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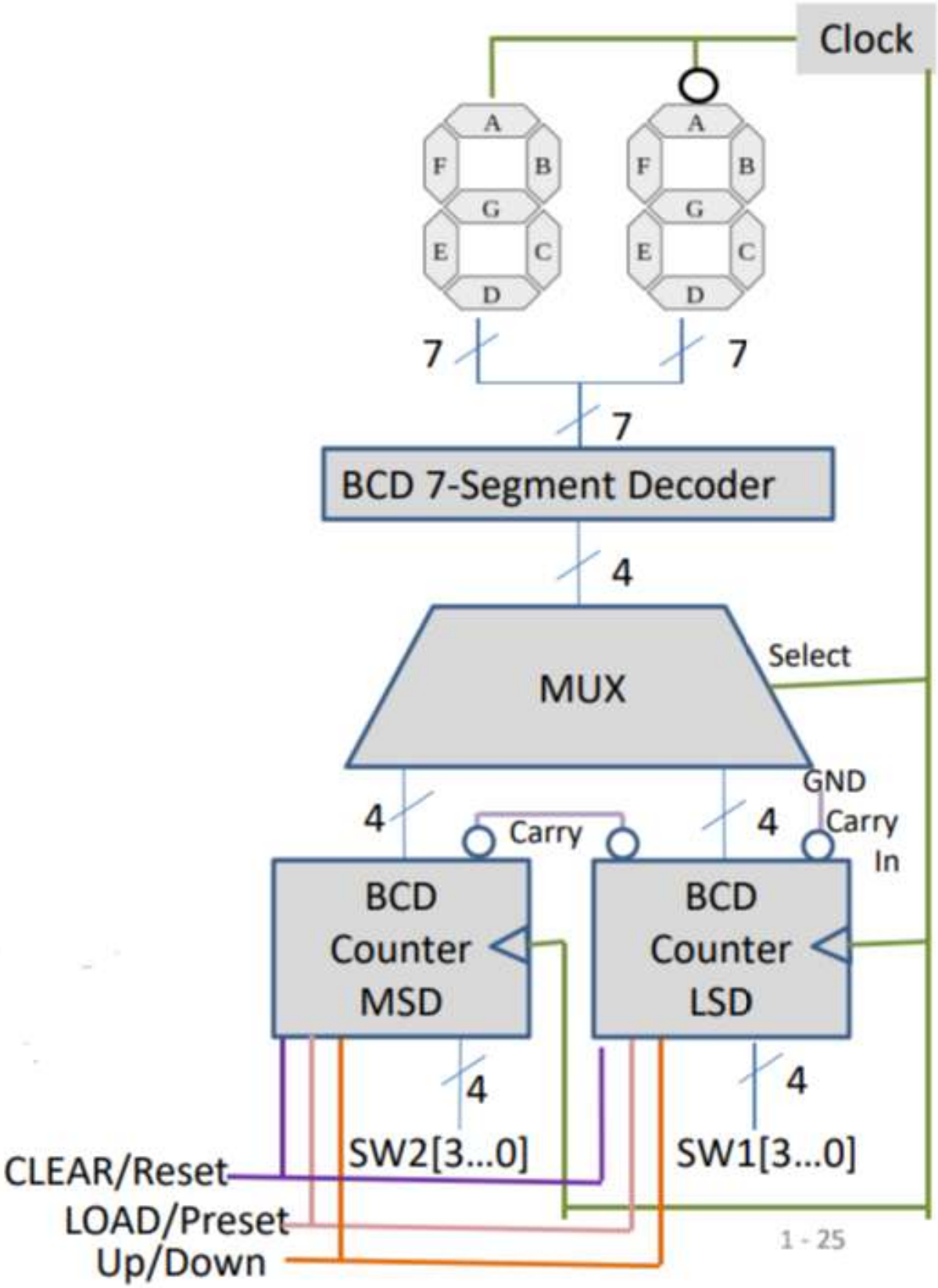
CDA3201C

