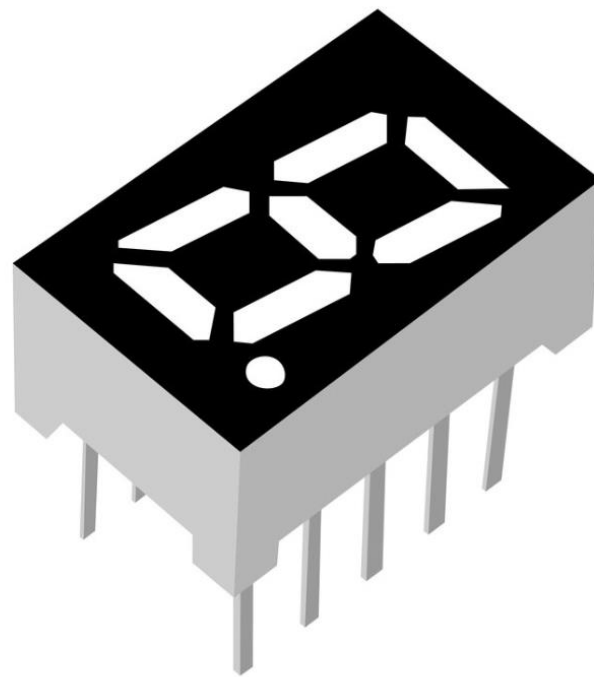


DIGITAL LOGICS



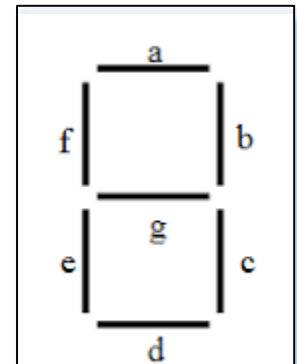
Supervised by: Prof. Dr. Hossam Eldeen Mostafa

Department: Electronics and communication

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Amir Mohamed Kaseb Mohamed	21010302	1
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Rewan Gamal Abdelkader Mohamed	21010540	4
Rania Mohamed Sobhy Abdelhady	21010509	4

Binary Coded Hexadecimal Seven Segment

Common Anode



First

Truth table:

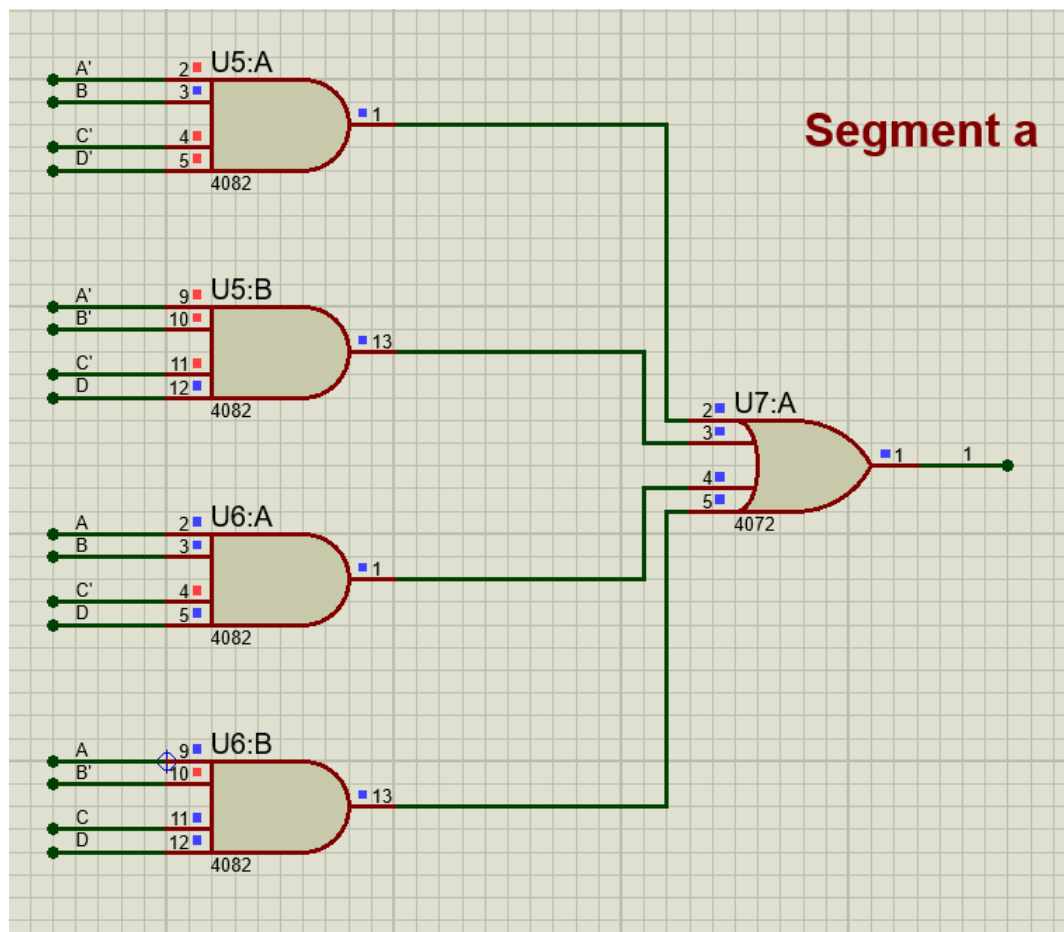
Decimal					a	b	c	d	e	f	g
0	0	0	0	0	0	0	0	0	0	0	1
1	0	0	0	1	1	0	0	1	1	1	1
2	0	0	1	0	0	0	1	0	0	1	0
3	0	0	1	1	0	0	0	0	1	1	0
4	0	1	0	0	1	0	0	1	1	0	0
5	0	1	0	1	0	1	0	0	1	0	0
6	0	1	1	0	0	1	0	0	0	0	0
7	0	1	1	1	0	0	0	1	1	1	1
8	1	0	0	0	0	0	0	0	0	0	0
9	1	0	0	1	0	0	0	1	1	0	0
A	1	0	1	0	0	0	0	1	0	0	0
B	1	0	1	1	1	1	0	0	0	0	0
C	1	1	0	0	0	1	1	0	0	0	1
D	1	1	0	1	1	0	0	0	0	1	0
E	1	1	1	0	0	1	1	0	0	0	0
F	1	1	1	1	0	1	1	1	0	0	0

Second

Segment “a”:

	00	01	11	10
AB\CD				
00		1		
01	1			
11		1		
10			1	

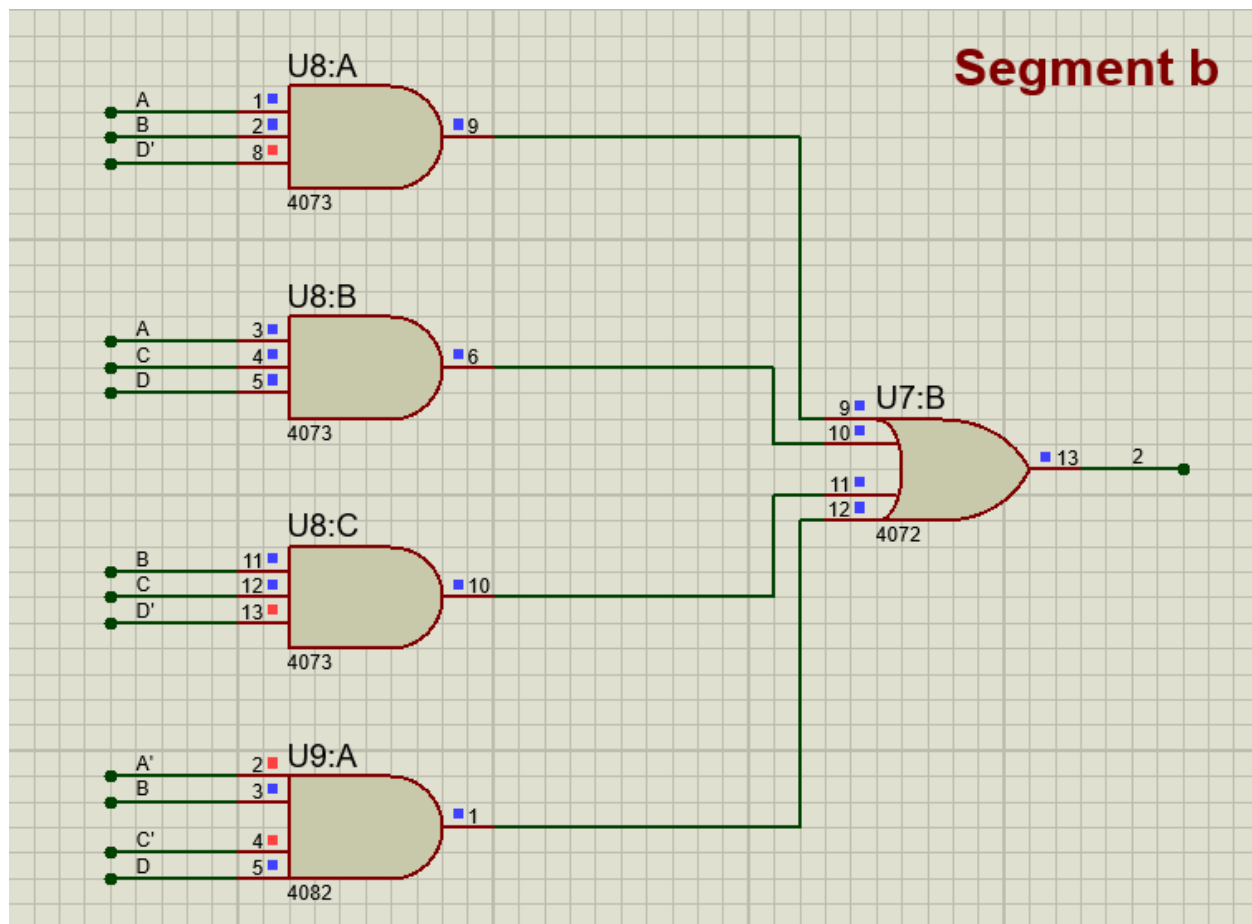
$$a = \bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}C\bar{D} + A\bar{B}\bar{C}D + A\bar{B}CD$$



Segment “b”:

	00	01	11	10
AB\CD				
00				
01		1		1
11	1		1	1
10			1	

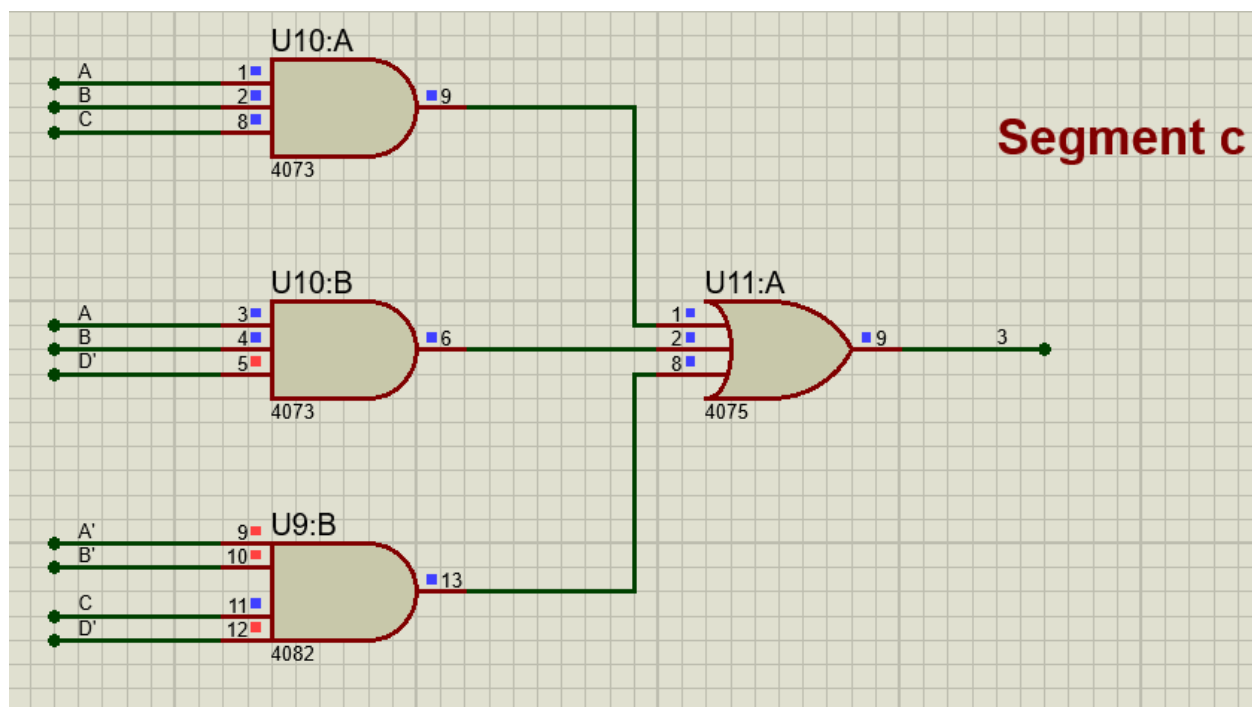
$$a = ABD\bar{C} + ACD + BCD\bar{C} + \bar{A}BCD$$



Segment “c”:

	00	01	11	10
AB\CD				1
00				
01				
11	1		1	1
10				

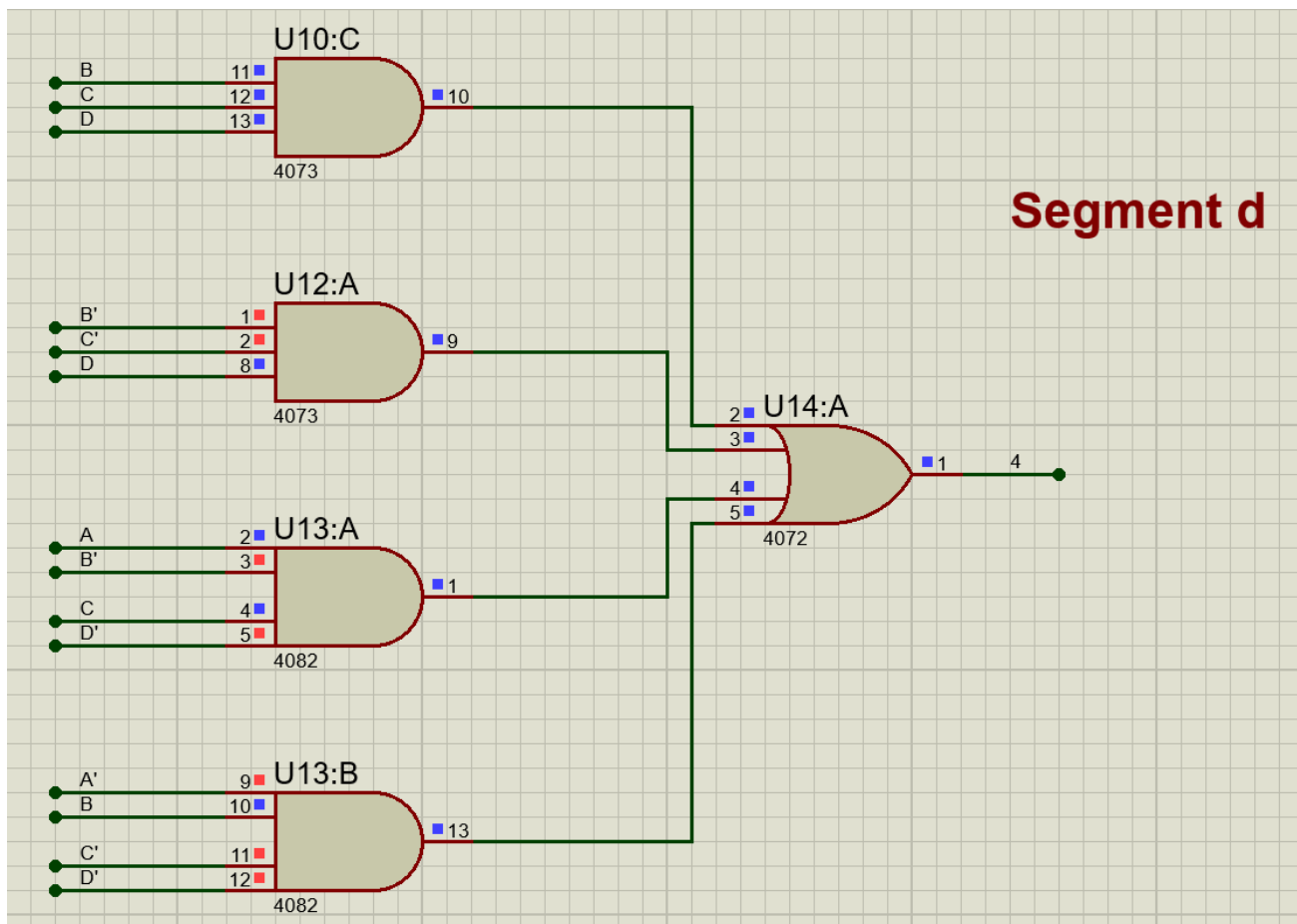
$$a = ABC + ABD + \bar{A}\bar{B}CD$$



Segment “d”:

	00	01	11	10
AB\CD				
00		1		
01	1		1	
11			1	
10		1		1

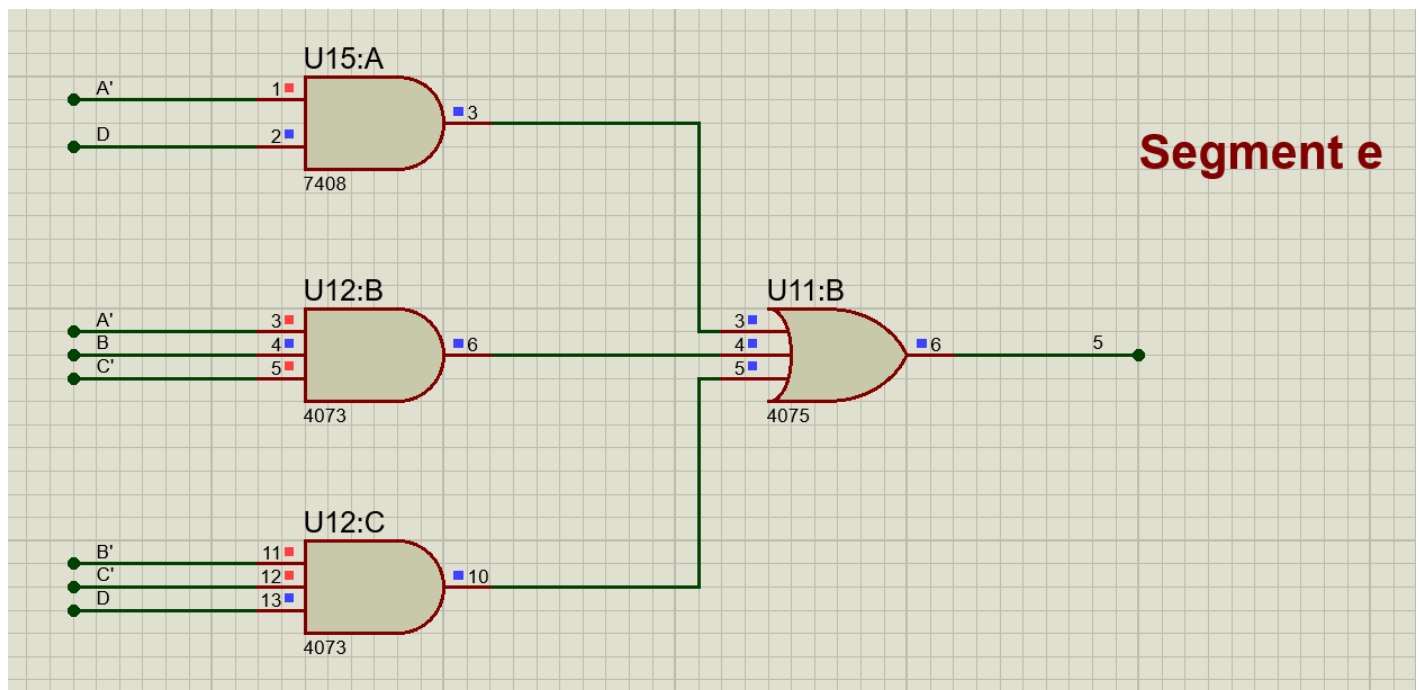
$$a = BCD + \overline{B}CD + A\overline{B}C\overline{D} + \overline{A}B\overline{C}\overline{D}$$



Segment “e”:

	00	01	11	10
AB\CD				
00		1	1	
01	1	1	1	
11				
10		1		

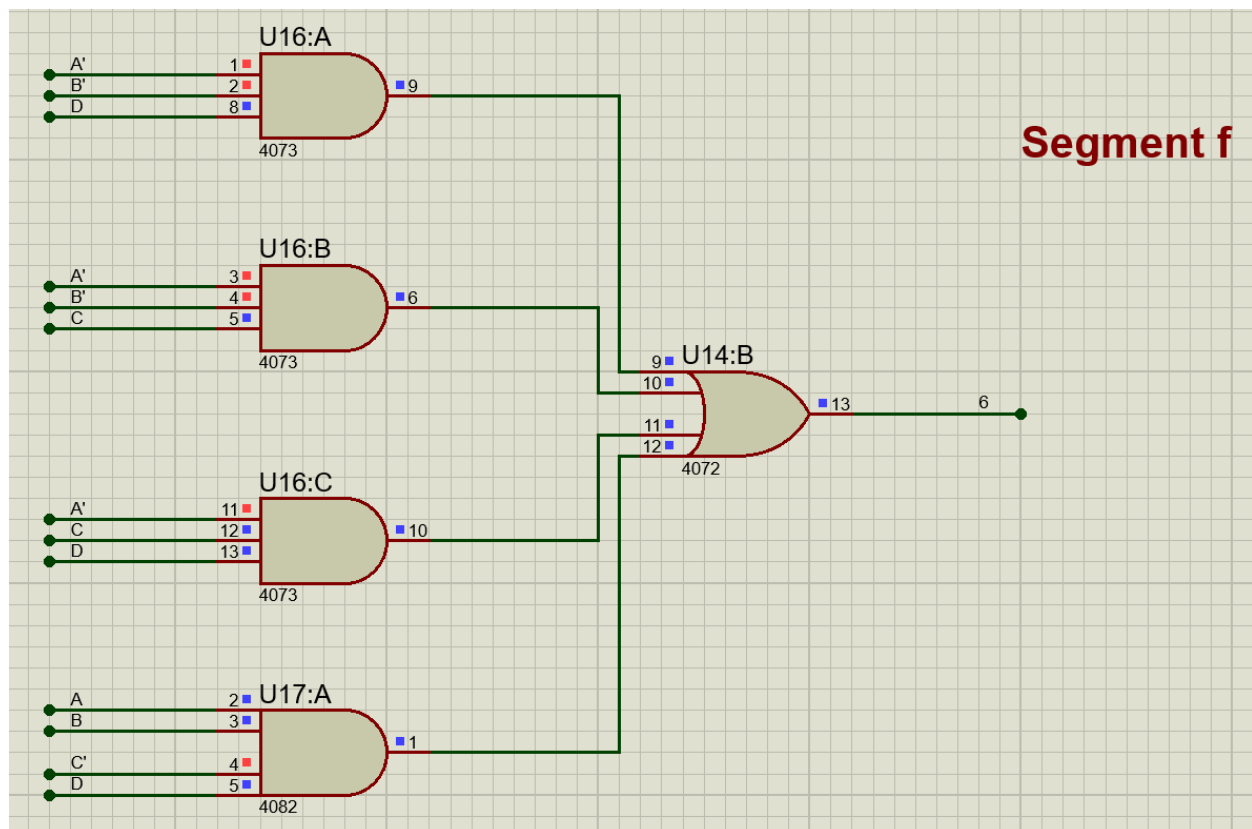
$$a = \overline{A}D + \overline{A}BC + B\overline{C}D$$



Segment “f”:

	00	01	11	10
AB\CD				
00		1	1	1
01			1	
11		1		
10				

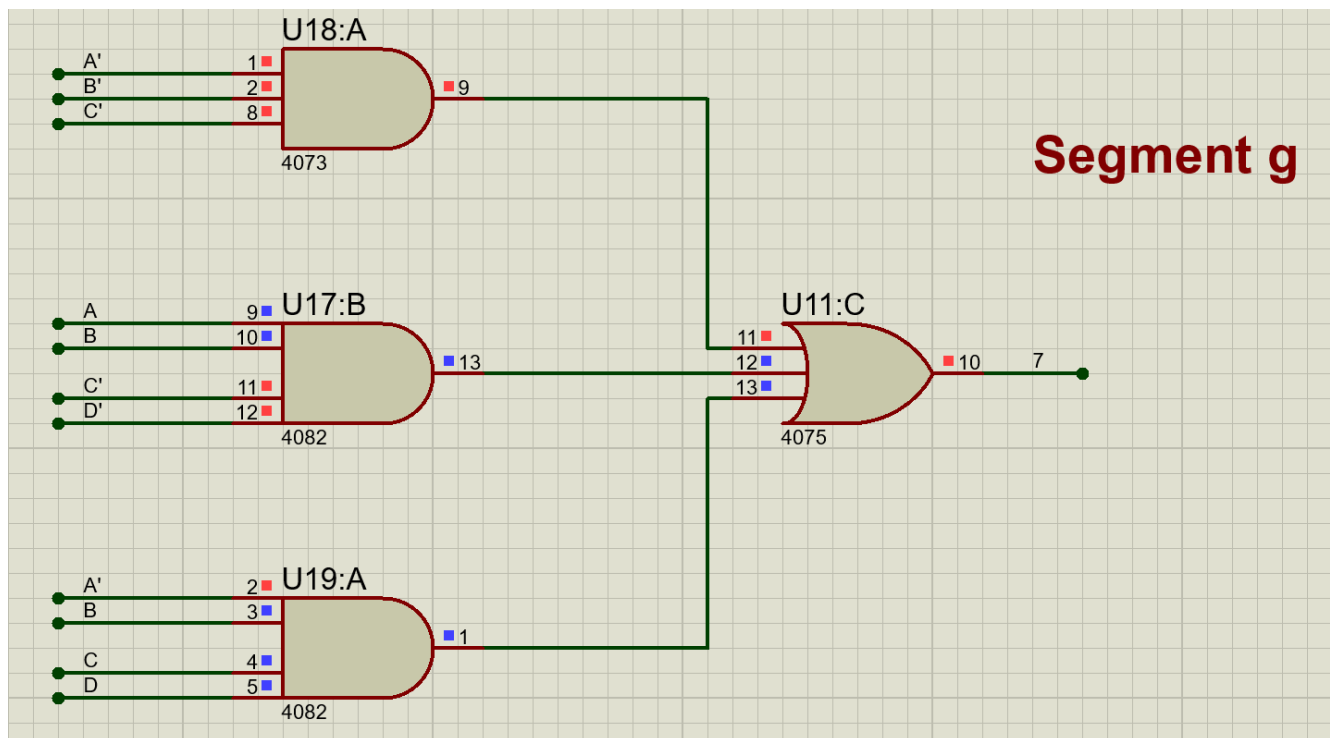
$$a = \bar{A}\bar{B}D + \bar{A}\bar{B}C + \bar{A}CD + AB\bar{C}D$$



Segment “g”:

	00	01	11	10
AB\CD				
00	1	1		
01			1	
11	1			
10				

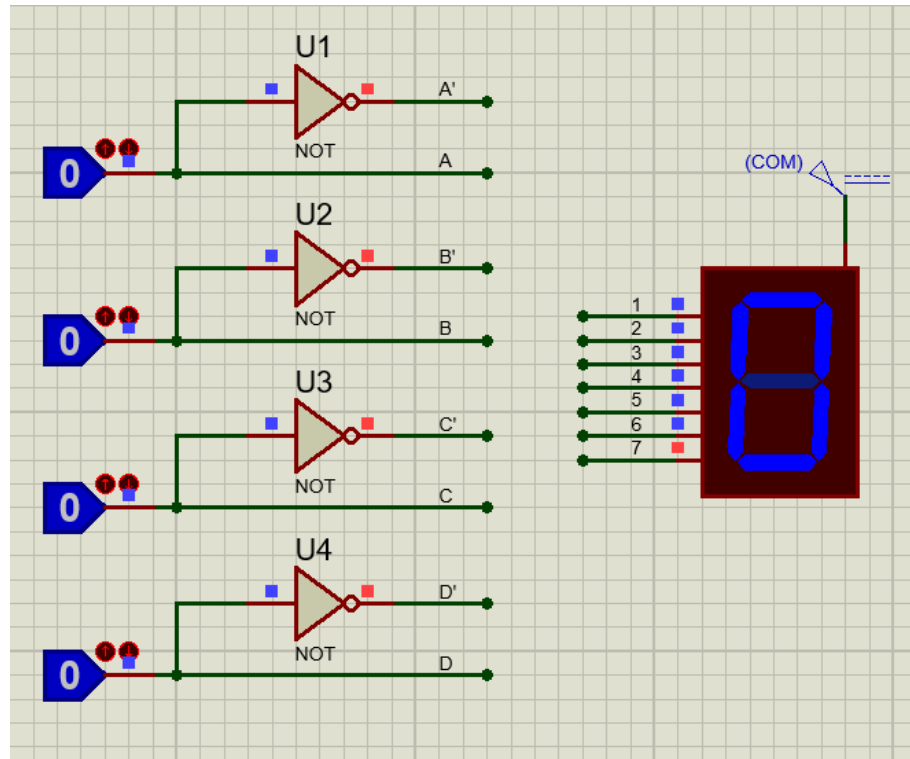
$$a = ABC\bar{D} + \bar{A}BC + \bar{A}BCD$$



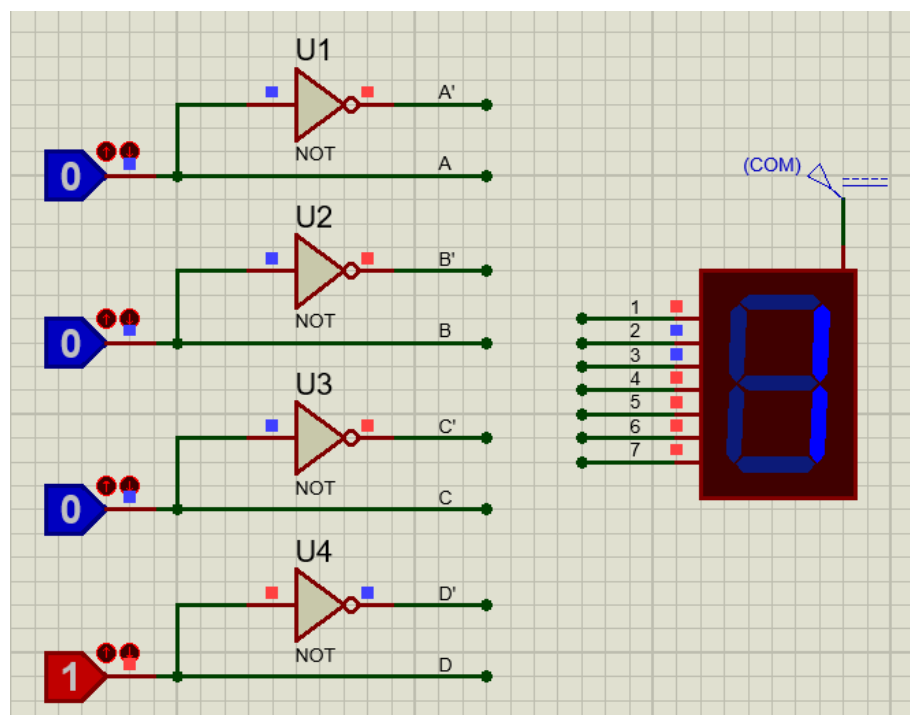
Third

Seven segment display:

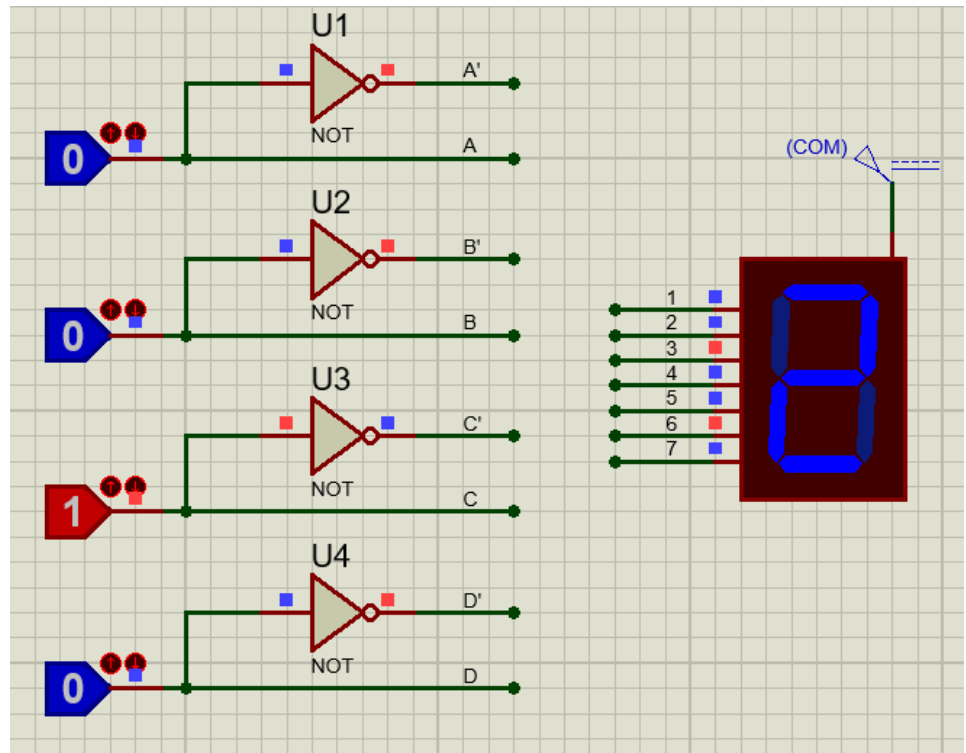
0000



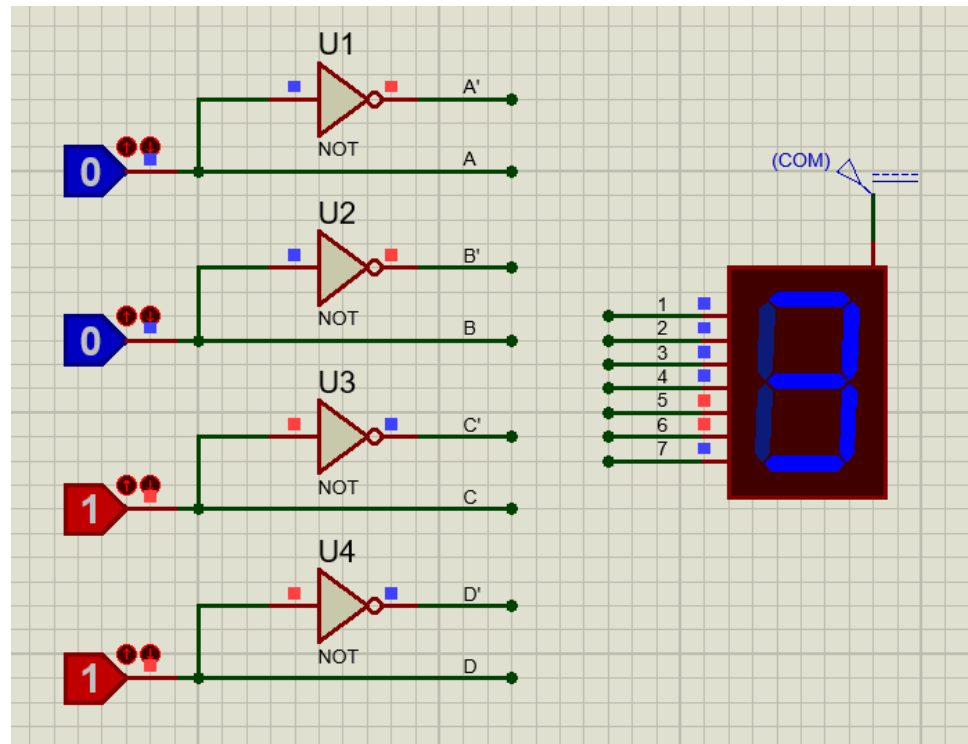
0001



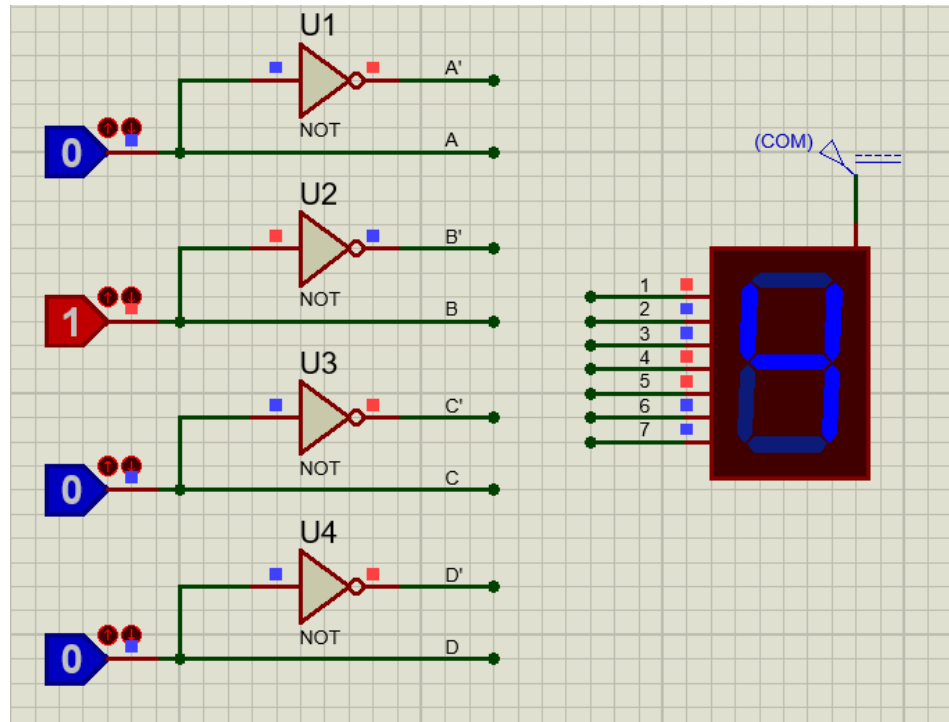
0010



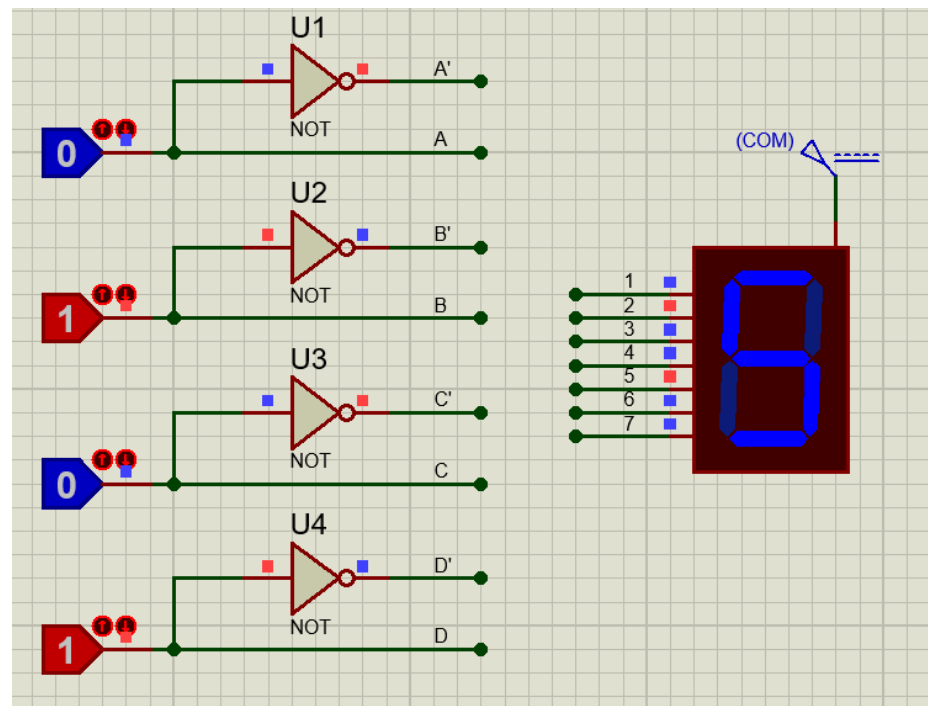
0011



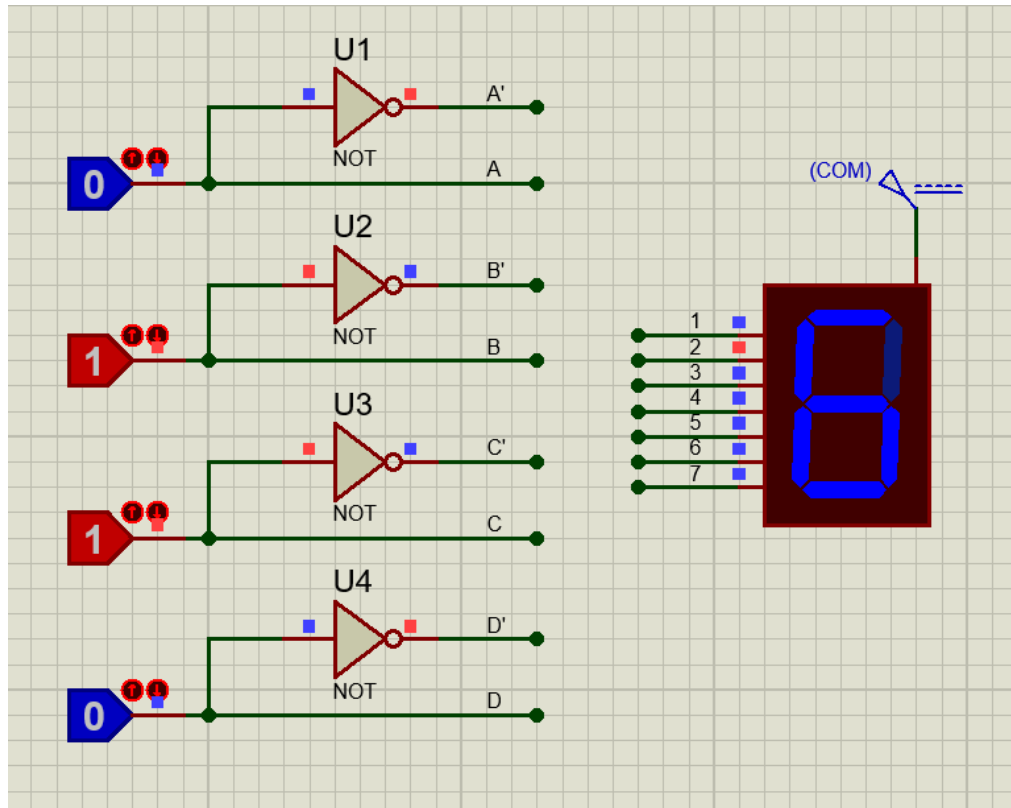
0100



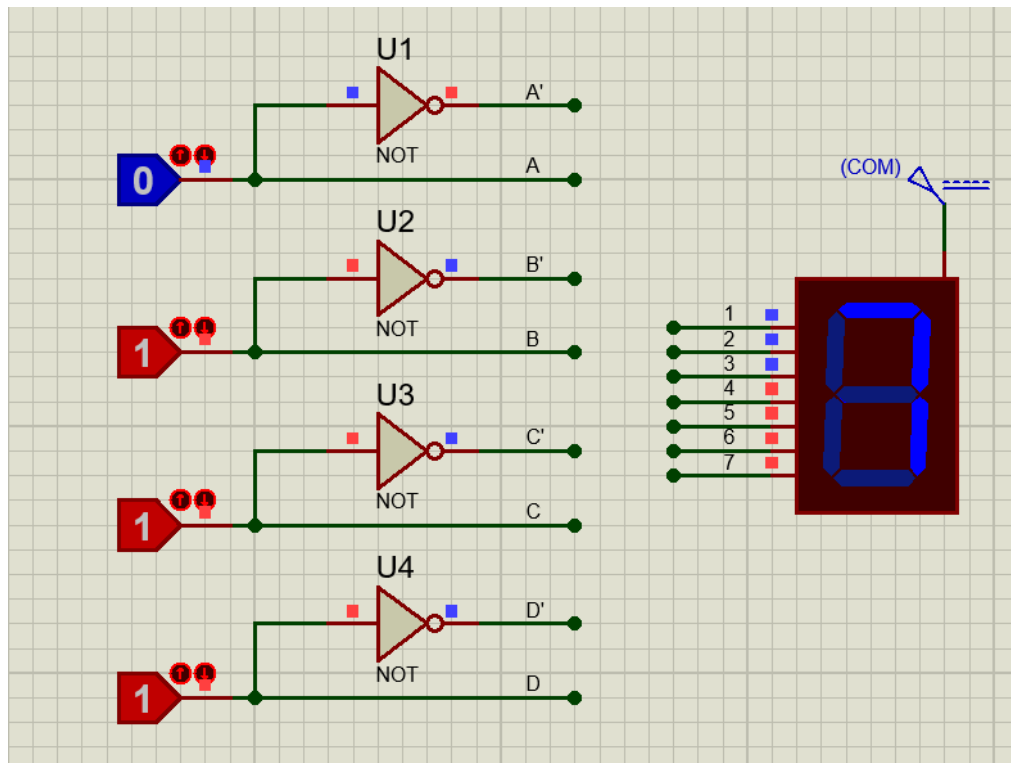
0101



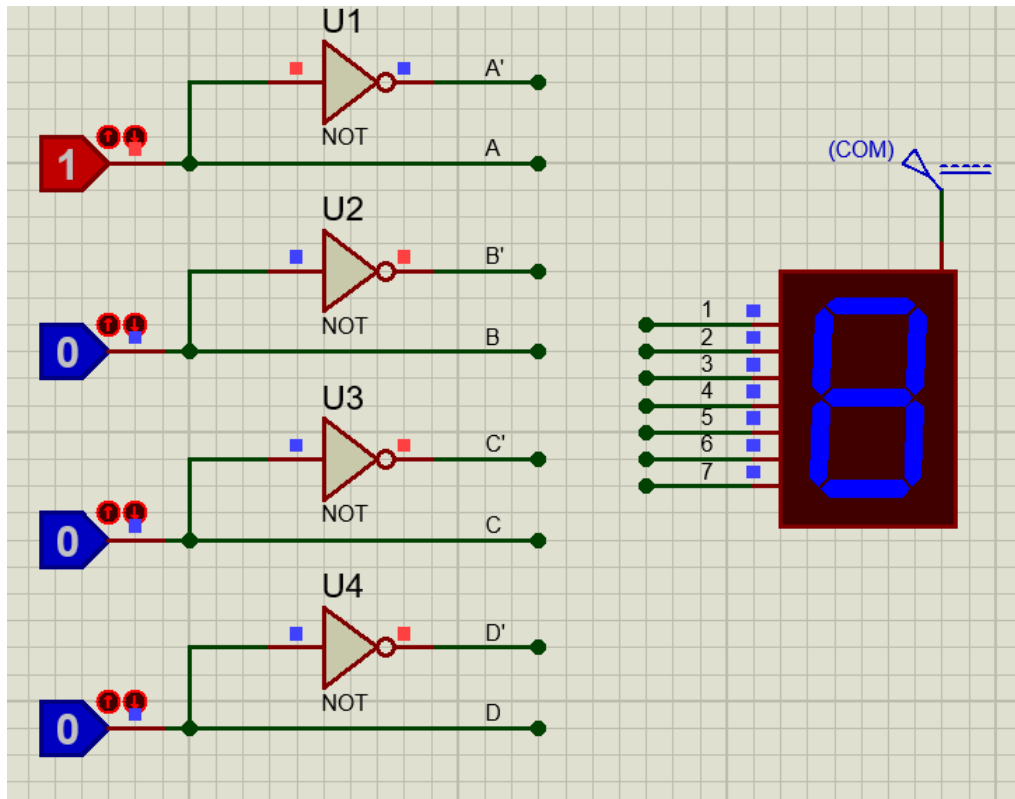
0110



