

Report of hex seven segment display:

Electronics and communication department
Section 1

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	INPUT				OUTPUT						
	A	B	C	D	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	0	1	0	0
10 (A)	1	0	1	0	0	0	0	1	0	0	0
11 (B)	1	0	1	1	1	1	0	0	0	0	0
12 (C)	1	1	0	0	0	1	1	0	0	0	1
13 (D)	1	1	0	1	1	0	0	0	0	1	0
14 (E)	1	1	1	0	0	1	1	0	0	0	0
15 (F)	1	1	1	1	0	1	1	1	0	0	0

K-map of a :

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

$$\begin{aligned}
 \text{Eq : } & A'B'C'D + A'BC'D' + AB'CD + ABC'D \\
 &= A'C'(B'D + BD') + AD(B'C + BC') \\
 &= A'C'(B \oplus D) + AD(B \oplus C)
 \end{aligned}$$

K-map of b :

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

$$\text{Eq : } BCD' + ACD + ABD' + A'BC'D$$

K-map of c :

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

$$\begin{aligned}
 \text{Eq : } & ABD' + ABC + A'B'CD' \\
 &= AB(D' + C) + A'B'CD'
 \end{aligned}$$

K-map of d :

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

$$\begin{aligned}
 \text{Eq : } & BCD + A'B'C'D + A'BC'D' + AB'CD' \\
 &= A'C'(B'D + BD') + C(BD + AB'D') \\
 &= A'C'(B \oplus D) + C(BD + AB'D')
 \end{aligned}$$

K-map of e :

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

$$\begin{aligned}
 \text{Eq : } & A'D + B'C'D + A'BC' \\
 &= A'(D + BC') + B'C'D
 \end{aligned}$$

K-map of f :

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

$$\begin{aligned}
 \text{Eq : } & A'B'D + A'B'C + A'CD + ABC'D \\
 &= A'(B'D + B'C + CD) + ABC'D \\
 &= A'(B'(D + C) + CD) + ABC'D
 \end{aligned}$$

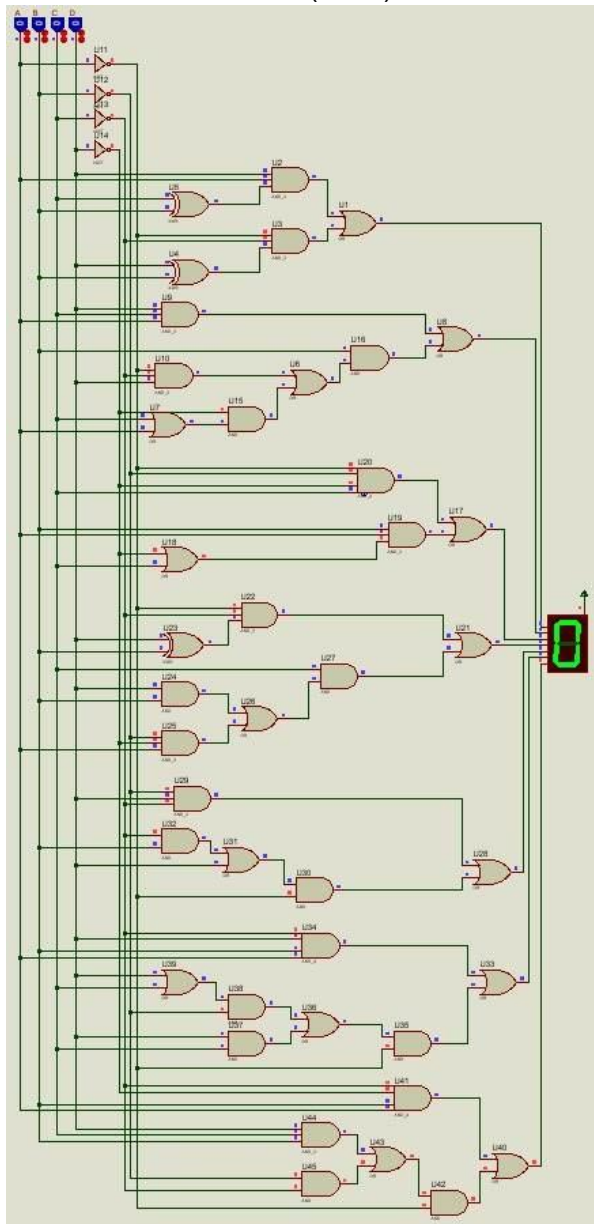
K-map of g :

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

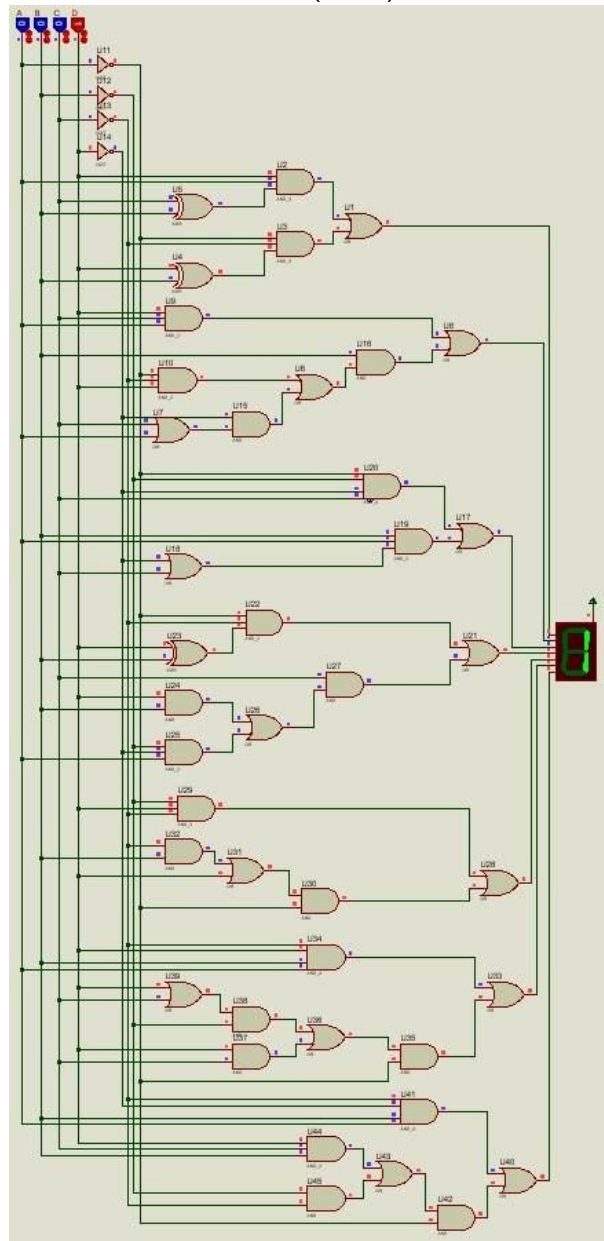
$$\begin{aligned}
 \text{Eq : } & A'B'C' + A'BCD + ABC'D' \\
 &= A'(B'C' + BCD) + ABC'D'
 \end{aligned}$$

SEGMENT	EQUATION
a	$A'C'(B \oplus D) + AD(B \oplus C)$
b	$BCD' + ACD + ABD' + A'BC'D$
c	$AB(D' + C) + A'B'CD'$
d	$A'C'(B \oplus D) + C(BD + AB'D')$
e	$A'(D + BC') + B'C'D$
f	$A'(B'(D+C)+CD)+ABC'D$
g	$A'(B'C'+BCD)+ABC'D'$

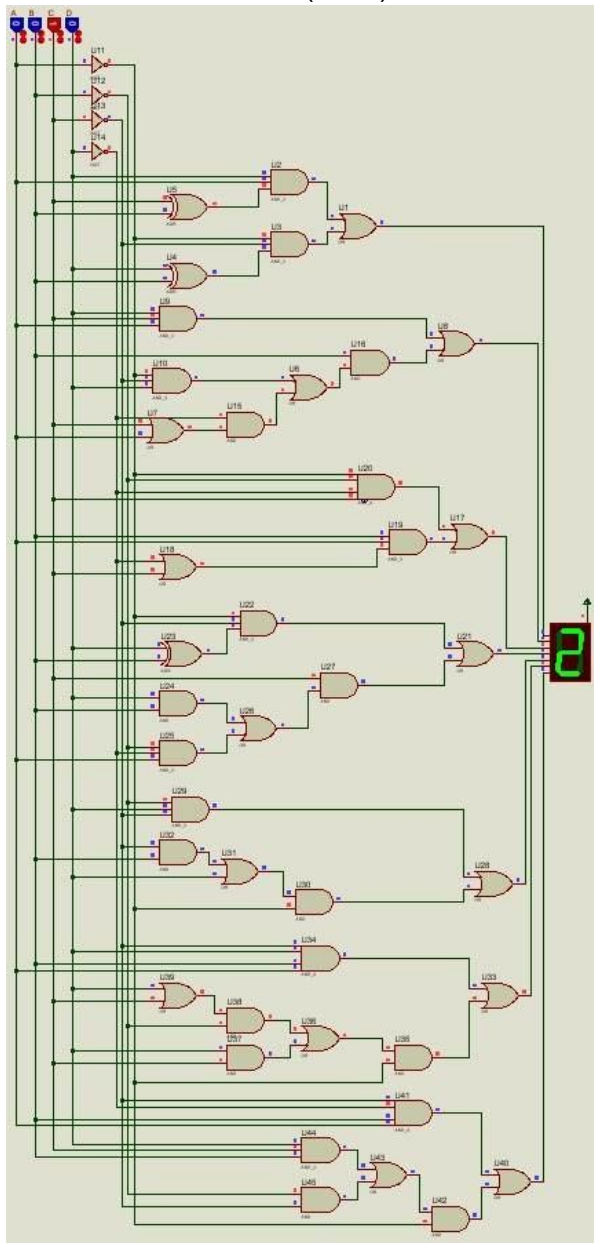
Case 0 (0000)



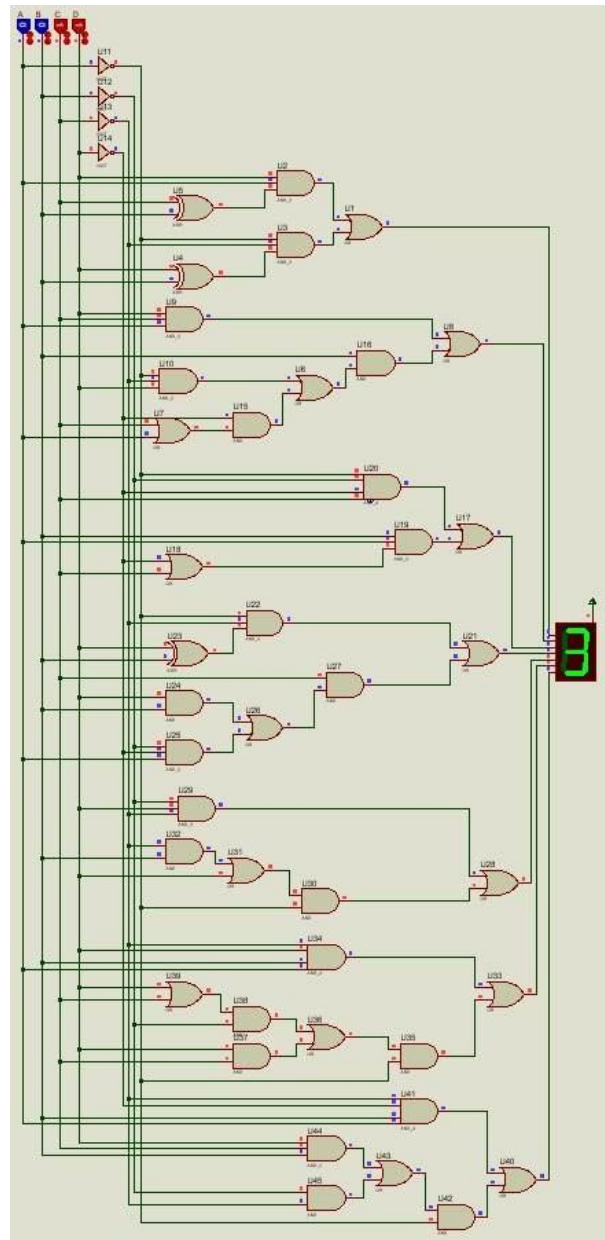
Case 1 (0001)



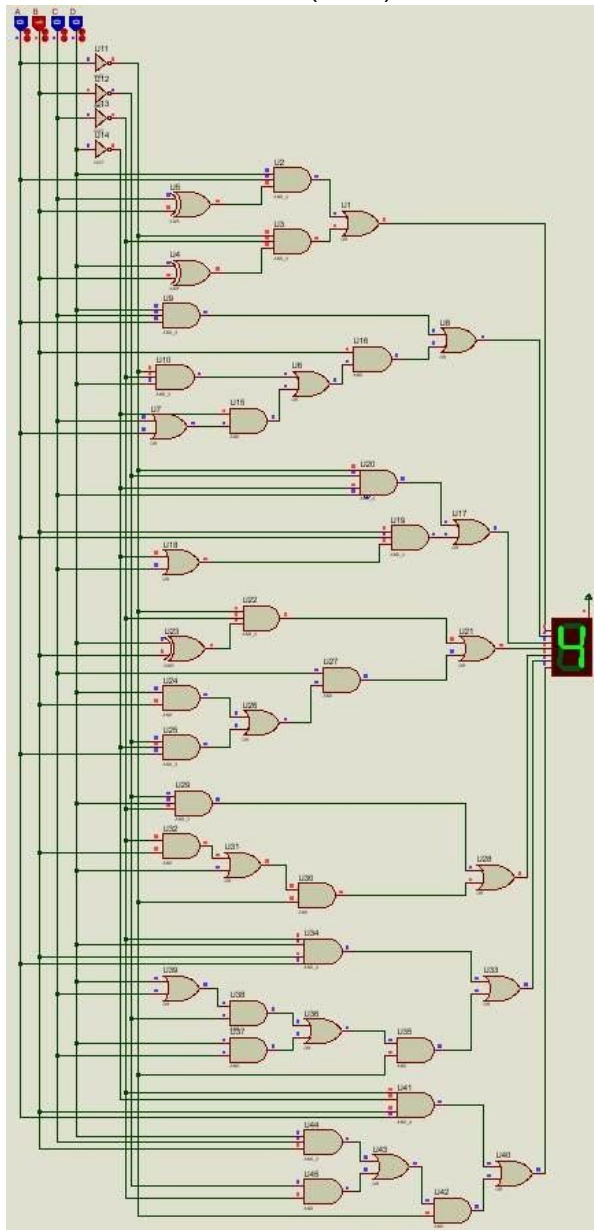
Case 2(0010)



