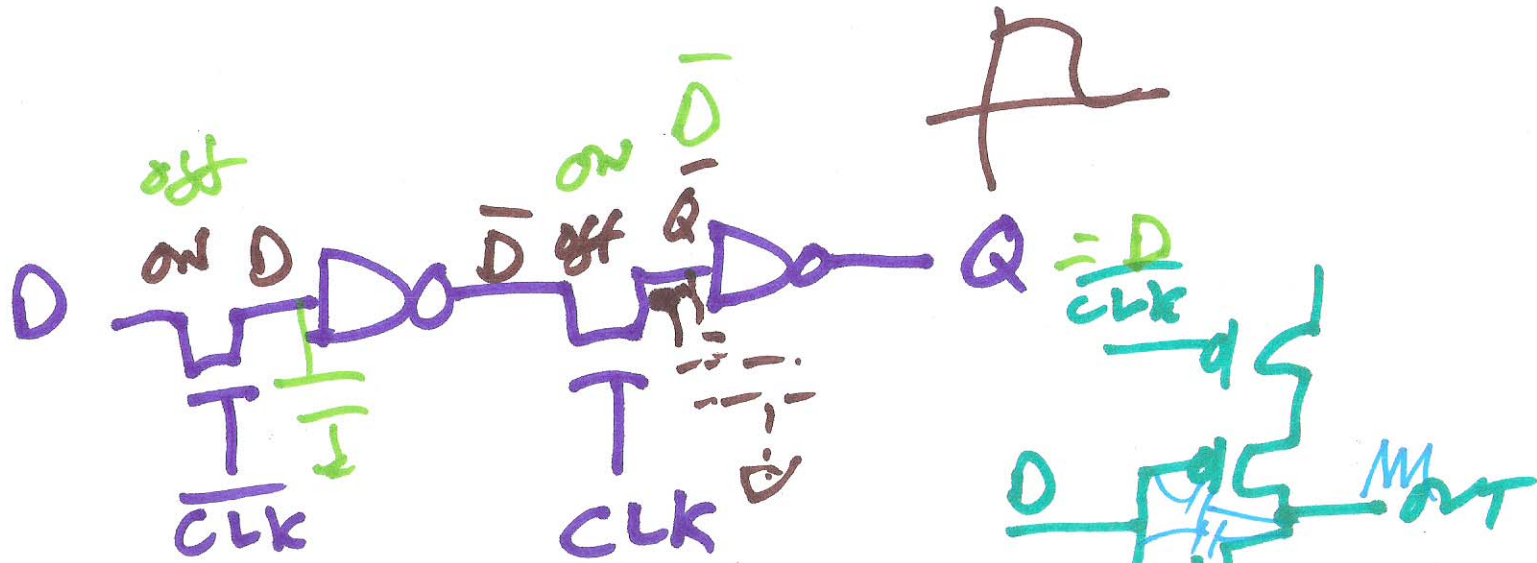


CLK = 0

CLK = 1

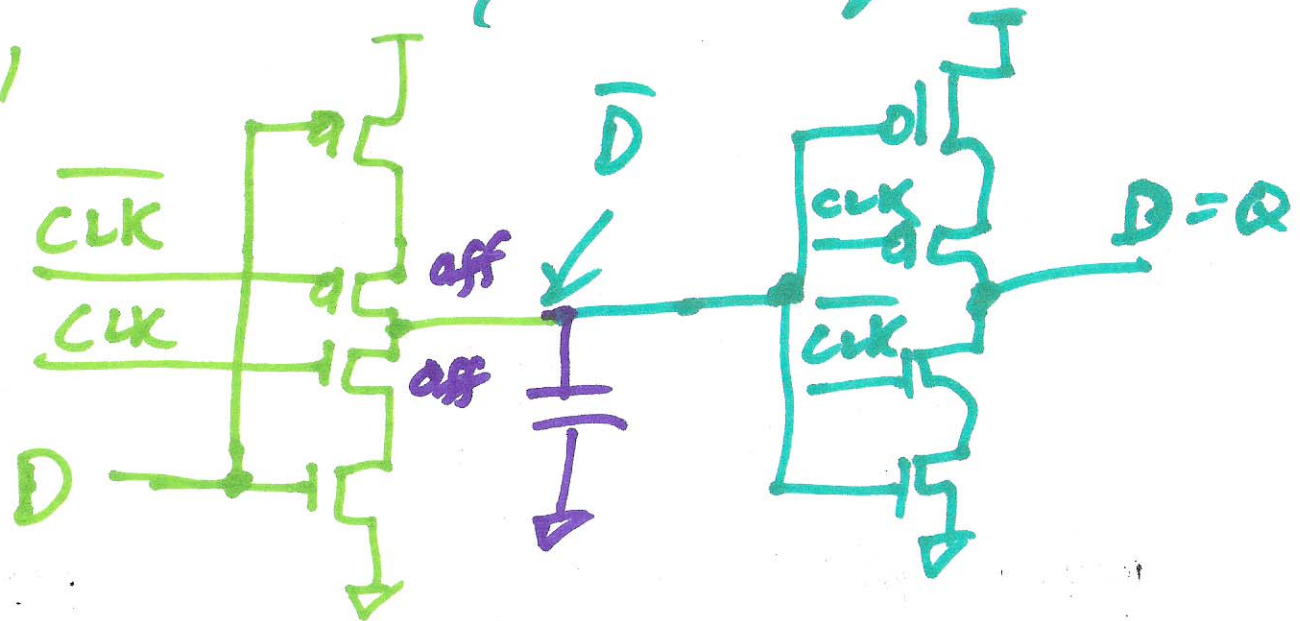


1)

