

# CPE100 Lab 6

Yiyan Li

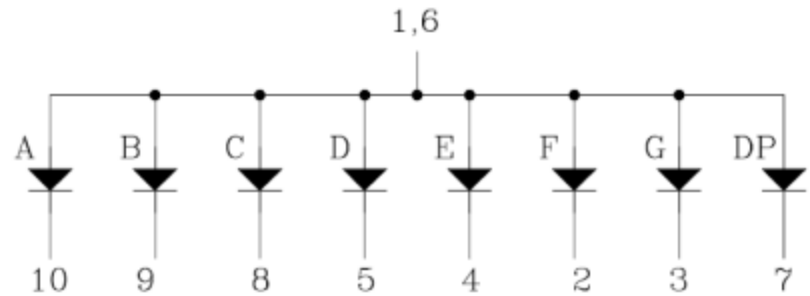
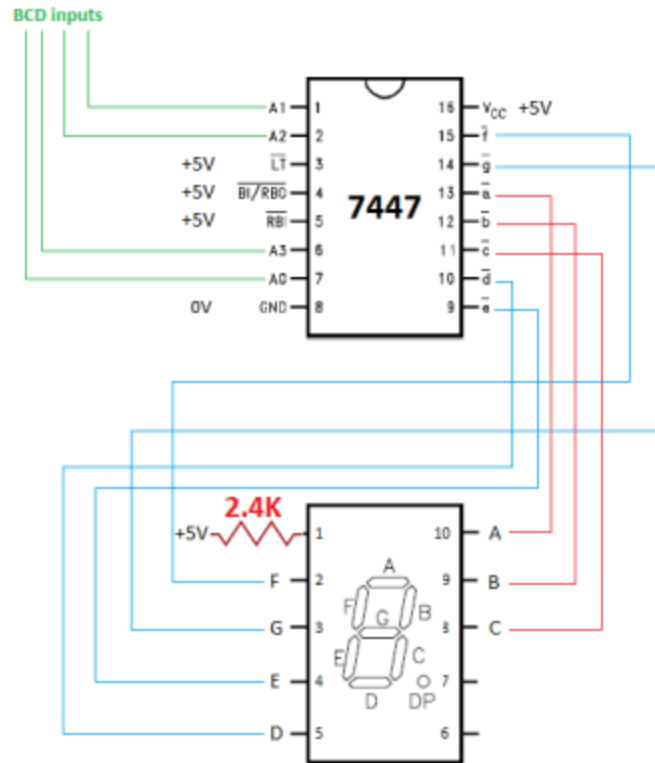
Experiment 1: 7-segment display

Experiment 2: 1-bit ALU

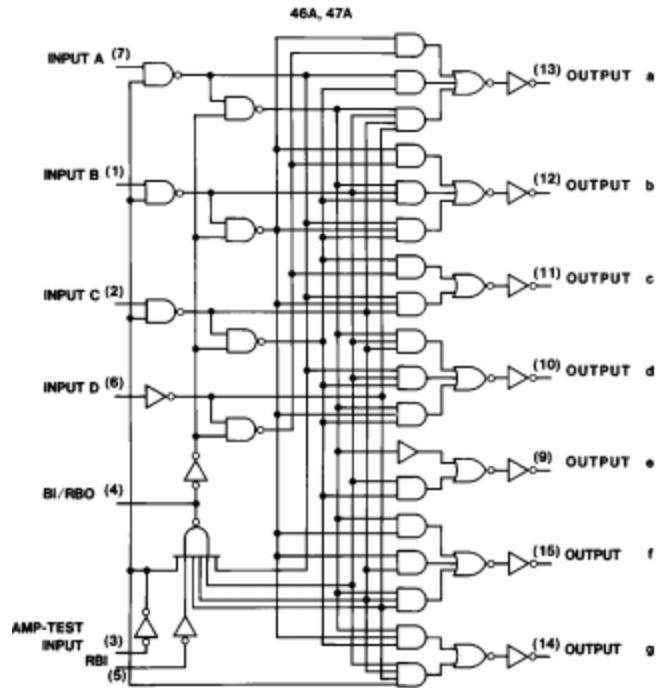
Experiment 3: 2-bit ALU

Experiment 4: Apply 2-bit ALU to 7-segment display

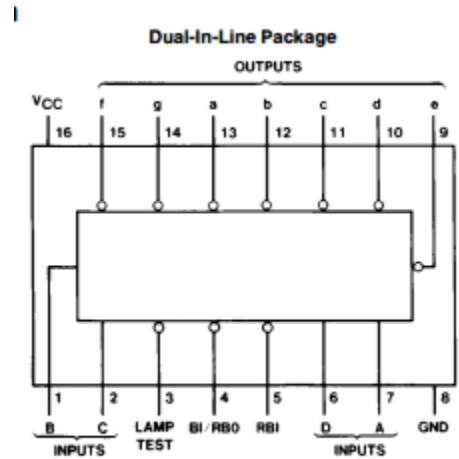
# 7-segment display



# Decoder



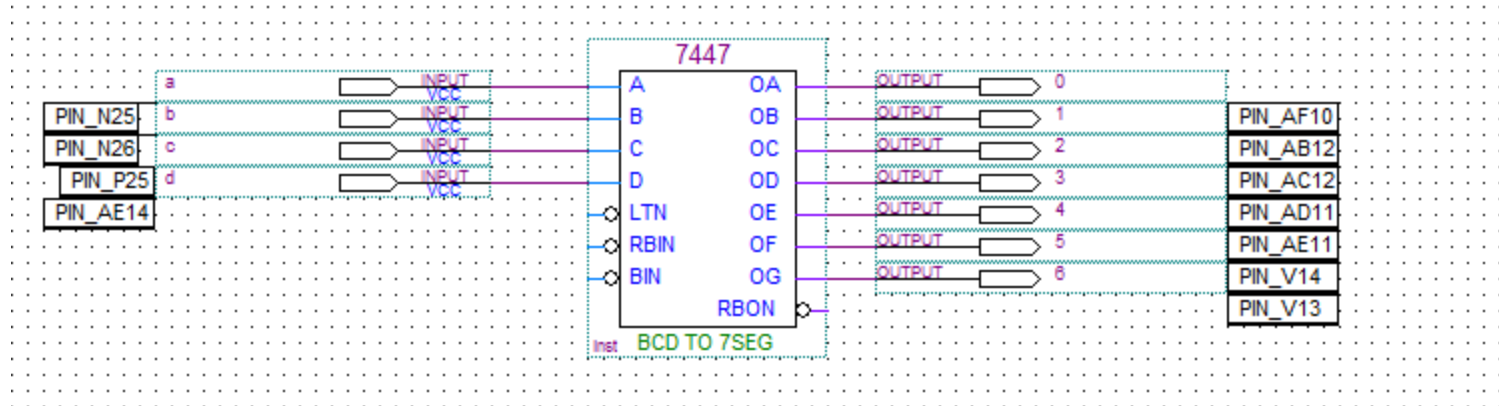
TL



TL/F/6518-1

Order Number DM5447AJ, DM7446AN or DM7447AN  
 See NS Package Number J 16A or N 16E

## Schematic in Quartus II



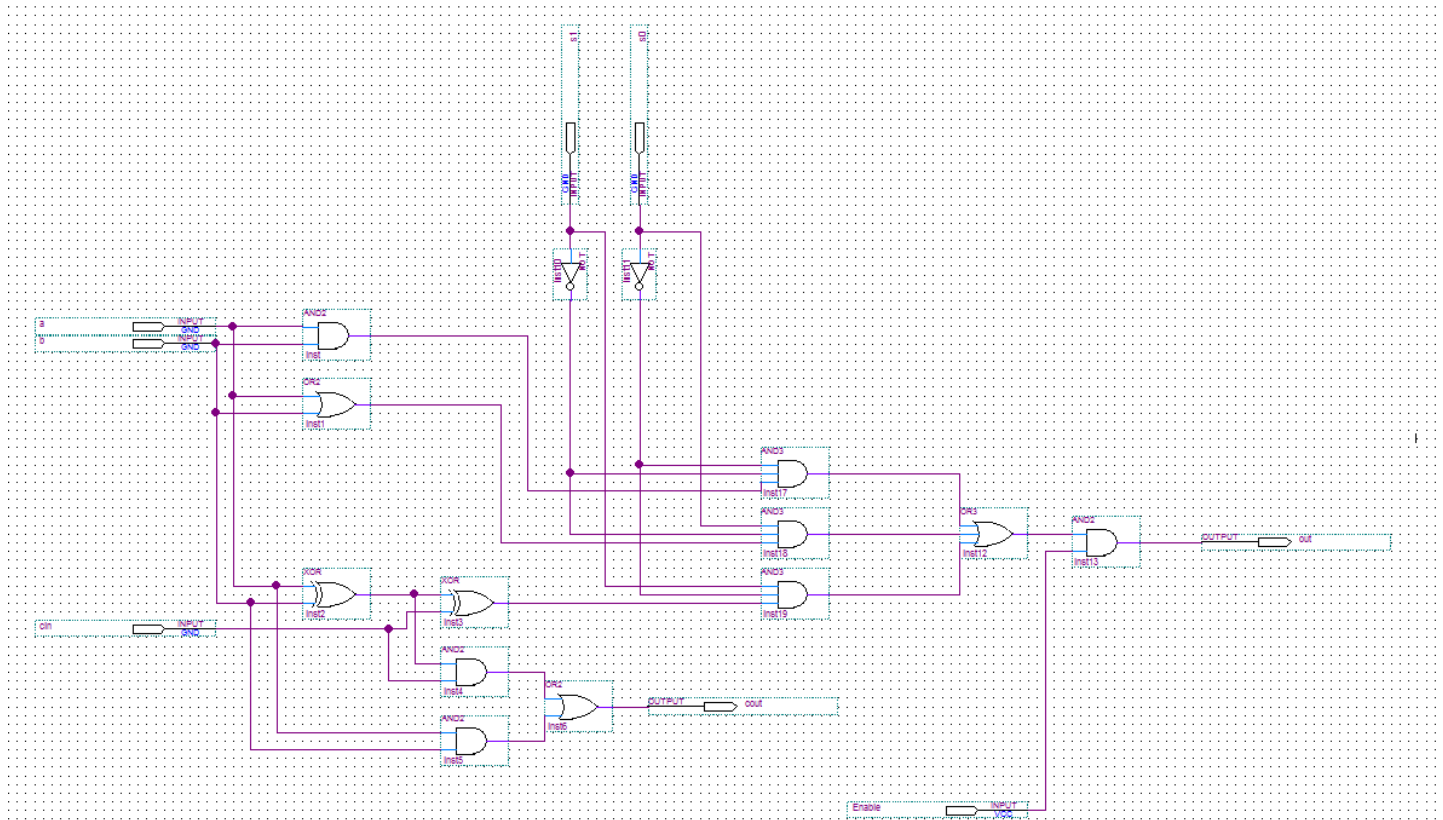
Find the correct pins



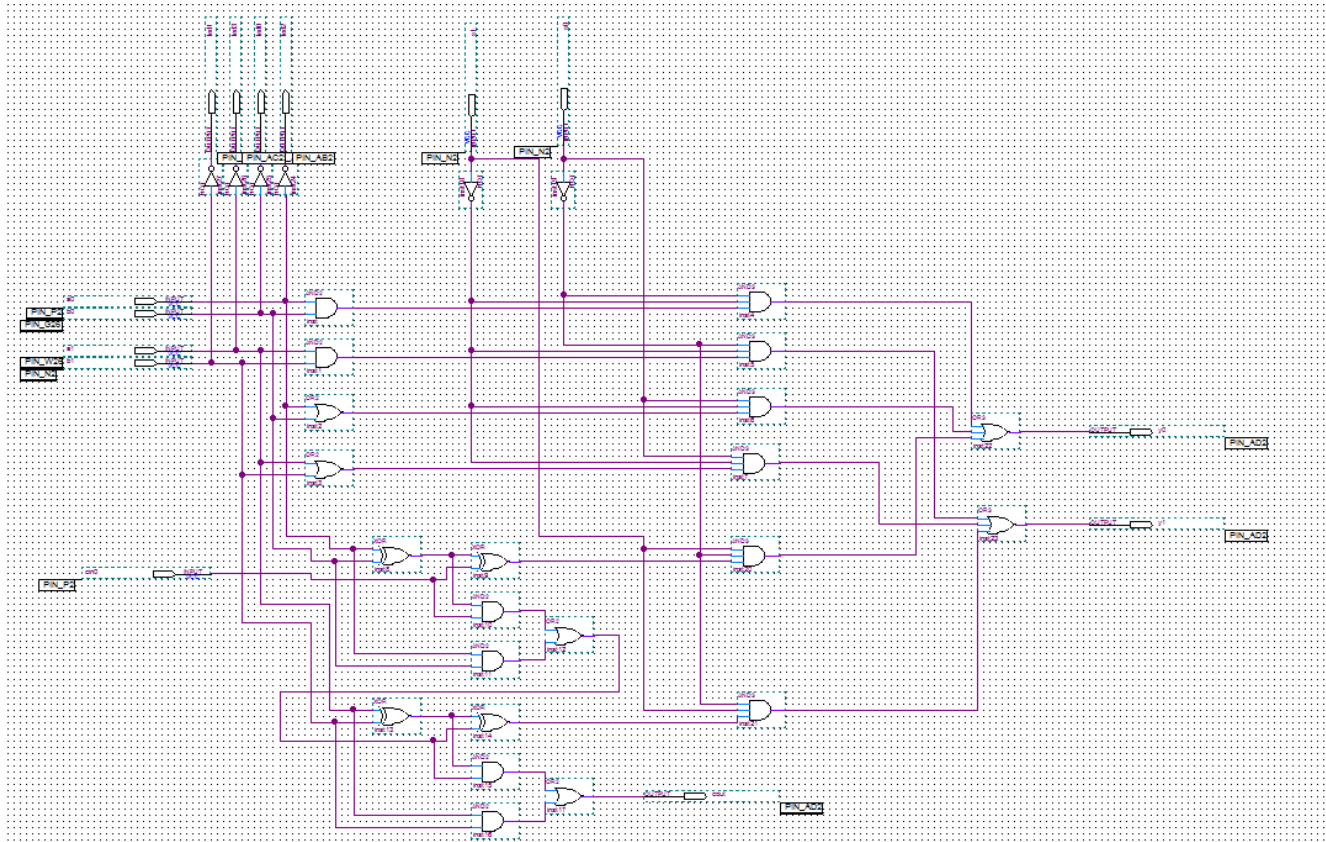
Inputs				Outputs						
b3	b2	b1	b0	a	b	c	d	e	f	g
0	0	0	0	0	0	0	0	0	0	1
0	0	0	1	1	0	0	1	1	1	1
0	0	1	0	0	0	1	0	0	1	0
0	0	1	1	0	0	0	0	1	1	0
0	1	0	0	1	0	0	1	1	0	0
0	1	0	1	0	1	0	0	1	0	0
0	1	1	0	0	1	0	0	0	0	0
0	1	1	1	0	0	0	1	1	1	1
1	0	0	0	0	0	0	0	0	0	0
1	0	0	1	0	0	0	0	1	0	0

HEX0[0]	PIN_AF10	Seven Segment Digit 0[0]
HEX0[1]	PIN_AB12	Seven Segment Digit 0[1]
HEX0[2]	PIN_AC12	Seven Segment Digit 0[2]
HEX0[3]	PIN_AD11	Seven Segment Digit 0[3]
HEX0[4]	PIN_AE11	Seven Segment Digit 0[4]
HEX0[5]	PIN_V14	Seven Segment Digit 0[5]
HEX0[6]	PIN_V13	Seven Segment Digit 0[6]

