

Boolean Logic through 7447

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<i>Abstract</i> —This manual shows how to use the 7447 BCD-Seven Segment Display decoder to learn Boolean logic.		

1 COMPONENTS

Component	Value	Quantity
Resistor	220 Ohm	1
Arduino	UNO	1
Seven Segment Display		1
Decoder	7447	1
Jumper Wires	M-M	20
Breadboard		1

TABLE 1.0

2 HARDWARE

Problem 2.1. Make connections between the seven segment display in Fig. 2.1 and the 7447 IC in Fig. 2.2 as shown in Table 2.1

7447	\bar{a}	\bar{b}	\bar{c}	\bar{d}	\bar{e}	\bar{f}	\bar{g}
Display	a	b	c	d	e	f	g

TABLE 2.1

Problem 2.2. Make connections to the lower pins of the 7447 according to Table 2.2 and connect $V_{CC} = 5V$. You should see the number 0 displayed for 0000 and 1 for 0001.

Problem 2.3. Complete Table 2.2.

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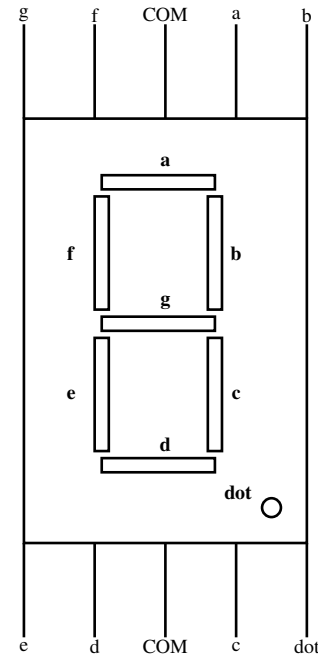


Fig. 2.1

D	C	B	A	Decimal
0	0	0	0	0
0	0	0	1	1

TABLE 2.2

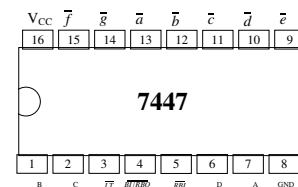


Fig. 2.2