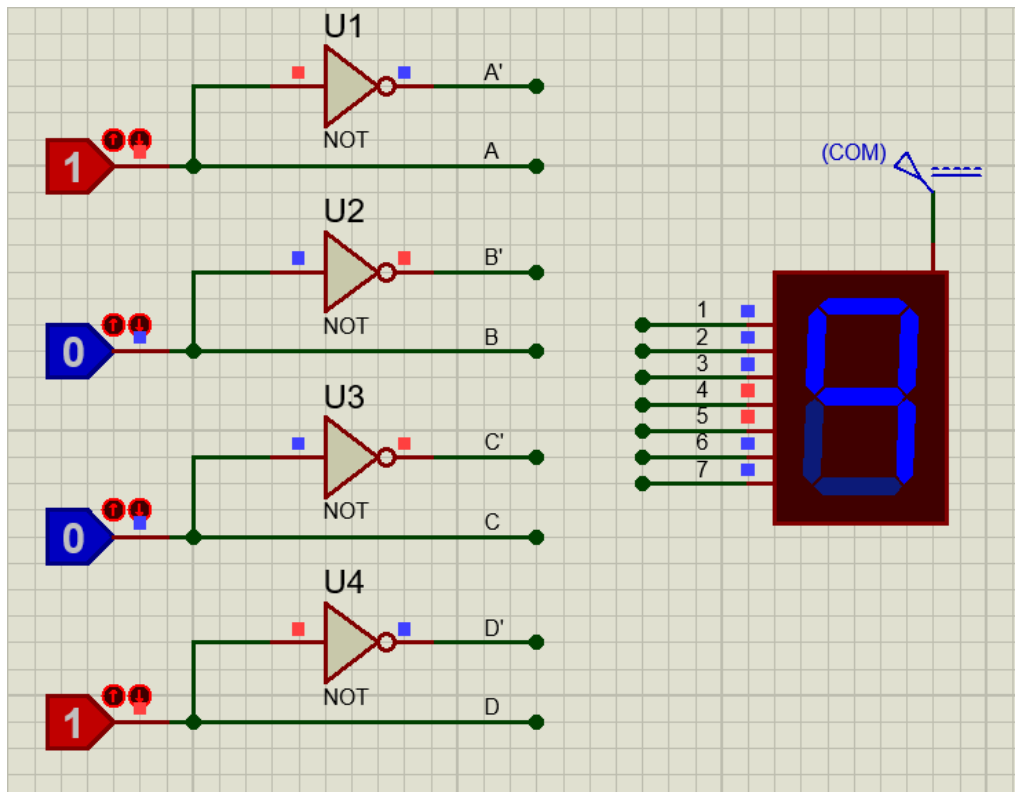
0111



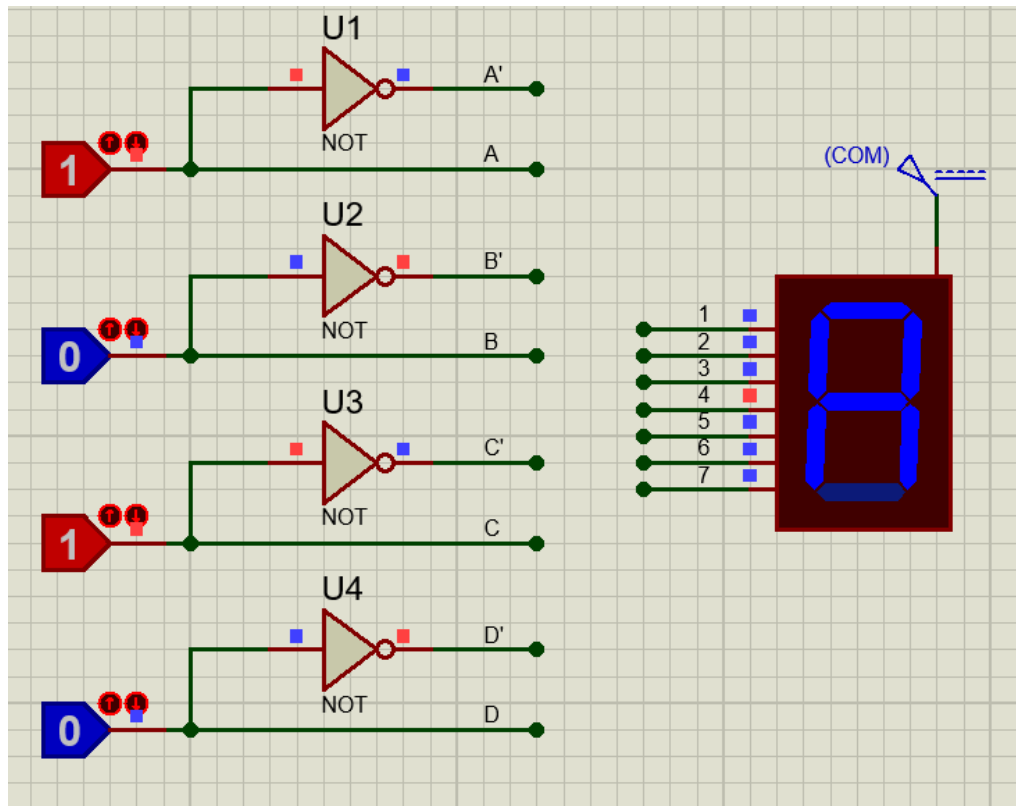
1000



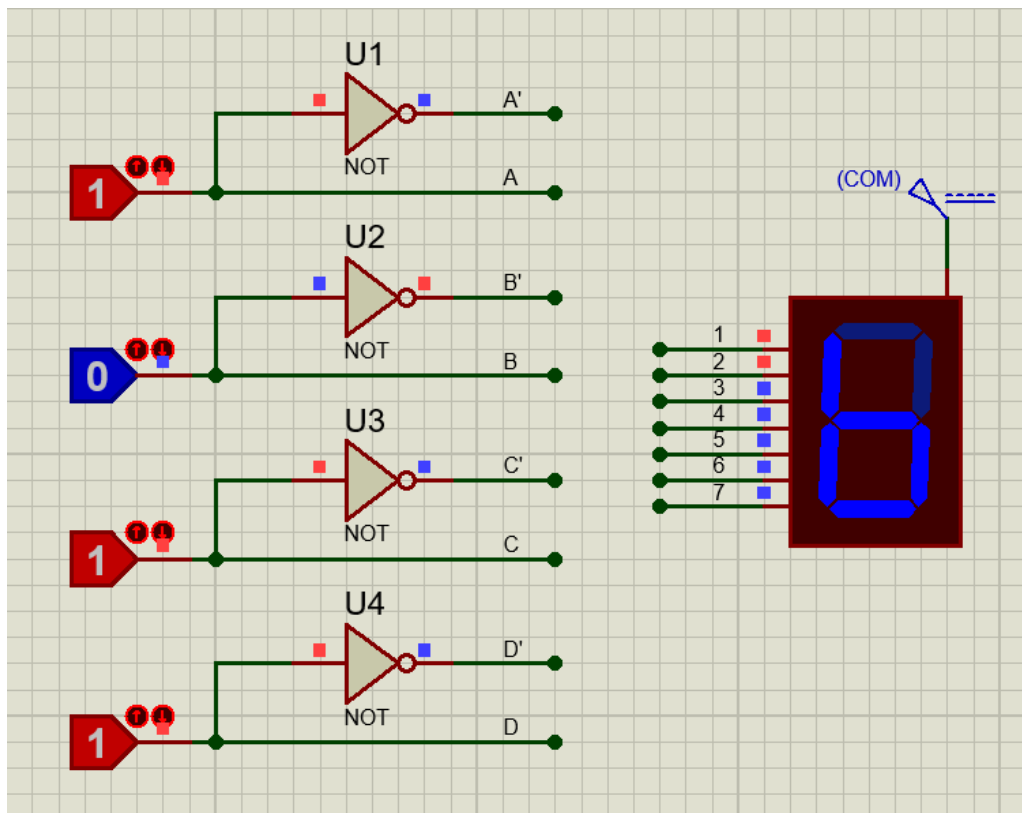
1001



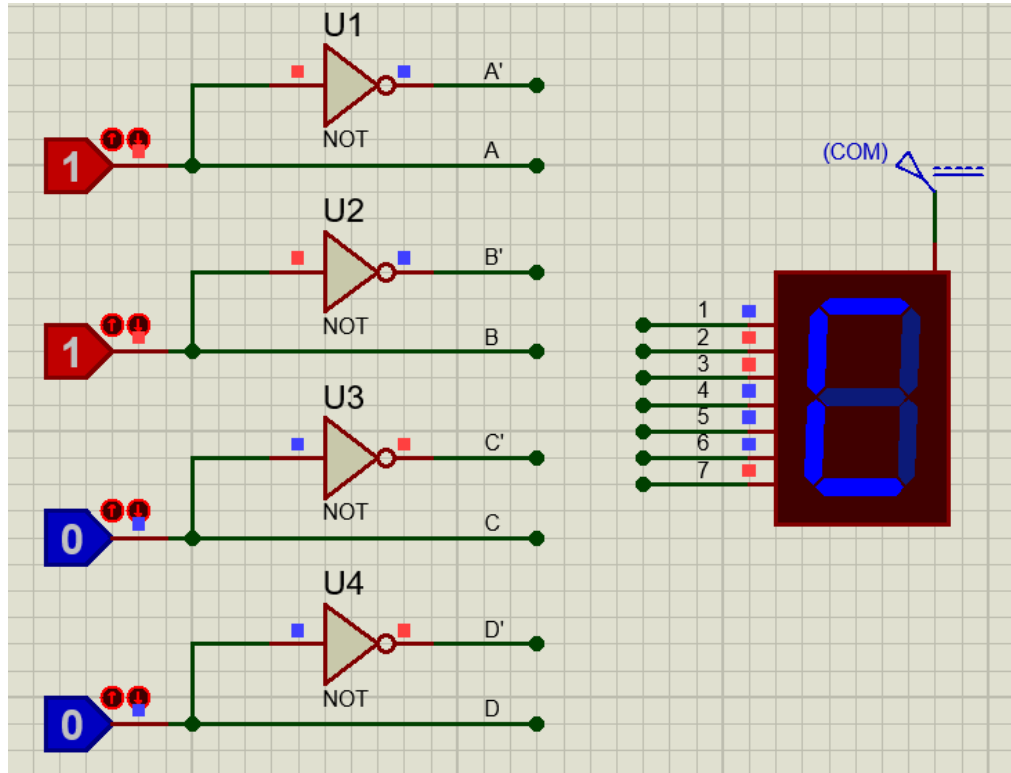
1010