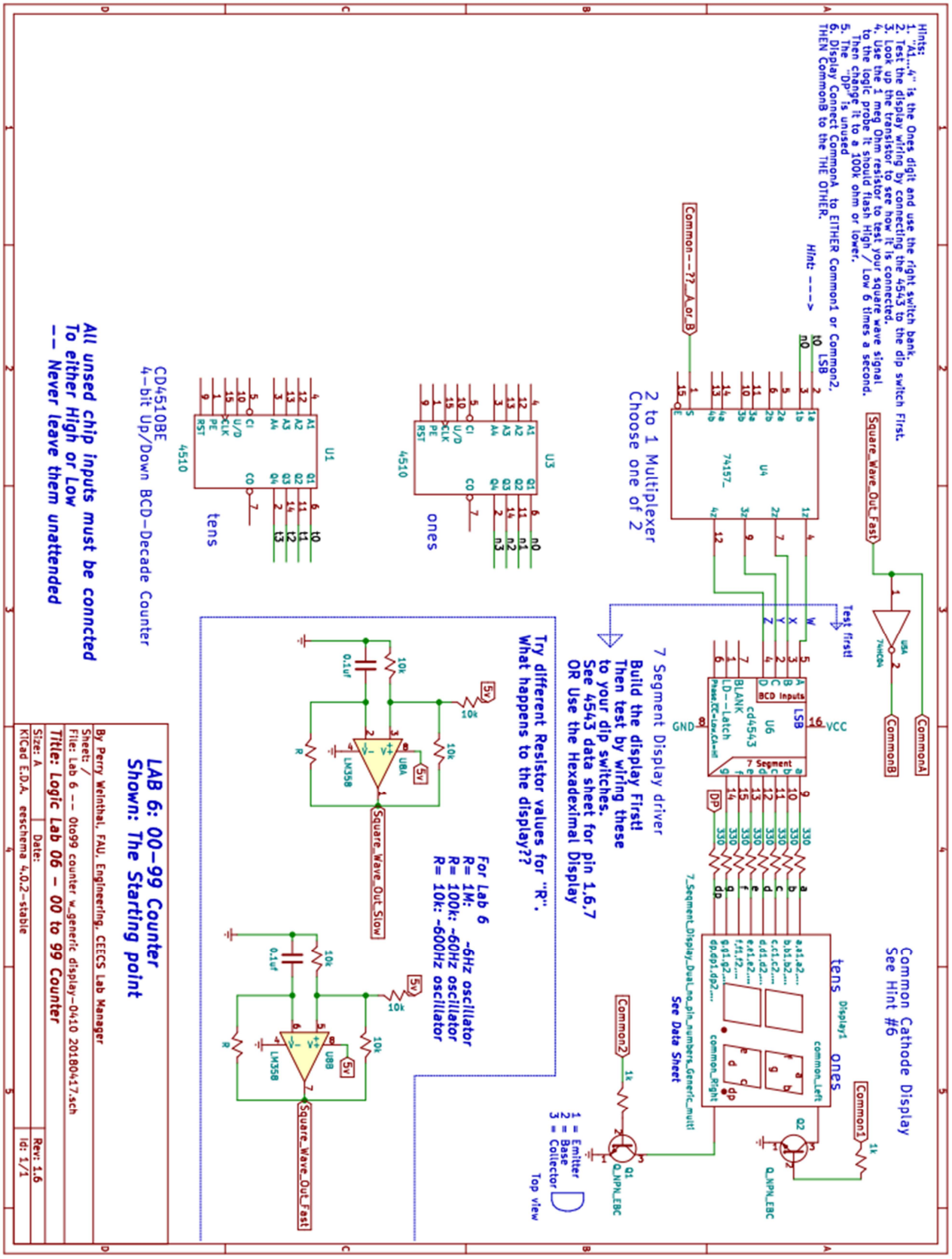
Logic Design Course

Lab 6: Dual Counter

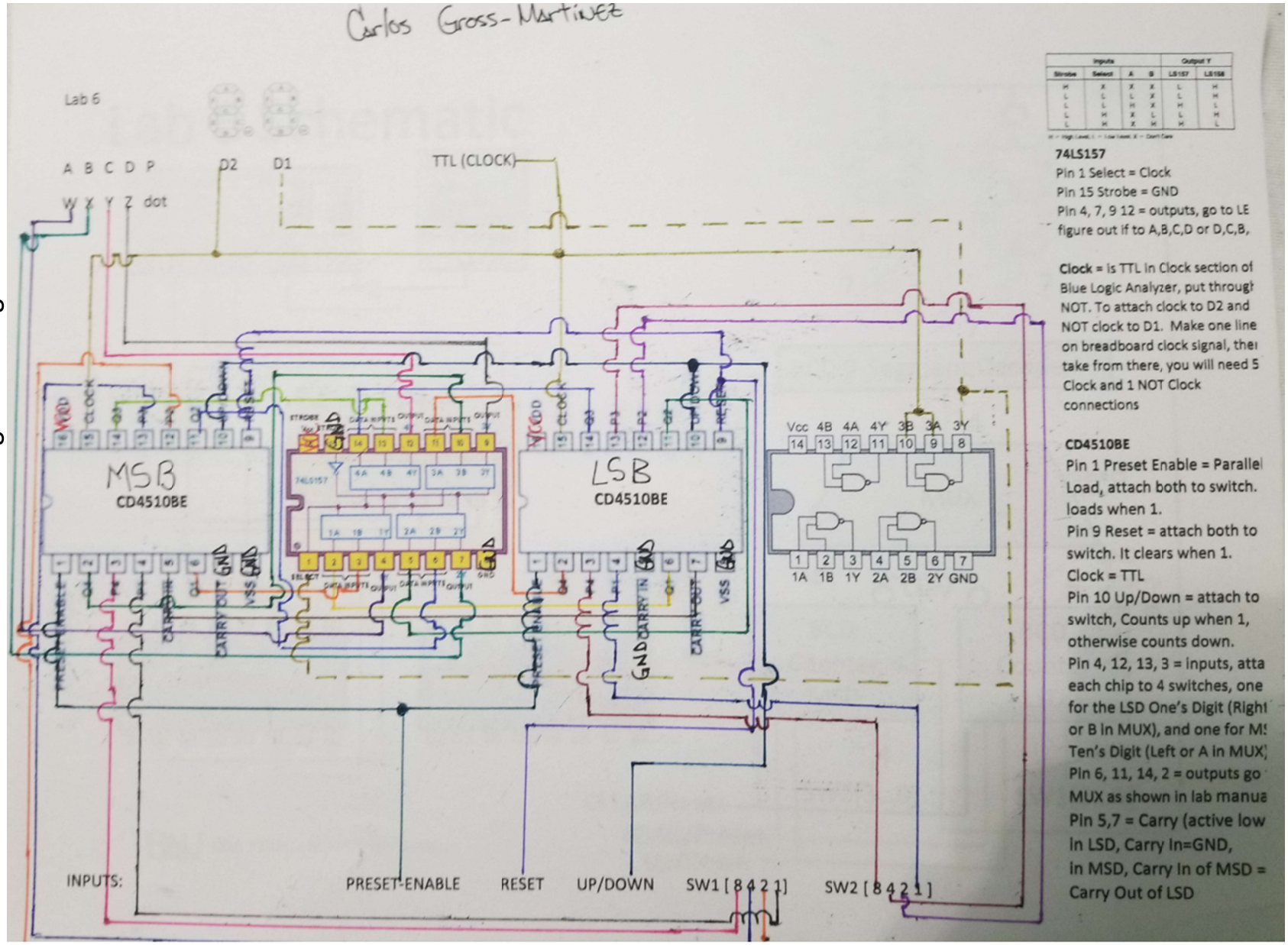
Dual Counter Schematic General



Dual Counter Schematic Provided by Perry Weinthal



Dual Counter Logic Drawing



Inputs				Output Y	
Strobe	Select	A	B	LS157	LS158
H	X	X	X	L	H
L	L	L	X	L	H
L	L	H	X	H	L
L	H	X	L	L	H
L	H	X	H	H	L

H = High Level, L = Low Level, X = Don't Care

74LS157

Pin 1 Select = Clock
Pin 15 Strobe = GND
Pin 4, 7, 9 12 = outputs, go to LE
figure out if to A,B,C,D or D,C,B,

Clock = is TTL in Clock section of Blue Logic Analyzer, put through NOT. To attach clock to D2 and NOT clock to D1. Make one line on breadboard clock signal, then take from there, you will need 5 Clock and 1 NOT Clock connections

CD4510BE

Pin 1 Preset Enable = Parallel Load, attach both to switch. loads when 1.
Pin 9 Reset = attach both to switch. It clears when 1.
Clock = TTL
Pin 10 Up/Down = attach to switch, Counts up when 1, otherwise counts down.
Pin 4, 12, 13, 3 = inputs, atta each chip to 4 switches, one for the LSD One's Digit (Right or B in MUX), and one for M Ten's Digit (Left or A in MUX)
Pin 6, 11, 14, 2 = outputs go MUX as shown in lab manua
Pin 5,7 = Carry (active low
In LSD, Carry In=GND,
In MSD, Carry In of MSD = Carry Out of LSD

Picture of Completed Circuit on Breadboard