

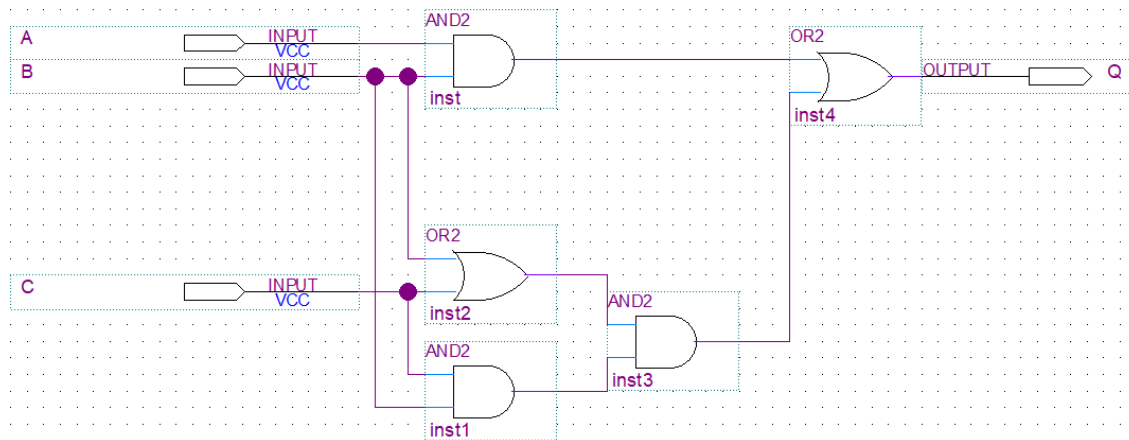
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Instructor's comments:			

Introduction / Theory of operation

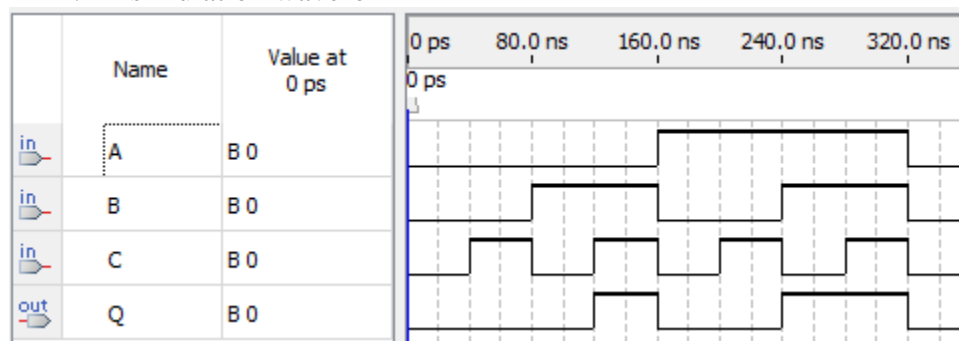
Lab 4 is about combinational circuit design of a full adder. Through this lab, we are expected to develop the ability to write a Boolean Expression for a given logic circuit, apply rules of Boolean Algebra, be able to reduce the expression to its simplest form, construct the circuits, prove that the two circuits are similar in a truth table, and finally gain understanding of delay and power consumption.

Prelab main content

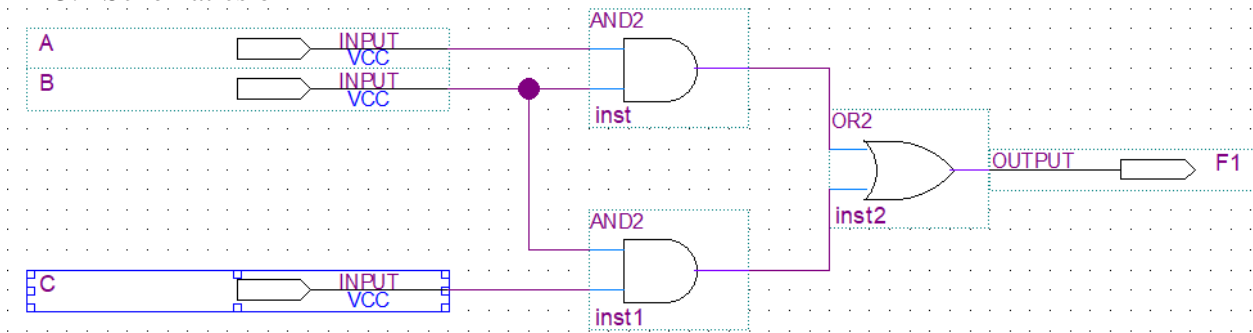
1. Schematics of F



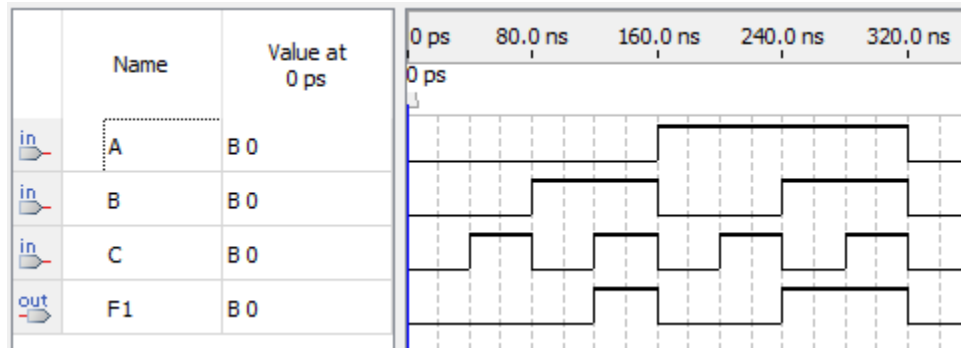
2. F simulation waveform



3. Schematics of F1



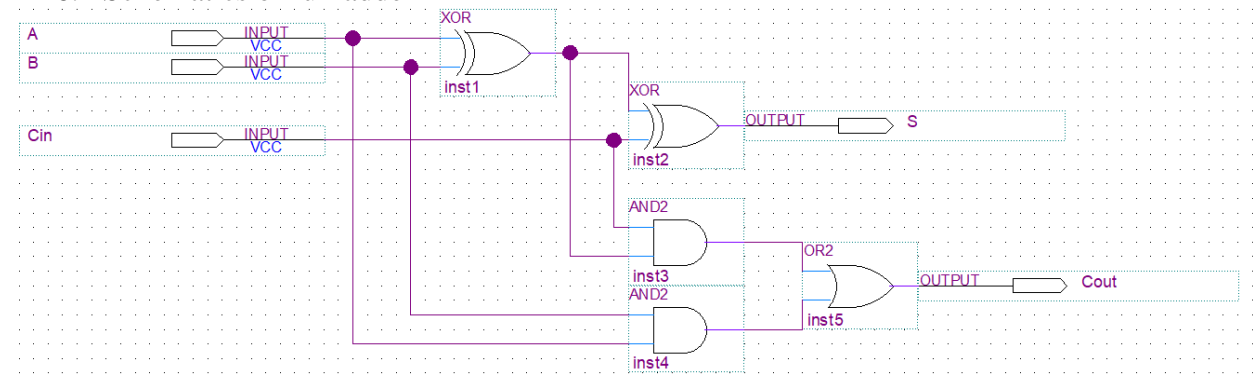
4. F1 simulation waveform



5. Comparison of waveforms for F and F1:

As shown above, the waveforms for both F and F1 are the same. The function for F1 is just simplified and the schematic for F1 is also much simpler than the schematic for F.

6. Schematics of full adder



7. Full adder simulation waveform