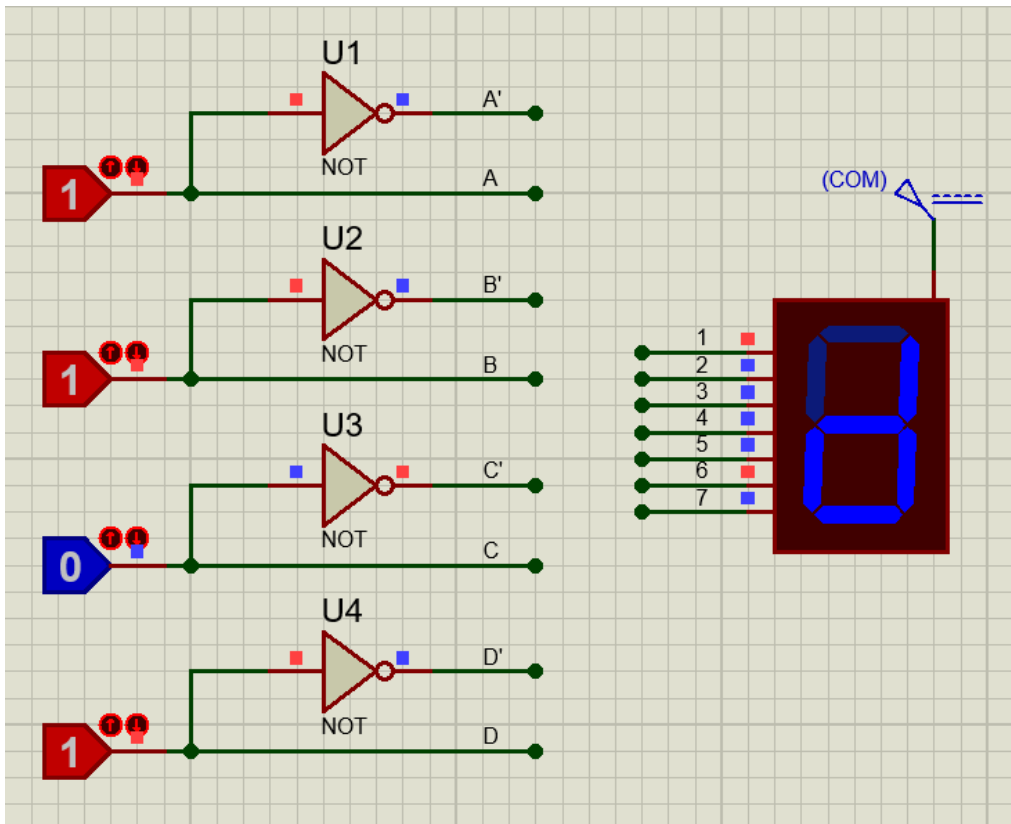
1011



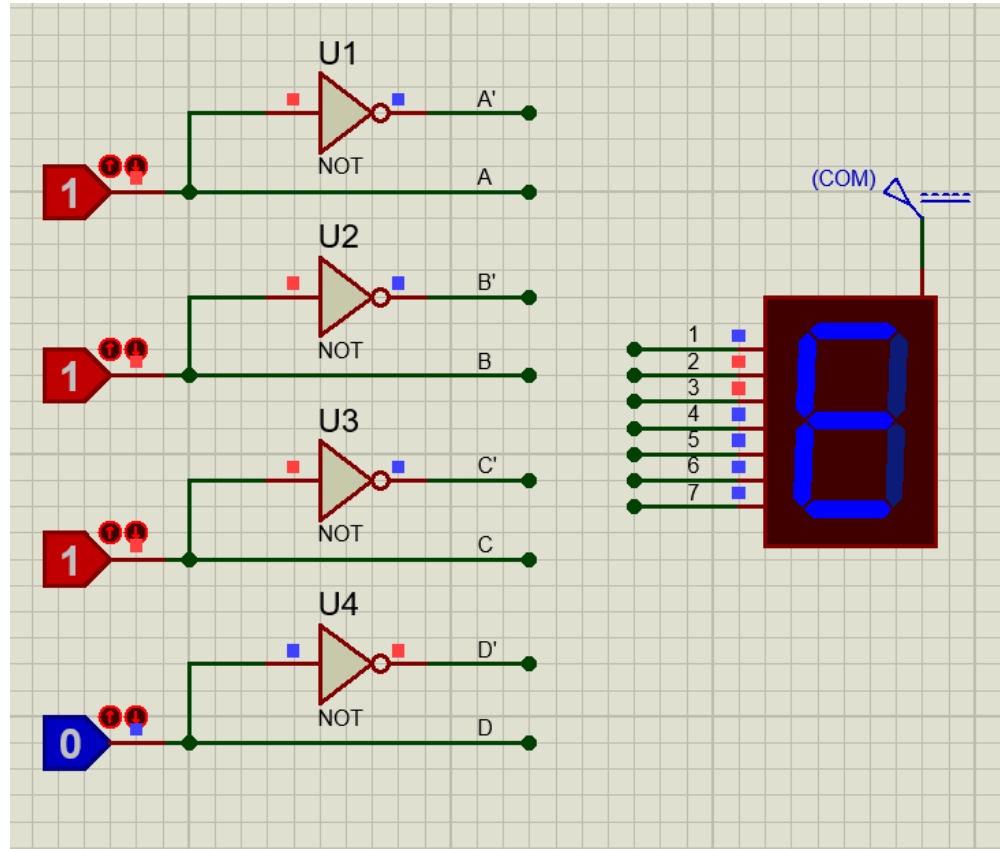
1100



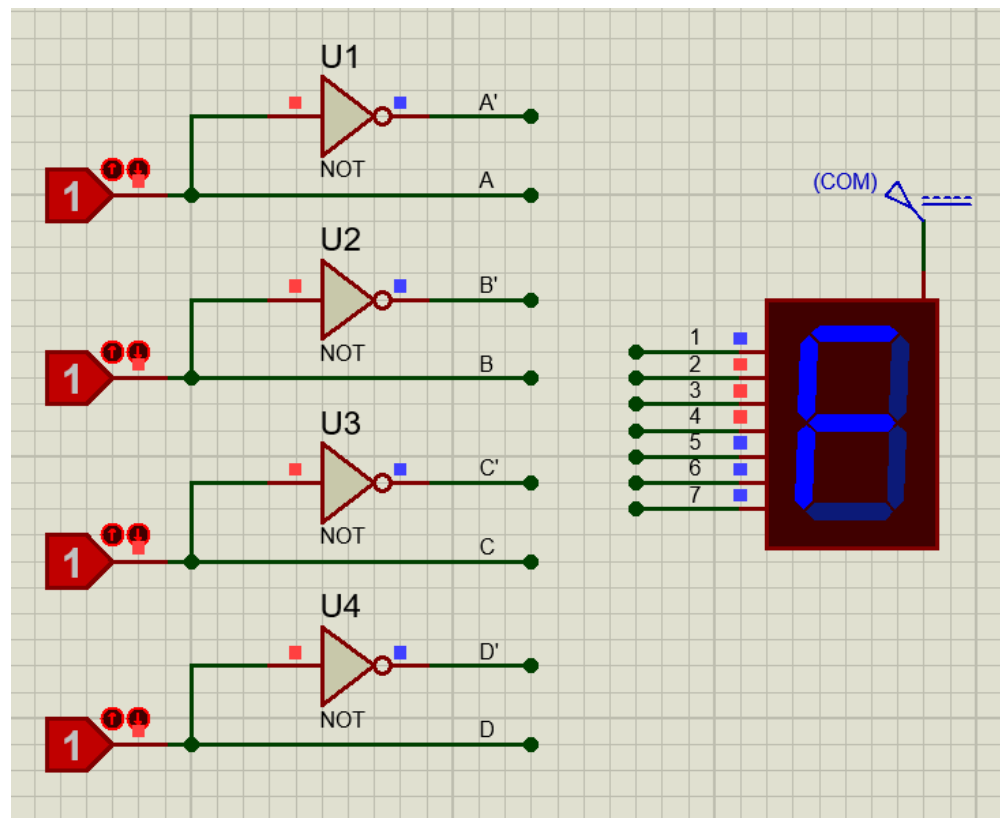
1101



1110



1111



Fouth

Whole Project:

