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Question 1

Below is our truth table:

A1 (SW7)	A0 (SW6)	B1 (SW1)	B0 (SW0)	Cout (Led2)	S1 (Led1)	S0 (Led0)
0	0	0	0	0	0	0
0	0	0	1	0	0	1
0	0	1	0	0	1	0
0	0	1	1	0	1	1
0	1	0	0	0	0	1
0	1	0	1	0	1	0
0	1	1	0	0	1	1
0	1	1	1	1	0	0
1	0	0	0	0	1	0
1	0	0	1	0	1	1
1	0	1	0	1	0	0
1	0	1	1	1	0	1
1	1	0	0	0	1	1
1	1	0	1	1	0	0
1	1	1	0	1	0	1
1	1	1	1	1	1	0

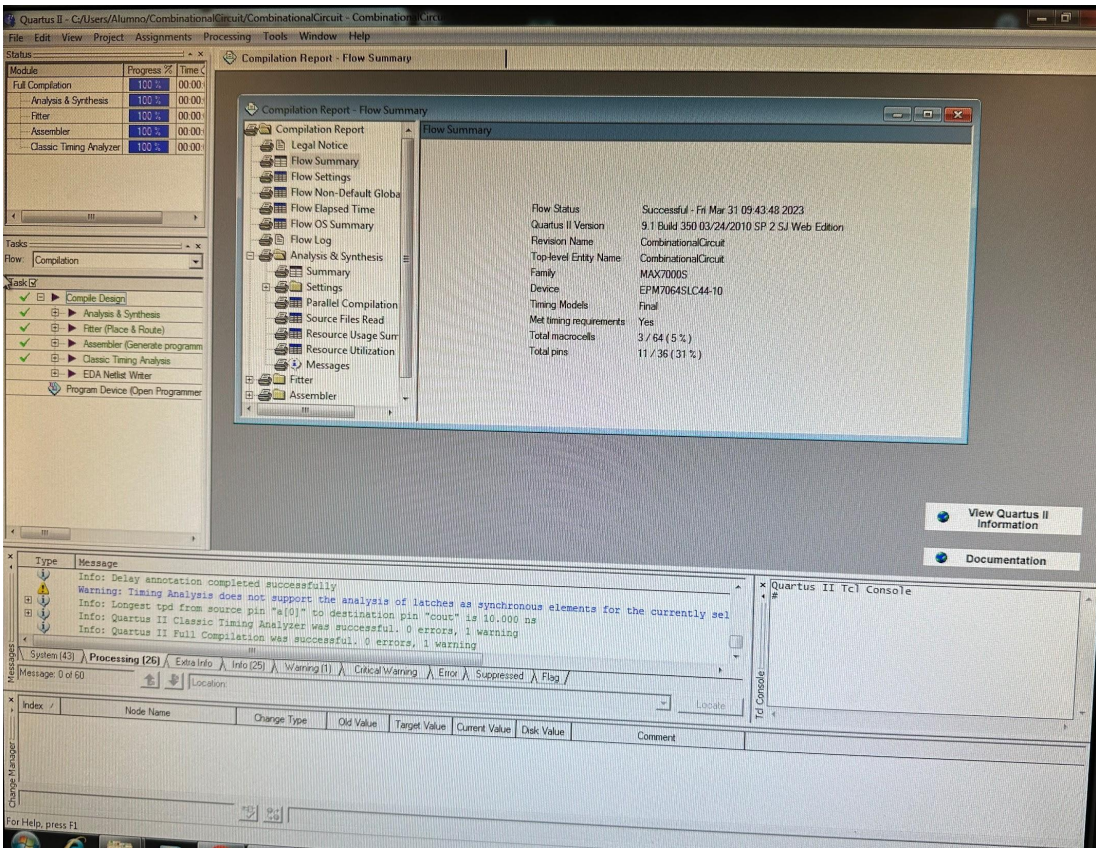
Question 2

The circuit is a full adder that adds two two-bit inputs, according to the truth table. The two-bit inputs are A and B. The three bit output corresponds to Cout, S1, and S0, which is mapped to the Leds.

Question 3

Occupied Logic Cells: 3
Occupation Percentage: 5%

As seen in the picture below:



Question 4

Below is our setup for programming our device and achieving the truth table.