Subsystems : Adder (3G)

Transistor Level Design

Please send corrections (or suggestions) to youngwlim@hotmail.com.

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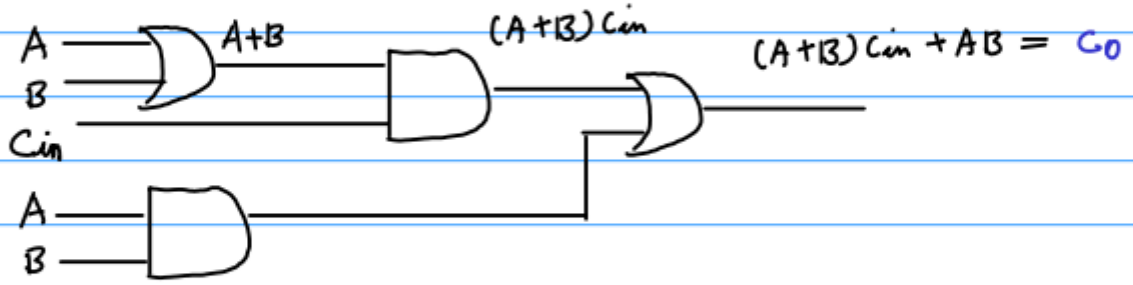
Subsystem Examples

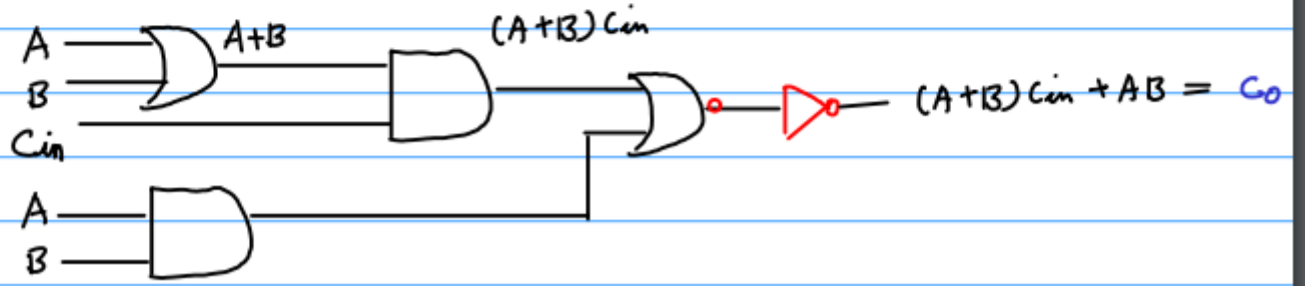
Adders
Multipliers
Memories
Clock
PLL
DLL
I/O

