Class:	CECS 201, Section 7
Lab:	7
Title:	7 Segment Decoder
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Due Date:	11:59:59 P.M., 23, March 2015
Instructor:	Dan Cregg

b. **Introduction.** In this lab we create a 4-binary input to a 7 segment LED Binary to Hexidecimal decoder.

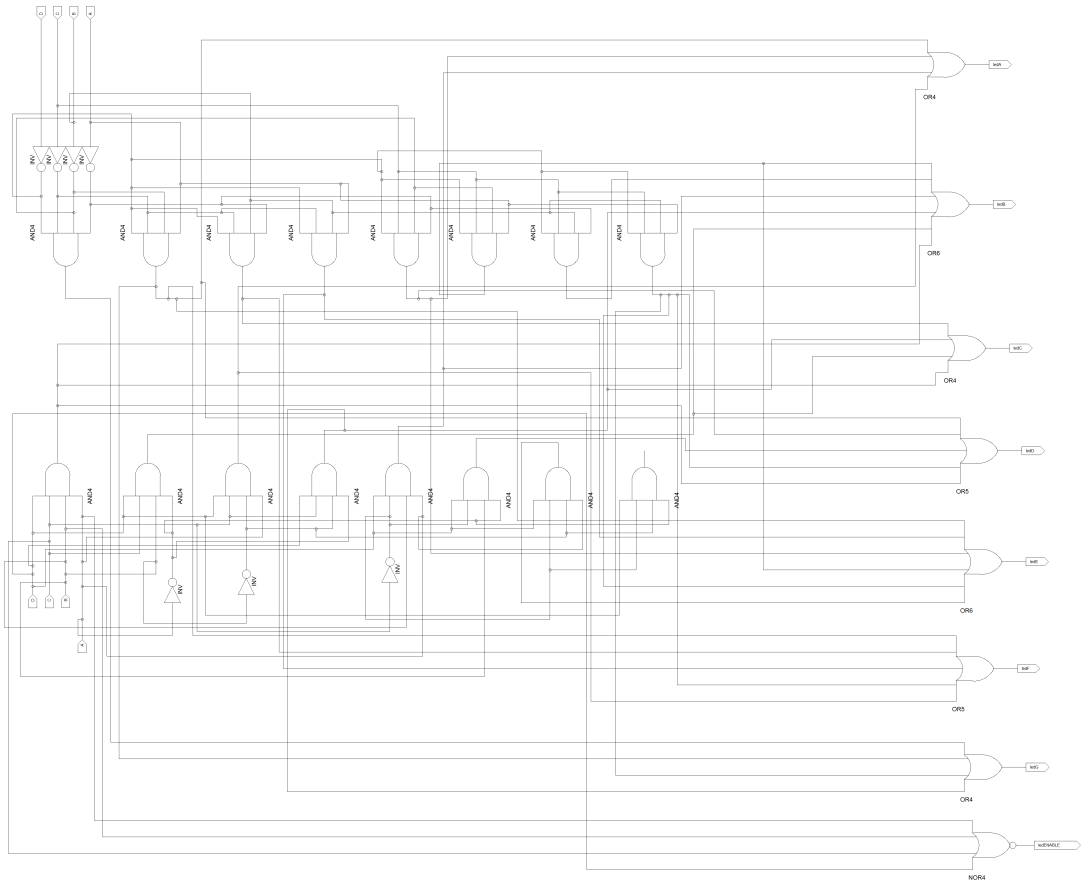
c. **Project Description.** An led contains 7 segment, each of which can be in the on (0) or off (1) state. The state of each segment depends on the character that is currently being displayed. In this lab, we are interested in the 16 hexadecimal characters namely:

$$0, 1, 2, 3, 4, 5, 6, 7, 8, 9A, b, C, d, E, F.$$

Each of these characters maps to a unique input, and the truth table below shows the segments that are on and off for these characters.

The ledEnable output ensures that only a character whose binary input contains at least a 1 is displayed; that is, only 0 is not displayed.

d. **Schematic.**



Truth Table.

A	B	C	D	ledA	ledB	ledC	ledD	ledE	ledF	ledG	ledEnable
0	0	0	0	0	0	0	0	0	0	1	1
0	0	0	1	1	0	0	1	1	1	1	0
0	0	1	0	0	0	1	0	0	1	0	0
0	0	1	1	0	0	0	0	1	1	0	0
0	1	0	0	1	0	0	1	1	0	0	0
0	1	0	1	0	1	0	0	1	0	0	0
0	1	1	0	0	1	0	0	0	0	0	0
0	1	1	1	0	0	0	1	1	1	1	0
1	0	0	0	0	0	0	0	0	0	0	0
1	0	0	1	0	0	0	0	1	0	0	0
1	0	1	0	0	0	0	1	0	0	0	0
1	0	1	1	1	1	0	0	0	0	0	0
1	1	0	0	0	1	1	0	0	0	1	0
1	1	0	1	1	0	0	0	0	1	0	0
1	1	1	0	0	1	1	0	0	0	0	0
1	1	1	1	0	1	1	1	0	0	0	0