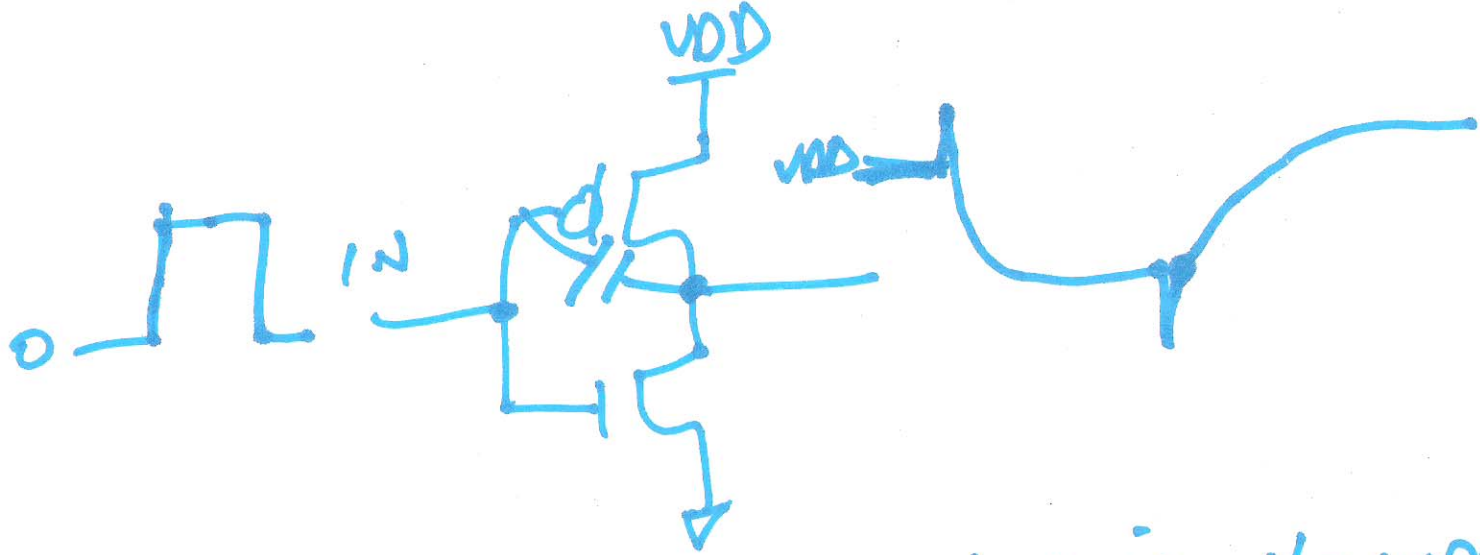


CLK = 0  
CLK = 1

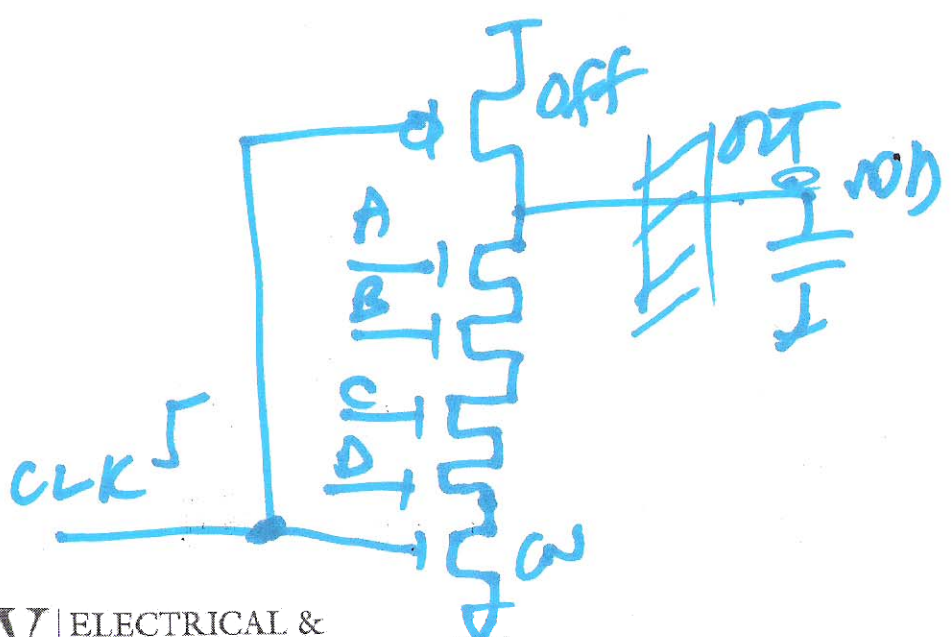
CLK = 0  
CLK = 1



2)



