logique classique.

$(0, 1)$ $(0, S)$ $(0, \neg S)$

nœuds logiques.

nœud trivial

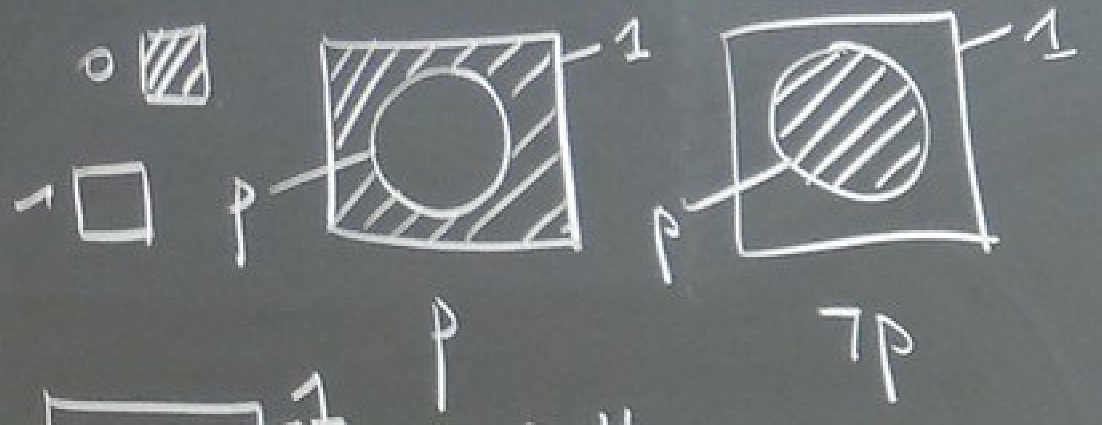
négations modifiées

