COURSE REAPER PROBLEMS

(32) Implement the following Boolean functions in CMOS. Report the total number of transistors used in each. [use the minimum number possible.]

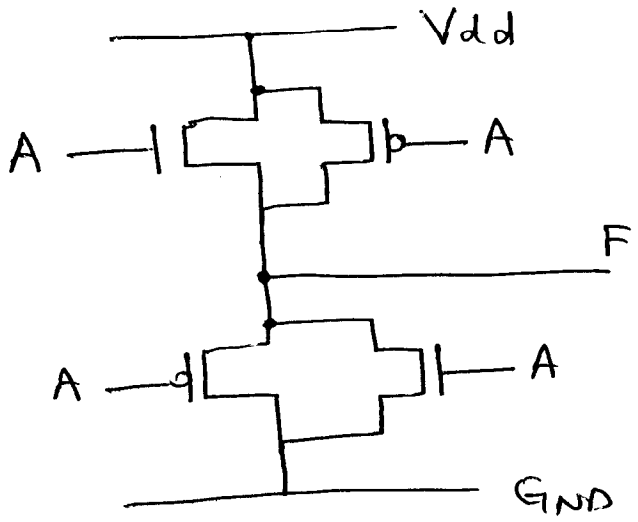
(a) $F_1 = (A \cdot B)'$ (NAND)

(b) $F_2 = A \cdot B$ (AND)

(c) $F_3 = A \cdot B + C$

(d) $F_4 = (A' + B) \cdot (C + D)$.

(33) Your friend suggests the following structure for a NOT gate: (to implement $F = A'$).



(a) Will this work correctly?

(b) Point out any problems you see with this.