Boolean Algebra (Binary Logic)

Theorem

A + 0 = A
A + 1 = 1

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A + 0 = A
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A + A = A
A + A’ = 1

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Theorem

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A + 1 = 1
A + A = A
A + A’ = 1

A * 0 = 0
A * 1 = A

Boolean Algebra (Binary Logic)

Theorem

A + 0 = A	A * 0 = 0
A + 1 = 1	A * 1 = A
A + A = A	A * A = A
A + A’ = 1	A * A’ = 0

Boolean Algebra (Binary Logic)

Theorem

A + 0 = A	A * 0 = 0
A + 1 = 1	A * 1 = A
A + A = A	A * A = A
A + A’ = 1	A * A’ = 0
A + B = B + A	A * B = B * A
(A + B) + C = A + (B + C)	(A * B) * C = A * (B * C)
AB + AC = A(B + C)	(A + B)*(A + C) = A + BC

Boolean Algebra (Binary Logic)

AB + AC = A(B + C)

A	B	C		AB	AC	AB+AC		B+C	A(B+C)
0	0	0							
0	0	1							
0	1	0							
0	1	1							
1	0	0							
1	0	1							
1	1	0							
1	1	1							

Boolean Algebra (Binary Logic)

AB + AC = A(B + C)

A	B	C		AB	AC	AB+AC		B+C	A(B+C)
0	0	0		0					
0	0	1		0					
0	1	0		0					
0	1	1		0					
1	0	0		0					
1	0	1		0					
1	1	0		1					
1	1	1		1					

Boolean Algebra (Binary Logic)

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

Boolean Algebra (Binary Logic)

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

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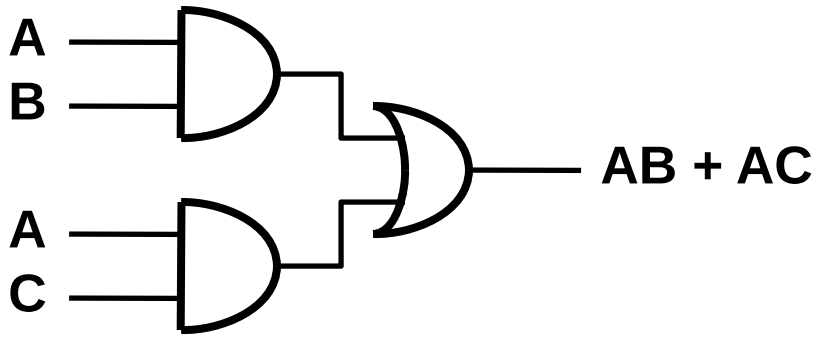
0	1	0		0	0	0		1	0
0	1	1		0	0	0		1	0
1	0	0		0	0	0		0	0
1	0	1		0	1	1		1	1
1	1	0		1	0	1		1	1
1	1	1		1	1	1		1	1

Boolean Algebra (Binary Logic)

AB + AC = A(B + C)



Boolean Algebra (Binary Logic)

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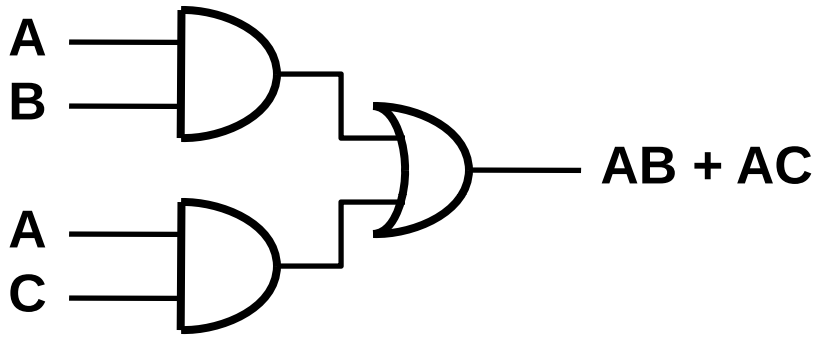

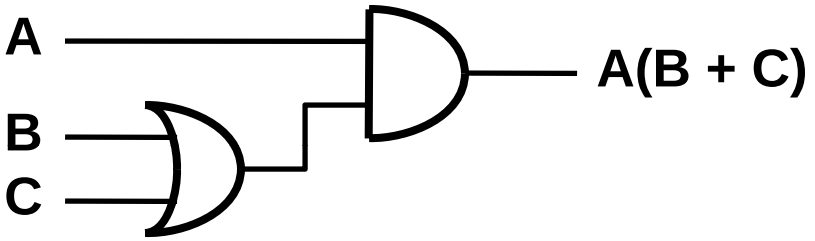

Boolean Algebra (Binary Logic)

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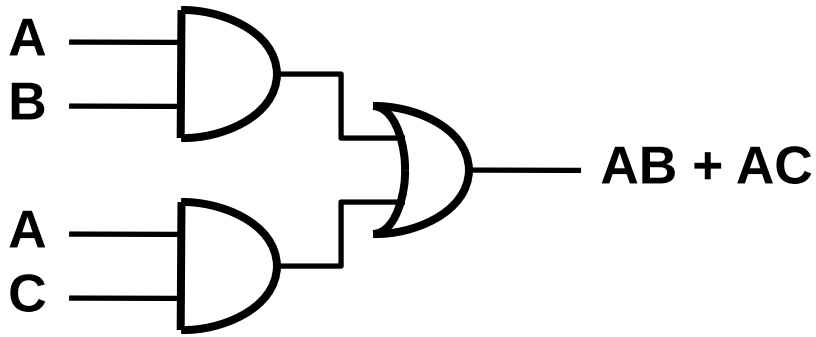

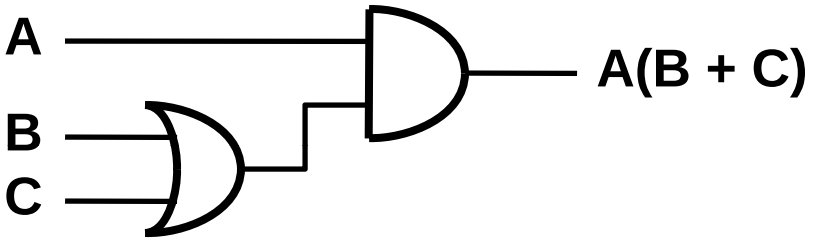

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A + 1 = 1
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A + B = B + A
(A + B) + C = A + (B + C)
AB + AC = A(B + C)

A * 0 = 0
A * 1 = A
A * A = A
A * A’ = 0

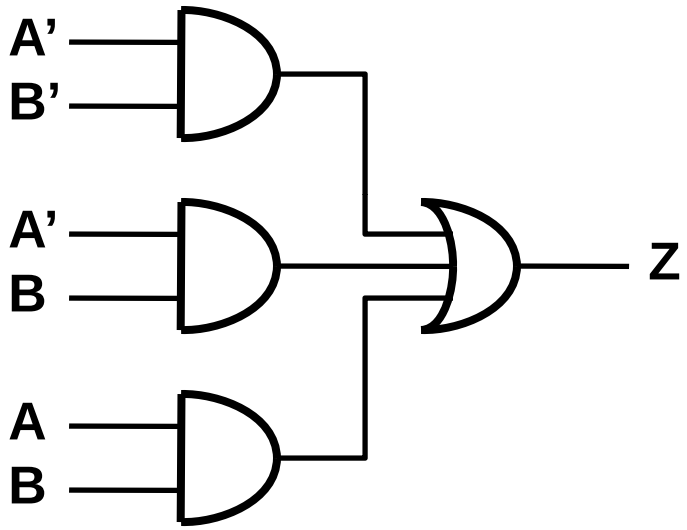
A * B = B * A
(A * B) * C = A * (B * C)
(A + B)*(A + C) = A + BC

Boolean Algebra (Binary Logic)

A’B’ + A’B + AB = Z

Boolean Algebra (Binary Logic)

A'B' + A'B + AB = Z



Boolean Algebra (Binary Logic)

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Boolean Algebra (Binary Logic)

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Boolean Algebra (Binary Logic)

A’B’ + A’B + AB = Z

A’(B’ + B) + AB = Z

A’(1) + AB = Z

A’ + AB = Z

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A’B’ + A’B + A’B + AB = Z

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A’B’ + A’B + A’B + AB = Z

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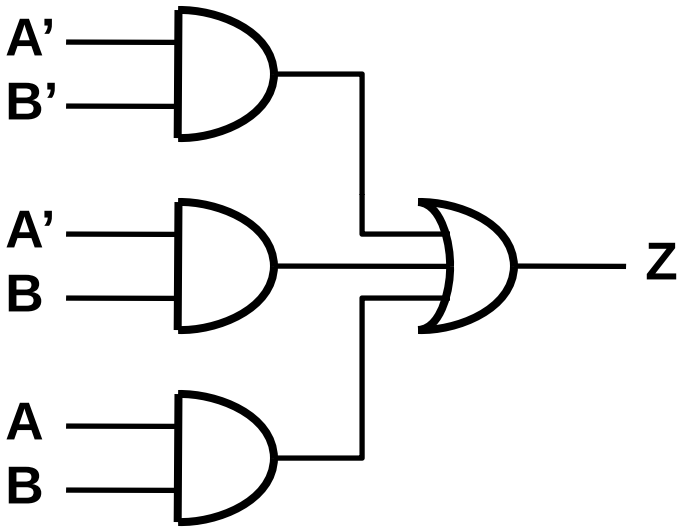

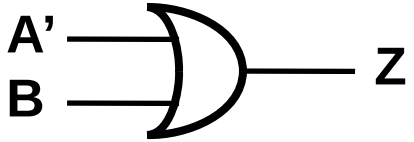

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