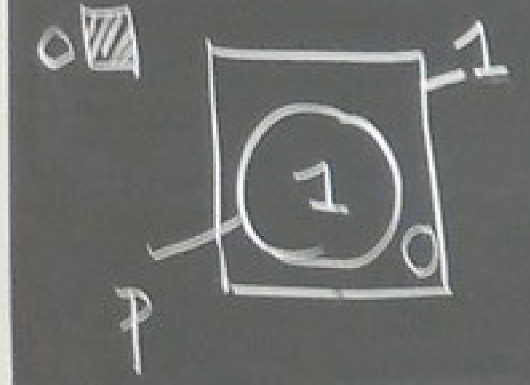
$\mathbb{Z}_2 = (\{0,1\}, +, \times)$

le corps de Boole

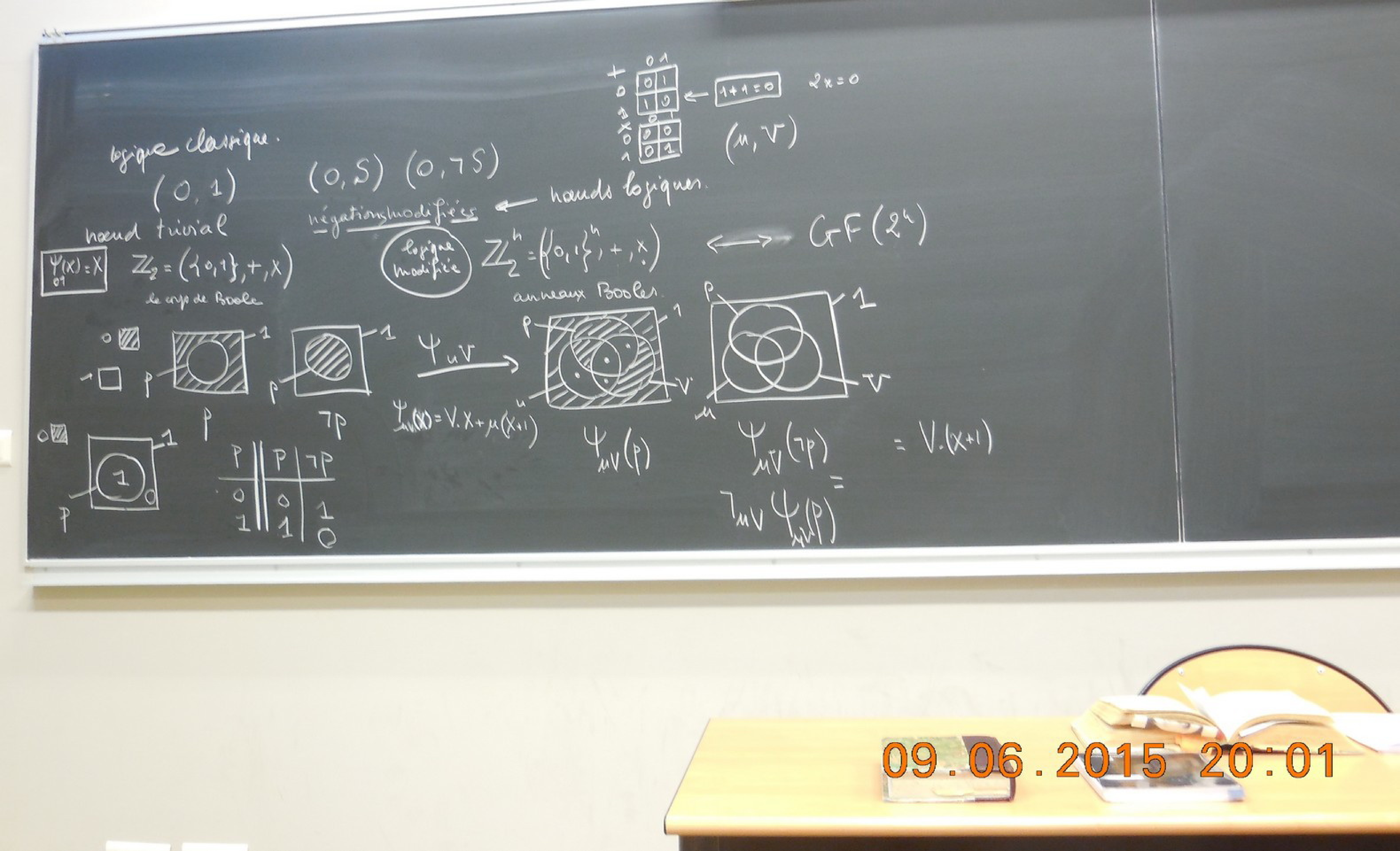
$\mathbb{Z}_2^n = (\{0,1\}^n, +, \times)$

