Lab 01 Combinational Circuits

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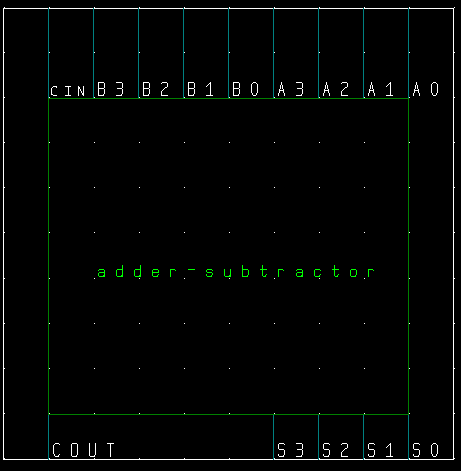
Second Summer 2014

Purpose:

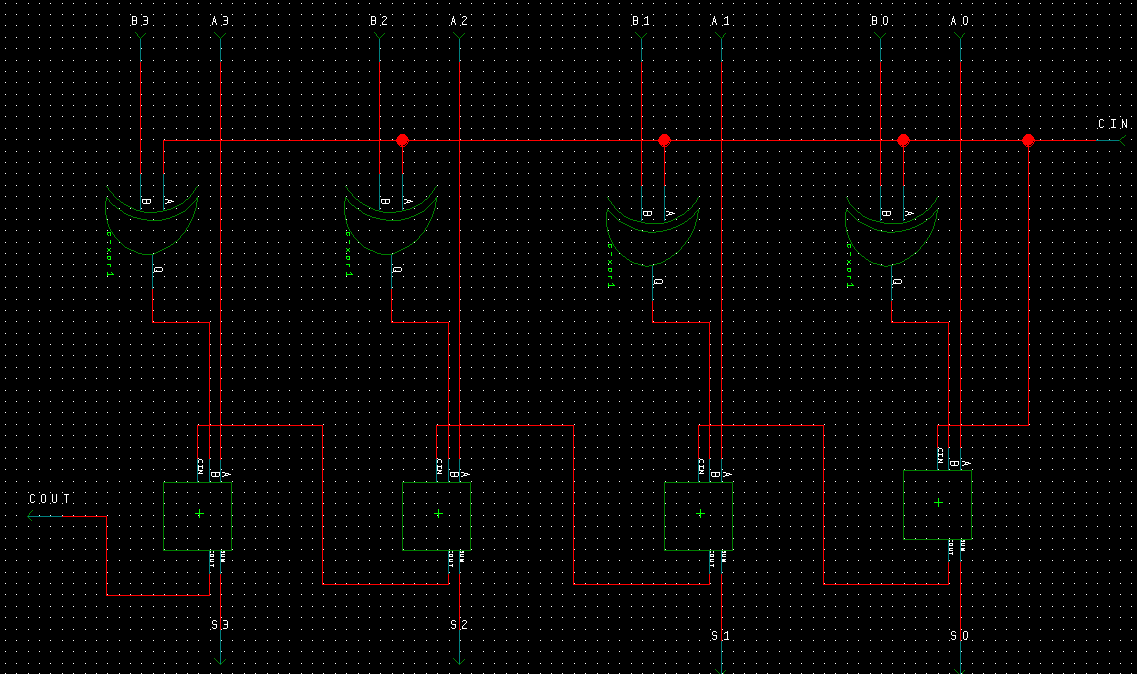
Our purpose was to familiarize ourselves with the eProduct Designer program. Most importantly, how to format the command file so we can do the simulations, and go through the difference between the builtin components and the Motorola (real) components. The rest of the tutorial guides us through finishing our NOT, AND, OR, and XOR gates, then adding it to our library. Using these components and what we learned in the tutorial, we implemented a 1-bit Ripple Adder, 1-bit Fuller adder, and finally a 4-bit Adder/Subtractor.

