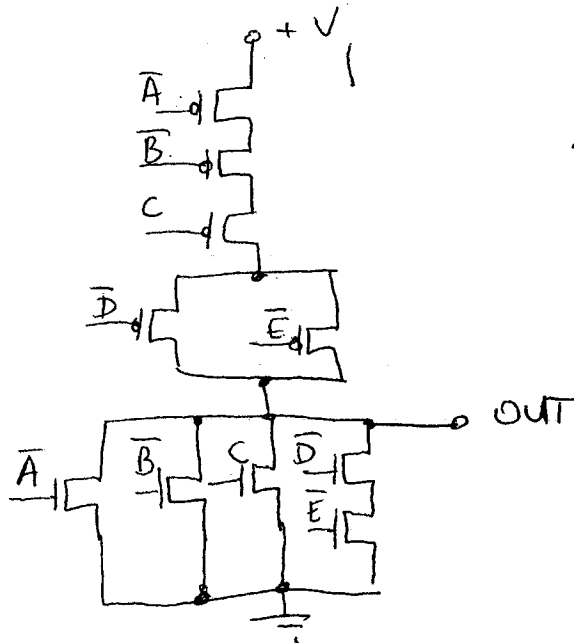


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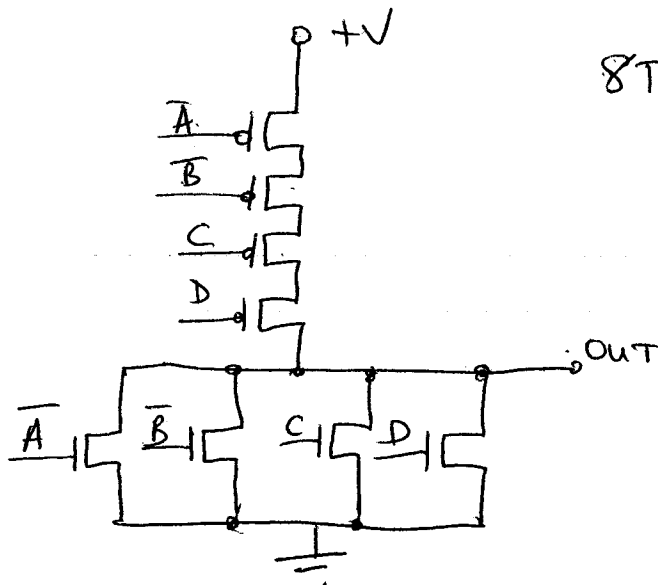
# Homework 1 Solutions

1. a)  $F = ABC(D+E)$



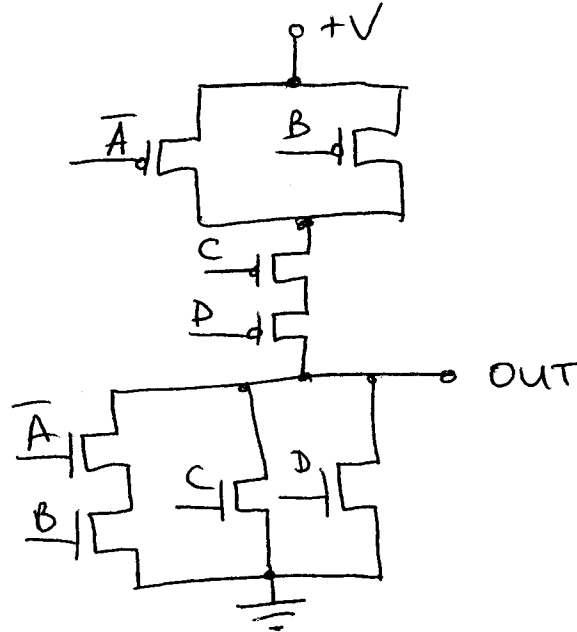
$10T + 8T = 18T$

b)  $F = ABC + D = AB\overline{C} + D$



$8T + 4T = 12T$

$$c) F = (A + \bar{B}) \overline{C + D} = (A + \bar{B}) \bar{C} \bar{D}$$



$$8T + 2T = 10T$$

$$2 a) F = \overline{A(B + \bar{C}D)}$$

$$= \bar{A} + \overline{B + \bar{C}D}$$

$$= \bar{A} + \bar{B}CD$$

$$b) F = \overline{(A + \bar{B})(C + \bar{D})}$$

$$= \overline{A + \bar{B}} + C + \bar{D}$$

$$= \bar{A}\bar{B} + C + \bar{D}$$

$$c) F = \overline{\bar{A}\bar{B} + \bar{C}\bar{D}}$$

$$= \overline{\bar{A}\bar{B}} \overline{\bar{C}\bar{D}}$$

$$= AB(C + D)$$