

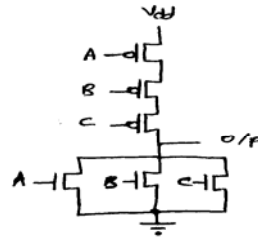
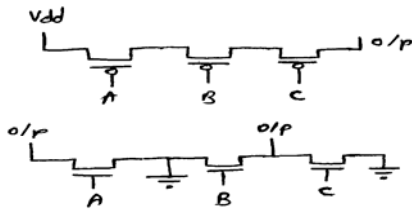
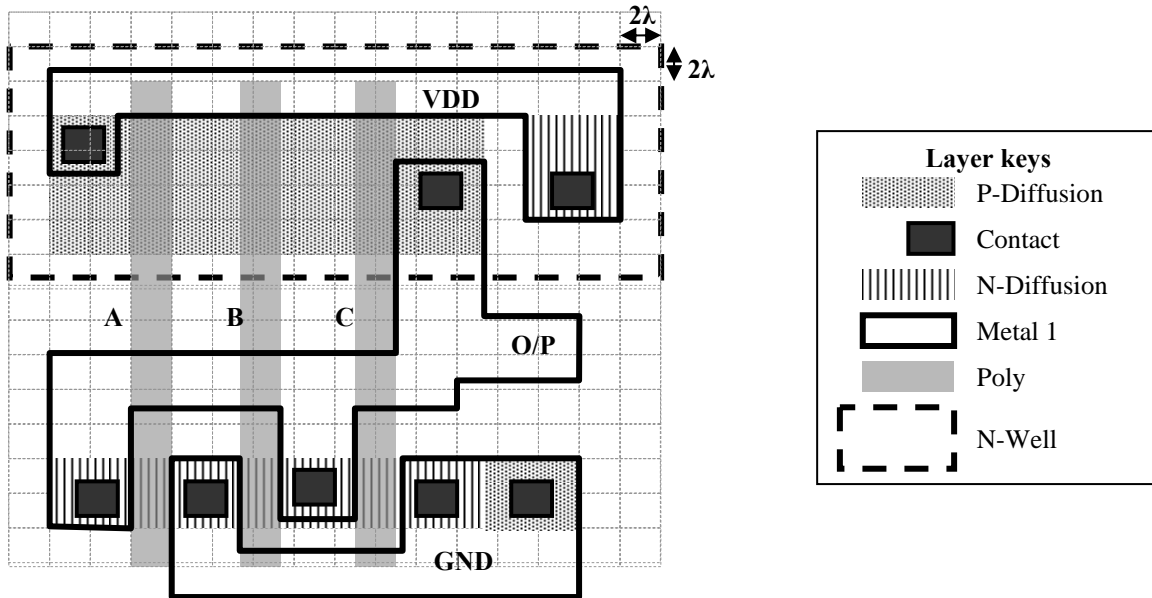
Name: KEY

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COE 360, Term 071
Principles of VLSI Design
Quiz# 4

Date: Saturday, Nov.24, 2007

Q1. Determine the function implemented by the layout given below. Determine the Width and Length of each transistor assuming that $\lambda = 0.5 \mu$.

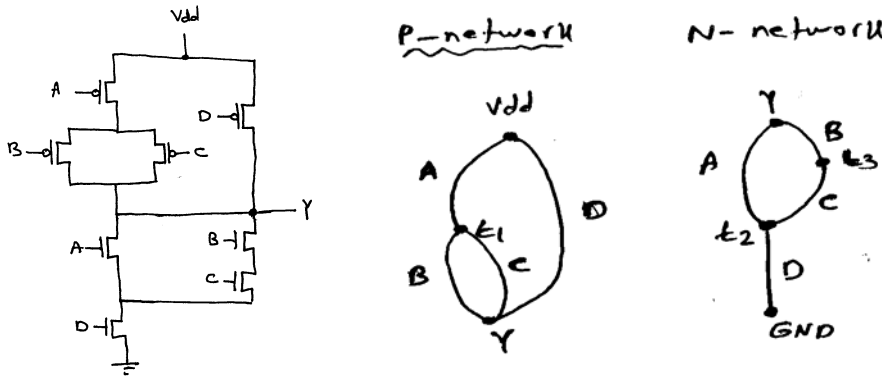


$\Rightarrow o/p = (A+B+C)'$

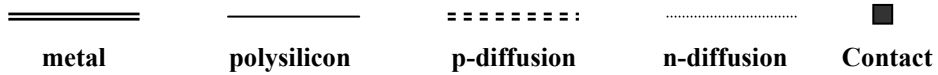
For pmos transistors: $w = 4 \times 2\lambda = 4 \mu$
 $L = 2\lambda = 1 \mu$

For nmos transistors: $w = 2 \times 2\lambda = 2 \mu$
 $L = 2\lambda = 1 \mu$

Q2. Draw the stick diagram layout of the transistor-level circuit shown below using one metal layer (Do not change the circuit structure). Show the n- and p-networks, and the Euler paths you identify. **Minimize the wire lengths and the contact cuts used.**



Use the following legend in the stick diagram layout:



Common Euler Path: {D, A, B, C}

