CprE 381 – Computer Organization and Assembly-Level Programming

Lab-01 Report

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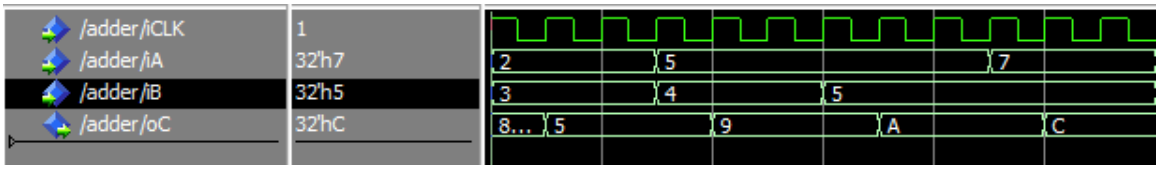
Section / Lab Time 8 / W(9:55-11:45)

Submit a typeset pdf version of this on Canvas by the due date (i.e., the start of your next lab section). Refer to the highlighted language in the Lab-01 instructions for the context of the following questions.

a.

Label #	Label Name	Location	Function
1	cA	Quad / Line 49	Coefficient of X^2 term
3	cB	Quad / Line 50	Coefficient of X term
4	cC	Quad / Line 51	Constant term
5	iCLK	Quad / Line 24	System standard clock
29	oY	Quad / Line 26	Output of the quadratic equation
2	iX	Quad / Line 25	Variable input of the equation
21	sVALUE_Ax	Quad / Lines 54 & 70	Signal to track value of A*x
25	sVALUE_Axx	Quad / Lines 56 & 85	Signal to track value of A*x*x
16	sVALUE_Bx	Quad / Lines 54 & 76	Signal to track value of B*x
26	sVALUE_BxpC	Quad / Lines 58 & 91	Signal to track value of B*x + C
31	Quadratic	Quad / Line 22	Entity that encompasses all components
11	g_Mult1	Quad / Line 66	Multiplier of A & X terms
6	iA	Quad 74 / Mult 29	First input term of multiplier
7	iB	Quad 75 / Mult 30	Second input term of multiplier
10	oC	Quad 76 / Mult 31	Output value of multiplier

b.



As parameter values of the adder are changed they are loaded at the next rising edge of the clock then the result is returned at the following rising clock edge taking two cycles in total.

c.

i. How many hours did you spend on this lab?

Task	During lab time	Outside of lab time
Reading lab	1	.5
Pencil/paper design	0	0
VHDL design	.5	1
Assembly coding	0	0

Simulation	.5	.5
Debugging	0	.25
Report writing	0	.75
Other:	0	0
Total	2	3

ii. If you could change one thing about the lab experience, what would it be? Why?

If I could change one thing about the lab experience I would adjust how wave forms are submitted as .wlf are not the most intuitive or easiest to use for beginners .

iii. What was the most interesting part of the lab?

I really enjoyed seeing how multiple simple adding and multiplying components can work together to complete a more complicated task such as a quadratic equation.