Analysis:

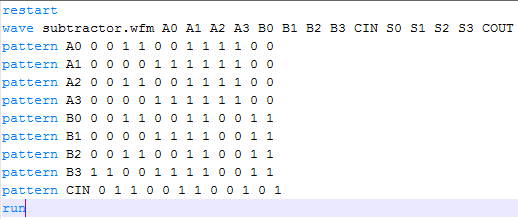
4bit adder / Sub-tractor Symbol



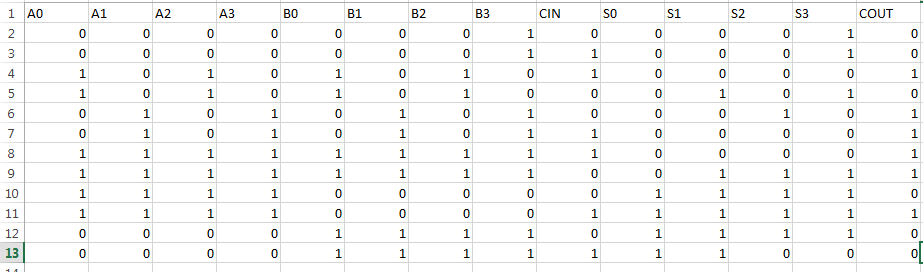
4bit adder / Sub-tractor Schematic



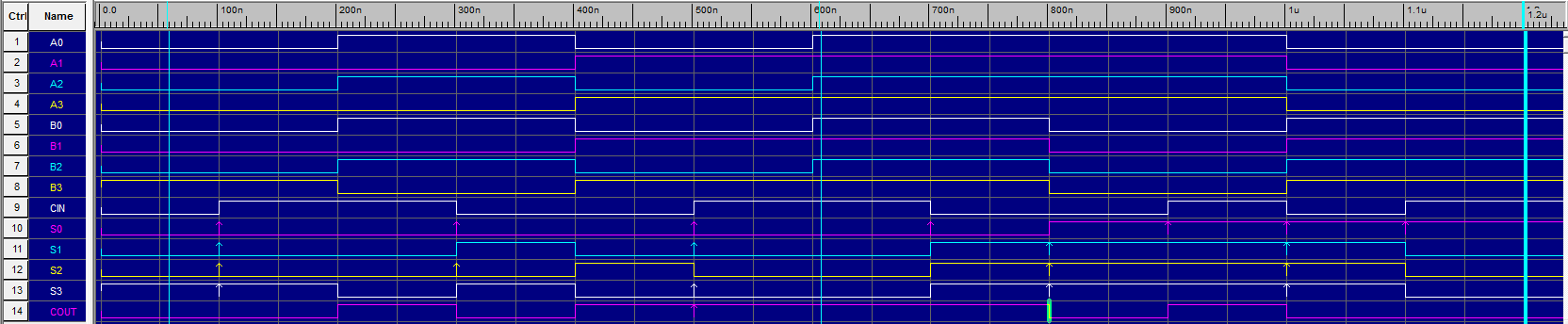
Adder-Subtractor Command File