Implement a dynamic 4-input NAND  
pre-charge evaluate

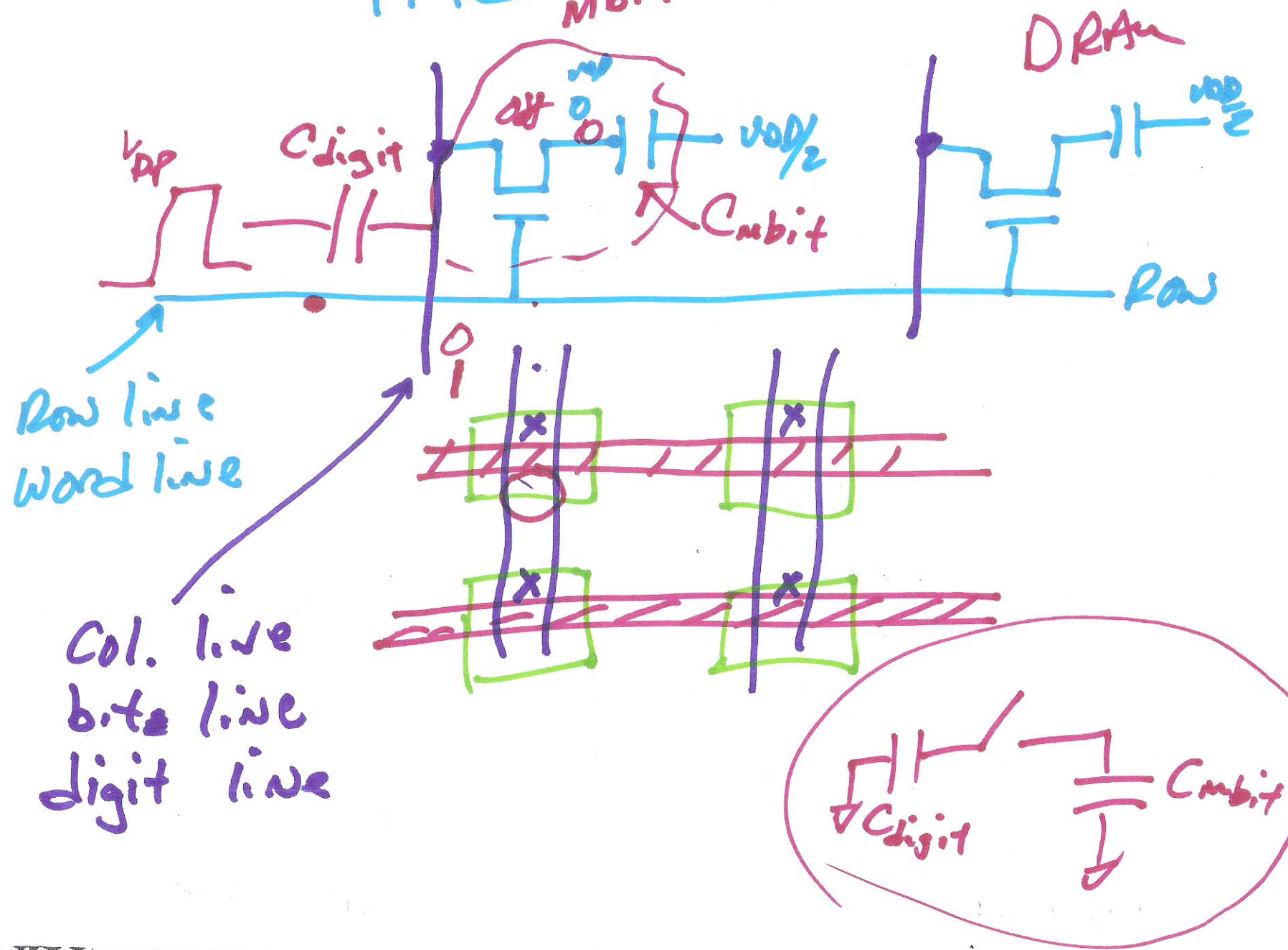


CLK = 0  
precharge out  
to VDD

CLK = 1  
evaluate  
logic

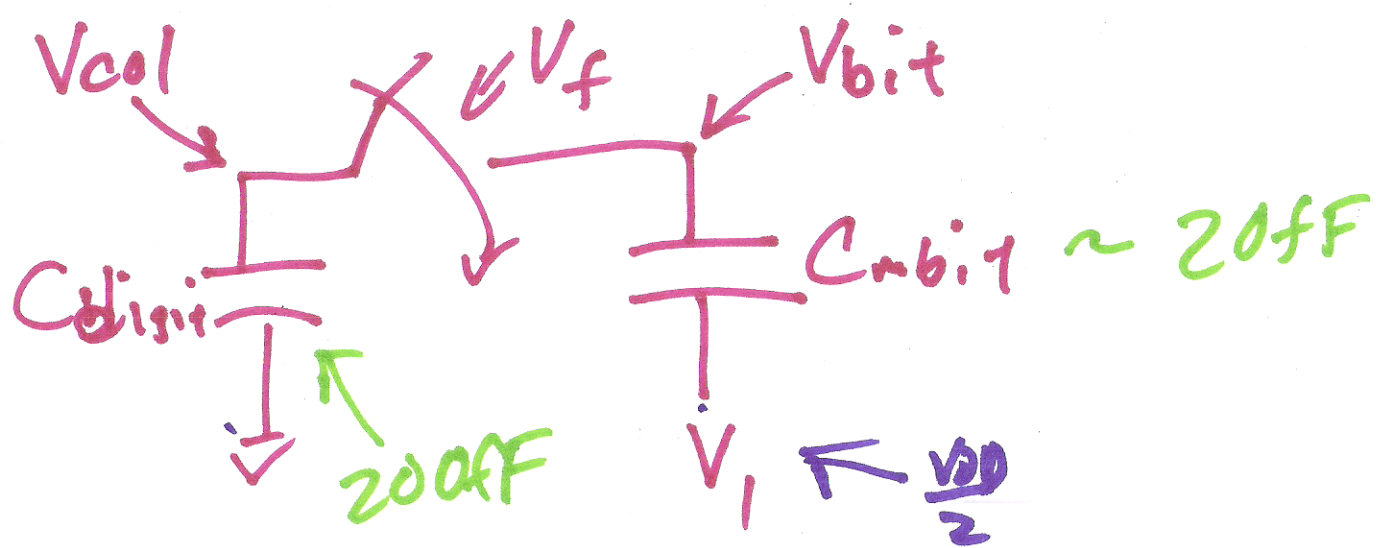
3)

# ITIC $M_{bit} = \text{Memory bit}$



4)





$$V_{col} \cdot C_{digit} + (V_{bit} - V_1) C_{mbit}$$

$$= V_f \cdot C_{digit} + (V_f - V_1) C_{mbit}$$

$$V_{col} \cdot C_{digit} + V_{bit} \cdot C_{mbit} = V_f (C_{digit} + C_{mbit})$$

$$V_f = \frac{V_{col} \cdot C_{digit} + V_{bit} \cdot C_{mbit}}{C_{digit} + C_{mbit}}$$