

DLD LAB 5

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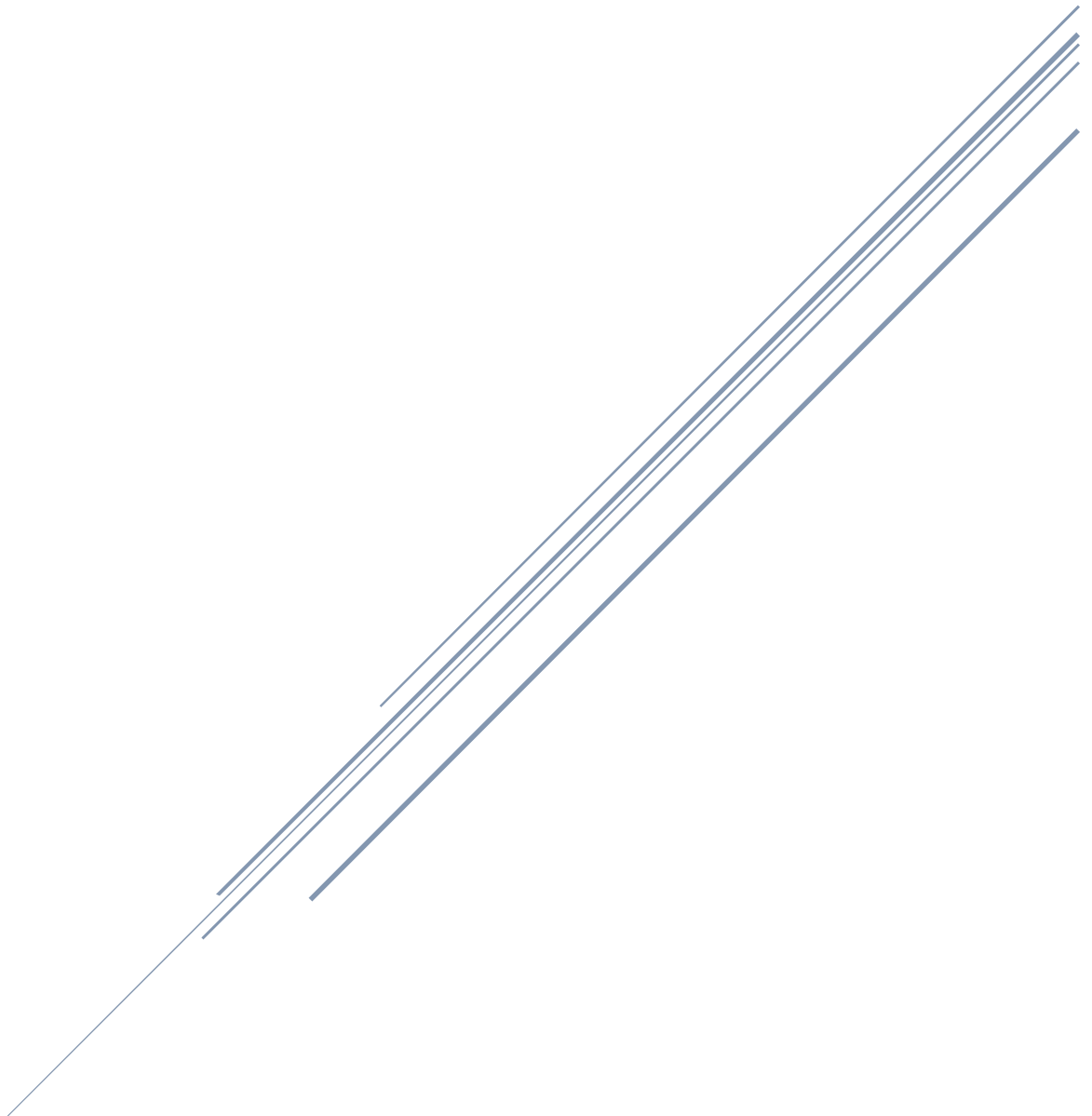
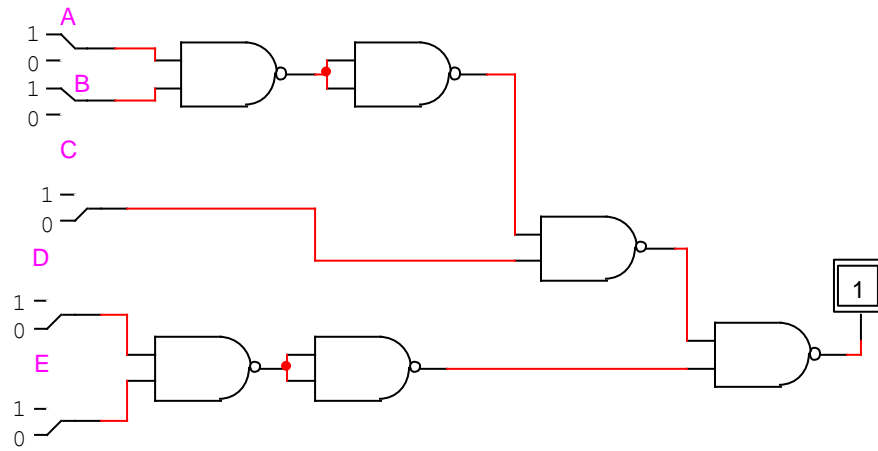


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Question #1:

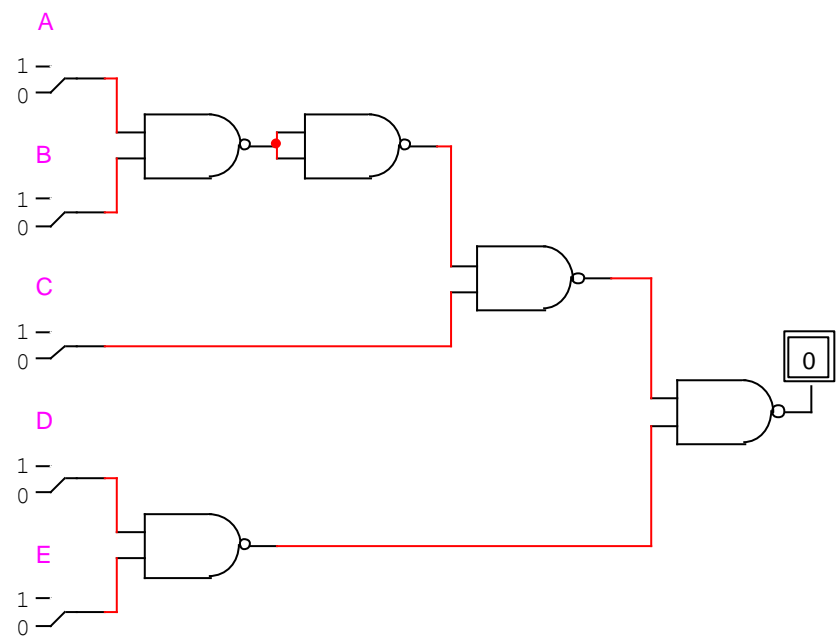
Part 1:



A	B	C	D	E	Output
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0	0	1	0	0	1
0	0	1	0	1	1
0	0	1	1	0	1
0	0	1	1	1	0
0	1	0	0	0	1
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1	0	0	0	0	1

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1	1	1	0	0	1
1	1	1	0	1	1
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1	1	1	1	0	1
1	1	1	1	1	1

Part 2:



A	B	C	D	E	Output
0	0	0	0	0	0
0	0	0	0	1	0
0	0	0	1	0	0
0	0	0	1	1	1
0	0	1	0	0	0
0	0	1	0	1	0
0	0	1	1	0	0
0	0	1	1	1	1
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0	1	0	0	1	0
0	1	0	1	0	0
0	1	0	1	1	1
0	1	1	0	0	0
0	1	1	0	1	0
0	1	1	1	0	0
0	1	1	1	1	1
1	0	0	0	0	0

1	0	0	0	1	0
1	0	0	1	0	0
1	0	0	1	1	1
1	0	1	0	0	0
1	0	1	0	1	0
1	0	1	1	0	0
1	0	1	1	1	1
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1	1	0	0	1	0
1	1	0	1	0	0
1	1	0	1	1	1
1	1	1	0	0	1
1	1	1	0	1	1
1	1	1	1	0	1
1	1	1	1	1	0
1	1	1	1	1	1

Question #2:

$$A'BC + AB'C' + A'B'C' + AB'C + ABC$$

$$BC(A'+A) + B'C'(A'+A) + AB'C$$

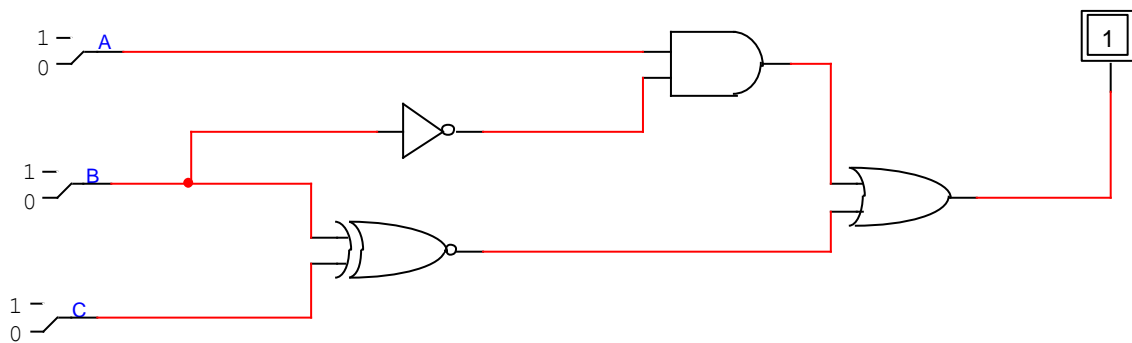
$$BC + B'C' + AB'C$$

$$B'(C' + AC) + BC$$

$$B'(C' + A) + BC$$

$$B'C' + BC + AB'$$

$$B \text{ XNOR } C + AB'$$



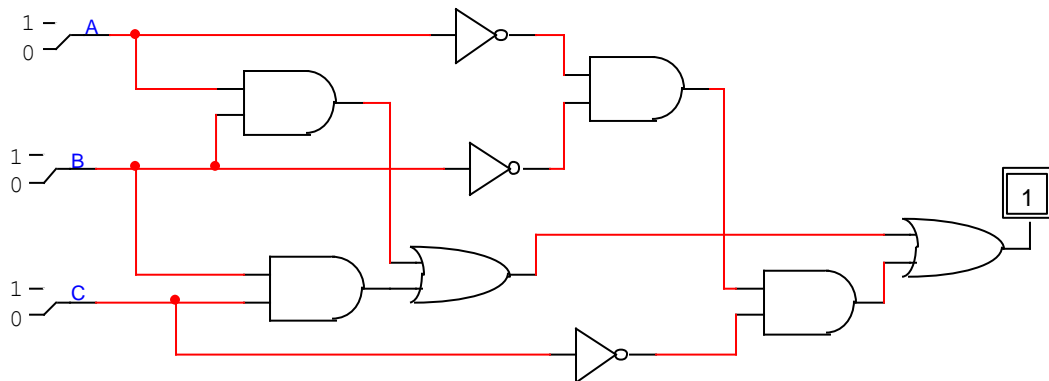
A	B	C	Output
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	0
1	1	1	1

Question #3:

Part 1:

AB \ C	0	1
	00	01
01		1
11	1	1
10		

$$AB + BC + A'B'C'$$

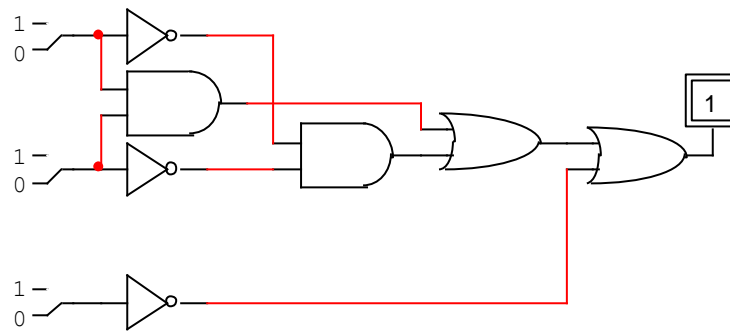


A	B	C	Output
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1

Part 2:

AB \ C	0	1
00	1	1
01	1	
11		1
10	1	1

$$B' + A'C' + AC$$

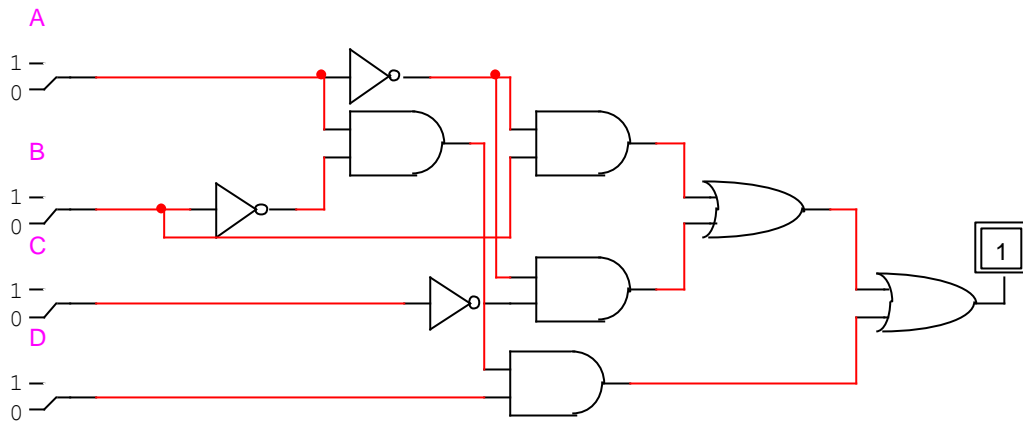


A	B	C	Output
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1

Part 3:

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

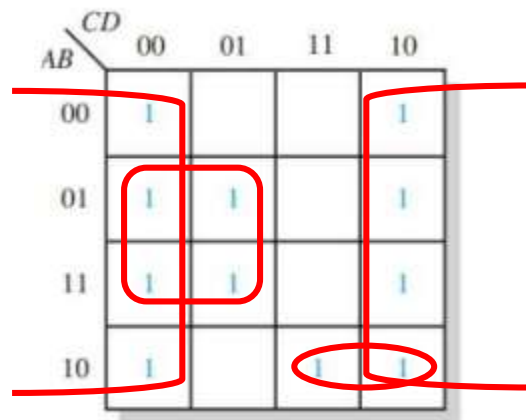
$$A'C + A'B + AB'D$$



A	B	C	D	Output
0	0	0	0	1
0	0	0	1	1
0	0	1	0	0
0	0	1	1	0
0	1	0	0	1
0	1	0	1	1
0	1	1	0	1
0	1	1	1	1
1	0	0	0	0
1	0	0	1	1
1	0	1	0	0
1	0	1	1	1

1	1	0	0	0
1	1	0	1	0
1	1	1	0	0
1	1	1	1	0

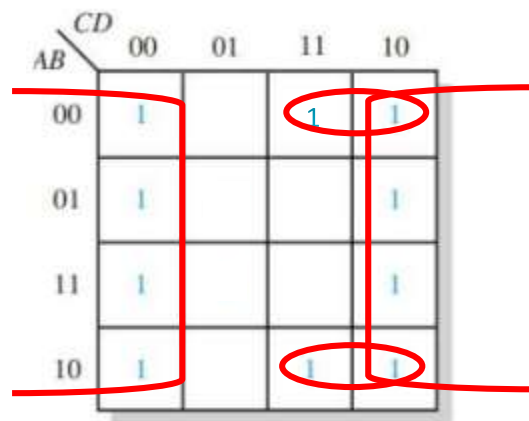
Part 4:



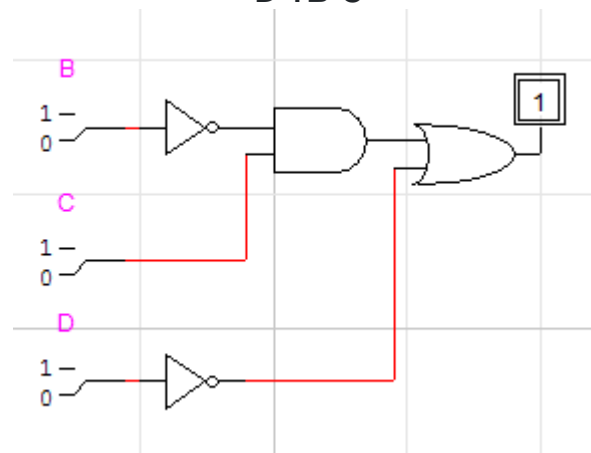
$$D' + BC' + AB'C$$

A	B	C	D	Output
0	0	0	0	1
0	0	0	1	0
0	0	1	0	1
0	0	1	1	0
0	1	0	0	1
0	1	0	1	1
0	1	1	0	1
0	1	1	1	0
1	0	0	0	1
1	0	0	1	0
1	0	1	0	1
1	0	1	1	1
1	1	0	0	1
1	1	0	1	1
1	1	1	0	1
1	1	1	1	0