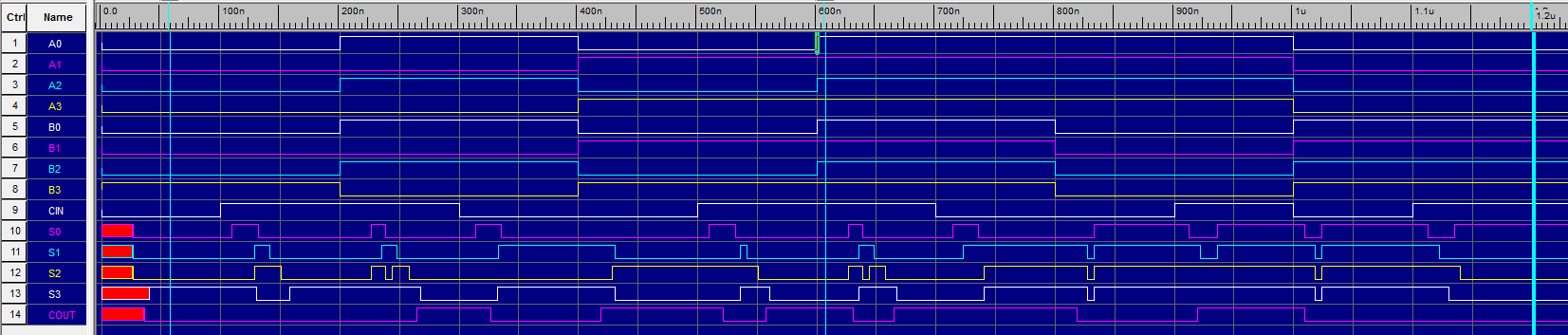
Expected Results



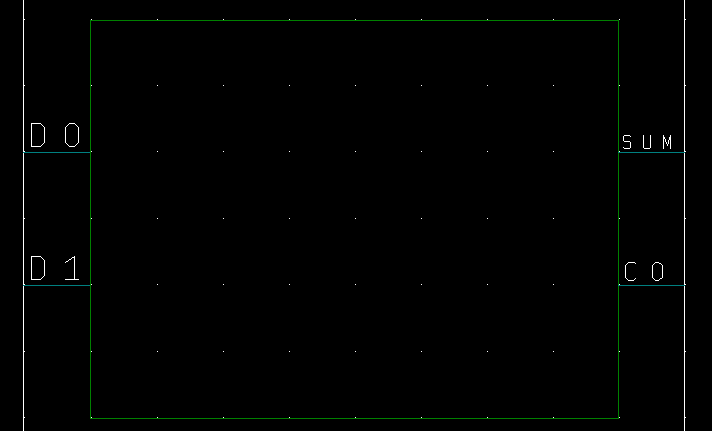
Simulation Screenshot with builtin components



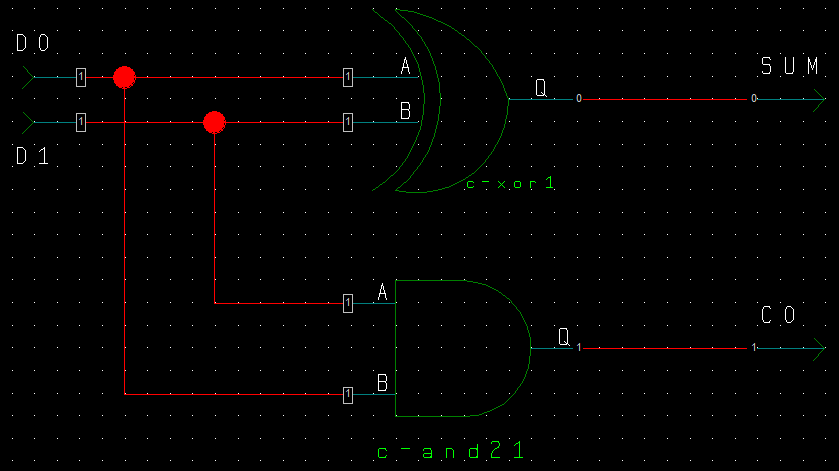
Simulation Screenshot with Motorola(real) components



