Lab 2

ECE 3300 LAB

SECTION 02

Instructor: Mohamed Aly

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Group I

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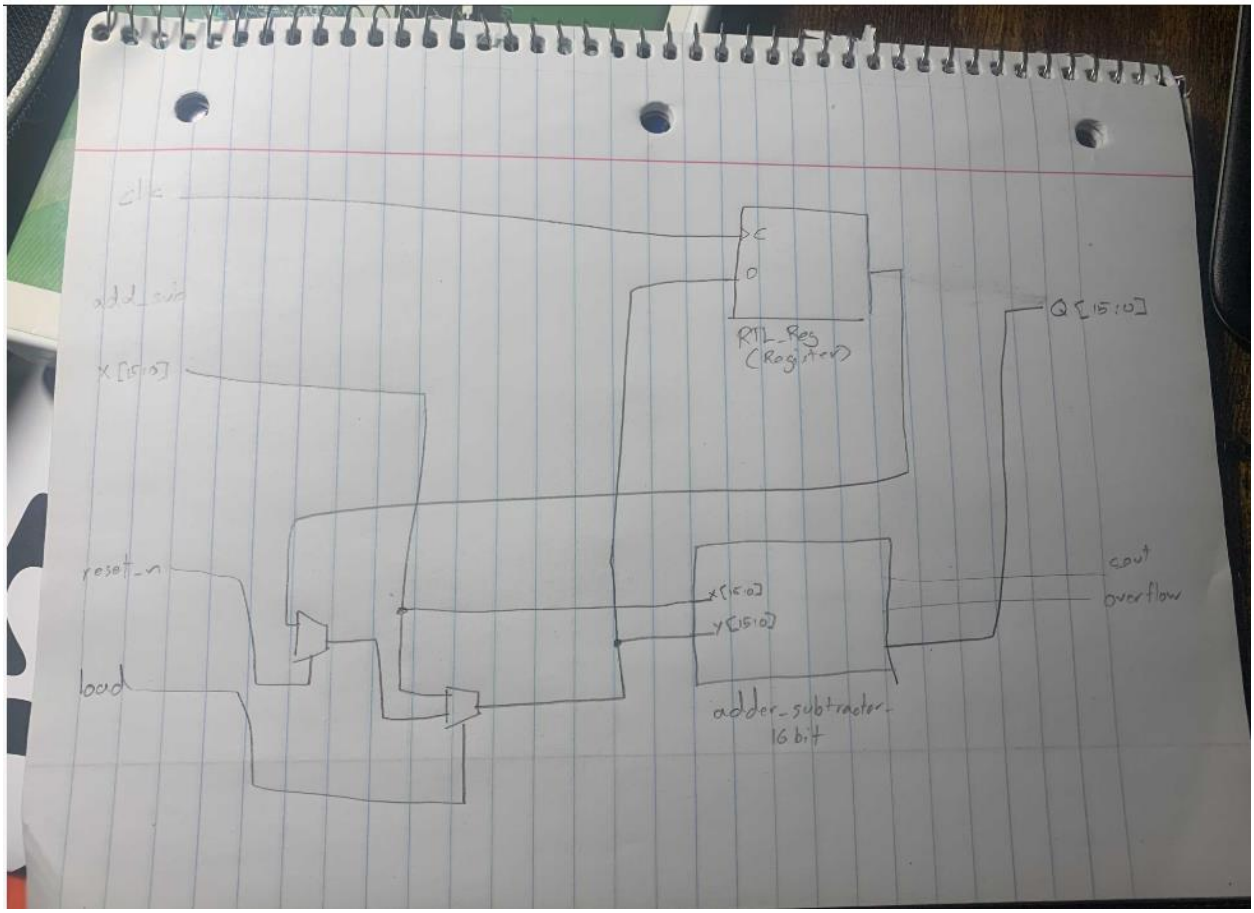
Abstract

