Homework #1 Solutions

(i) Problems from Mano's book:

10-13.

(a) Four-input NAND CMOS gate

(b) Four-input NOR CMOS gate

10-16. A master-slave D FF using transmission gates and inverters.

(ii) \( Y = (A(B+C))' \)

(iii) \( Y = (AB+CD+AED+CEB)' \) using only 5 n-type and 5 p-type MOS transistors.
(iv) The circuit functions as a tri-state buffer: