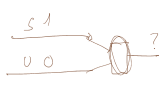
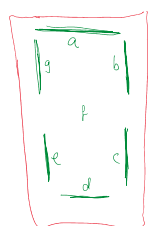
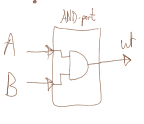


2	0
1	1
00	00
01	01
10	10
11	11
000	000
001	001
010	010
011	011
100	100
101	101
110	110
111	111

inganger	utganger
$I_3 I_2 I_1 I_0$	a b c d e f g
0000	1111101
0001	0110000
0010	1101110
0011	
0100	
0101	
0110	
0111	
1000	
1001	
1010	
1011	
1100	
1101	
1110	
1111	

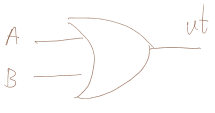


A B	ut "AND"
00	0
01	0
10	0
11	1

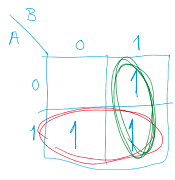


$ut = A \cdot B = AB$

A B	ut "OR"
00	0
01	1
10	1
11	1



$F = AB + AB + AB$   
 $F = A + B$   
 $F = \sum(1, 2, 3)$



$F = A + B$

A	ut
0	1
1	0



$F = \bar{A}$   
 $F = A'$

3 lang

15. sept

forlesing og þessum skrifpröfum þetta!

5. sept

01 -  
Boolsk A...

Black-box

Sannhetsverditabell

	A	B
(0) <sub>10</sub>	0	0
(1) <sub>10</sub>	0	1
(2) <sub>10</sub>	1	0
(3) <sub>10</sub>	1	1

A B C

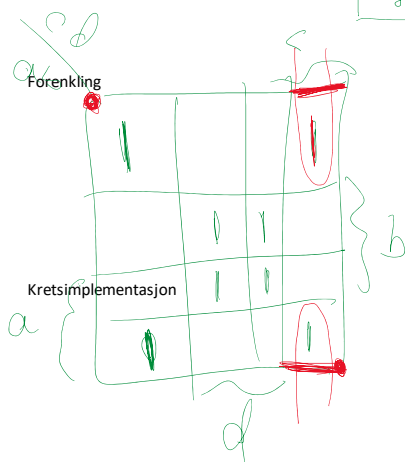
m<sub>0</sub>  
m<sub>1</sub>  
m<sub>2</sub>  
m<sub>3</sub>  
m<sub>4</sub>  
m<sub>5</sub>  
m<sub>6</sub>  
m<sub>7</sub>

Funksjonsuttrykk

	A	B
A	1	
$\bar{A}$		
$\bar{B}$		
B		

	CD	00	01	11	10
AB	00	m <sub>0</sub>	m <sub>1</sub>	m <sub>3</sub>	m <sub>2</sub>
01	m <sub>4</sub>	m <sub>5</sub>	m <sub>7</sub>	m <sub>6</sub>	
11	m <sub>12</sub>	m <sub>13</sub>	m <sub>15</sub>	m <sub>14</sub>	
10	m <sub>8</sub>	m <sub>9</sub>	m <sub>11</sub>	m <sub>10</sub>	

1000 = 8<sub>10</sub>



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### Huntington postulater

- (P0) Mengden {0,1} er lukket under "+" og "\*" lukket
- (P1)  $x + x = x$   $x \cdot x = x$
- (P2)  $x + 0 = x$   $x \cdot 1 = x$  ident.el.
- (P2b)  $x + 1 = 1$   $x \cdot 0 = 0$
- (P5)  $x + x' = 1$   $x \cdot x' = 0$  komplem. minst 2 el.
- (P6)  $0 \neq 1$  kommutativ
- (P3)  $x + y = y + x$   $x \cdot y = y \cdot x$
- (P4)  $x \cdot (y + z) = x \cdot y + x \cdot z$   $x + (y \cdot z) = (x + y) \cdot (x + z)$  distributiv
- (P5)  $(x')' = x$

Dualitet for postulatenes:  
Kan bytte "\*" med + hvis man bytter "0" med "1"

Presedens:  
Først utføres "0", så "", så "\*" og til slutt "+"

Ornd Minnotat

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### Regneregler - oversikt

- $x + 0 = x$   $x \cdot 1 = x$
- $x + x' = 1$   $xx' = 0$
- $x + y = y + x$   $xy = yx$
- $x + (y + z) = (x + y) + z$   $x(yz) = (xy)z$
- $x(y + z) = xy + xz$   $x + (yz) = (x + y)(x + z)$
- $x + x = x$   $x \cdot x = x$
- $x + 1 = 1$   $x \cdot 0 = 0$
- $x + xy = x$   $x(x + y) = x$
- $(x + y)' = x' y'$   $(xy)' = x' + y'$

Ornd Minnotat

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