Question #4:



$$D + B'C$$



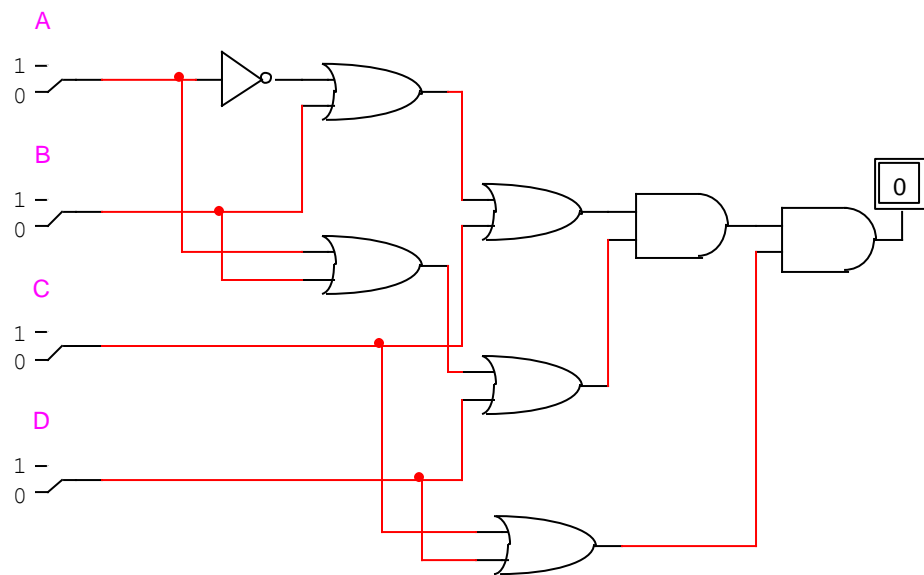
A	B	C	D	Output
0	0	0	0	1
0	0	0	1	0
0	0	1	0	1
0	0	1	1	1
0	1	0	0	1
0	1	0	1	0
0	1	1	0	1
0	1	1	1	0
1	0	0	0	1
1	0	0	1	0
1	0	1	0	1
1	0	1	1	1

1	1	0	0	1
1	1	0	1	0
1	1	1	0	1
1	1	1	1	0

Question #5:

		<i>CD</i>			
		00	01	11	10
<i>AB</i>	00	0			0
	01	0			
	11	0			
	10	0	0		

$$(A' + B + C)(A + B + D)(C + D)$$



A	B	C	D	Output
0	0	0	0	0
0	0	0	1	1
0	0	1	0	0

0	0	1	1	1
0	1	0	0	0
0	1	0	1	1
0	1	1	0	1
0	1	1	1	1
1	0	0	0	0
1	0	0	1	0
1	0	1	0	1
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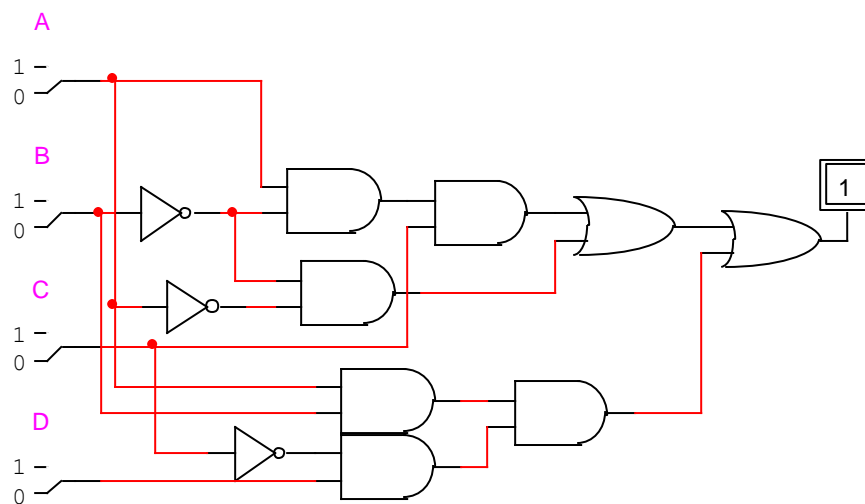
Question #6:

$$AB'C + A'B' + ABC'D$$

$$AB'C(D+D') + A'B'(C+C')(D+D') + ABC'D$$

$$AB'CD + AB'CD' + (A'B'C + A'B'C')(D+D') + ABC'D$$

$$AB'CD + AB'CD' + A'B'CD + A'B'CD' + A'B'C'D + A'B'C'D' + ABC'D$$



Question #7:

$$(A+B'+C)(B'+C+D')(A+B'+C'+D)$$

$$(A+B'+C+DD')(AA'+B'+C+D')(A+B'+C'+D)$$

$$(A+B'+C+D)(A+B'+C+D')(A'+B'+C+D')(A+B'+C+D')(A+B'+C'+D)$$

