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CDA3201C

Logic Design Course

Lab 0 – First circuit wiring design

Truth Table:

0) [5] This lab experiment is used for the lab orientation where TAs will walk you through practical steps to build the experiment circuit and test it. You will use the following simple function:

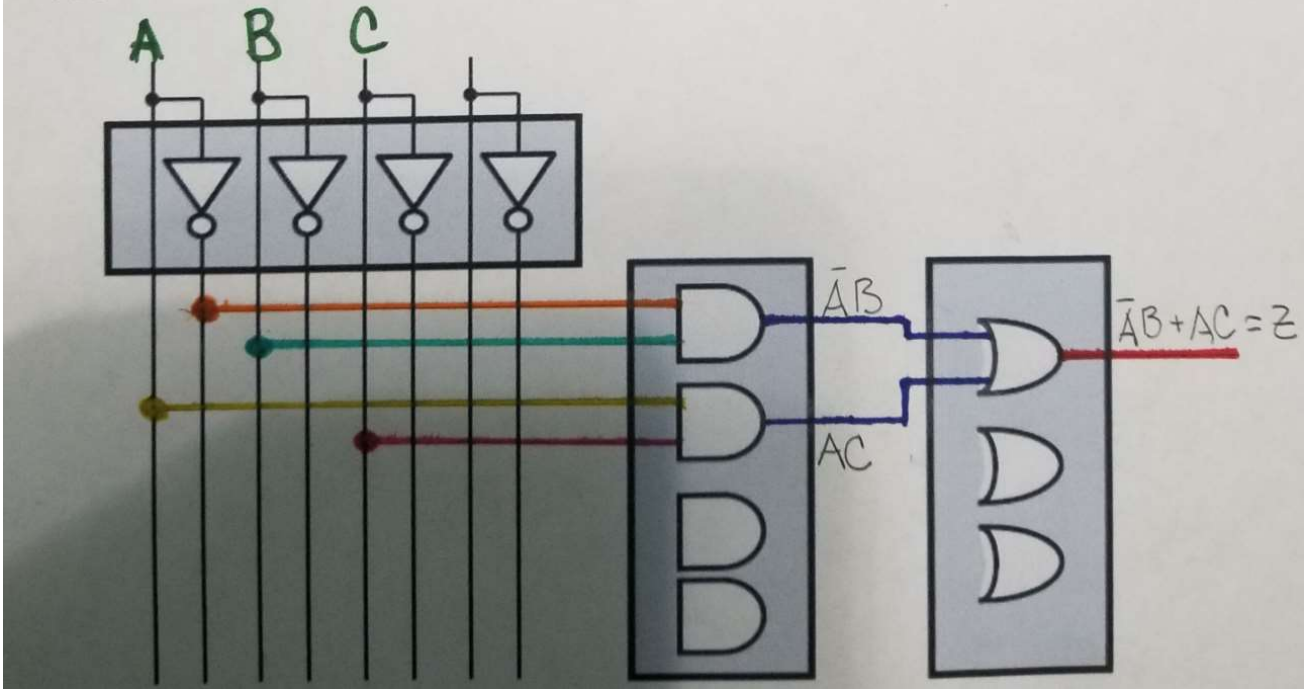
$$Z = A' B + A C$$

0.a) [0] Fill the truth table for the above function

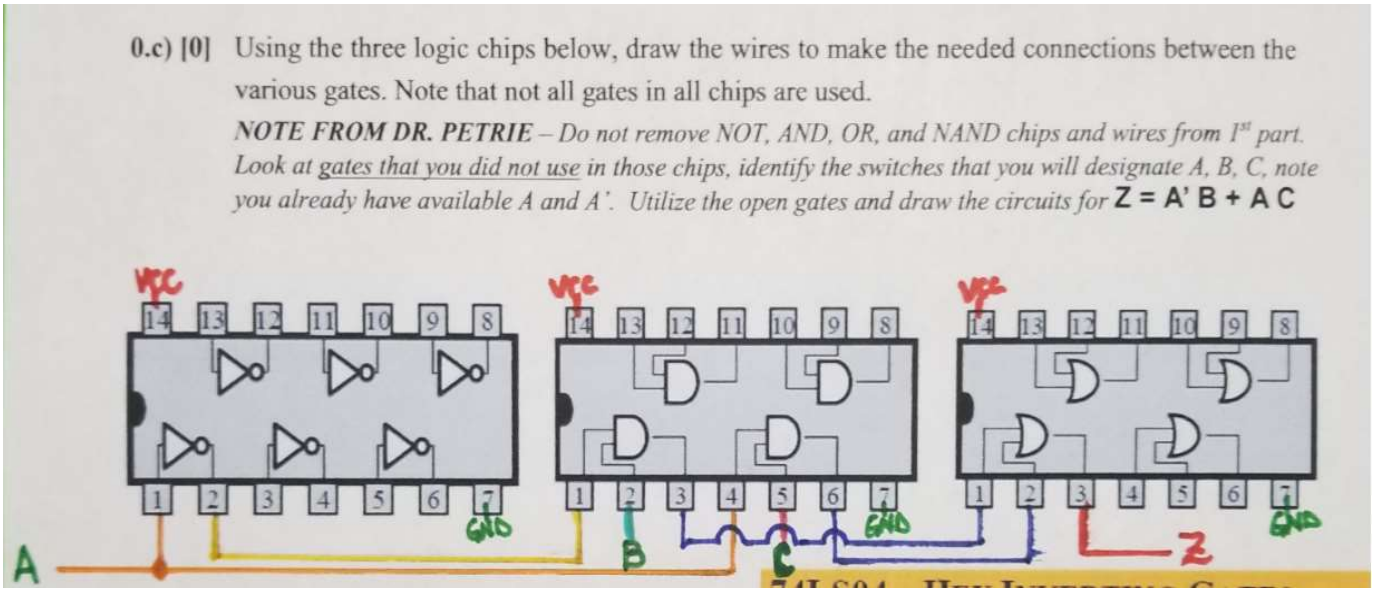
A B C	A' B	A C	Z
000	0	0	0
001	0	0	0
010	1	0	1
011	1	0	1
100	0	0	0
101	0	1	1
110	0	0	0
111	0	1	1

Logic Circuit Drawing (Z = A'B + AC)

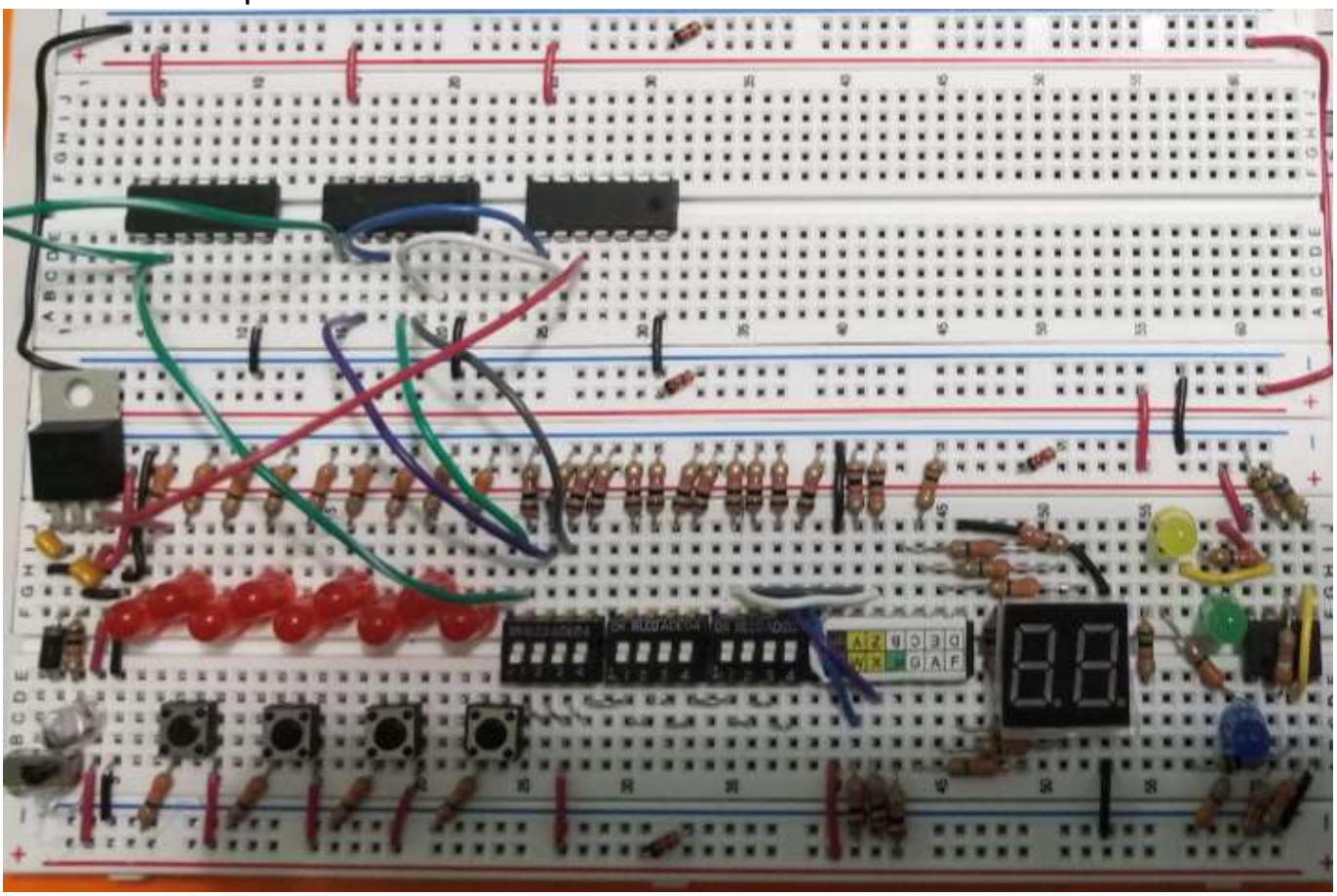
0.b) [0] Draw the switching function (**Z = A' B + A C**) using Inverters, AND gates, and OR gate:



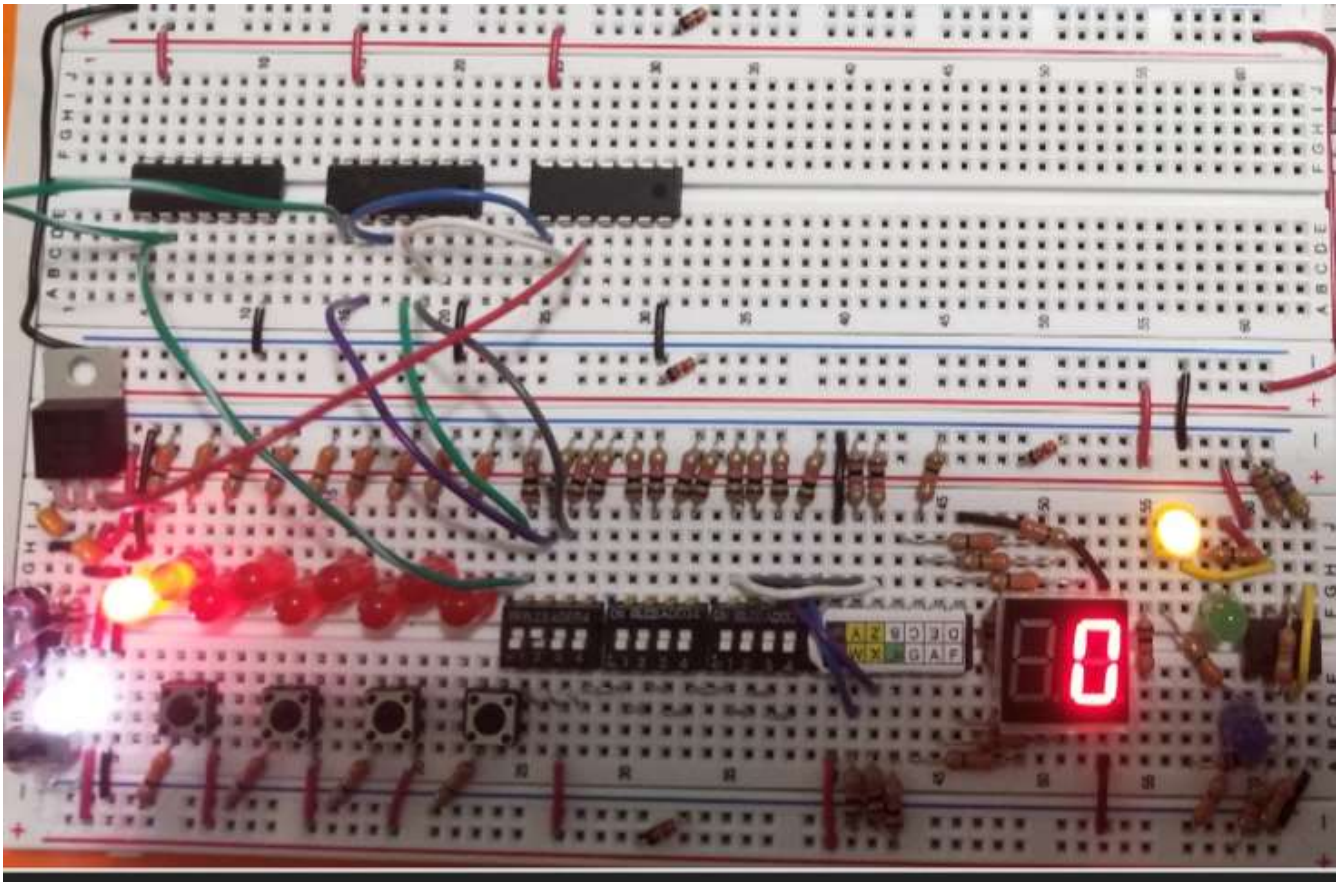
Drawing Using Logic Chips (Z = A'B + AC)



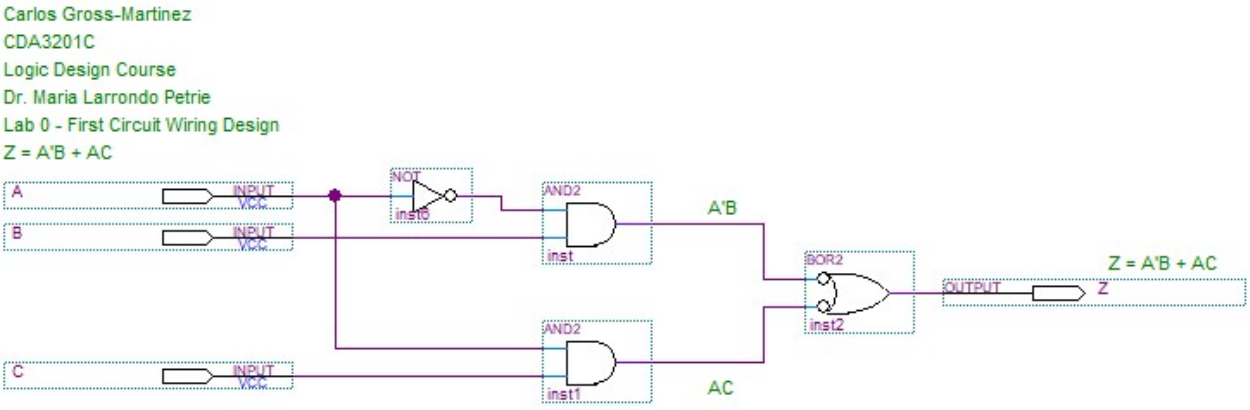
Picture of Completed Circuit on breadboard