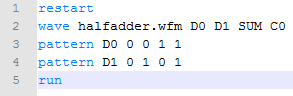
1 bit adder (half adder) Symbol



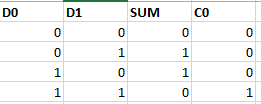
1 bit adder (half adder) Schematic



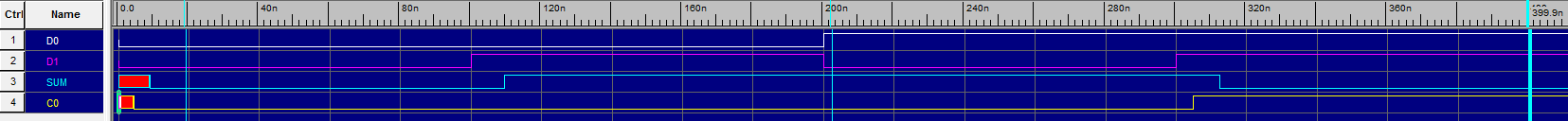
1 bit adder (half adder) Command File



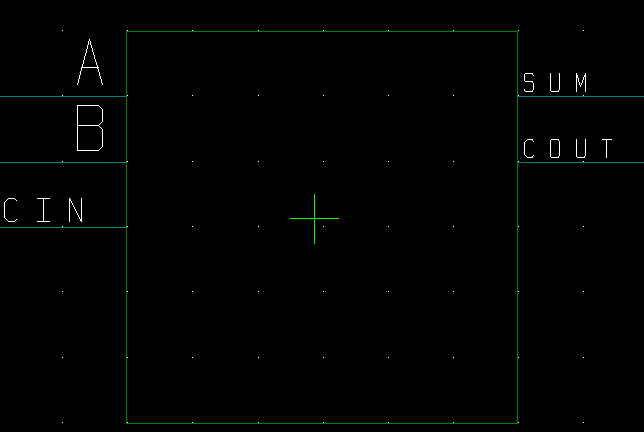
Expected Results



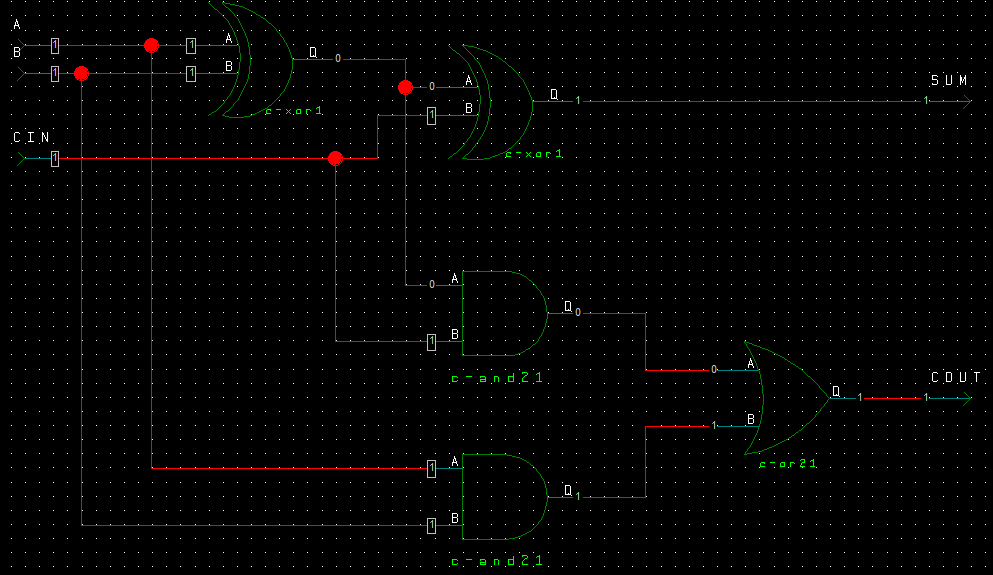
Simulation screenshot with **Motorola (real)** components



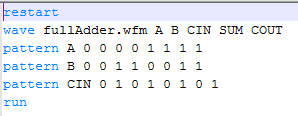
Full Adder Symbol



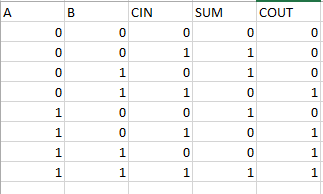
Full Adder Schematic



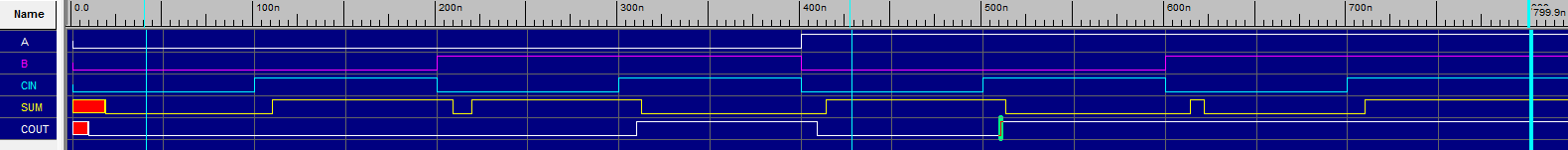
Full Adder Command File



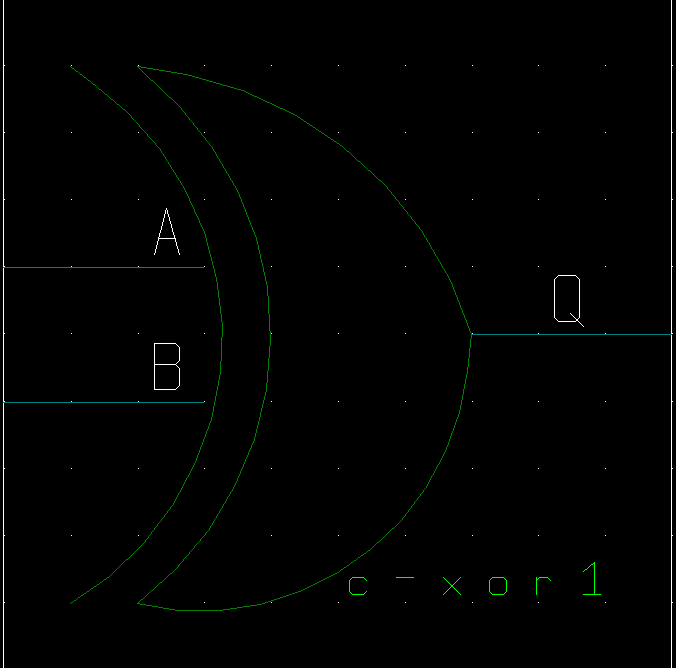
Full Adder Expected Results



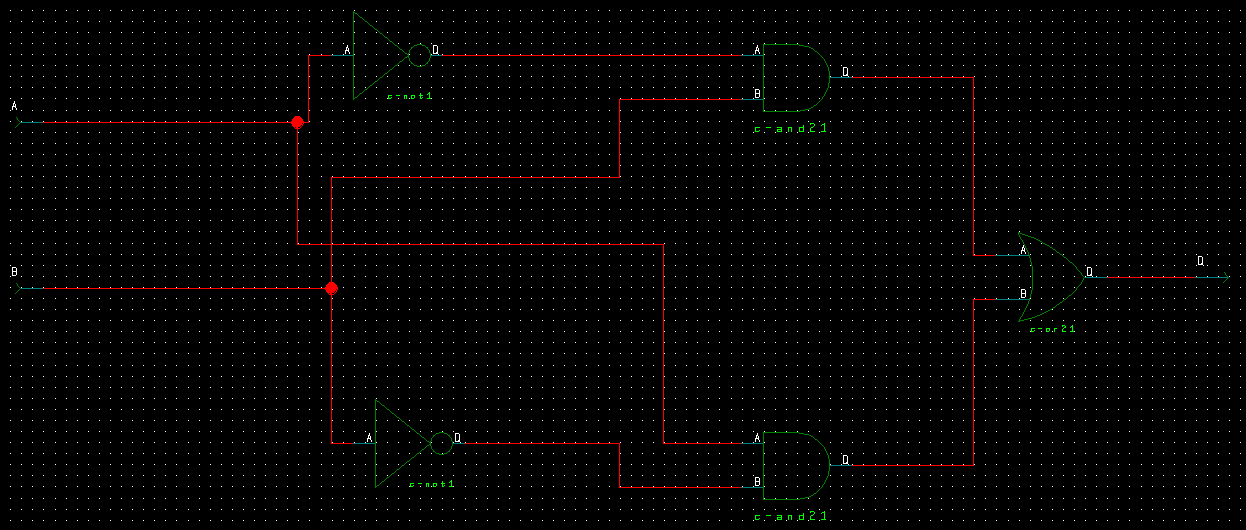
Full Adder Simulation Result (real)



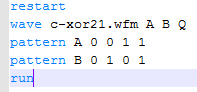
Xor gate Symbol



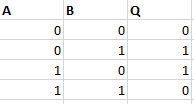
Xor gate Schematic



Xor gate Command File



Xor gate Expected Results



Simulation screenshot with **Motorola (real)** components

