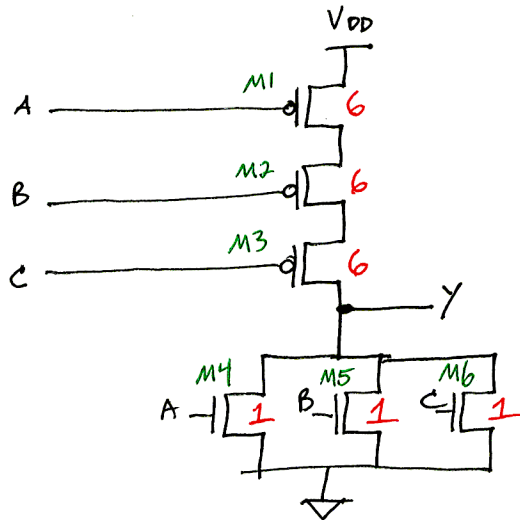
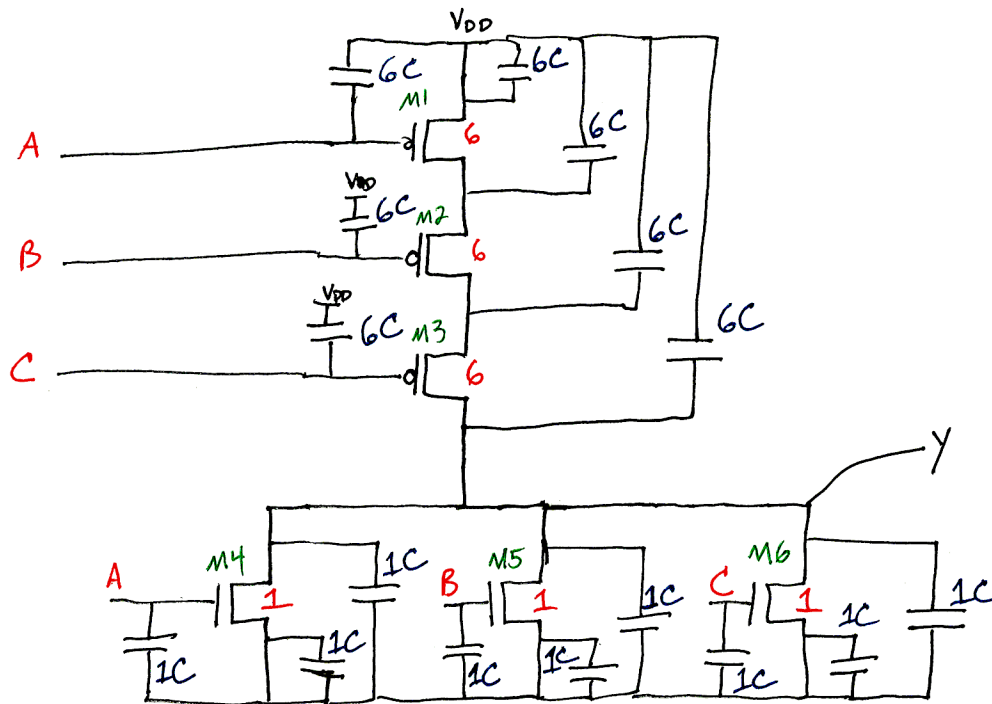


