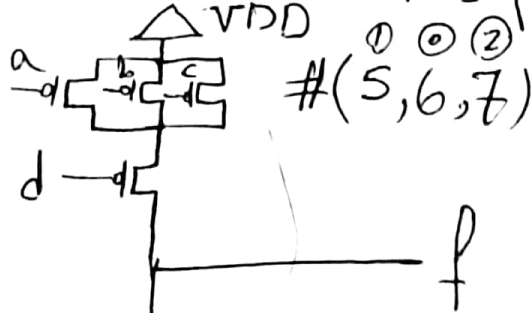


علی صفا پر - شماره دانشجویی ۹۹۴۹۳۱۴۷ - کوشش شماره یک درس مدار منطقی

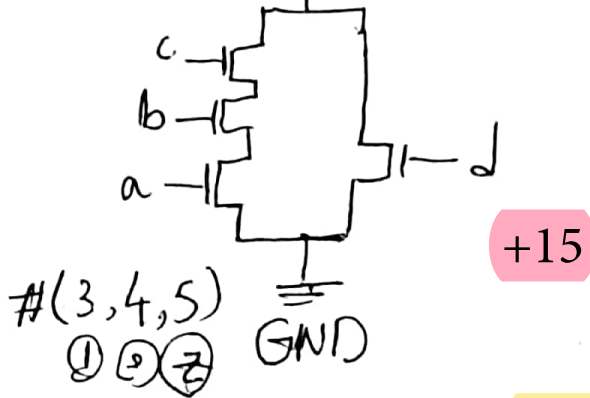
سوال ۱ - نسبت الف

$$f = abc + d \rightarrow f = \overline{(\bar{a} + \bar{b} + \bar{c})} \cdot \bar{d} \quad \bar{f} = (\bar{a} + \bar{b} + \bar{c}) \cdot d$$



to 0  $\rightarrow \text{Max}(\underbrace{12}_{N_{mos}}, \underbrace{10}_{P_{mos}}) = 12$  -10

to 1  $\rightarrow \text{Max}(\underbrace{12}_{N_{mos}}, \underbrace{12}_{P_{mos}}) = 12$  -10



+15

B نسبت

-5 for didn't implement not gate