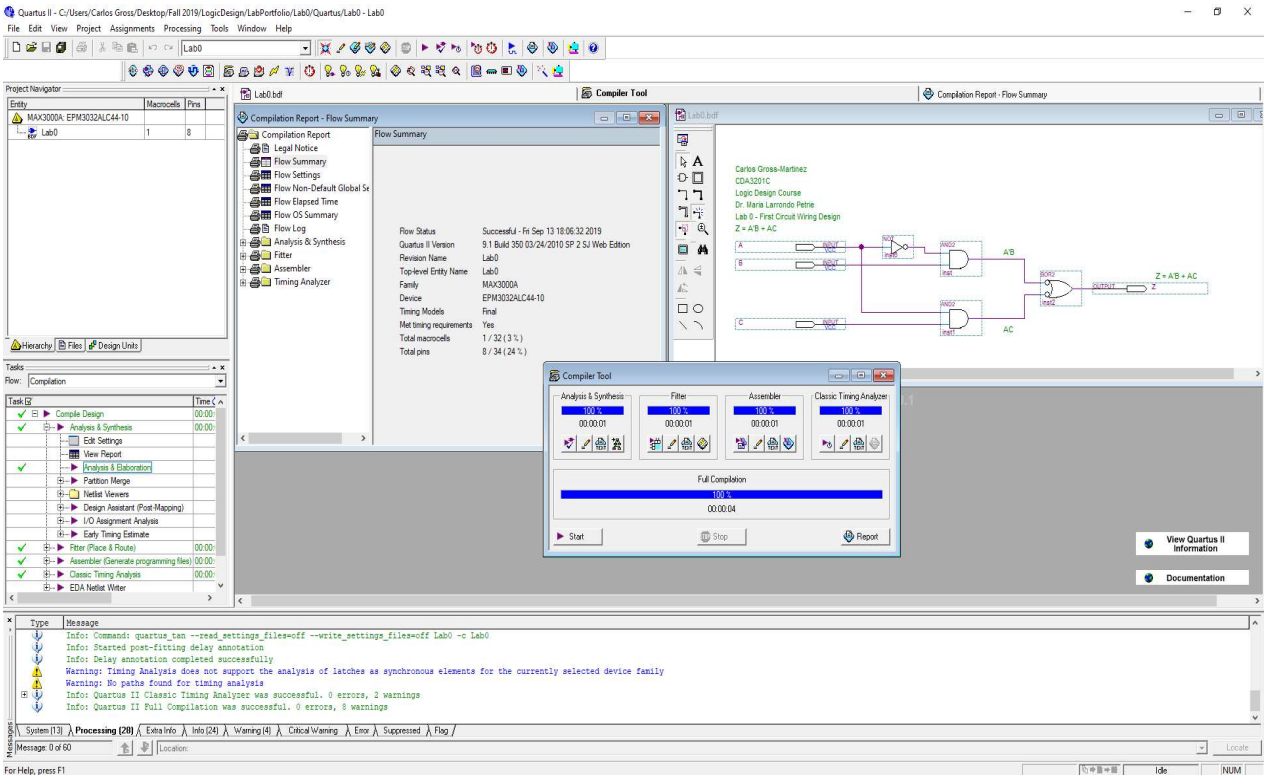
Picture of Completed Circuit on breadboard Working



Quartus Schematic



Quartus Compilation Result



Quartus Waveform