$\boxed{\text{Polynômes}}$

$$p = \underbrace{\sum_{i=0}^{n}}_{\text{somme de}} a_i \cdot X^i = a_0 + a_1 X + a_2 X^2 + \ldots + a_n X^n$$

n ← jusqu'à

terme constant ($x^0 = 1$)

$a_i \in \mathbb{R}$

Exemple: $p = 1 + X + X^2$

$= a_0 + a_1 X + a_2 X^2$

$= 1 + 1X + 1X^2$

$a_0 = 1$

$a_1 = 1$

$a_2 = 1$

$\alpha \; \beta \; \gamma \ldots \sigma$

Σ ← sigma maj.

$q = -1 + 2X - 3X^2 + 4X^3 + 5X^4 - X^5$

$q = a_0 X^0 + a_1 X^1 + a_2 X^2 + a_3 X^3 + a_4 X^4 + a_5 X^5$

$-1 \quad 2 \quad -3 \quad 4 \quad 5 \quad -1$

$$\boxed{q = [-1, 2, -3, 4, 5, -1]}$$

$q[0]$ $\quad q[1]$ $\quad q[5]$

$$q = \sum_{i=0}^{n} q[i] \cdot X^i$$

Maths

$p(x) = x^4 - 3x^3 + 2x^2 + x - 1$

$q(x) = x^4 + 3x^3 - 2x^2 + 3x + 4$

$p(x) + q(x) = 2x^4 + 4x + 3$

$r(x) = x^2 - 2x + 3$

$p(x) + r(x) = r(x) + p(x)$

$= x^4 - 3x^3 + 3x^2 - x + 2$

Machine

$$\begin{array}{cccccc} & p[0] & p[1] & \ldots & & \\ p = [& -1, & 1, & 2, & -3, & 1] \\ & x^0 & x^1 & x^2 & x^3 & x^4 \end{array}$$

$q = [4, 3, -2, 3, 1]$

somme$(p, q) = [3, 4, 0, 0, 2]$

$r = [3, -2, 1]$

$r = [3, -2, 1, 0, 0]$

$p = [-1, 1, 2, -3, 1]$

$p \cdot q$

	-1	1	2	-3	1
4	-4	4	8	-12	4
3	-3	3	6	-9	3
-2	2	-2	-4	6	-2
3	-3	3	6	-9	3
1	-1	1	2	-3	1