University of California, Irvine Fall 2016

EECS 119: Design Project 3

Design of a Four Bit Adder/Subtractor

1. Given two 4-bit positive binary numbers A and B, you are to design an adder/subtractor circuit to compute (A+B) or (A-B), depending upon a mode input which controls the operation. You may use one's or two's compliment of B to perform subtraction. The result with the proper sign is to be displayed in un-complemented binary form.
2. Obtain complete **layout** of the designed circuit.
3. Simulate the **layout** and demonstrate that the layout works and generates the correct output.
4. You may work in groups with each group containing at most two students.
5. Submit a report containing:
   a. Cover sheet.
   b. Designed circuit.
   c. Complete layout.
   d. Sample results of the simulation.
6. Demonstrate the project to teaching assistant.

Teaching assistants will inform you of details about project submission and demonstration.