Weste Harris Example 4.2 with NOR gate

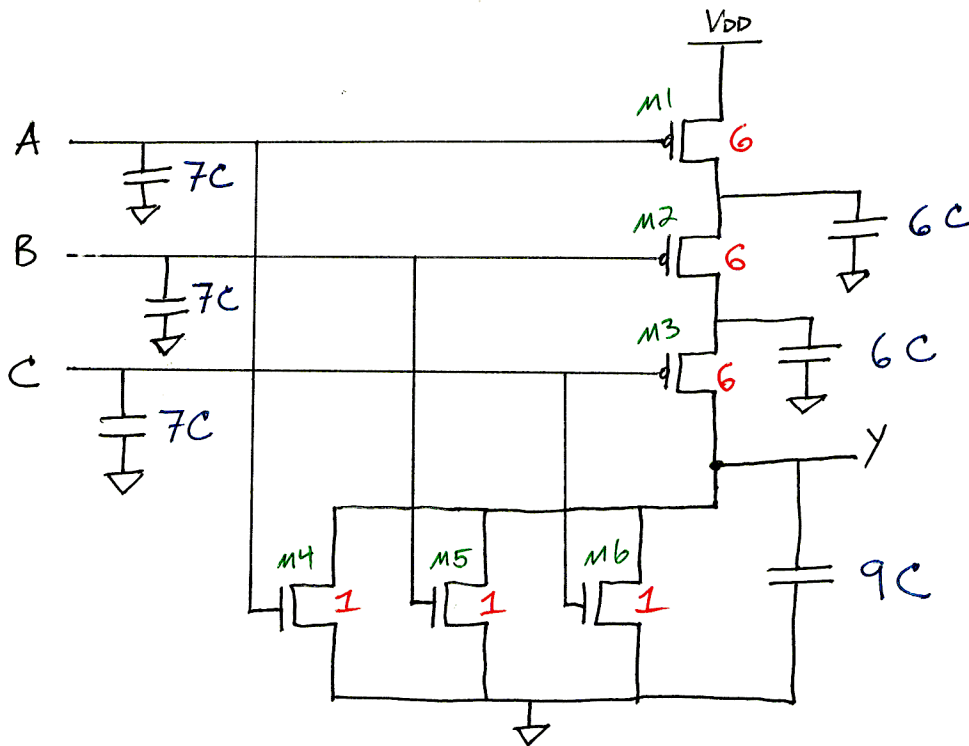
a.) sized NOR to a $3/1$ P/N width inverter



b.) add G, S, D capacitors. assume gate and ^(contacted) diffusion capacitances are the same per width and multiples of $(w_x \cdot C)$



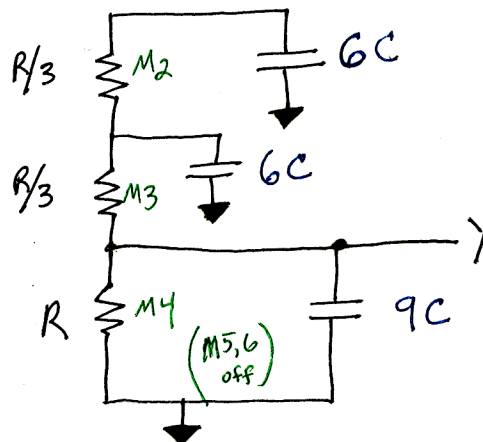
c.) Combine effectively parallel C 's and remove shorted devices.



d.) Falling transition equivalent RC network
Output

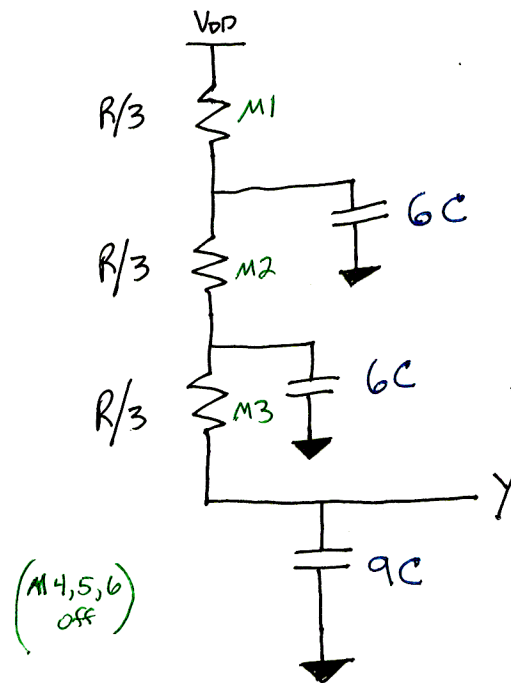
(M1 off)

Worst case is
ABC
100



e.) Rising transition output equivalent RC network

Only case $ABC = 000$



Why does Figure 4.7(b) only include a single $3C$ capacitor at the internal junction?

Using this figure (c) as a reference:

The diffusion contact at the drain of $M1$ is shared with the contact to the source of $M2$.