4-bit Binary Adder

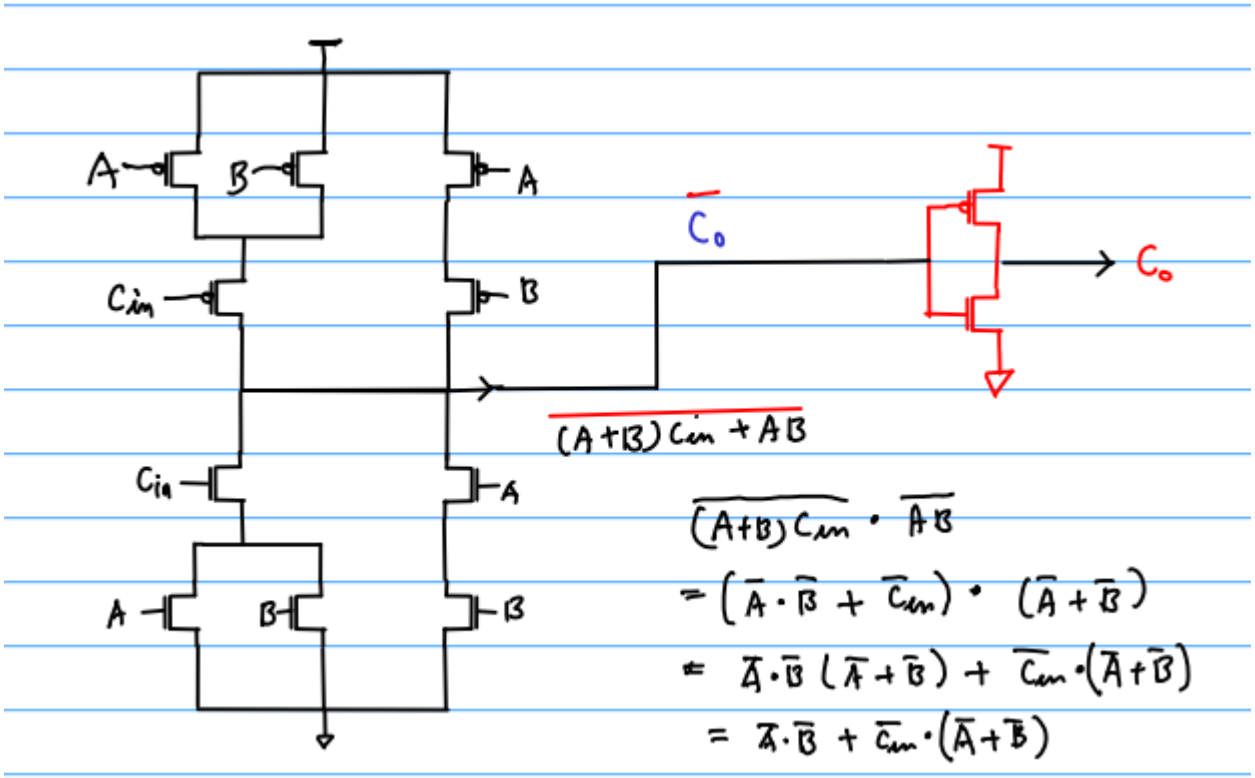
$$C_o = AC_i + BC_i + AB$$

$$S = \overline{C}_o \cdot (A + B + C_i) + A \cdot B \cdot C_i$$





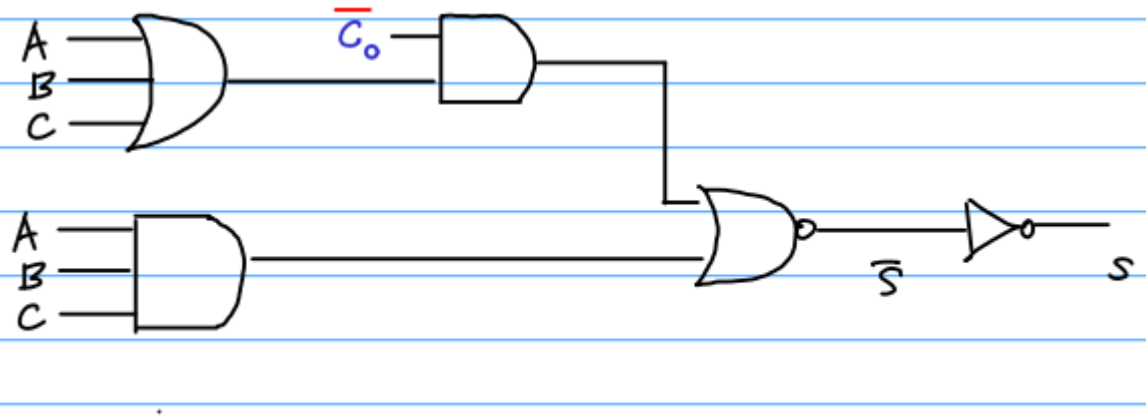
4-bit Binary Adder



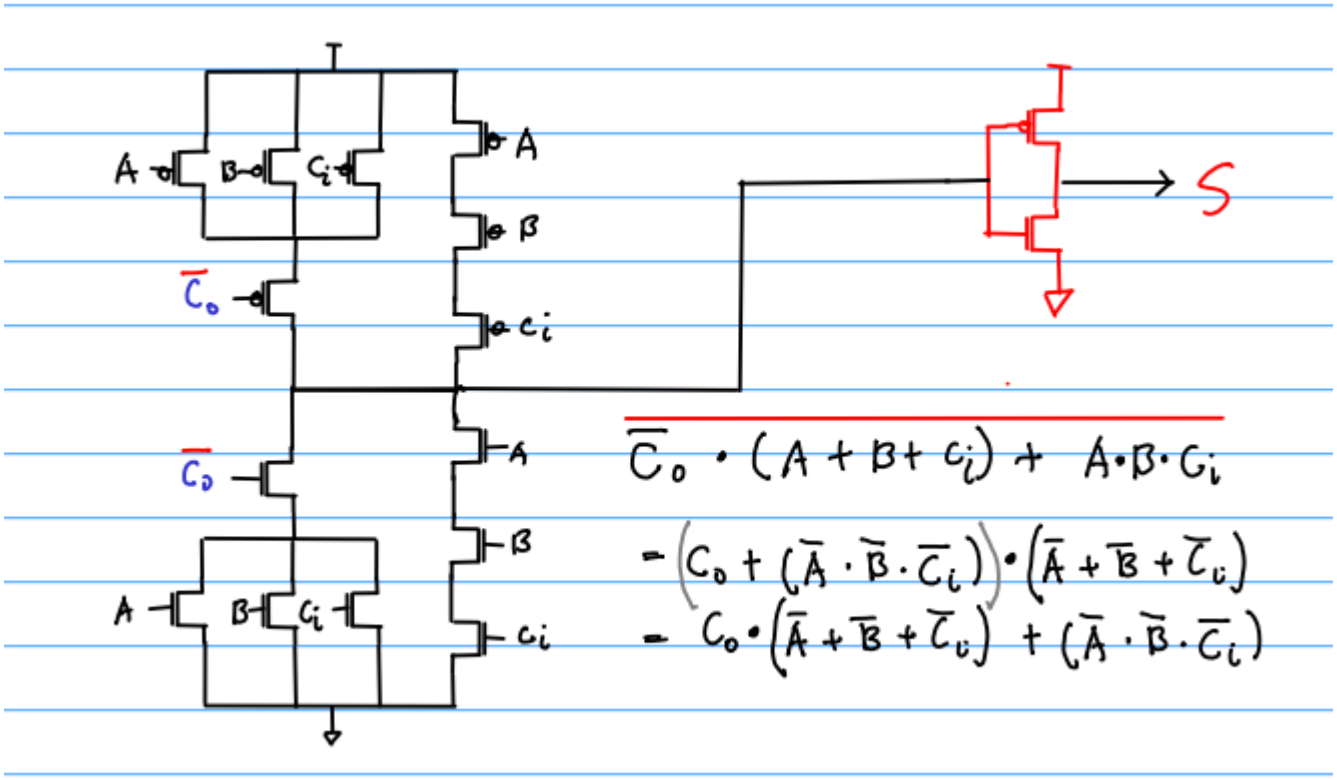
4-bit Binary Adder

$$C_o = A C_i + B C_i + AB$$

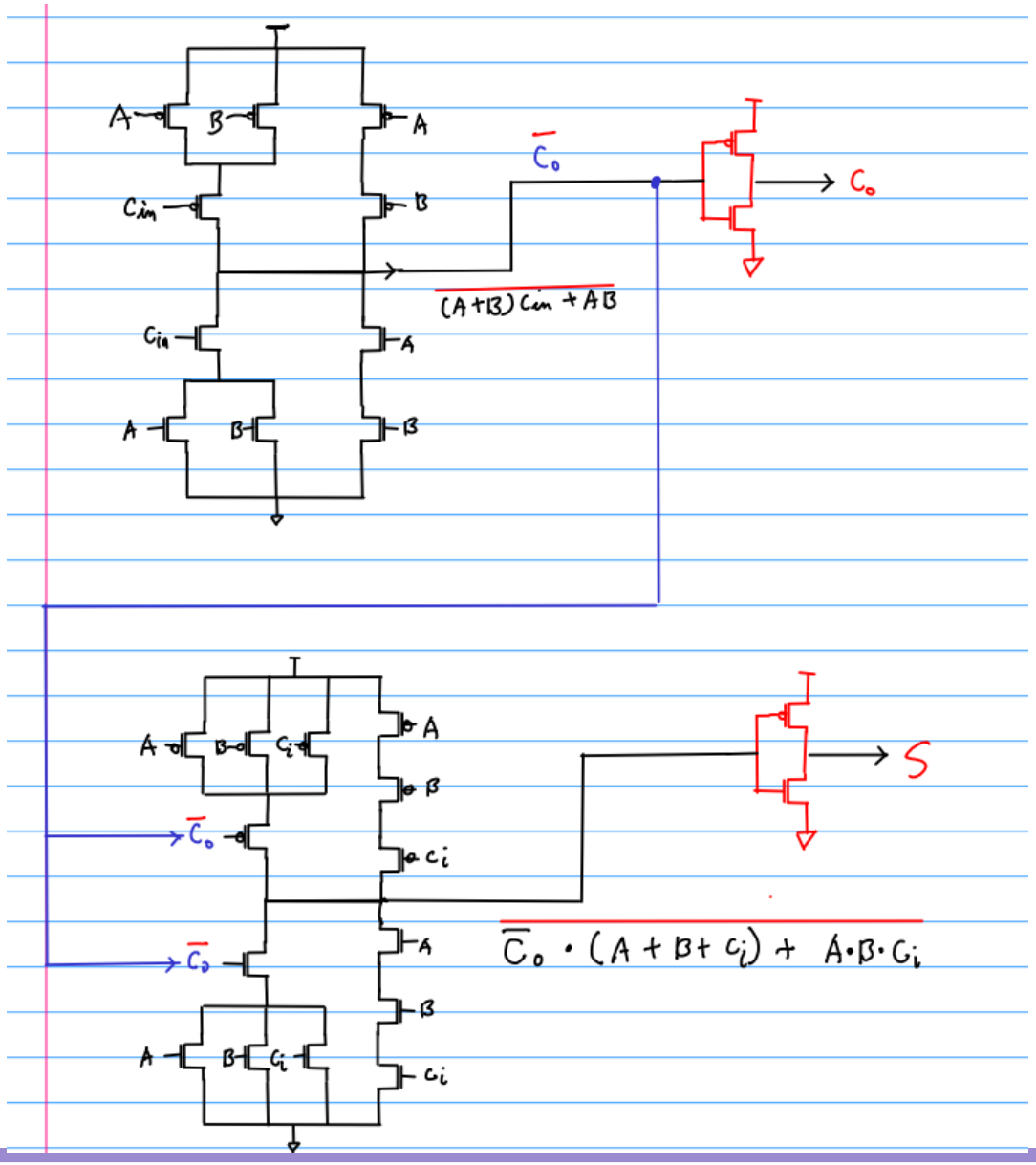
$$S = \overline{C}_o \cdot (A + B + C_i) + A \cdot B \cdot C_i$$



4-bit Binary Adder



4-bit Binary Adder



4-bit Binary Adder

4-bit Binary Adder

References

[1] http://en.wikipedia.org/
[2] http://www.allaboutcircuits.com/
[3] W. Wolf, “Modern VLSI Design : Systems on Silicon
[4] N. Weste, D. Harris, “CMOS VLSI Design: A Circuits and Systems Perspective”
[5] J. P. Uyemura, “Introduction to VLSI Circuits and Systems”
[6] https://en.wikiversity.org/wiki/The_necessities_in_SOC_Design
[7] https://en.wikiversity.org/wiki/The_necessities_in_Digital_Design
[8] https://en.wikiversity.org/wiki/The_necessities_in_Computer_Design
[9] https://en.wikiversity.org/wiki/The_necessities_in_Computer_Architecture
[10] https://en.wikiversity.org/wiki/The_necessities_in_Computer_Organization