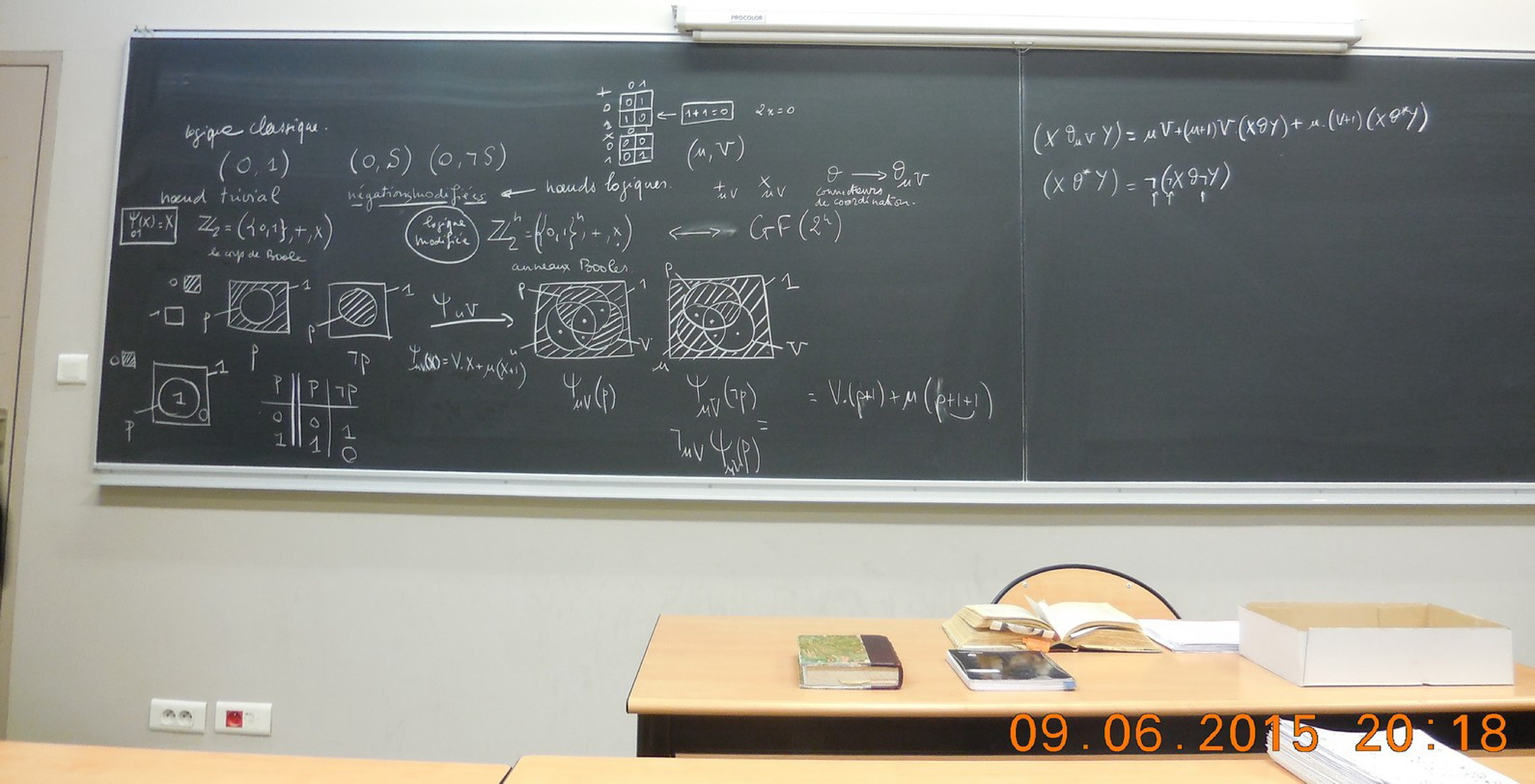
anneaux Booles.





p	p	¬p
0	0	1
1	1	0


logique classique.
(0, 1)
(0, S) (0, ¬S)
noeuds logiques.
noeud trivial
négations modifiées
Ψ(X) = X
ℤ₂ = ({0,1}, +, x)
le corps de Boole
logique modifiée
ℤ₂ⁿ = ({0,1}ⁿ, +, x)
GF(2ⁿ)
anneaux Booléens
1+1=0
2x=0
(μ, ν)
Ψμν
Ψμν(X) = ν.X + μ(X+1)
Ψμν(p)
Ψμν(¬p) = ¬μν Ψμν(p)
= ν.(X+1)
p
¬p
p | p | ¬p
0 | 0 | 1
1 | 1 | 0
09.06.2015 20:01


logique classique.
(0, 1)
(0, S) (0, ¬S)
nœud trivial
négations modifiées
nœuds logiques.
1+1=0
2x=0
(μ, ν)
connecteurs de coordination.
logique modifiée
le corps de Boole
anneaux Booles.
GF(2^n)
Ψ(x) = V.X + μ(X+1)
(X θμν Y) = μV + (μ+1)V (XθY) + μ.(V+1)(Xθ*Y)
(X θ* Y) = ¬(¬X θ ¬Y)
09.06.2015 20:18

$+$	0	1
0	0	1
1	1	0

$\leftarrow \boxed{1+1=0}$ $\qquad 2x=0$

$\times$	0	1
0	0	0
1	0	1

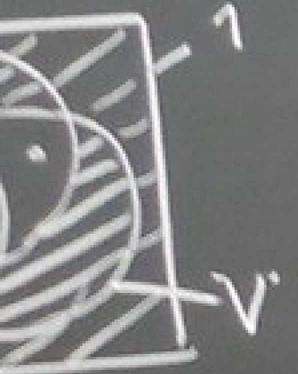
(μ, ν)

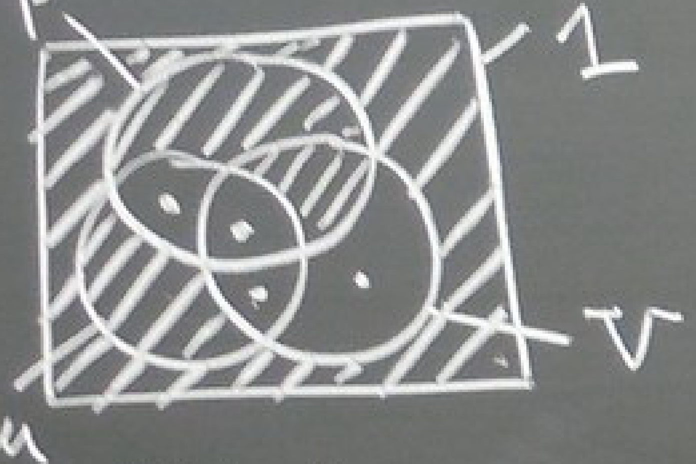
logiques. $\quad +_{\mu\nu} \quad \times_{\mu\nu} \quad \theta \longrightarrow \theta_{\mu\nu}$

connecteurs de coordination.

$(+, \times) \longleftrightarrow GF(2^4)$

...booles.





(p)

$$\Psi_{\mu\nu}(\neg p) = \neg_{\mu\nu}\Psi_{\mu\nu}(p)$$

$$= \nu.(p+1) + \mu(p+\underbrace{1+1})$$

$$(X\,\theta_{\mu\nu}\,Y) = \mu\nu + (\mu+1)\nu.(X\theta Y) + \mu.(\nu+1)(X\theta^{*}Y)$$

$$(X\,\theta^{*}\,Y) = \neg(\neg X\,\theta\,\neg Y)$$

$\boxed{\begin{array}{c} x^2 = x \\ \Downarrow \\ 2x = 0 \end{array}}$

$$\begin{array}{c|cc} + & 0 & 1 \\ \hline 0 & 0 & 1 \\ 1 & 1 & 0 \end{array} \longleftarrow \boxed{1+1=0}$$

$$\begin{array}{c|cc} \times & 0 & 1 \\ \hline 0 & 0 & 0 \\ 1 & 0 & 1 \end{array}$$

(μ, ν)

$(0, S)\ (0, \neg S)$

négations modifiées $\longleftarrow$ nœuds logiques.

$+_{\mu\nu}$ $\times_{\mu\nu}$

$\theta \longrightarrow \theta_{\mu\nu}$

connecteurs de coordination.

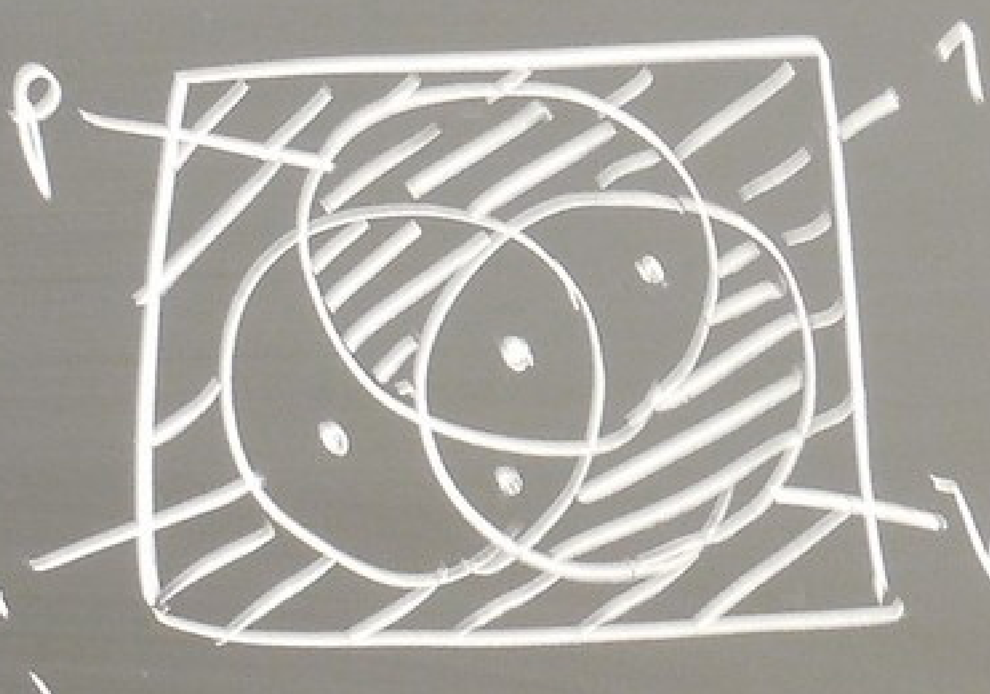
véri

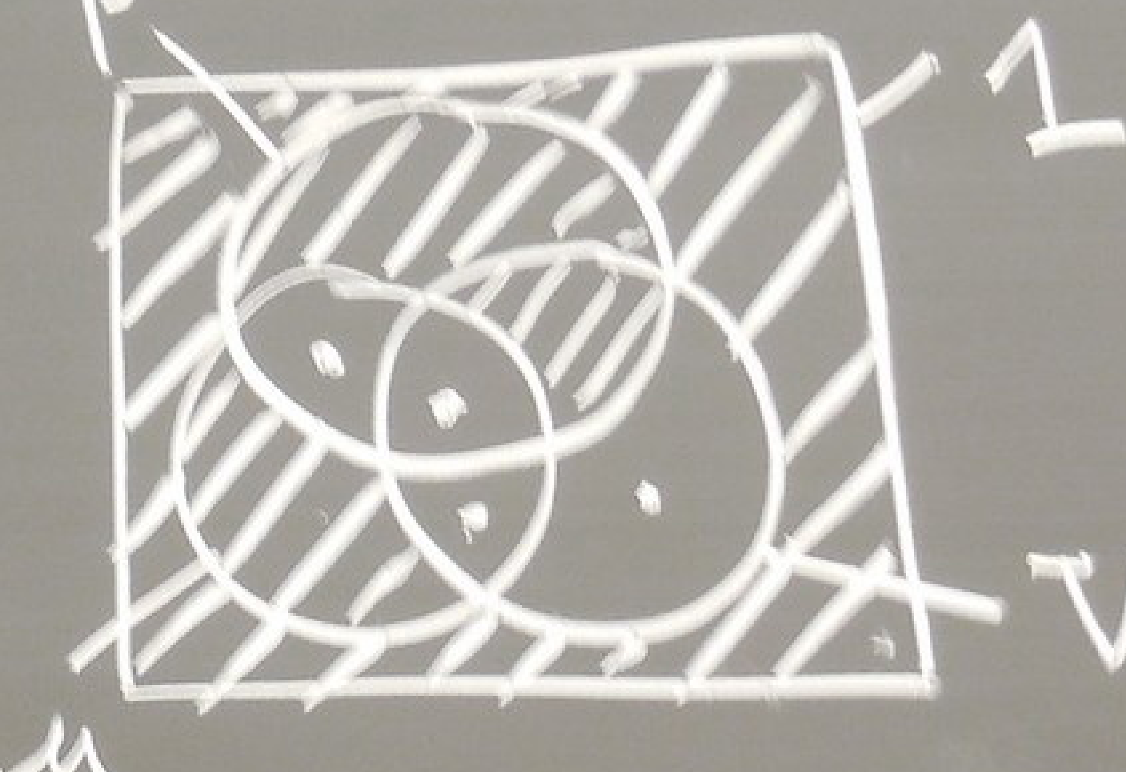
logique modifiée

$\mathbb{Z}_2^n = (\{0,1\}^n, +, \times) \longleftrightarrow GF(2^n)$

anneaux Booles.

$\xrightarrow{\Psi_{\mu\nu}}$





$\Psi_{\mu\nu}(x) = \nu . x + \mu(x+1)$

$\Psi_{\mu\nu}(p)$

$\Psi_{\mu\nu}(\neg p) = \nu.(p+1) + \mu$

$=$

$\neg_{\mu\nu}(\Psi_{\mu\nu}(p))$

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+	0	1
0	0	1
1	1	0

$\boxed{1+1=0}$

$\boxed{\begin{array}{c} x^2 = x \\ \Downarrow \\ 2x = 0 \end{array}}$

×	0	1
0	0	0
1	0	1

(μ, ν)

S)

$\theta \longrightarrow \theta_{\mu\nu}$

$\longleftarrow$ ands logiques.

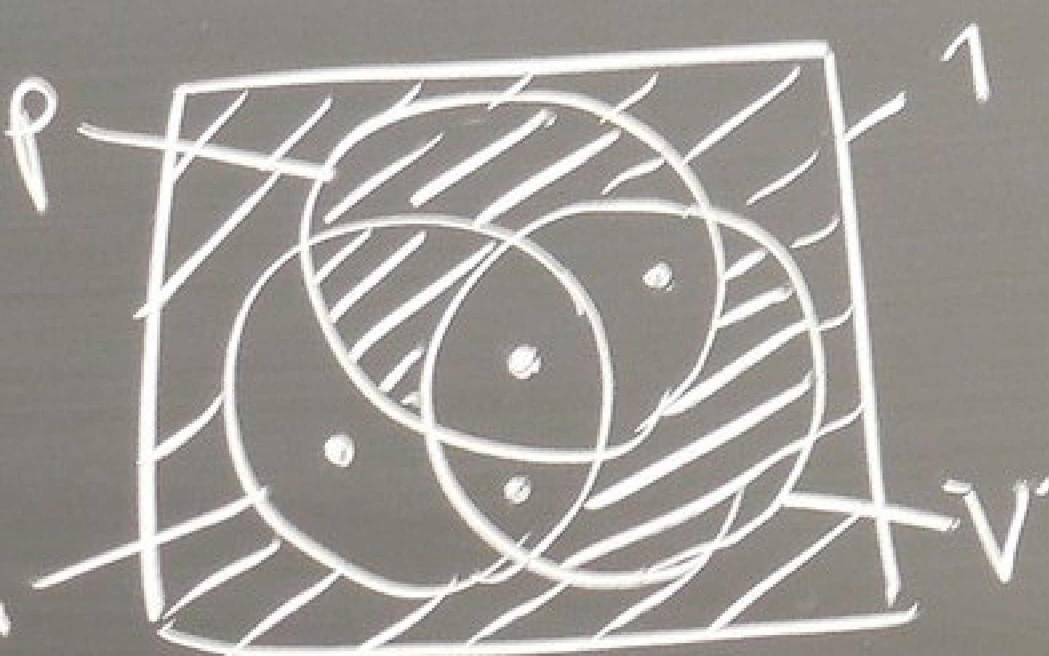
$+_{\mu\nu}$ $\times_{\mu\nu}$

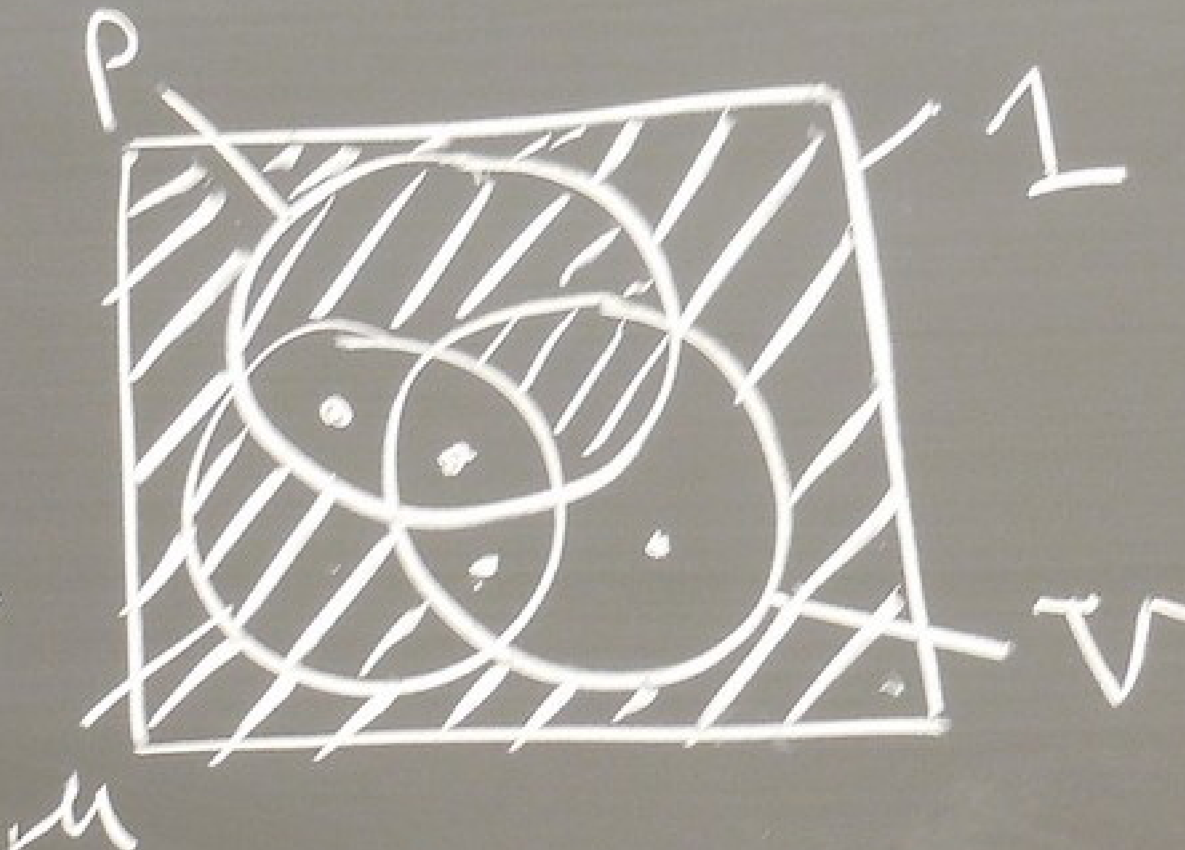
connecteurs de coordination.

$\uparrow$ vérifonctionnalité

$$\mathbb{Z}_2^n = (\{0,1\}^n, \overset{\not\Leftrightarrow}{+}, \overset{\wedge}{\times}) \longleftrightarrow GF(2^n)$$

anneaux Booles.





$\ldots x + \mu(x+1)$

$\Psi_{\mu\nu}(p)$

$\Psi_{\mu\nu}(\neg p) = \nu.(p+1) + \mu(p+1+1)$

$= \neg_{\mu\nu} \Psi_{\mu\nu}(p)$