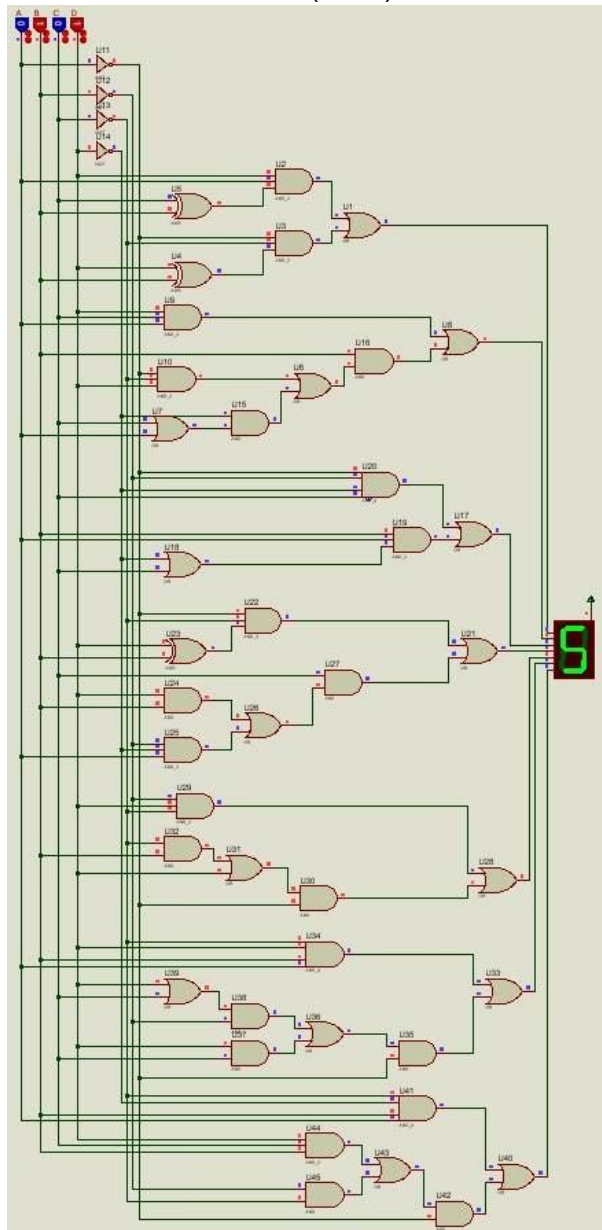
Case 3 (0011)



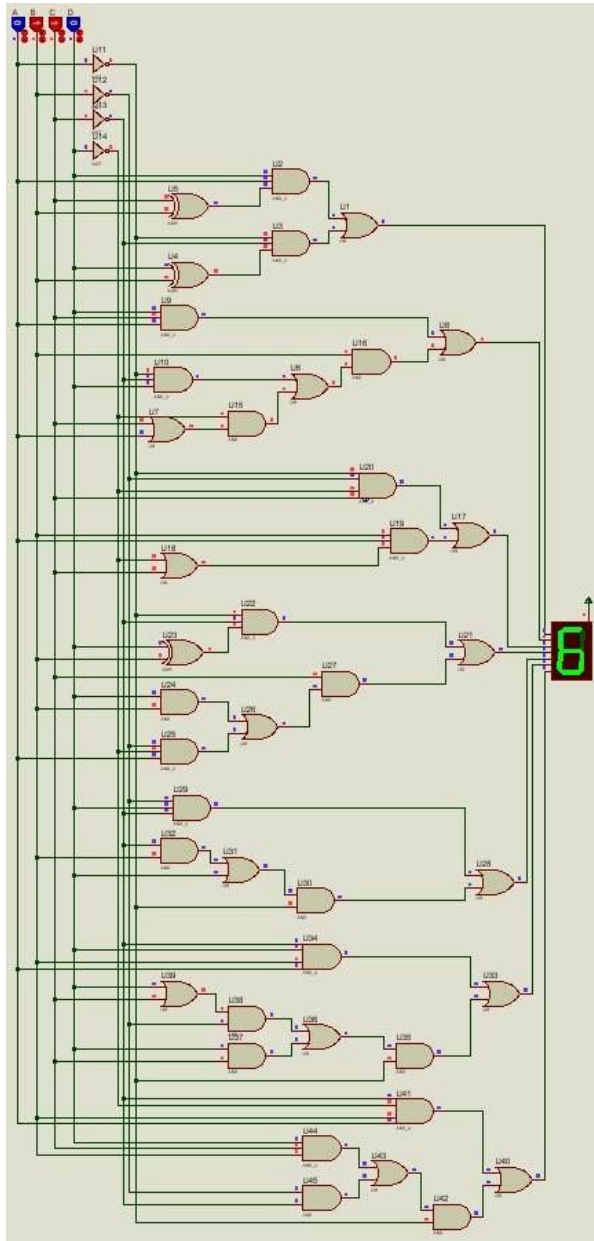
Case 4 (0100)



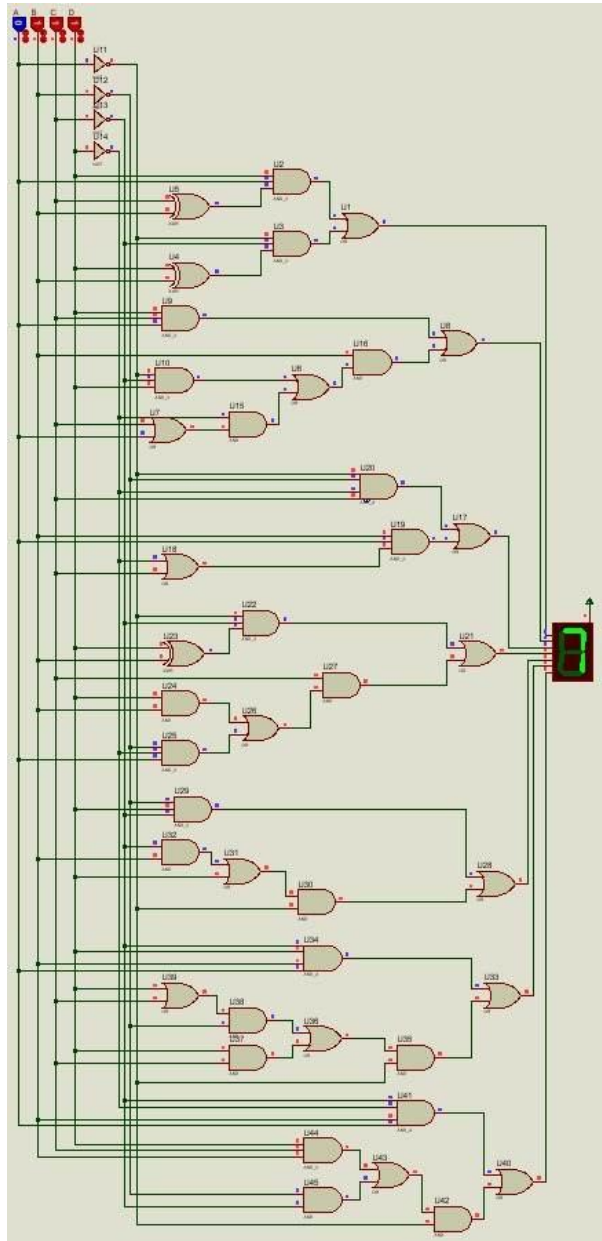
Case 5 (0101)



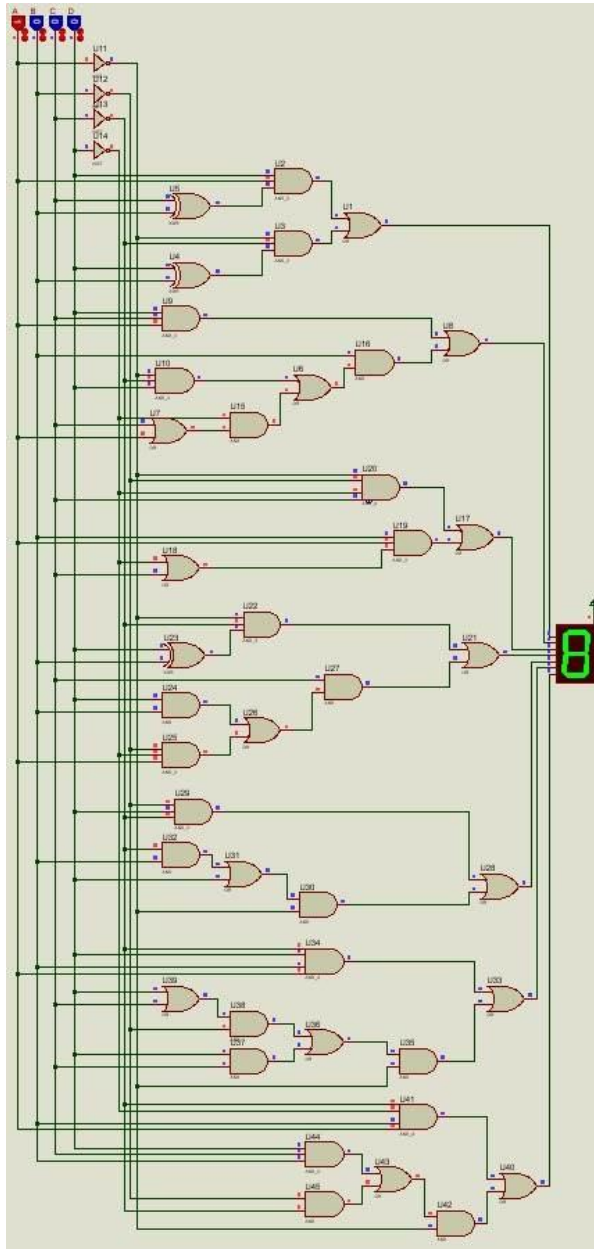
Case 6 (0110)



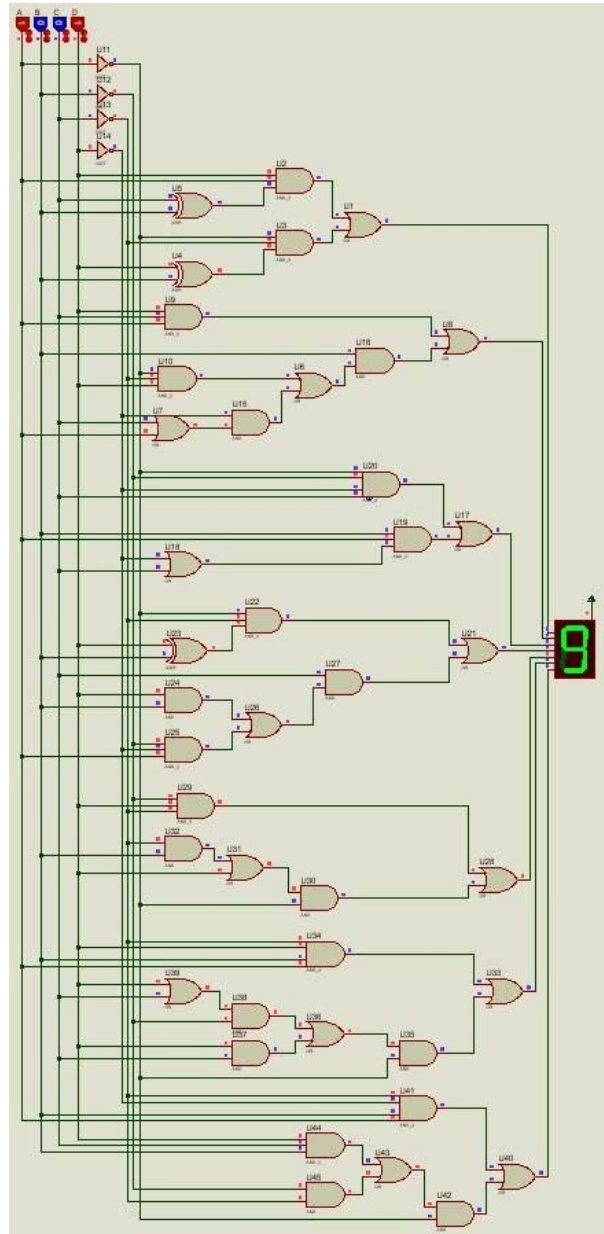
Case 7 (0111)



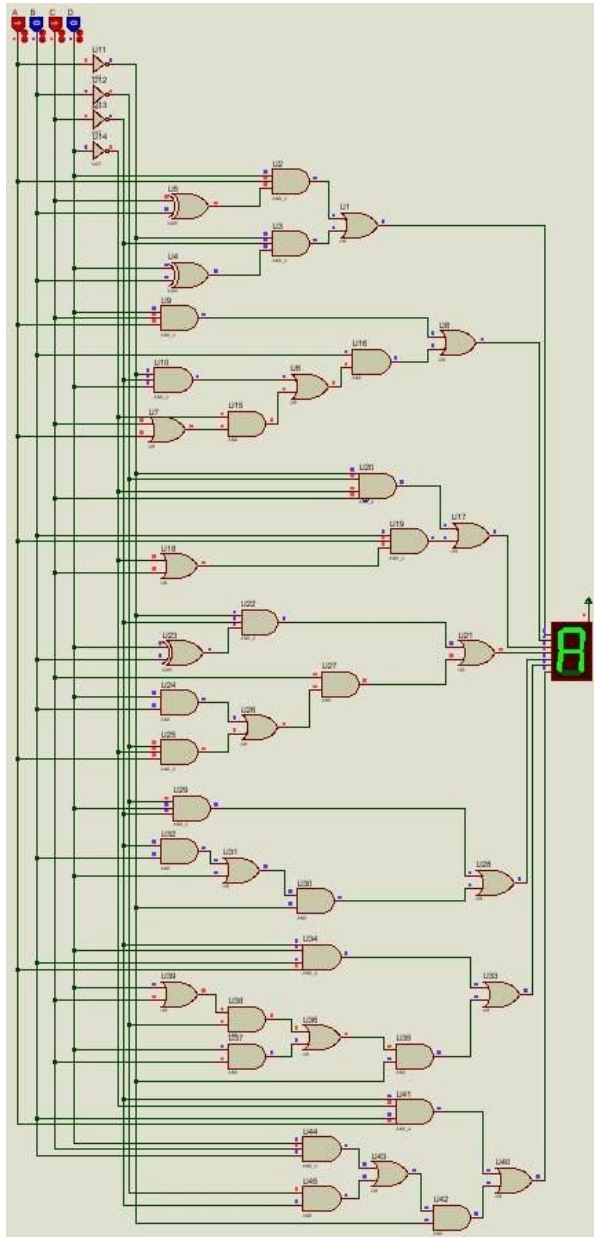
Case 8 (1000)



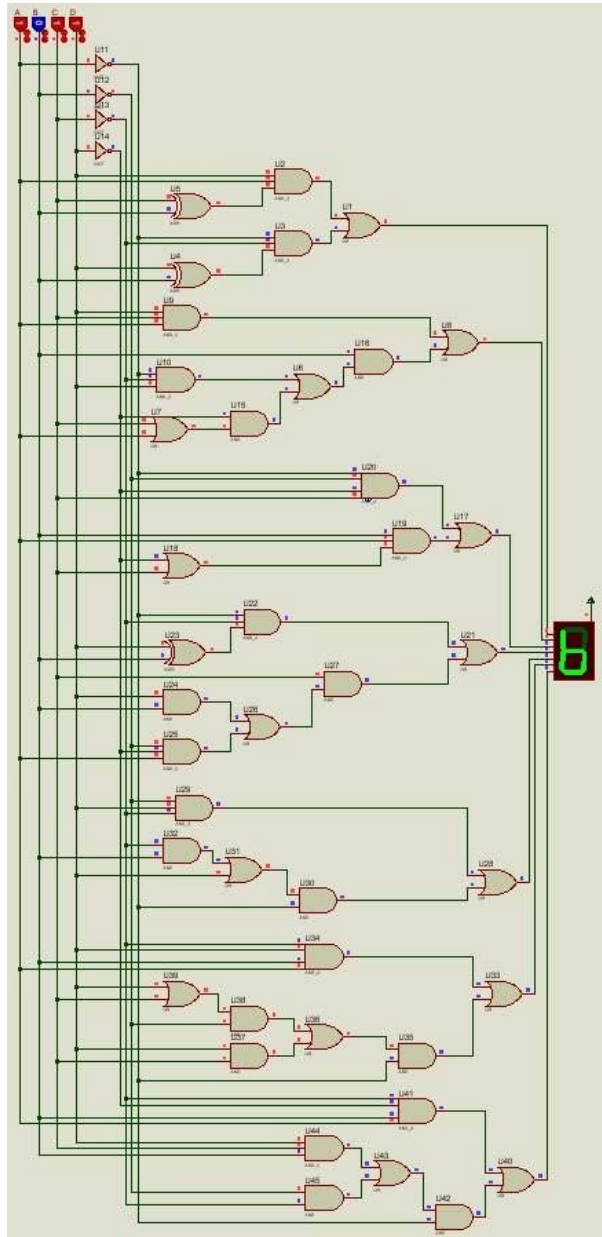
Case 9 (1001)



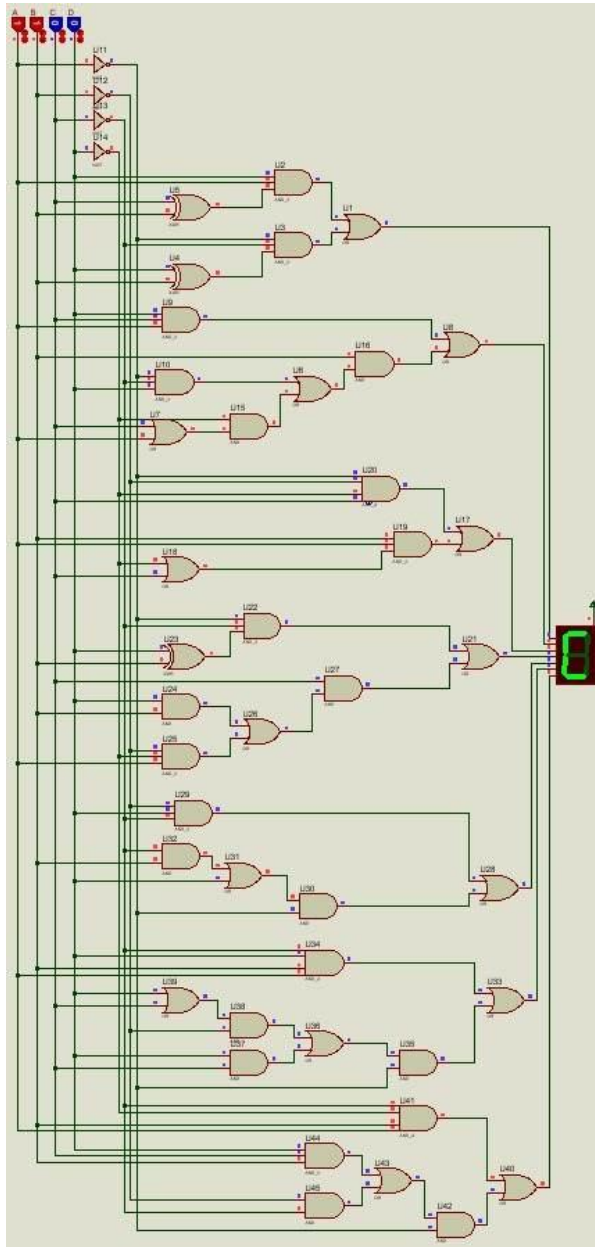
Case A (1010)



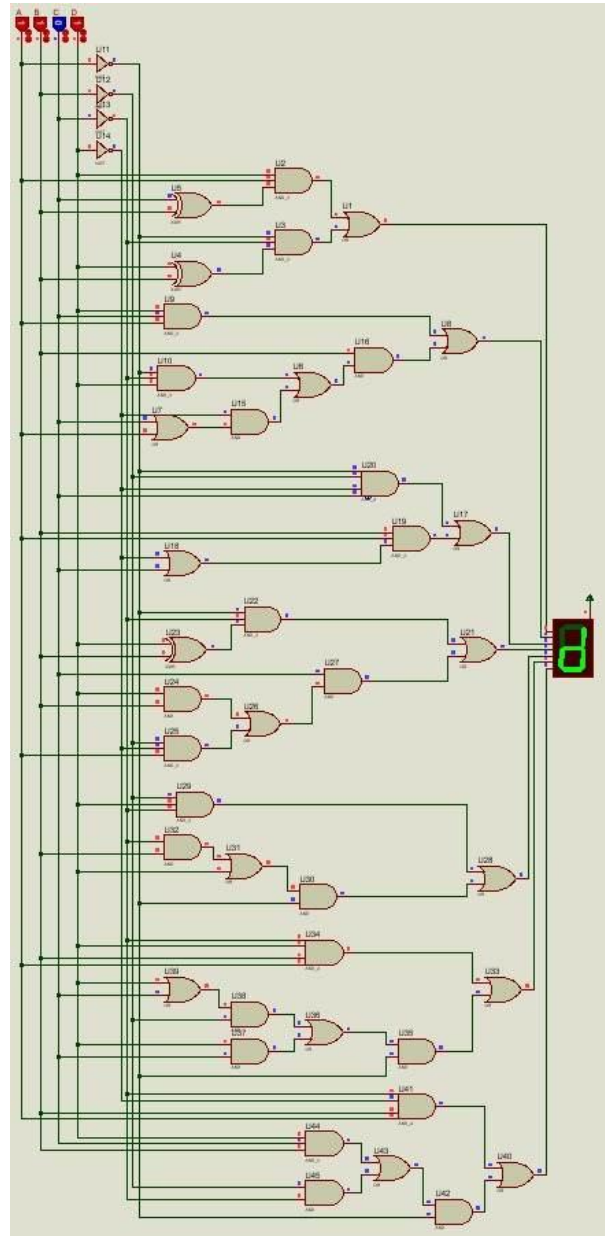
Case b (1011)



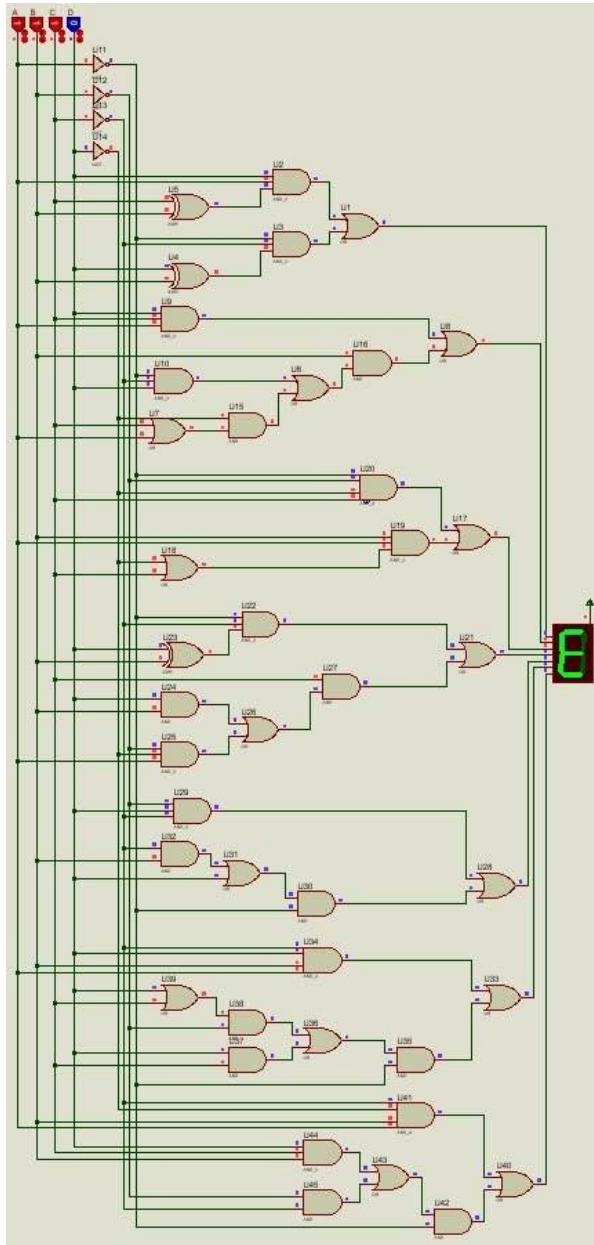
Case C (1100)



Case d (1101)



Case E (1110)



Case F (1111)