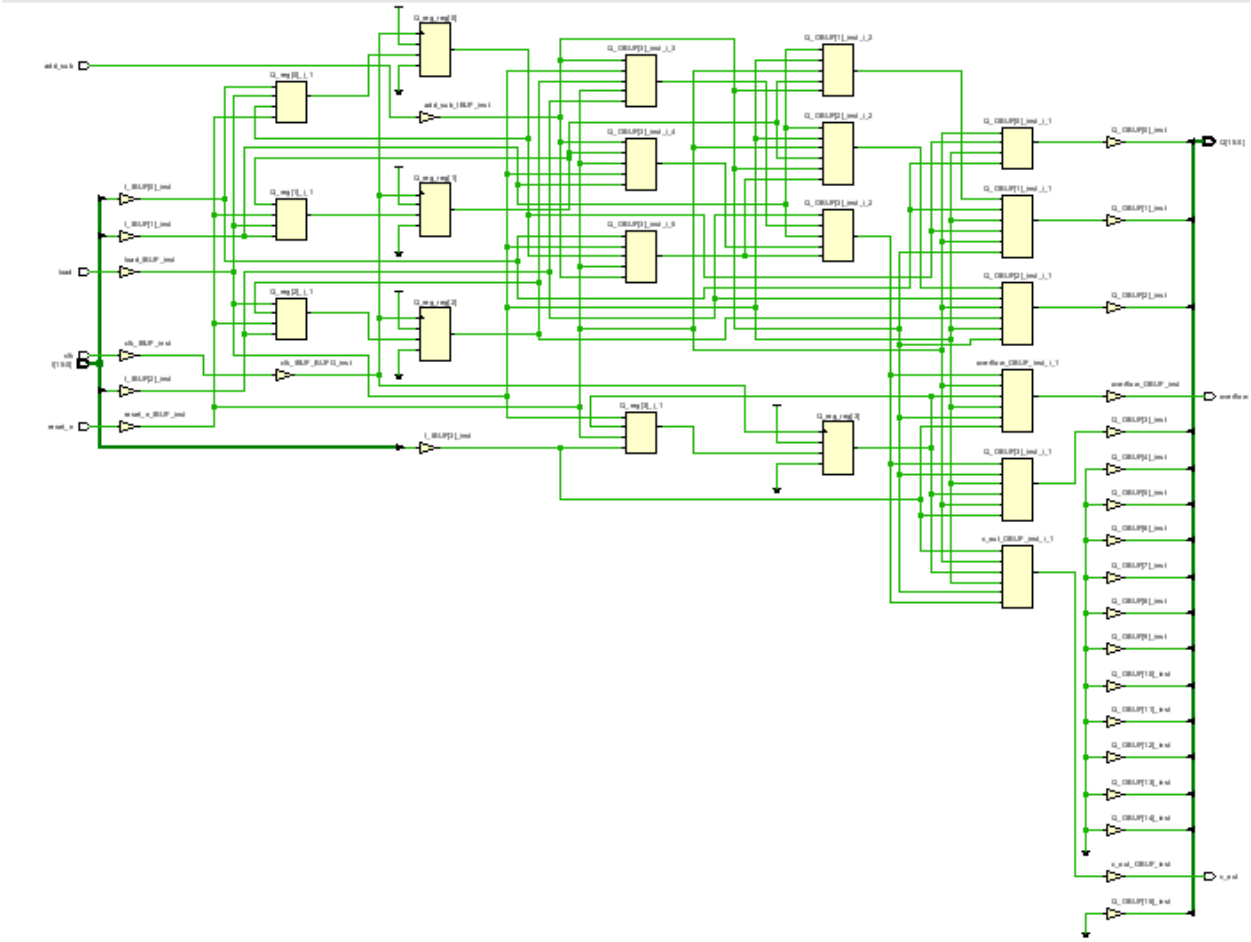
Purpose of the experiment was to create a simple adder/subtractor using all the switches on the Arty 7 FPGA board. Task was to create two 16-bit inputs with three buttons. One button would be used to load in the bits for input A. The second button was used to add the bits inserted from input A and input B. The last button was to reset the board in order to use inputs A and B. Full adder was created using structural modeling then instantiated into 16 bit full adder. From there, adder subtractor was created to add between two inputs. A register was also created to store values from inputs.

Theory: Sketch of Design

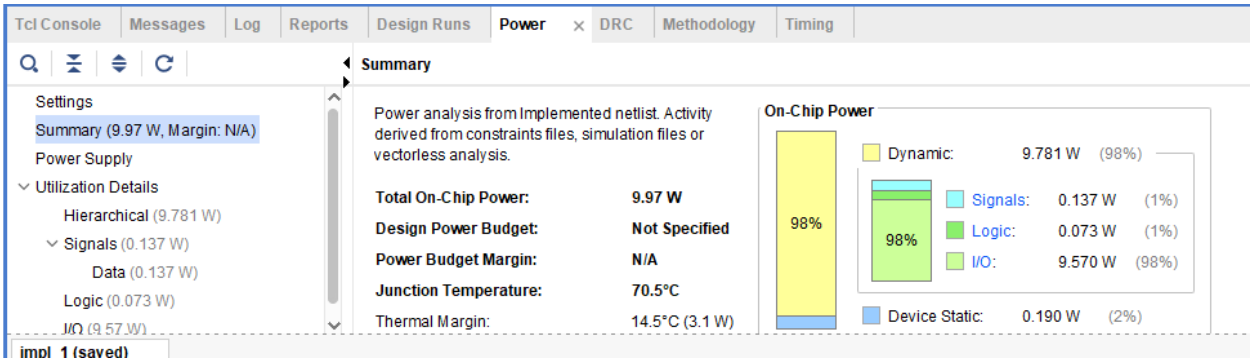


Area/Resources Information

Elaborated Design



Power Usage



Post-Implementation Resource Utilization

Name	Constraints	Status	WNS	TNS	WHS	THS	TPWS	Total Power	Failed Routes	LUT	FF	BRAM	U
✓ synth_1	constrs_1	synth_design Complete!								13	4	0.0	
✓ impl_1	constrs_1	write_bitstream Complete!	NA	NA	NA	NA	NA	9.970	0	13	4	0.0	