ELEC 2210 Fall 2020

Lab 4 Quiz

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Section: 002 (Tues 1:00pm)

1. What is the difference between a half-adder and a full-adder?

   A. Carry out

   B. Carry in **(Full adder has carry in)**

   C. Carry out and Carry in

   D. Sum

2. Convert the decimal number 50 into binary and hexadecimal.

   Dec to Bin = 110010

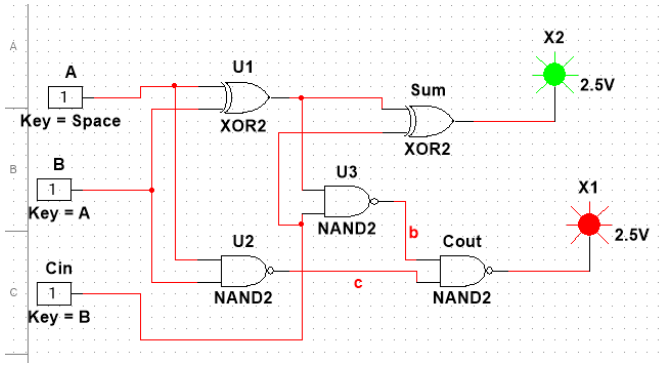
   Dec to Hex = 32

3. What is the sum of binary numbers 110010 and 101111?

   Binary = 1100001

   Dec = 97

Prelab Screenshots



Inputs				Binary Outputs		
A	B	C_{IN}	Base 10 Sum of $A+B+C_{IN}$	C_{OUT}	S	
0	0	0	0	0	0	C
0	0	1	1	0	1	C
0	1	0	1	0	1	C
0	1	1	2	1	0	C
1	0	0	1	0	1	C
1	0	1	2	1	0	C
1	1	0	2	1	0	C
1	1	1	3	1	1	C

C is for correct. The truth table checks out

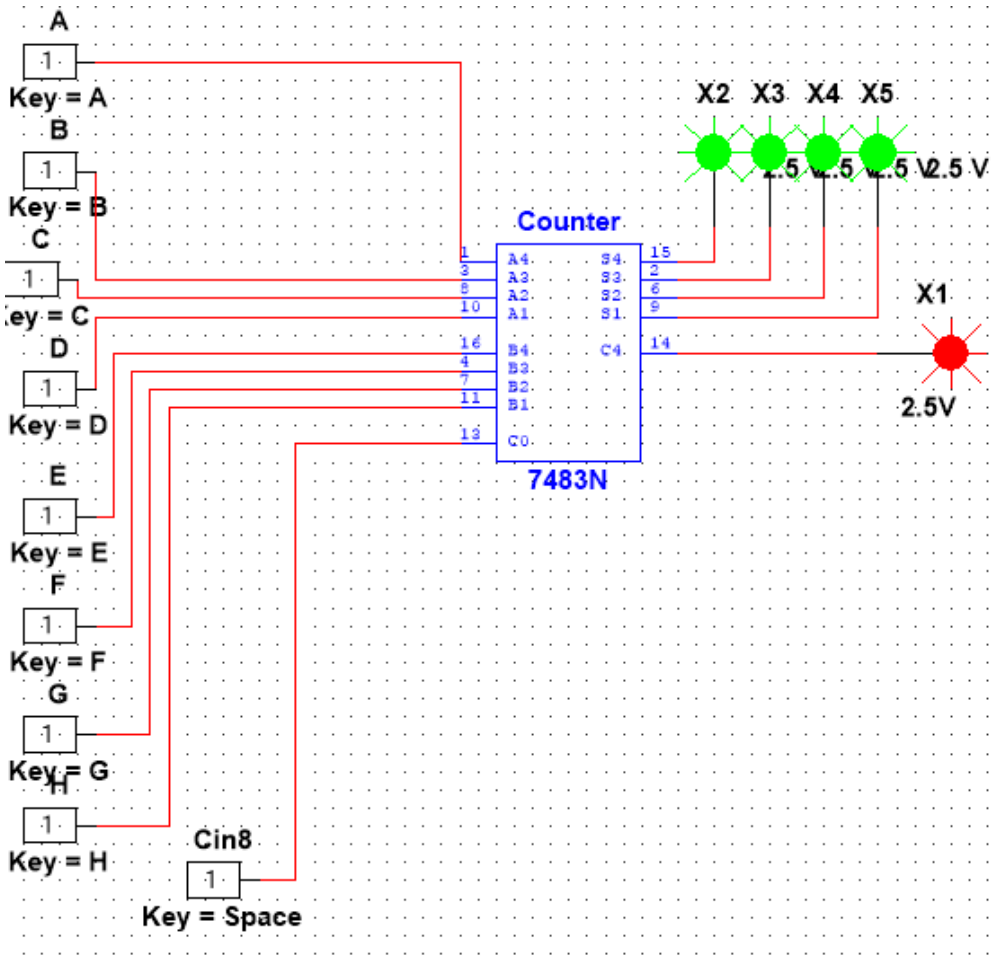

A
Key = A
B
Key = B
C
ey = C
D
Key = D
E
Key = E
F
Key = F
G
Key = G
H
Key = H
Cin8
Key = Space
Counter
A4
A3
A2
A1
B4
B3
B2
B1
C0
S4
S3
S2
S1
C4
7483N
X2
X3
X4
X5
2.5 V
X1
2.5V

Table 6. Test results for the 4-bit full adder circuit. All values in hex.

Inputs			Calculated Outputs		Actual Outputs		
A	**B**	**C_{IN}**	**C_{OUT}**	**S**	**C_{OUT}**	**S**	**Check here if correct.**
0	0	0	0	0	0	0	
0	0	1	0	1	0	1	
1	0	0	0	1	0	1	
7	7	1	0	F	0	F	
8	7	0	0	F	0	F	
8	8	0	1	0	1	0	
F	F	0	1	E	1	E	
F	F	1	1	F	1	F	