Problem 1. Circuit Layout

Draw the corresponding transistor diagram for the circuit layout.
Solution:

1. Circling the transistors:

2. Converting to the circuit:
Problem 2. Transistor Circuit to Equation

Complete the following CMOS schematic with inputs $a, b, c, d, e$ and output $f$. Also, write a Boolean expression of the output $f$.

Solution:
Function:

\[ f = (ab + cd + aed + bce)' \]  \hspace{1cm} (1)
Problem 1. Equation to Transistor Circuit

1. Write a CMOS diagram for \( f = a'b' + b'c' + c'a' \)

Solution:

Function:
\[
 f' = (a + b)(b + c)(c + a) = ab + bc + ca = a(b + c) + bc
\]  
(2)

Schematic: