

In the Weste/Harris textbook: Chapter 6 questions shown below

- 6.3 Sketch a schematic for a 12-input OR gate built from NANDs and NORs of no more than 3 inputs each.
- 6.17 A static CMOS NOR gate uses 4 transistors, while a pseudo-nMOS NOR gate uses only 3. Unfortunately, the pseudo-nMOS output does not swing rail to rail. If both the inputs and their complements are available, it is possible to build a 3-transistor NOR that swings rail to rail without using any dynamic nodes. Show how to do it. Explain any drawbacks of your circuit.
- 6.19 Sketch a pseudo-nMOS gate that implements the function

$$F = \overline{A(B + C + D) + E \cdot F \cdot G}.$$

- 6.26 Sketch a 3-input CVSL OR/NOR gate.
- 6.28 Sketch a 3-input dual-rail domino OR/NOR gate.
- 6.29 Sketch a 3-input dual-rail domino majority/minority gate. This is often used in domino full adder cells. Recall that the majority function is true if more than half of the inputs are true.