Lab #3 Paper Submission

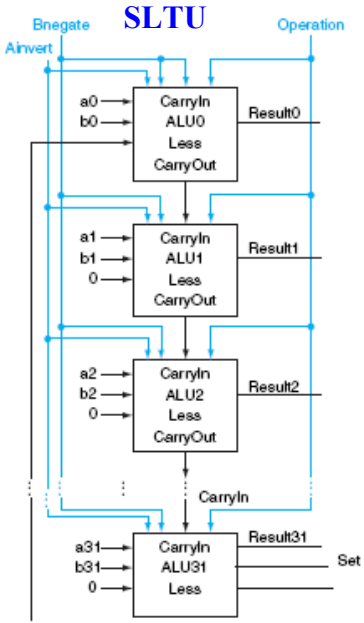
What you have to turn in

Both paper and online submissions are team effort. All team members shall work together and each team member shall be able to answer any question on their submission by the teaching staff.

1 ~~Page 4 of this assignment with your hand-drawn fix.~~ <== Cancelled.

2. Completed table on page 3.

3. Hand-drawn design on the side for the implementation of SLTU (set-less-than-unsigned) , in place of SLT.



4. Short explanation of why the textbook design reproduced on previous page or your design do not amount to committing the "*sin*" of performing a "combinational feedback"?

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5. Online submission of your verilog codes and text files generated

```
submit -user ee457lab -tag puvvada_lab3 alu_4_bit.v alu_output_results.txt
alu_4_bit_different_stimuli_tb.v alu_add_subtract_overflow_results.txt names.txt
```

If you try to perform addition and subtraction with each possible pair of numbers in the range of 0000 to 1111, is it possible to encounter all combinations of overflows (signed overflow true or false *and unsigned overflow* true or false*)?* **Yes!**

Fill-in the table below with such pairs of numbers and use them in your in your alu_4_bit_different_stimuli_tb.v.

Please **avoid using 0000 and 1000** numbers for A and/or B for this part of the exercise.

4-bit A	4-bit B	Decimal Values of A, B				Operation	4-bit Result RESULT	Result Right/Wrong if numbers are treated as signed numbers	Result Right/Wrong if numbers are treated as unsigned numbers	V OVERFLOW	Raw Carry C4 (COUT)
		Signed Numbers		Unsigned Numbers							
		A	B	A	B						
						Addition		Right	Right		
						Addition		Right	Wrong		
						Addition		Wrong	Right		
						Addition		Wrong	Wrong		
						Subtraction		Right	Right		
						Subtraction		Right	Wrong		
						Subtraction		Wrong	Right		
						Subtraction		Wrong	Wrong