# 1-bit ALU

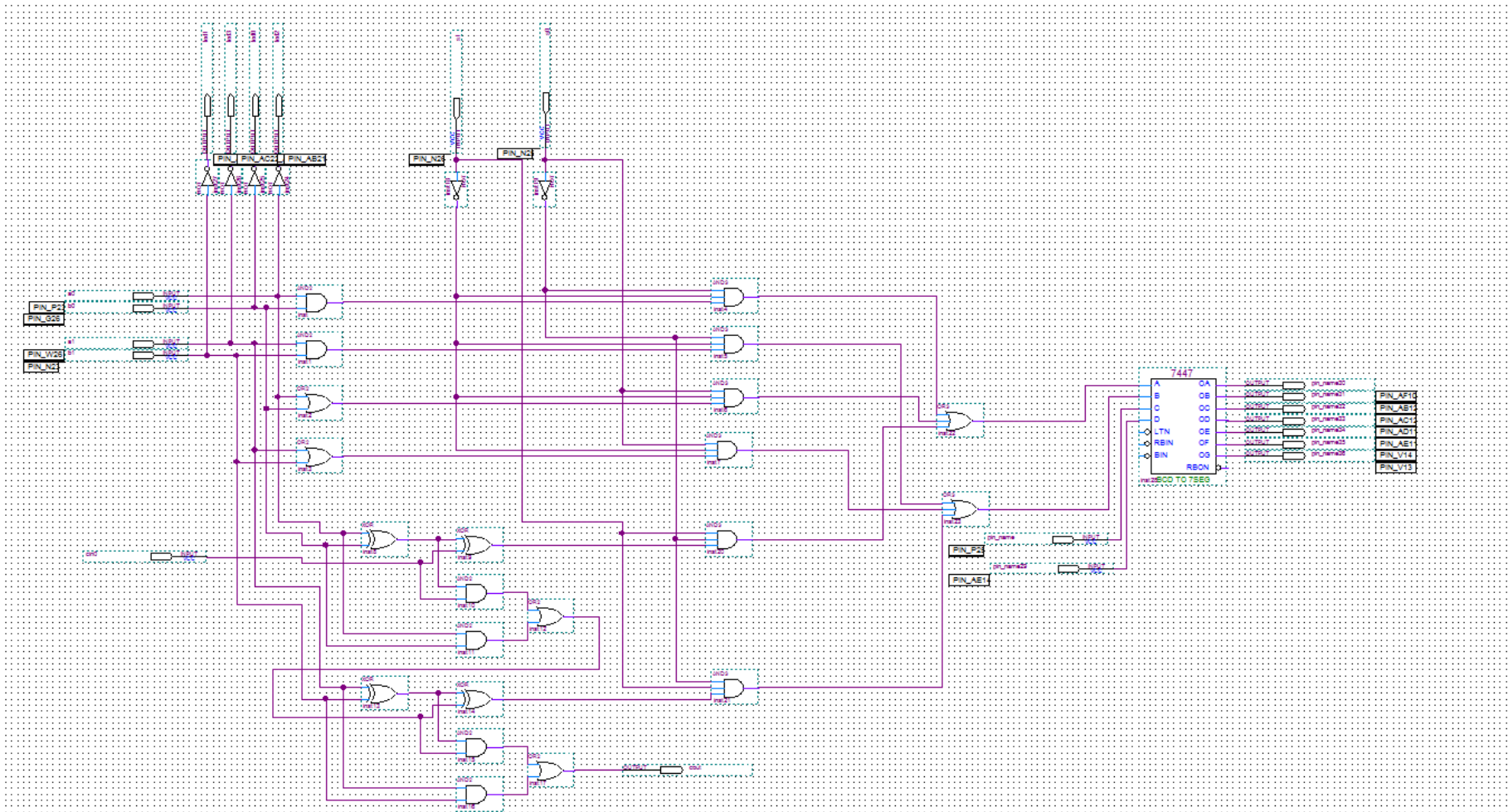


## 2-bit ALU





# 2-bit ALU and 7-segment display



## Additional information for the DE2 Board

